Appendix C

Landscape and Visual
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GORTADROMA LANDFILL EXTENSION

LANDSCAPE AND VISUAL IMPACT ASSESSMENT REVISION E

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October 2003

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CONTENTS

- 1.0 Introduction and Methodology
- 2.0 Landscape Character and Visual Appraisal
- 3.0 Description of the Works
- 4.0 Landscape and Visual Impact Assessment

Figures

- I. Landscape Character Area Map
- 2. Agricultural Uplands Landscape Character Area Illustration
- 3. Coniferous / Mountain Bog Uplands Landscape Character Area Illustration

i

- 4. Agricultural Lowlands Landscape Character Area Illustration
- 5. Existing Land Use Plan
- 6. Zone of Visual Influence
- 7. Viewpoint Analysis (1 of 13)
- 8. Viewpoint Analysis (2 of 13)
- 9. Viewpoint Analysis (3 of 13)
- 10. Viewpoint Analysis (4 of 13)
- 11. Viewpoint Analysis (5 of 13)
- 12. Viewpoint Analysis (6 of 13)
- 13. Viewpoint Analysis (7 of 13)
- 14. Viewpoint Analysis (8 of 13)
- 15. Viewpoint Analysis (9 of 13)
- 16. Viewpoint Analysis (10 of 13)
- 17. Viewpoint Analysis (11 of 13)
- 18. Viewpoint Analysis (12 of 13)
- 19. Viewpoint Analysis (13 of 13)
- 20. Mitigation Proposals

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1.0 INTRODUCTION

Nicholas Pearson Associates Ltd has been commissioned by RPS-MCOS Ltd. to provide landscape consultancy services with respect to extension of an existing landfill site at Gortadroma, Co. Limerick. This Chapter provides a landscape and visual assessment of the shortlisted option. An initial report, which considered the visual impact of various proposed extension alternatives, was previously prepared by Nicholas Pearson Associates in 2000.

Mitigation measures have been incorporated into the site layout as part of the design process, to ensure that landscape considerations are properly accommodated within the final scheme design.

I.I Assessment Methodology

The Landscape & Visual Impact assessment has been carried out with due reference to the "Guidelines for Landscape and Visual Impact Assessment" prepared by the Landscape Institute and the Institute of Environmental Management & Assessment 2nd Edition (2002), "Guidelines on the information to be contained in Environmental Impact Statements" Environmental Protection Agency, EPA (2002) and "Advice notes on Current Practice in the preparation of Environmental Impact Statements" (EPA 1995). This assessment has been carried out by use of mapped information, photographs and field survey, together with professional judgement made by experienced landscape assessors. It can broadly be divided into three parts:

1.1.1 Landscape Character and Visual Analysis

This section describes the existing landscape of the site and its local context, including its natural, 'man made' and aesthetic attributes. It evaluates the character and quality of the landscape based upon defined criteria and establishes its sensitivity to change. The sensitivity is based upon a judgement of the ability of the surrounding area to accommodate change, the scale of the proposed development, and the relationship with the landscape quality. A landscape analysis is included as an important part of the character evaluation.

The visual context of the site is described and a Zone of Visual Influence (ZVI), (where all, or part of the site in its existing condition is visible) is established. Key viewpoints are identified for the visual impact assessment to provide representative views from different

areas of the ZVI and the impact that will result from the proposed development. The following are the identified visual receptors: users of public rights of way, publicly accessible areas, public highways or commercial properties. Reference is made to the nature of the view, whether partial or full views are experienced, whether views are transitory or static and how many approximate properties or viewers have the view.

1.1.2 Description of the Works

The principal components and the visual characteristics of the proposal having regard to its appearance, scale, style and configuration are described.

Opportunities to mitigate negative impacts are identified. Mitigation, where possible, will be achieved through the iterative design process and by incorporating appropriate design measures at a more detailed level.

1.1.3 Impact Assessment

The potential landscape and visual impacts of the proposed development are assessed for both construction and operation/phases. The landscape impact assessment includes the direct and indirect impacts of the proposed development upon the landscape character and quality of the surrounding areas. Residual impacts following the implementation of appropriate mitigation measures are also identified.

The visual impact assessment identifies:

- the extent of the potential visibility
- the views and receptors affected
- the significance of visual impact
- the distance of view
- the resultant impacts on the character and quality of the views

Mitigation measures for the design of the site are derived from the Landscape and Visual impact assessment and applied to the design. All impacts are based upon a reasoned, professional judgement of the relationship between the proposed development and its surroundings.

2.0 LANDSCAPE CHARACTER AND VISUAL APPRAISAL

2.1 Landscape Character Assessment

The landscape character of the locality in which the site is situated has been identified and evaluated to provide a baseline for determining the potential impact of the proposed development upon it. Landscape quality has also been considered whilst recognising that this incorporates a degree of subjective evaluation. Extensive desk and fieldwork has been a carried out and the findings of these matters are discussed below.

2.2 Landscape Character Context

Limerick County Council County Development Plan 1999 has no special designations covering the Gortadroma area. Through field survey work, the landscape has been categorised into a number of distinct character areas. The locations of these character areas are shown on Figure I and a description of their landscape and visual characteristics is given, together with an analysis of the landscape's specialitivity to change, in Figures 2 - 4.

In order to classify the quality of the andscape, criteria have been established as follows:

Exceptional: Areas which are of outstanding value by virtue of their uniqueness, geology, ecology, dramatic scenic quality or unspoilt beauty. Such areas will evoke a very strong sense of place and may have important historical associations. These areas may be of national importance.

Very High: Areas which have particularly high value by nature of their condition, geology, ecology, dramatic scenic quality, unspoilt beauty or historic associations. These areas may be of national or regional importance.

High: Areas which are considered to be of value by virtue of their positive characteristics, sense of place or local associations. These areas may be of regional or local importance.

Moderate: Areas which retain a positive character and a sense of place, or are of local interest. These areas may be of local importance.

Low: Areas in fair to poor condition or have undergone change to the extent that they do not have or no longer have a distinctive local character or particular aesthetic quality.

Very Low: Areas that are degraded or in poor condition and the distinctive character and aesthetic quality of which have been seriously damaged or destroyed.

2.2.1 Sensitivity of the Landscape Resource

The degree to which a particular landscape type or area can accommodate change arising from a particular development, without detrimental effects on its character, will vary with:

- Existing land use
- The pattern and scale of the landscape
- Visual enclosure/openness of views and distribution of visual receptors
- The scope for mitigation, which would be in character with the existing landscape
- The value placed on that landscape

Variations of these characteristics within the local landscape and within the site are discussed as appropriate.

The determination of the sensitivity of the landscape resource is based upon an evaluation of key elements or characteristics of the landscape likely to be affected. The evaluation includes factors such as its quality, value, contribution to landscape character, and the degree to which the particular element or characteristic can be replaced or substituted.

Drawing upon an overall landscape appraisal, the character areas and their quality are assessed as follows:

Landscape Character Area

Quality

Agricultural Uplands

Moderate - low

Coniferous/Mountain Bog Uplands

Moderate - low

Agricultural lowlands

Moderate - low

These character areas are illustrated and described in detail in Figures 2-4. The development site itself is located within the Agricultural Uplands and this is described in detail in Figure 2 and section 3.2.

2.3 Topography

Topography within, and surrounding, the site is undulating which limits certain views but provides open panoramas on elevated ground. 8km to the south of the site the land rises up to 344m at Knockanimpuha (Cnoc an lompaithe). Also to the south are a series of small river corridors created by tributaries of the River Daar, which dissect the area and run southwards towards the River Deel. From what are known as the "Western Hills" (Knockanimpuha, Cnoc an Chaca, Cnoc an Droma Fhada etc) the land slopes northwards down towards the Shannon Estuary. Two river corridors - White River (An Abhainn Bhán) and Ahacronane River (Abhainn Ath an Cronain) - descend from the "Western hills" to the Shannon Estuary.

2.4 The Site and Surrounding Land Uses

Gortadroma is an existing landfill site located 12 km north of Newcastle West, 9 km south of Foynes and 54 km south west of Limerick City. The existing site covers an area of approximately 35 hectares with a waste disposal area of approximately 14 hectares. It has been operating as a landfill site since 1990 and was previously used as a sand and gravel pit.

The site is located in a rural landscape with small to medium pastoral fields, narrow rural roads and scattered dwellings. Vegetation cover is made up of pastoral fields, coniferous plantations, some mature tree belts and marshy scrubland with gorse and reeds. There are a number of small river corridors, particularly to the north and south of the site and the broad Shannon Estuary, to the north, can be glimpsed from higher land. Significant areas of broadleaved woodland exist to the north east around the Ahacronane River corridor. Coniferous plantations are scattered across upland agricultural areas.

A pylon line runs from east to west across the area and dissects the site. Existing built development in the locality is varied in architectural character but generally comprises small to medium sized dwellings located along roads singly or in small clusters. There are some small towns to the north and south east but otherwise residential development is not a

prominent feature of the area. Along the Shannon Estuary, to the north, a number of large powerstations are located along the coast at Aughinish Island, Tarbert and Money Point.

Limerick County Record of Monuments and Places records a number of archaeological sites (Enclosures) in the surrounding area. The closest ones to the site area situated to the west and north of the existing landfill site, such as the burial ground on the western road.

2.5 Trends and Pressures

The growing trend for coniferous plantations is the most significant force for change in this area. These plantations are generally privately owned and comprise non-native Sitka Spruce and Douglas Fir. Some are also planted with Japanese Spruce and some native broadleaved trees to integrate the plantations with the surrounding landscape character. The plantations follow existing field boundaries so they do not blend well into the undulating pattern of the landscape. There appears to be little pressure from housing development in this area.

2.6 Conclusions on Landscape Character Assessment

It is concluded with regard to baseline landscape character assessment that the site is located within the Agricultural Uplands Landscape Character Area and has features, topography and landscape patterns typical of this character area. These include open, broad undulating landform with a patchwork of pastoral fields divided by grass banks and some shelterbelts of mature deciduous trees. The fields are not intensively farmed and are often marshy and overgrown with rushes and gorse. Built development comprises scattered houses and farms that are generally of a modest size and sheltered by mature stands of mixed woodland. The texture of the landscape is rough and the pattern of fields is inconsistent. The existing works have some limited effect upon the landscape character of the area because of the buildings, earthworks, fencing and traffic associated with it. The landforms, which are being created by the development of the landfill, however are in keeping with the local topography and once completed the landfill should not have any effect upon the character of the area.

Privately owned coniferous plantations dominate the area directly to the south of the site. These are planted with non-native tree species and have little landscape or visual quality. They often curtail views into the wider area.

Industrial development along the Shannon Estuary can be seen in views to the north. These are large in scale and particularly unattractive when viewed against the attractive backdrop of the Estuary. There are few prominent buildings within the area with the exception of Shanid Castle, which is an eye-catching feature in views from the south. It is located on a small but prominent hill approximately 2.5 km north east of the site.

The area has few other landscape features of particular note, either historical or natural. It is not known to attract walkers and the number of tourist and leisure users is negligible.

2.7 Site Visibility

The visual appraisal of the site provides a baseline for determining the potential impact of the proposed development on views. The broad visual envelope, or Zone of Visual Influence (ZVI) is defined, indicating areas from where the proposed development or parts of the development are visible. This envelope has been identified through comprehensive desk and field surveys and is presented in graphic form in Figure 6. The visual envelope is limited because of the rolling topography of the local area and plantations on high ground surrounding the site. There are no views available from a distance greater than 3km away.

In considering this visual envelope number of specific viewpoints have been selected, providing a representative sample of views as received by receptor groups. These viewpoints are from publicly accessible locations at different distances and orientations to the site. The views from the selected viewpoints have been analysed and used to predict the potential impact on that view as discussed in Section 3.3.

2.8 Receptor Groups and Representative Viewpoints

The study of the visual context of the site and consideration of the Zone of Visual Influence (Figure 6) identified a number of receptor groups that would be affected by the development.

Locally (Views between 200m and 800m from the site)

Car users of the local road network
Residents of properties in the locality of the site.
Farm workers adjacent to the site.

Distant (Views at a distance of 1-3km from site)

Users of road network, and pedestrians/walkers.

Residents of other settlements and dwellings in the surrounding area, particularly on slopes to the south, east and west.

Farm & Forestry Workers

To assess the impact upon these receptor groups the following representative viewpoints have been identified. These viewpoints have been carefully selected to be representative of typical views and are at publicly accessible locations, these are shown on Figure 6. Distances shown are the approximate distances from the viewpoint to the nearest part of the proposed site.

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Viewpoint I	From Grid ref: 230 431, local road looking north, 0.1km from site	
Viewpoint 2	From Grid ref: 235 435, local road looking west, 0.3km from site	
Viewpoint 3	From Grid ref: 235 435, local froad looking west, 0.5km from site	
Viewpoint 4	From Grid ref: 230 440, local road looking south, 0.6km from site	
Viewpoint 5	From Grid ref: 226 439, local road looking south, 0.4km from site	
Viewpoint 6	From Grid ref: 222 440, local road looking south, 0.2km from site	
Viewpoint 7	From Grid ef: 214 441, local road looking south east, 0.6km from site	
Viewpoint 8	From Grid ref: 216 436, local road looking east, 0.1km from site	
Viewpoint 9	From Grid ref: 216 434, local road looking north east, 0.7m from site	
Viewpoint 10	From Grid ref: 212 430, local road looking north east, 1km from site	
Viewpoint 11	From Grid ref: 218 433, existing landfill site looking north east, 0.2km	
	from site	
Viewpoint 12	From Grid ref: 216 429, local road looking north east, 0.6km from site	
Viewpoint 13	From Grid ref: 239 414, local road looking north west, 2km from site	

2.9 Conclusions on Site Visibility

The conclusions from the baseline visual appraisal of the site are as follows:

Local views to the existing landfill site and proposed extension area can be gained from elevated positions to the north, east and west and from the main road along the southern boundaries of the site. Within this area groups of mature trees, lines of hedgerow and

undulations in landform screen views of parts of the existing and proposed landfill site. The rolling topography of the land restricts further views to the north east and west beyond surrounding roads. A number of the residential properties on the roads immediately surrounding the site will have direct views over the extension site.

To the south west and south east of the site distant views are gained from more elevated positions. The landfill site and proposed extension area can be seen from as far as 3km away, although at this distance it is difficult to discern the landfill workings from the surrounding landscape. The number of distant viewpoints to the south of the site are restricted as large portions of land are planted with coniferous forestry plantations which screen most views from the higher roads. There are a few residential properties which experience distant viewpoints, these are also gained by road users.

There are no distant viewpoints from the north east and west because of landform.

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3.0 DESCRIPTION OF THE WORKS

3.1 Site Footprint

The proposed waste disposal site will occupy an area of approximately 19 hectares, immediately to the east of the existing site. During operation of the landfill site (15-20 years) it will be surrounded by earth mounding created with material from the site excavations. This will be in the form of a series of mounds in the screening/buffer/landscape areas typically 3m high round the perimeter of the site. On the outside of the screening/buffer/landscape areas a 2.5m high wire mesh fence will be erected. The total site will occupy an area of approximately 41 hectares.

3.2 Site Preparation

The construction of the site will involve clearing vegetation from the whole area, erection of fencing, excavating earth from the site and creation of mounds in the screening/buffer/landscape areas. The screening/buffer/landscape areas will be developed on a progressive basis over the lifetime of the site. No excavation of rock is expected to be required nor removal of material off site. These works will be carried out in phases over a 9 to 12 month period, and will be timed to facilitate continuous use of the site for landfill, being ready to accept waste before the last phase of the existing site reaches capacity. This will result in an overlap in the working of the existing site and construction activity on the proposed site. Construction will involve extensive earth moving activity with heavy machinery affecting all parts of the site. Once this is completed native woodland planting will be established on the periphery of the site, both on the sides of the mounds in the screening/buffer/landscape areas and on the outside of the fence line.

3.3 Landfill Operation

The operation of the landfill site will take place in phases over the following 15 – 20 years during which time waste will be placed on the site up to levels giving the finished profile as shown on Figure 20. The progressive development of the site will be based on a phased system with each phase typically providing 3 to 4 years of filling time. As a new phase is developed, previously completed cells will be progressively capped and restored. Some of the excavated material will be reused as permanent and temporary capping within the landfill

site. Some material will be imported for capping. The works will involve heavy machinery moving waste into place and refuse lorries delivering waste to site. This will be consistent with activities on the current site. Some of the earth from the excavated material will be used as capping within the landfill site and will be graded to form smooth contours tying in with the surrounding landform. The last phases of operation will therefore involve earth moving from the screening/buffer/landscapeareas to the landfill site.

3.4 Restoration

Once the landfill has been covered with earth, the planting strategy for the restored site will be to recreate an agricultural field pattern typical of the area. See Figure 20. Native hedgerow plants may be planted along the lines of former hedges and field boundaries. This will have the dual effect of providing visual continuity and natural wildlife corridors. Supplementary planting may be required where transplantation is unsuccessful.

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4.0 LANDSCAPE AND VISUAL IMPACT ASSESSMENT

4.1 Landscape Character Impact Analysis

The landscape classification and evaluation is the baseline upon which the impact of the proposed development is assessed. The significance of impact is the result of a combination of factors such as the extent to which the proposed development would influence those elements, which define the character of the landscape.

The magnitude of landscape impacts has been assessed on the following criteria:

Major: Development or specific impact will result in profound/severe changes to the general character of the receiving landscape.

Moderate: Development or specific impact will result in some noticeable change to the general character of the landscape.

Minor: Development or specific impact will result in small or imperceptible changes to the general character of the landscape.

The significance of landscape impacts are determined by the relationship and combinations of sensitivity and magnitude. It increases in line with the sensitivity of the area and the magnitude of impact. Differentiation is made between the sensitivity of particular receptors based upon their value within the landscape. Reduced landscape sensitivity or a smaller magnitude of landscape impact moderates and / or lessens the impact significance.

High significance: The landscape is very sensitive and the magnitude of impact is major.

Moderate significance: The landscape may be very sensitive and the magnitude of impact is either moderate or minor, or the landscape is less sensitive but the magnitude of impact is major.

Low significance: The landscape is likely to be less sensitive and the magnitude of impact is likely to be moderate or minor.

4.2 Conclusions of the Landscape Character Impact Assessment

The proposed development will have no direct physical effect upon any of the surrounding landscape character areas: Coniferous/Mountain Bog Uplands and Agricultural Lowlands areas. The development will be visible from a number of locations within both of these character areas but will have a negligible and indirect effect upon the quality and character of the area. The effects of the development upon each of the character areas are described in detail on Figures 2-4.

The direct effect of the development on the Agricultural Upland Areas will be to increase the existing area of landfill operations within it. Landfill operations have been evident on this area for over 10 years and so are not uncharacteristic. However, extension to the existing landfill site will have a cumulative impact on the landscape character by further reducing the amount of farmland, increasing mechanical operations and extending the footprint of fencing, mounding and screen planting around the site.

The site is a relatively small element of the whole landscape character area and the impacts on the immediate locality is considered to be of moderate to low significance. It will have no physical impact on the rest of the Agricultural Uplands. It is possible that, through design, the proposed development could contribute to minor improvements to the landscape quality of this area by planting mixed woodland, increasing the numbers of broadleaved species in the area as well as ensuring an ongoing, adequate management regime that will ensure that tree belts survive.

4.3 Viewpoint Analysis

The viewpoint analysis provides a detailed assessment of the visual effects of the proposed development from a representative sample of views from 13 publicly accessible locations at different distances and orientations to the site. These viewpoints were selected through a comprehensive survey of the area. The existing views and the analysis of each is described on Figures 7 - 19.

From each viewpoint the existing view is described and the potential changes, which would result from the proposed development, are discussed. Then the effect of the proposed development on the view is assessed. The significance of the impact is the result of a combination of factors such as the nature and extent of the development visible and its

prominence in the view together with the sensitivity of the landscape to change. Consideration is also given to whether the impact would be transitory (either because the effect itself is short term or would be mitigated, or because the receptor is exposed to the effect for a short time) or long term. A combination of these factors and reasoned judgment will determine the significance of the impact.

4.3.1 For the purposes of assessing the effects upon the visual amenity, the view is identified as that area from which all or part of the development will be potentially visible. The assessment of visual impact is based upon the following criteria:

Major: The whole or part of the development is the dominant element within the stated view.

Moderate: The whole or part of the development is an important element within the stated view.

Minor: The whole or part of the development is a minor feature within the stated view.

The significance of impacts has been assessed based on consideration of the magnitude of the visual impact and the general sensitivity of any potential "receptor".

High significance: There are a large number (or area) of very sensitive receptors and the magnitude of impact is major.

Moderate significance: The number (or area) of receptors may be large, very sensitive, and the magnitude of impact may be moderate or minor, or the numbers (or area) of receptors maybe fewer and less sensitive but the magnitude of impact is major.

Low significance: The number (or area) of receptors is likely to be fewer and less sensitive and the magnitude of impact is likely to be moderate or minor.

These definitions are not absolute, and often combinations of effects are experienced. For example, a high number of local residents could experience a permanent minor change in the view. It is, therefore a matter of professional judgment as to what is the visual impact and impact significance in each view, based on the above definitions.

4.3.2 The conclusions of the visual impact assessment are as follows:

The proposed development will involve extension of the landfill operations to the east (see Figure 20). Ground levels rise to the north and east. The northern part incorporates two derelict farm settlements. An electricity pylon line defines the northern boundary. The site is visible from the road to the north of the site. Open views will be obtained from the road to the south. The activities, boundary fencing and raised ground levels associated with the extension will have substantial impacts on views from the north and on some sections of the southern road, especially where the works are close to the viewer. In other areas where the site is visible, the impacts will be moderate and more easily screened over time. Detailed descriptions of the impacts upon each of the viewpoints are given on Figures 7-17. The results are summarised in the Table 3.1 below.

A visual appraisal of the location and setting of the existing site and proposed extension defined a fairly contained ZVI.

Table 3.1 Description of Viewpoints

VIEWPOINT	GRID	SIGNIFICANCE OF VISUAL IMPACT
	REFERENCE	ation of the
1 .	230 431	Moderate to low
2	235 435 وهٔ	Low
3	235 435 🐒	Moderate reducing to low
4	230 440	Moderate
5	226 439	Moderate to high
6	222 440	Low
7	214 441	Moderate to low
8	216 436	Moderate to high
9	216 434	Moderate
10	212 430	Moderate
11	218 433	Moderate to high
12	216 429	Moderate
13	238 414	Low

Overall, the extension of the landfill site will have a moderate to low impact on views because, although its location is adjacent to the existing site, it will cut into adjacent rising ground. This will allow it to be integrated into the surrounding area relatively easily. In views from the northern boundary, fencing and the mounds in the screening/buffer/landscape areas will be visible, but the works will be screened by landform. In views from the south, the works themselves will be more clearly visible, but at a greater distance. Views to the east

and west, beyond the two roads from which viewpoints 2, 3 8 & 9 were taken, are limited by topography.

4.4 Construction and Operational Impacts

As described in section 3 of this report, construction of the extension to the existing landfill site will involve site establishment works, devegetation of the site, removal and storage of subsoil and topsoil in screening/buffer/landscape areas on land adjacent to the site. Woodland planting will be established on the mounds in the screening/buffer/landscape areas around the site to screen the site during its operational phase.

During operation of the landfill, lorries will deposit waste material into the excavated site. The level of activity will be similar to that occurring on the present landfill site. This will take place over 15 - 20 years. The completed scheme will be a restored man-made landform, which will integrate with the existing topography and vegetation cover.

The impact assessment detailed in this report therefore is of the site during its construction and operational phases rather than at completion, as these will result in the impact of concern, rather than the completed scheme. The construction phases will involve earthmoving activities over a short period of 9-12 months and will be of a slightly greater magnitude to those during operation because it will involve more working on the periphery of the site, which will be closer to any of the viewpoints and because this will be taking place at the same time as working the final phase of the existing site. Once in place however the earth mounds in the screening/buffer/landscape areas will screen many of the operational activities of the site.

During the operational phase, the landscape will be managed in accordance with best practice, and to established high standards set on similar developments. Routine inspection of mature vegetation will ensure that necessary tree surgery is carried out as required. Use of the landfill extension will maintain existing traffic levels along local roads.

4.5 Landscape Strategy and Mitigation Measures

The landscape strategy for constructing and operating the proposed landfill extension has been designed to minimise landscape and visual impact. The following broad strategies are proposed:

- (i) Establishment of broadleaf woodland on screening/buffer/landscape areas to the north and east of the site, as shown on Figure 20, to provide increasing visual enclosure during the operational phase of the landfill site.
- (ii) Retention and enhancement of as many existing trees and hedgerows possible including replanting and management of "gappy" hedgerows or boundaries currently comprised of banks and fences around the site.
- (iii) Minimising the visual impact of the boundary fencing by establishing hedgerow planting at the outside of the fence to soften and screen it from external viewpoints.

 Once security ceases to be an issue on the site, removal of the perimeter security fencing and replacement with a conventional boundary fence.
- (iv) Creation of flowing contours to landforms on the restored site which will blend into the surrounding topography creating a natural appearance.
- (v) Establishing planting on the restored site using plant material matured on the mounds in the screening/buffer/landscape areas during the operational phase of the works, restoring the former field pattern of the site before development.

These are illustrated on Figure 20.

4.6 Conclusions

For any development to be acceptable in terms of landscape and visual impact, it must be capable of being appropriately integrated within the receiving landscape such that the latter's distinctive physical characteristics and visual amenities are not detrimentally affected by such development.

The following conclusions have been drawn from the assessment:

(i) The proposed development site is located within the "Agricultural Uplands" Landscape Character Area, which is generally of moderate landscape sensitivity and has no landscape designations. The area does not have an important role in tourism or leisure activities. The proposed site contains landscape features characteristic of this area. The works, which are an extension of an existing landfill site, will result in extensive earthworks and de-vegetation. This will have a substantial effect upon the landscape character of the local area, however this will be medium term and the site will be restored to a naturally contoured landform once landfill operations are complete. Woodland planting will have a beneficial effect upon landscape character. Impacts during construction on the character area as a whole will be of moderate to low significance, given that the site constitutes a small portion of a large character area which is of moderate sensitivity.

The effect of the proposed development on landscape character will be localised and will not extend beyond the boundaries of the "Agricultural Uplands". The proposed extension will have little or no impact upon surrounding character areas.

(ii) The visual impacts of the extension will be local because of the limited extent of the visual envelope and the rising ground into which the development will be integrated. The site proposed will not be a prominent feature within the wider landscape and the topography and conferous forestry plantations often limit views. The site does not have any impact upon any designated views nor is it visible from any archaeological monument, historical site or other location of cultural importance.

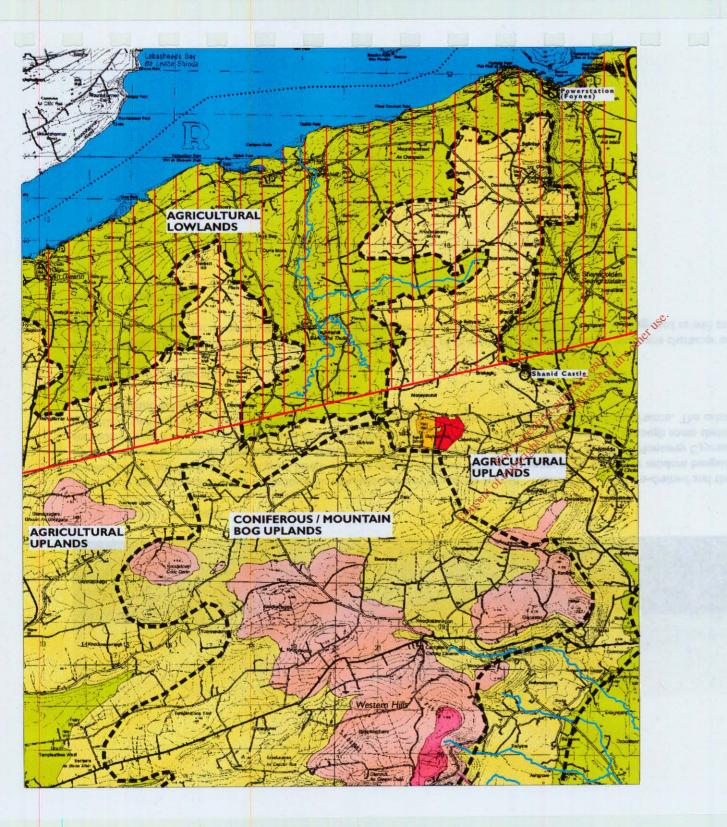
In the local area the visual impact of the proposed development will vary depending upon the stage of the development, construction, operation or restoration. They are generally of moderate significance where clear views of the site are obtained (ie where views are not enclosed by roadside hedgerows). Planting on the outside of the fences will soften the visual impact and the mounds in the screening/buffer/landscape areas themselves will reduce the impact of the landfill operations. These visual impacts are medium term. Once the site has been restored, the residual visual impact from these viewpoints will be minor and neutral.

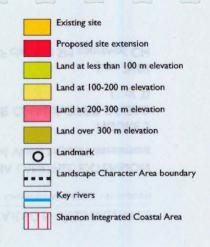
(iii) Mitigation measures to reduce the landscape and visual impacts of the proposed development have been incorporated into the design process. During the working of the landfill, mitigation of visual impacts will be achieved through planting on the exterior of the site and by strengthening hedgerows in the surrounding area. The landscape design of the site will ensure that existing features, such as hedgerows, trees and landform are restored and security fencing replaced once the landfill is completed to integrate the site naturally with its surroundings.

The proposed works are situated in an area of low sensitivity in terms of landscape quality, and are visually contained because of landform. The Landscape and Visual impacts will therefore be localized and although there will be moderate or major changes in close range views and to the immediate landscape, these are not permanent and are not experienced by large numbers of receptors. Landscape mitigation measures are incorporated into the design to minimise these close range impacts and a restoration plan will be implemented to ensure the eventual recreation of a natural looking landscape.



FIGURES







NICHOLAS PEARSON ASSOCIATES

GORTADROMA LANDFILL Landscape and Visual Impact Assessment

FIGURE I Rev D
LANDSCAPE CHARACTER AREAS



AGRICULTURAL UPLANDS

Land use in this area is predominantly pasture but the fields are not intensively farmed. Much of the land is un-drained and the fields are often dominated by rushes and gorse. Field boundaries are marked by low earth grass banks. Houses tend to be either older, two-storey stone bouses or modern bungalows, with front gardens planted with lawns and ornamental shrubs. There are occasional farmhouses, which are surrounded by shelterbelts of Sycamore and Leyland or Monterey Cypress. Some have been abandoned. Roads tend to be narrow, secondary roads fringed by grass banks and occasional trees or hedgerows. There is very little woodland although some shelterbelts have been planted by farmers. There are no leisure attractions to bring recreational users/tourists into this area and there are few historical monuments of importance. The existing landfill site is located on flat, low lying ground to the east of the proposed extension.

Landscape quality: Moderate

Impact Analysis: The proposed extension will result in the continuance of an existing land use within this landscape character area, it will only therefore result in a minor overall change to the existing character. Earthworks and native planting around the site will ensure that the development is integrated as well as possible and deliver positive landscape features.

Impact significance : Low

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FIGURE 2

LANDSCAPE CHARACTER AREAS

(1 of 3)



CONIFEROUS/MOUNTAIN BOG UPLANDS

Description: Natural vegetation of these uplands areas consists of boggy heath with very few trees which is mainly used for rough pasture. A notable landuse trend in however is plantations of non-native Sitka Spruce and Douglas Fir. Some Japanese Larch and broadleaved species have been planted to soften the appearance of these plantations but the edges of most are still angular and at odds with the undulating topography of the area. Most of the plantations are privately owned and the edges follow the field boundaries, which are generally straight. Roads in this area are predominantly narrow rural roads. Houses tend to be either older two stores stone houses or modern bungalows, with front gardens planted with lawns and ornamental shrubs. There are also occasional farmhouses, which are surrounded by shelterbelts of Sycamore and Leyland or Monterey Cypress. Some farmhouses have been abandoned. There are no leisure attractions or historical sites of interest to bring recreational users/tourists into this area.

Landscape quality: Moderate to low

Impact analysis: The development would have no direct impact on this landscape character area. Most of the area will be screened by undulations in the topography. Only the area up to 3 miles directly south of the site, have views of the site, and it is not considered that this would affect the landscape character.

Impact significance: Minimal

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FIGURE 3 Rev C

CONIFEROUS/MOUNTAIN BOG UPLANDS **CHARACTER AREA ILLUSTRATION**

(2 of 3)



VALLEY AND COASTAL AGRICULTURAL AREAS

Land use in this area is predominantly pastoral. Fields tend to be bounded by hedgerows dominated by Blackthorn. The area is dissected by a number of rivers which create broad valleys and rich fertile agricultural land. Most of this character area falls within the "Shannon Integrated Coastal Management Zone" which is the Limerick County Council characterisation given in their draft Landscape Character Assessment. Detracting qualities of this character area include the large scale industrial plants on the coast at Aughinison, Foynes and Tarbert, which are visible from elevated viewpoints within the area and beyond.

Landscape quality: Moderate-Low

Impact analysis: The development will have no direct impact on this landscape character area because the site is screened by undulations in the topography and it will not affect the character through alternation to the vision of the wild in the character area because the site is screened by undulations in the topography and it will not affect the character through alternation to the vision of the vis Consent of copyright -ter through alteration to the views from within it.

Impact significance: None

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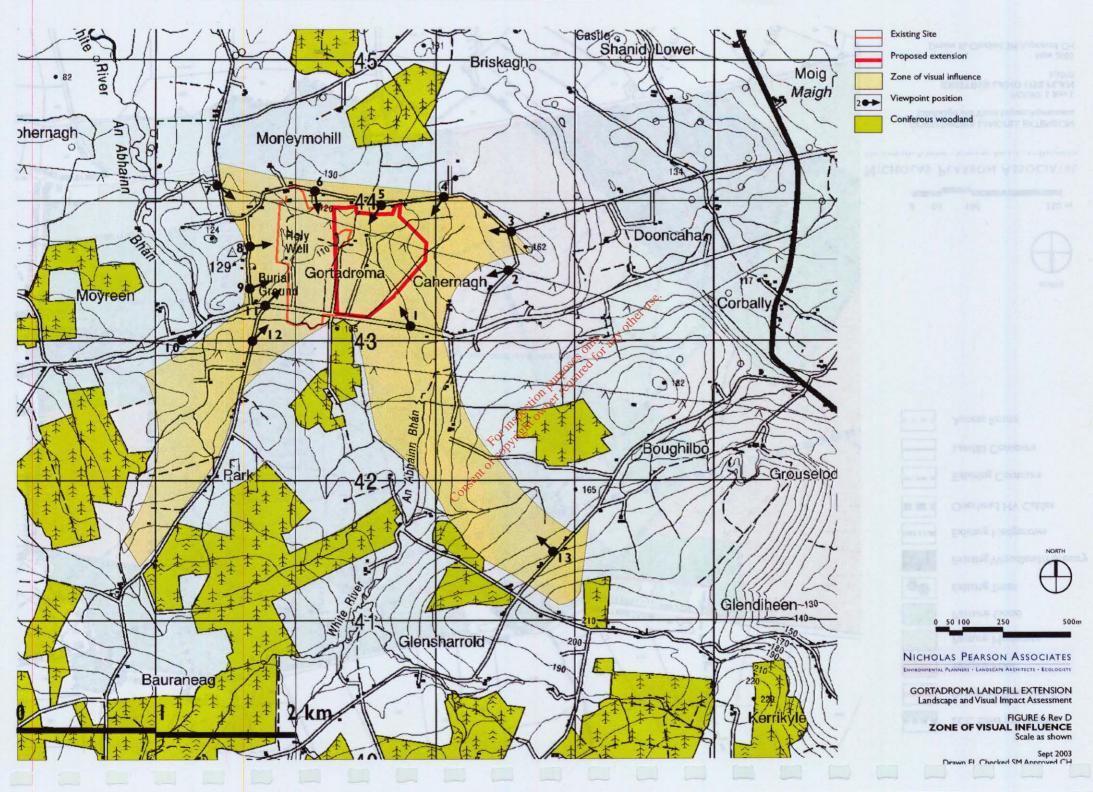
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FIGURE 4

LANDSCAPE CHARACTER AREAS

(3 of 3)







VIEWPOINT 1: View from southern boundary road looking north to north west (Grid ref 230 431)

Description: This view is taken from the road to the south of the existing landfill site and is representative of the views along this stretch of road. The site is prominent in this view, the nearest part of the site lying approximately 100m from the viewpoint. The higher ground in the centre of the view is the existing landfill site at a distance of 800m, which has been capped and on which native vegetation is becoming established. There are four houses along this stretch of road which will experience a similar view.

Impact Analysis: The extension will result in: loss of vegetation, earthworks, fencing and the extension of landfill activities from the area of existing fencing in the centre of the view, across the green fields to the right, and up to the clump of trees at the end of the hedgerow. Fencing at the perimeter of the site will be visible at a distance of 100m. It is considered that the proposed development will result in a moderate change to the view. Receptor groups include residents and road users, wide open views are experienced because there is no roadside vegetation or topography to limit views.

Mitigation: The spoil mounds spoil will be deposited on the fields in front of the site and will be planted with native woodland. This, as it matures, will increasingly enclose views of the site and activity within it.

Impact Significance: Moderate to low

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FIGURE 7 Rev C
VIEWPOINT ANALYSIS
(1 of 13)



VIEWPOINT 2: View from east of site (Grid ref 235 435)

Description: This view is taken from the road to the east of the site and the line of pylons which cross the site can be seen on the right of the picture. Receptor groups include road users. In general along this stretch of road there are no open views towards the site except where there are breaks in hedgerow vegetation, such as this location. The existing landfill site is not visible from this point. There is one house on this road to the south, which is less elevated and would not have as clear a view as this.

Impact Analysis: Perimeter fencing will be erected 300m from this view at its closest point, which would be approximately the distance to the first pylon. In the early phases, earth mounding activities will be apparent in the middle distance. The proposed development will result in a moderate/minor impact upon the view.

Mitigation: Planting of native woodland on the edges of the spoil deposit areas on the outside of the fence line, and gapping-up hedgerows, will increasingly enclose views towards the site and will add a positive new characteristic to the vegetation of the area.

Impact Significance: Low

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> FIGURE 8 Rev C VIEWPOINT ANALYSIS (2 of 13)



VIEWPOINT 3: View looking west from Grid ref 235 435

Description: This view is taken from high ground to the east of the site. A wide view over the lower lying areas and the hills beyond, can be gained from this point. The existing landfill site can be seen behind the copse of trees on the right. The electricity pylons, which run across the centre of the view, are a notable feature, as are the forestry plantations on the hills to the south. The existing landfill site is visible, but at a distance of 1300m it is not a dominant feature. Residents of the three adjacent house and road users, where gaps in the roadside bank allow, will be affected by changes to this view.

Impact Analysis: In the initial stages of the development perimeter fencing will be executed and soil from the excavation site will be deposited in the fields directly behind the electricity pylon which will involve earth moving machinery and activity. Once in place the planting will screen views of the proposed landfill extension. It is considered that the fencing and earth works will have a moderate impact upon this view initially, reducing over time as vegetation becomes established.

Mitigation: Planting of native woodland on the edges of the spoil deposit areas and on the outside of the fence, and gapping-up hedgerows will increasingly enclose views towards the site and will add a positive new characteristic to the vegetation of the area.

Impact Significance: Moderate reducing to low

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FIGURE 9 Rev B
VIEWPOINT ANALYSIS
(3 of 13)



VIEWPOINT 3: View looking west from Grid ref 235 435

Description: This view is taken from high ground to the east of the site. A wide view over the lower lying areas and the hills beyond, can be gained from this point. The existing landfill site can be seen behind the copse of trees on the right. The electricity pylons, which run across the centre of the view, are a notable feature, as are the forestry plantations on the hills to the south. The existing landfill site is visible, but at a distance of 1300m it is not a dominant feature. Residents of the three adjacent house and road users, where gaps in the roadside bank allow, will be affected by changes to this view.

Impact Analysis: In the initial stages of the development perimeter fencing will be executed and soil from the excavation site will be deposited in the fields directly behind the electricity pylon which will involve earth moving machinery and activity. Once in place the planting will screen views of the proposed landfill extension. It is considered that the fencing and earth works will have a moderate impact upon this view initially, reducing over time as vegetation becomes established.

Mitigation: Planting of native woodland on the edges of the spoil deposit areas and on the outside of the fence, and gapping-up hedgerows will increasingly enclose views towards the site and will add a positive new characteristic to the vegetation of the area.

Impact Significance: Moderate reducing to low

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FIGURE 9 Rev B
VIEWPOINT ANALYSIS
(3 of 13)



VIEWPOINT 5: View from Grid ref 226 439

This view is taken from the road to the north of the existing landfill site at the end of the lane leading to the farm to the east of the site. The view looks south across the existing site to the distant hills beyond Carrigkerry. The receptor groups are local residents in nearby houses and local road users.

Impact Analysis: Excavation activities will take place in the initial stages, which will be visible, although this will reduce over time. Due to the lowering of ground levels and planting, the perimeter fencing will become a significant feature of the view, running approximately along the line of the closest post and wire fence. It is considered that the visual impact will be major.

Mitigation: Vegetation including grass, hedgerows and native woodland would be established along the fence line and on the earth mounding to help soften the fence and screen the landfill activities. By the time the landfilling has reached its highest levels the planting would be established adequately to screen it from view.

Impact Significance:

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FIGURE 11
VIEWPOINT ANALYSIS
(5 of 13)



VIEWPOINT 7: View from Grid ref 214 441

This viewpoint is located at a distance of 600m from the existing landfill site, the restored area of which's visible to the right of the first electricity pylon. The proposed extension site extends back from this point along the line of the electricity pylon. This is a transient view through a break in the roadside vegetation, but there are one or two properties which share this aspect.

Impact Analysis: An area in the middle distance of the view, from the second pylon backwill be cleared of vegetation and will be enclosed by fences. Earthwork activities will be visible in the distance throughout the life of the landfill site. On completion natural landform and vegetation will be restored, ground levels will be slightly higher although this will not be a significant change to the topography. The visual impact of the landfill site during its active phases would be moderate in this view.

Mitigation: No mitigation in terms of screening would be provided during the active phases.

Impact Significance: Low/moderate.

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Landscape and Visual Impact Assessment

FIGURE 13

VIEWPOINT ANALYSIS

(7 of 13)



VIEWPOINT 8: View looking east towards the site (Grid ref 216 436)

This view is taken just to the north of the burial ground. The western restored section of the existing landfill site can be seen on the left of the view, the extension site is located on the hillside beyond this directly below the line of pylons. There are a number of properties on this total which will have a similar view.

Impact Analysis: The initial stages of development will involve stripping of vegetation, topsoil and subsoil from the area of the site and mounding of spoil on the top of the hill above the electricity pylons, raising the profile of the hill slightly, but not enough at this distance to be noticeable. As the site is excavated and filled with landfill the works will be visible. On completion a natural hillside will be formed, similar in height and shape to the existing completed landfill. It is considered that the visual impact would be moderate/major in this location.

Mitigation: There is little which could be achieved in terms of screening from this location.

Impact Significance: Moderate

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FIGURE 14

VIEWPOINT ANALYSIS

(8 of 13)



VIEWPOINT 9: View looking north east (Grid ref 216 434)

The proposed landfill site can be seen clearly from this location occupying the hillside below the line of electricity pylons, beyond the existing landfill area which can be seen in the middle of the view. There are two residential properties just to the south of this point which share a similar perspective.

Impact Analysis: The majority of the works will be clearly visible from this viewpoint: clearance of earth from the site, depositing spoil on hilltop beside site, excavation of hillside and re-filling with landfill. The visual impact would be major.

Mitigation: Restoration proposals involve creation of natural contours and re-vegetation with typical native species, however little screening of the works could be achieved at this orientation to the works.

Impact Significance: Moderate

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FIGURE 15

VIEWPOINT ANALYSIS

(9 of 13)



VIEWPOINT 10: View looking east from Grid ref 212 430

This view is taken from the western approach to the site and is the first time it becomes visible at a distance of I km to the nearest part of the site. This perspective can be viewed by motorists and road users travelling in this direction over a distance of about 100m, and there is a residential property just to the right of the view.

Impact Analysis: The excavation and landfill works will be clearly visible on the hillside at the end of the road and visual impact will be moderate/major.

Mitigation: On completion the land will be restored to natural contours and native vegetation.

Impact Significance: Moderate

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FIGURE 16
VIEWPOINT ANALYSIS

(10 of 13)

June 2003

drawn BF checked SM approved CH



VIEWPOINT 11: View taken from Grid ref 218 433

This view is taken close to the entrance to the existing site and these works are visible in the middle of the view. The site occupies the higher ground behind the existing works up to the line of the electricity pylons.

Impact Analysis: The proposed landfill works will be clearly visible on the hillside in the middle of the view which would have a major visual impact.

Mitigation: Planting on the boundary of the existing site is unlikely to provide screening for the proposed extension. On completion the site will be restored to natural contours with native vegetation similarly to the existing site visible here.

Impact Significance: Moderate/high

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FIGURE 17

VIEWPOINT ANALYSIS

(11 of 13)



VIEWPOINT 12: View looking north east towards site (Grid ref 216 429)

In this viewpoint the works will be clearly visible. The excavation/fill site extends from the existing site on the left-hand-side approximately halfway across the hillside, with spoil deposited in the fields to the right.

Impact Analysis: In the initial stages when spoil is being deposited, works will be apparent across most of the hillside. As excavation of the site is being carried out the areas of spoil

will become vegetated and integrate with the surrounding landscape. The visual impact of the development would initially be major reducing to moderate as it progresses.

Mitigation: Planting of spoil areas to the south of the excavation site will help to screen and soften the works.

Impact Significance: Moderate

Content of the excavation site will help to screen and soften the works.

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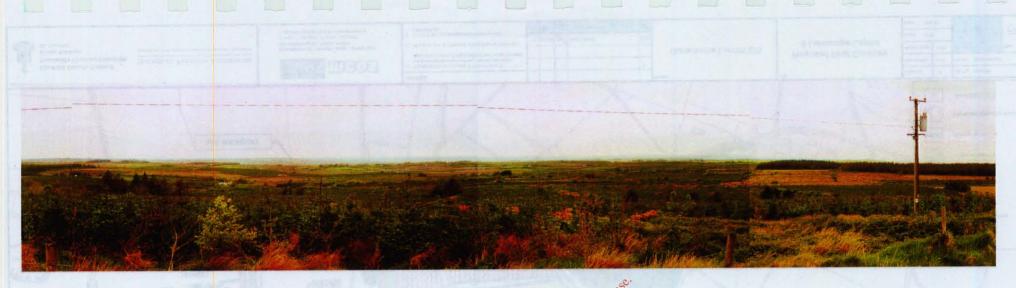
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FIGURE 18

VIEWPOINT ANALYSIS

(12 of 13)



VIEWPOINT 13: View looking north west towards site (Grid ref 238 414)

The view is taken from high ground to the south of the site at a distance of approximately 2km from the closest part of the site. The existing landfill can just be identified where the fields appear brown in the centre of the view. The proposed extension site will extend to the right of this against a rising backdrop. A small number of residential properties and road users share this view.

Impact Analysis: The works will be visible in clear weather conditions, however will not form a dominant feature in the view and will appear as an extension of the existing works. It is considered that the visual impact will be minor.

Mitigation: Planting of spoil areas to the south of the excavation site will soften the appearance of the works

Impact Significance: Low

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FIGURE 19 VIEWPOINT ANALYSIS (13 of 13)

