Chapter 11

11.1 Introduction

This chapter of the EIS provides an assessment of the likely significant landscape and visual impacts arising from the proposed N5 Westport to Turlough Road Project. The assessment was carried out between 2010 and 2013.

11.1.1 Outline Description of Proposed Development

The N5 Westport to Turlough Road Project runs east from the N59 Newport Road north of Westport, to the existing N5 Dublin Road immediately east of Turlough, a distance of approximately 26.5km. The road, the majority of which is to be constructed as a Type 2 Dual Carriageway (2+2), has been divided into 4 sections:

- **Section A** – extends from the proposed N59 tie-in north of Westport to the townland of Monamore east of Westport. This section of the road scheme is to be constructed as a reduced single carriageway.
- **Section B** – continues from the townland of Monamore to Pheasant Hill, approximately 2km west of the Castlebar.
- **Section C** – continues from the townland of Pheasant Hill west of Castlebar, passing to the south of the town to a point on the existing N5 approximately 2km east of Castlebar.
- **Section D** – continues along the existing N5 from east of Castlebar to the townland of Drumdaff/Knockanour immediately east of Turlough.

11.2 Methodology

11.2.1 Introduction

The methodology has regard to Section 50 sub-section 2 and 3 of the Roads Act 1993 as amended, and the following guidance publications:

- EPA: Guidelines on the Information to be contained in Environmental Impact Statements, 2002;
- NRA: Environmental Impact Assessment of National Road Schemes - A Practical Guide;
- NRA: A Guide to Landscape Treatments for National Road Schemes in Ireland, 2006;
- NRA: Guidelines for Protection and Preservation of Trees, Hedgerows and Scrub Prior to, during and Post Construction of National Road Schemes;
- NRA Design Manual for Roads and Bridges.

The findings and recommendations of other chapters of this EIS have also been considered in the preparation of this assessment. Particular liaison and consultation has taken place with the relevant EIS consultants in terms of the Design for the proposed road development and with particular respect to aspects such as Ecology, Noise and Vibration, Architectural Heritage and Archaeology and Cultural Heritage.
11.2.2 Landscape

Landscape has two separate but closely related aspects. The first is visual impact, *i.e.* the extent to which a new structure in the landscape can be seen. The second is landscape character impact, *i.e.* effects on the fabric or structure of the landscape. Landscape character is derived from the appearance of the land, and takes account of natural and man made features such as topography, landform, vegetation, land use and built environment and their interaction to create specific patterns that are distinctive to particular localities. The landscape along the route has been subdivided, for the purposes of the assessment, into units of differing character using site-based assessments and judgements, together with information gleaned from relevant publications. The landscape impact assessment which follows in Section 11.4 Predicted Impacts describes the likely nature and scale of changes to individual landscape elements and characteristics, together with the significance of such affects.

Landscape planning designations, including National and County designations or listings are considered and assessed for impacts, where appropriate. Historic demesne landscapes as defined by the National Inventory of Architectural Heritage (NIAH) are also considered, as are other informal demesnes identified during site visits and in consultation with the Architectural Heritage consultant. All such landscapes and properties are assessed for direct landscape impacts. Visual impacts from these properties are assessed within the Visual Impact Schedule (VIS), see Tables 11.1A to 11.1D and Table 11.2 of Appendix 11.1, while potential impact on their landscape setting is addressed under the Impact on Landscape Character and Features within Section 11.4 Predicted Impacts. Impact on the historical setting of such properties, if any, is considered in detail in Chapter 15 - Architectural Heritage of the EIS. The impact on the setting of archaeological and cultural heritage features is addressed in Chapter 14 - Archaeology and Cultural Heritage.

11.2.3 Visual Impact

Visual impacts are categorised under ‘Visual Intrusion’ and ‘Visual Obstruction’ where:

- **Visual Intrusion** is an impact on a view without blocking;
- **Visual Obstruction** is an impact on a view involving blocking thereof.

In reporting on visual impact, three basic assessments are used:

- **Construction Stage**: considers the period including the active construction of the road up to completion of the works and opening of the proposed road development;
- **Pre-establishment Stage**: considers the period including the initial operation of the proposed road development where new landscaping is unlikely to provide effective mitigation. The impact is assessed in the year the proposed road development would open to traffic;
- **Post-establishment Stage**: considers the impact as assessed in the fifteenth year after opening before which stage proposed landscaping will have developed as effective mitigation, as designed. The development of planting to effective visual screening usually requires a period of five to seven years after planting.

The majority of receptors within this study area will involve residential properties. In this report the term ‘receptors’ refers to residential properties but will also include other properties and viewers within the general environment. The visual
assessments are tabulated in the VIS Tables 11.1A to 11.1D contained in Appendix 11.1 and illustrated on the Landscape and Visual Drawings (Refer to Figures 11.1 – 11.17 in Volume 3 of the EIS). Some residential locations have been grouped into clusters where they are considered likely to experience a similar type and level of effect. The properties and clusters of properties are numbered in geographical order from the western end of the route to the eastern end and are cross-referenced to the VIS.

All properties within 200m of the centre-line of the proposed road development are listed, together with any property outside of 200m, which for reasons of relative openness or otherwise are considered to have an appreciable impact. Properties outside 200m of the centre-line that have not been included are not considered to have an appreciable impact. While these properties may have sight of the development, due to a combination of distance, aspect, elevation or intervening topography, the development comprises a small element of the overall panorama and will not give rise to likely significant impact.

The extent to which significant additional illumination will be visible in the night landscape is also taken into account. The introduction of lighting may affect individual views and also the character of the landscape.

11.2.4 Significance Assessment Criteria

The significance criteria as set out in the EPA guidelines have been used for the purpose of this assessment, see Table 11.1 Landscape and Visual Impact Assessment Criteria. The significance of landscapes is considered against their designation (national, county, local, etc.). Where not designated or otherwise protected, landscapes are considered as being of local significance. Views from properties are all considered on an equal basis without varying degrees of significance.

Table 11.1 Landscape and Visual Impact Assessment Criteria

<table>
<thead>
<tr>
<th>Significance Level</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profound</td>
<td>An impact which obliterates sensitive characteristics</td>
</tr>
<tr>
<td>Significant</td>
<td>An impact which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.</td>
</tr>
<tr>
<td>Moderate</td>
<td>An impact that alters the character of the environment in a manner that is consistent with existing and emerging trends.</td>
</tr>
<tr>
<td>Slight</td>
<td>An impact which causes noticeable changes in the character of the environment without affecting its sensitivities.</td>
</tr>
<tr>
<td>Imperceptible</td>
<td>An impact capable of measurement but without noticeable consequences.</td>
</tr>
</tbody>
</table>

As per the EPA Guidelines, impacts can be considered to be negative, neutral or positive in effect. Impacts are considered where they may be direct, indirect and/or cumulative as appropriate.

Impact duration is considered as being Temporary (for up to one year), Short-term (from 1 to 7 years), Medium-term (7 to 15 years), Long-term (from 15 to 60 years) or Permanent (in excess of 60 years).
11.3 Existing Environment

11.3.1 Landscape Context and Character

The route of the proposed N5 Westport to Turlough Road Project has been divided into 4 separate sections – Sections A, B, C and D – as outlined at 11.1.1 above. The landscape context and character for each is discussed separately in the following.

Section A: N5 Link Road from N5/N59 Junction north of Westport to proposed N5 Knockranny Roundabout east of Westport (circa Ch. 1+000 to circa Ch. 4+305 (i.e. Ch 10+000 on proposed N5))

The proposed road development commences at the N59 Newport Road on the northern side of Westport, where the first section of the project (Section A) is the N5 Link Road, which in effect provides for a northern relief road for the town. From the N59 the route runs east around the developed northern edge of the town – crossing the line of the dismantled Westport – Achill railway (Ch. 2+300 to 2+500) and passing to the north of the existing part-developed Industrial Development Agency (IDA) estate / Allergan pharmaceutical campus at Gortaroe (Ch. 2+950 to 3+600). Section A of the project terminates at Monamore, east of Westport, where a short link is to be provided to the existing N5 at Knockranny/Carrowbeg.

The wider western landscape of drumlins and intervening valleys eases notably to lowland to the east of the town. Nevertheless, the line of Section A of the route is dominated by the backdrop of a large drumlin to the north at Attireesh and by the presence of the built development of the town to the south. The wooded drumlins and parklands of the important Westport Demesne lie further west outside of the influence of the proposed road. Within this landscape context the route curves and turns along the low-lying landscape north of the town, only rising slightly onto the lower slopes of Attireesh drumlin. The landscape along the route is a typical urban edge mix of agricultural pasture; marginalised pasture; existing roads and infrastructure as influenced by adjoining built development. The landscape includes a varied and dispersed mix of old railway embankment with narrow strips of scrub woodland; low-lying wet grasslands and general pasture land; small areas of planted mature trees and younger trees, hawthorn scrub and remnant hedgerows and tree-lines and areas of gorse and willow scrub. Views vary greatly within the landscape, being confined and localised within developed areas and from low-lying lands. By contrast views are often expansive and panoramic from drumlins and elevated ridges.

Residential development is prominent along the northern edge of Westport. Such development is most notable along the local road leading from Deerpark East to Slaugar (Ch. 2+025); at Cedar Park; Deerpark East Estate (Ch. 2+600); and at Carrowbeg Estate (Ch. 3+000). Single or clustered properties are also prominent along the N59; along the old railway line; on the elevated lane on the side of Attireesh drumlin; and at the location of the proposed roundabouts to proposed N5 and to existing N5 at Monamore and Knockranny/Carrowbeg. The majority of these properties are seen within the context of the expanding nature of the town. Despite the proximity to the town, two properties (between Ch. 2+600 and 2+750) located along the line of the old railway at Attireesh have a more secluded and rural character. Likewise and despite their proximity to the existing infrastructure and other development, Rose Cottage along the existing N59 and 3 other properties (Ch. 4+200) located along a narrow lane at Drummindoo have also retained a degree of secluded character.
Other development and uses include the Westport GAA Grounds at Deerpark East (Ch. 2+500); the large Allergan Facility (Ch. 3+200) and other business/industrial developments at Carrowbeg Estate and along Lodge Road (Ch. 3+400 to 3+800).

Lands west and north of the proposed route in Deerpark East are zoned ‘A3 Residential Low Density’, while lands on the town-side (south) are zoned either ‘A1 Residential High Density’ or ‘H Community Facilities’, the latter been located at the GAA Grounds. Further east lands south of the proposed route (and old railway line) are zoned for Residential development, while lands to the north at Attireesh (Ch. 2+300 to Ch. 3+000) are zoned ‘N Agriculture / High Amenity’. Lands are zoned ‘E Industry’ at the existing Business Park / Allergan Pharmaceutical Campus and the majority of the remaining lands along Section A of the proposed route, east of the Allergan Pharmaceutical Campus, are zoned ‘G Mixed Use’. The route of the proposed N5, together with the landuse zonings are indicated on Map 1 of the Westport Town and Environs Development Plan 2010-2016. The route of the proposed N5, together with the landuse zonings are indicated in the Westport Town and Environs Development Plan 2010-2016. See also Section 11.3.4 below.

Section B: Proposed Knockranny Junction Roundabout east of Westport to proposed N5 Roundabout on existing N5 west of Castlebar (circa Ch. 10+000 to circa Ch. 20+400 (i.e. Ch 30+000 on Castlebar Bypass section)

The route from east of Westport to west of Castlebar runs to the north of the existing N5 at a varying distance of between circa 300m and 1km. The route ties into the existing N5 at the townland of Pheasanthill/Derrylea to the west of Castlebar. While the landscape immediately east of Westport is more lowland it gives way to a more pronounced drumlin landscape through Drummindoo, Carrownaclea, Sheean and Cogaula. Approaching Castlebar drumlin features are again pronounced through Claggarnagh West and East, Annagh and Pheasant Hill. In between drumlins also remain a feature (e.g. Knockbrack, Kilbree Lower, Cloonan / Dooleague), but they tend to be more dispersed within a lowland landscape. Views tend to be limited between drumlins and low hills but more open in lowland areas where such features are more dispersed. Views are long-ranging and panoramic from drumlins and elevated ridges. Such views over water are particularly attractive.

In part the route of the proposed N5 curves around the drumlin features; however, the route also prominently cuts through some drumlins (Ch. 11+400, 14+500, 15+600, 15+900, 17+200 and 17+700). Otherwise, the route follows areas of agricultural pasture; low-lying marginalised grassland, coniferous forestry, together with small areas of bog, scrub, hedgerows, tree-lines; wetlands and a small body of water at Black Lough (Ch. 18+850). The overall character is of a rural and agricultural drumlin landscape, highly influenced in areas by the presence of significant numbers of dispersed residential properties; and enhanced in other areas by the added diversity of lakes and lakeshore habitats of varying size.

As noted residential development is a prominent feature of this rural landscape. Density of such property is higher towards the west and particularly prominent through Drummindoo (Ch. 10+400), Carrownaclea (Ch. 10+700 – 11+100), Sheean (Ch. 11+450) and Cogaula (Ch. 12+200 to 12+700). Such development is again prominent around Lough Lannagh (also known as Castlebar Lough) and at the existing N5 at Pheasanthill / Derrylea (Ch. 19+400 to 20+310). Otherwise residential development is dispersed along local roads running north from the existing N5 and crossed by the proposed N5.
The area includes a number of additional features, of particular note are the large attractive lake of Islandeady Lough, which lies less than 500m north of the route (Ch. 17+000 to 19+000); Islandeady church and graveyard on an elevated site overlooking the lake; the attractive and secluded but small waterbody of Black Lough (Ch. 18+850); and the scenic setting of the significant amenity of Lough Lannagh (Ch. 19+300 to 20+000). St. Paul’s Primary School is located along the existing N5 at Claggarnagh West (Ch. 17+600), some 400m south of the proposed N5. A number of B&B properties are also located along the existing N5 between Westport and Castlebar.

The section of the proposed route between Ch. 10+000 and Ch. 10+450 is located within the boundary of the Westport Town and Environs Development Plan area. The majority of lands to either side of the proposed route are zoned ‘G Mixed Use’. A small area of land south of the proposed route (Ch. 10+300) is zoned ‘H Community Facilities’, while lands on the boundary of the Plan area are zoned ‘N Agriculture / High Amenity’. The route of the proposed N5, together with the landuse zonings are indicated on Map 1 of the Westport Town and Environs Development Plan 2010-2016. See also Section 11.3.4 below.

The remainder of Section B of the proposed route passes through un-zoned general agricultural / rural landscape. See also Section 11.3.2 below.

**Section C: Proposed N5 Roundabout on existing N5 west of Castlebar to proposed roundabout on existing N5 east of Castlebar (circa Ch. 30+000 to Ch. 39+386) (i.e. Ch 40+000 on Castlebar East section)**

Section C of the proposed N5 Westport to Turlough Road Project provides for a southern and south-eastern bypass of the town. The route has two crossings of the Westport - Manulla Junction Railway at Derrycoosh and Hawthornlodge (Ch. 30+800 and 36+100); and provides for grade-separated junctions with both the N84 and N60 National Secondary Roads (Ch. 33+600 and 37+100).

In comparison to areas further west the landscape is notably low-lying, flat to gently-undulating and dominated by improved agricultural pastureland. That said, the route crosses a variety of lands ranging from a large area of bog (Ch. 30+400 to 31+200) located either side of the Westport - Castlebar Railway at Derrylea and Derrycoosh; to part of Castlebar Golf Course (Ch. 35+800 to 36+000) at Hawthornlodge and across the edge of a large wetland (Ch. 36+150 to 36+750) at Shanvally. The route also crosses a variety of pastureland, small areas of scrub, hedgerows and tree-lines and passes close to Castlebar Rugby Football Club at Cloondeash, south of the Castlebar (Ch. 31+850). A large stone quarry is located west of the route at Moneenbradagh (Ch. 38+200) as is passes to east of Castlebar Town. The overall character of the landscape is of rural lowland increasingly influenced by expanding urban edge development, residential development and amenity/recreation uses. Views within this lowland landscape tend to be limited, being confined by low ridges, vegetation and development.

As noted, residential development is visually prominent along local and national roads crossed by the proposed route. This is a particular feature through Cloondeash (Ch. 31+700); Lisnakirka or Milebush (Ch. 34+800); Balloor (Ch. 35+900); along N60 at Drumaleheen and Doogary (Ch. 37+100); Doogary (Ch. 37+700); and Liscromwell (Ch. 39+000). Isolated farm and rural houses are also commonly located close to the route at various locations. While much of Section C of the proposed route passes through un-zoned general agricultural / rural landscape, short lengths of the route also pass between areas zoned – in the Castlebar Town
and Environs Development Plan 2008-2014 – as either 'Residential Low Density (Phase 3)' (at Lisnakirka or Milebush, Ch. 34+700 to 35+050) or 'Enterprise and Employment' (at Lisnageeha or Antigua and Lisnakirka or Milebush, Ch. 33+820 to 34+700). See Section 11.3.5 below.

Section D: Proposed N5 Roundabout on existing N5 east of Castlebar to tie-in on existing N5 east of Turlough (circa Ch. 40+000 to circa Ch. 44+600).

The proposed route follows the line of the existing N5 along its entire length through Section D and provides for a grade-separated junction at Turlough (Ch 43+750). In following the existing N5, the character of the area is already heavily influenced by the previously up-graded single carriageway road. Views within this landscape tend to be limited, especially along the route of the existing N5. Away from the route more open views are available from local ridges and low hills, though these are usually limited by topography and vegetation.

Being of relatively recent construction, the existing N5 has little in the way of properties directly fronting the road, though the wider rural landscape continues to have a high density of residential property. The landscape is gently undulating with occasionally more pronounced drumlin features, especially near Turlough. The landuse is of higher quality agricultural use with larger fields, stronger hedgerows, tree-lines and occasional stands of mature trees. Prominent stands of beech trees lie to either side of the existing N5 at Windsor (Ch. 40+600 to 41+600). These stands formed part of the former demesne of Windsor House and are covered by Tree Protection Orders (TPOs) as applied by Mayo County Council – see Section 11.3.2 below for further information. See Plate 11.2.

The Castlebar River runs along the northern side of the existing N5 from the start of Section D to Abbeybreaffy Nursing Home (Ch. 40+000 to 42+100). The river runs under the existing and proposed N5 at Turlough (Ch. 43+800). Other landuses include Abbeybreaffy Nursing Home (Ch. 42+000) and the significant facility of the National Museum of Country Life at Turlough Park (Ch. 43+000 to 43+700). Turlough Park itself is an important demesne landscape with associated house, parkland and church, which is located on the opposite side of the existing N5.

Turlough Park is a significant house and demesne. The property was the seat of the 'transplanted' FitzGerald family from the 1670s, until the remaining estate was sold to Mayo County Council in 1991. Turlough House sat at the centre of a large estate of many thousands of acres with a core demesne of over 300 acres. The original Turlough House was abandoned and an impressive Gothic style house constructed in the 1860’s on an elevated site overlooking garden terraces leading down to an ornamental lake and Castlebar River. The house had commanding views north over the river valley to the old church and round tower at Turlough; east over demesne lands to the estate Church of Ireland; and south over a parkland landscape. Views west were to enclosed gardens.

The property underwent some dramatic changes over the last two decades. Firstly, the re-alignment of the N5 cut through the southern portion of the demesne, severing the house from the estate church and the parklands to the south. The house and immediate grounds were subsequently acquired by Mayo County Council and the National Museum of Ireland constructed a dramatic contemporary building to the immediate east of the house. The building, which was opened to the public in 2001, holds the National Museums exhibition of Irish Country Life. These major developments have significantly altered the original landscape setting of the property and have had a major impact on views to and within the setting.
Turlough Round Tower, Abbey and associated graveyard lie on south facing drumlin slopes to the north of Turlough Park. The site is over 600m from the existing (and proposed N5) which are screened by a mature tree-line along the eastern boundary of the graveyard site.

All of Section D of the proposed route passes through un-zoned general agricultural / rural landscape. See also Section 11.3.2 below.

11.3.2 Mayo County Development Plan 2008-2014: General Context

The County Development Plan (the Plan) sets the context for consideration of the context of the existing landscape and visual environment as well as for the development itself. At the outset the Plan recognises that Mayo is essentially a rural county with a tradition of dispersed rural housing. This feature has played a large part in defining the character of Mayo, and in terms of its cultural and physical landscape. Rural housing also plays a pivotal role in sustaining rural communities and in maintaining the vibrancy of such areas. The Plan notes that this role must also be considered within a wider framework, which supports the sustainable development of the larger urban centres and smaller towns and villages.

The Plan notes the importance of both Castlebar and Westport as two of the three largest county towns and economic drivers within the area. Castlebar together with Ballina is identified as a linked development hub, which with effective connections to and from the Gateways, occupies a strategic position between the wider hinterland of west Mayo and a strengthening of the Galway, Sligo, Donegal axis on the east of the County.

The Plan recognises the importance of Westport as a county and regional centre and states that given the importance of Westport as the third largest town in the County, it is an objective of Mayo County Council that the town continues to develop as a natural extension of the linked hub of Ballina and Castlebar. It is an objective of Mayo County Council that Westport, as a logical third member of the economical spine, which has and continues to drive the balanced, integrated and sustained development of the County, be included in any future revision of the National Spatial Strategy as a hub town.

Map 4 County Settlement Strategy of the Plan identifies Castlebar as a ‘Linked Hub (with Ballina), while Westport is described as a ‘Natural Extension of Linked Hub’. Turlough is identified as a Rural Village.

The Plan states that ‘Mayo has a world-renowned landscape, which constitutes an invaluable element of its natural resource base. The sensitive development and conservation of this resource is essential to the underpinning of strengthened rural economies, the economy and quality of life.’

‘Large parts of the rural areas and coast of the County contain some of the most outstanding landscape and seascape in the world, and are designated as areas of high amenity in terms of their scenic and visual quality. Such areas are vital to the tourism economy and as such could contribute to the diversification of the economy of these areas as traditional agriculture declines in economic importance.’

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1 Page 16: Mayo County Development Plan 2008-2014
2 Section 1.2.3 National Context: Mayo County Development Plan 2008-2014
3 Page 18: Mayo County Development Plan 2008-2014
4 Page 38: Mayo County Development Plan 2008-2014
The Plan recognises that ‘the peripherality of the County, in national and international terms, is exacerbated by major infrastructural deficiencies, particularly in relation to strategic road and rail connections, telecommunications and energy.’ The Plan considers that these ‘infrastructural deficiencies are a major inhibiting factor in terms of the social and economic development of the County and quality of life in general. In this regard the Plan notes that a Key Issue is the: Strengthening of the infrastructure base and prioritising the delivery of key strategic roads, rail, air, telecommunications and energy infrastructure to the County.’

Appendix 1 (Roads) of the Development Plan notes that it ‘is an objective of the Council to encourage the completion of improvements to the three National Primary Routes: the N5, N17 and N26 to their entirety.’ The N5 Westport to Turlough Road Project is covered under 4 separate road objectives within Appendix 1 of the Development Plan:

NP2 N5 Commence land acquisition and construction of Westport-Castlebar section
NP4 N5 Commence design and land acquisition for Castlebar by-pass
NP5 N5 Commence design and land acquisition for Westport Northern Relief Road
NP9 N5 The examination of converting the existing N5 to an enhanced cross-section incorporating by-passes.

Map 5 Rural Area Types of the Plan identifies that the N5 Westport to Turlough corridor is located within an area described as ‘rural areas under strong urban influence’, clearly pointing to the economic significance of the corridor and the demand for settlement within this area.

In 1993, Mayo County Council applied Tree Preservation Orders (TPOs) to various stands of trees within the now dispersed demesne of Windsor House, east of Castlebar. The TPOs apply to 5 separate stands of primarily beech trees located to either side of the existing N5 at Clogher – see Plate 11.2.

- TPO 1993/2 relates to a near circular stand of mixed trees located 60m+ north of the existing N5. This stand of trees is unaffected by the proposed road development.
- TPO 1993/3 relates to a stand of 4 somewhat gaunt beech trees located beside the local road junction south of the existing N5. The trees are very exposed and the westernmost tree (i.e. Tree No. 936, see Tree Survey, Appendix 11.2) has a central decay some 4 to 5 metres over ground and as such is considered to be potentially unsafe. It will be necessary to remove this tree for the re-alignment of the existing Windsor Local Road junction. The remaining 3 trees (Tree Nos. 937, 938 and 939, see Tree Survey, Appendix 11.2) are in generally good condition, however the planting would benefit from the exclusion of livestock which are both poaching (trampling) the ground and preventing regeneration. It will be necessary to remove this tree for the re-alignment of the existing Windsor Local Road.
- TPO 1993/4 relates to a belt of beech trees located on a steep slope south of the existing N5. The trees form a prominent stand and are in generally good condition, however the planting would benefit from the exclusion of livestock which are both poaching (trampling) the ground and preventing regeneration. The planting appears to be of two principal age categories, an original planting

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5 Page 16 Mayo County Development Plan 2008-2014
100+ years ago followed by a second planting circa 60-70 years ago. Four trees (Tree Nos. 927, 949, 953 and 957, see Tree Survey, Appendix 11.2), have significant basal infections and their early removal and replacement is to be planned for. Five further beech trees (Tree Nos. 924, 925, 941, 942 and 943, see Tree Survey, Appendix 11.2), located at the north-western end of the planting, closest to the existing N5 and the proposed road development, will be removed to facilitate the construction and safe operation of the road. Retained trees are to be carefully protected and monitored during construction and their condition re-assessed after the works are complete.

- TPOs 1993/5 and 1993/6 relate to a belt of beech trees standing atop a cut rock slope on the immediate northern side of the existing N5.
  - The trees within TPO 1993/5 are particularly exposed trees on the original southern face of the planting where many were previously removed for earlier widening of the N5. Trees on the upper retained edge of the planting show signs of decline, with deadwood throughout their crowns. At least 8 of the trees (i.e. Tree Nos. 971, 981, 998, 932, 2915, 2934, 2954 and 2960) are potentially unsafe and their early removal and replacement is to be planned for. Nevertheless, the trees form a prominent visual feature. The necessity to provide a parallel farm access road along the northern side of the proposed N5 road development will result in further cutting of the slope on which the trees stand. These works will directly impact on a further 34 trees. Retained trees are to be carefully protected and monitored during construction and their condition re-assessed after the works are complete.
  - TPO 1993/6 relates to a similar narrow belt of beech trees running along the back of the slope on the northern side of the existing N5. These trees were unaffected by previous works on the existing N5 and are in a fair to good condition. No trees are directly affected by the proposed works; however the trees are to be protected and monitored during construction and their condition re-assessed after the works are complete.

### 11.3.3 Mayo County Development Plan 2008-2014: Landscape Appraisal of County Mayo

In addition to the above, the Mayo County Development Plan includes a Landscape Appraisal of County Mayo that describes the character, designation and sensitivity of the landscape as a whole.

The Landscape Appraisal divides the county into 16 separate landscape character units or areas of land of similar appearance and characteristics such as slope, vegetation and landuse. The route of the proposed N5 Westport to Turlough Road Project spans 2 Landscape Character Areas (LCAs). Section A of proposed N5 Westport to Turlough Road lies within LCA J: Clew Bay Glacial Drumlins, while Sections B, C and D of proposed road is within LCA K: East-Central Drumlin Area. The description, landuses, boundary determinants and critical landscape factors for each LCA is provided in Table 11.2 Landscape Character Areas J and K.

Chapter 3 of the Landscape Appraisal designates areas as either Vulnerable; Sensitive; Normal; Robust or Degraded. In addition, the appraisal designates Scenic Routes and Highly Scenic Vistas. However no scenic routes or vistas fall within the corridor of the proposed N5 Westport to Turlough Road. These features are identified on the ‘Scenic Routes and Protected Views’ figure in the Landscape Appraisal – see Plate 11.1.
Areas Designated as Vulnerable, include the coastline; the banks of the rivers; the shoreline of all lakes; the skylines of upland areas and all headlands and promontories. Features close to the route of the proposed N5 Westport to Turlough Road include the Carrowbeg, Manulla and Castlebar Rivers; and the shores of Islandeady and Castlebar (or Lannagh) Loughs. These features are identified on the ‘Scenic Evaluation - Vulnerable Features’ figure in the Landscape Appraisal.

Section 3.1(b) of the Landscape Appraisal sets out the policy with regard to areas designated as vulnerable as follows:

*These areas or features designated as vulnerable represent the principal features which create and sustain the character and distinctiveness of the surrounding landscape. To be considered for permission, development in the environs of these vulnerable areas must be shown not to impinge in any significant way upon its character, integrity or uniformity when viewed from the surroundings. Particular attention should be given to the preservation of the character and distinctiveness of these areas as viewed from scenic routes and the environs of archaeological and historic sites.*

Areas Designated as Sensitive, include natural grassland; peat bogs; transitional woodland scrub; broad-leaved forest; mixed forest; water courses/bodies; and agricultural lands with significant areas of natural vegetation. Features close to the route of the proposed N5 Westport to Turlough Road include the waterbodies of Islandeady and Castlebar (or Lannagh) Loughs. Sensitive features are identified on the ‘Scenic Evaluation – Sensitive Areas figure in the Landscape Appraisal.

Section 3.2(b) of the Landscape Appraisal sets out the policy with regard to areas designated as sensitive as follows:

*These areas have a distinctive, homogenous character, dominated by natural processes. Development in these areas has the potential to create impacts on the appearance and character of an extensive part of the landscape. Applications for development in these areas must demonstrate an awareness of these inherent limitations by having a very high standard of site selection, siting layout, selection of materials and finishes. Applications in these areas may also be required to consider ecological, archaeological, water quality and noise factors insofar as it affects the preservation of the amenities of the area.*

The Landscape Appraisal for County Mayo also groups the 16 LCAs into 4 main Policy Areas, with LCA J falling within Policy Area 2: Lowland Coastal Zone and LCA K falling within Policy Area 4: Drumlins and Lowlands – see figure on Landscape Protection Policy Areas. A set of indicative policies relating to landscape attributes, robustness, and sensitivities have been provided for each Policy Area. Policies 8 to 11 inclusive refer to Policy Area 2 and include:

**Policy 8:** Recognise the substantial pockets of residential and rural landuses in some locations and the emerging pressures for differing landuses of industry, wind energy and residential development in this policy area.

**Policy 11:** Encourage development that will not have a disproportionate effect on the existing character of the landscape in terms of location, design, and visual prominence.
Policies 14 to 16 and 21 to 24 inclusive, which refer to Policy Area 4, include:

**Policy 14:** Encourage development that will not interrupt or penetrate distinct linear sections of primary ridge lines when viewed from areas of the public realm.

**Policy 16:** Preserve free from development any areas that have not already been subject to development, which have retained a predominantly undisturbed upland/moorland character.

**Policy 21:** Recognise that these areas are made up of a variety of working landscapes and contain the vast proportion of the Counties population within principle towns and on rural holdings. These also incorporate all of the major national primary and regional roads, and railways.

**Policy 22:** Continue to permit development that can utilise existing infrastructure, whilst taking account of absorption opportunities provided by the landscape and prevailing vegetation.

**Policy 23:** Encourage development that will not significantly interfere or detract from scenic Lakeland vistas, as identified in the Development Plan, when viewed from areas of the public realm.

In considering Landscape Sensitivity, the Appraisal considers both the impact index (potential) of different developments (*i.e.* Development Impact Potential Index – see page 64 of Appraisal) and the sensitivity of particular landscape policy areas (*i.e.* Landscape Area Sensitivity Index – see page 65 of Appraisal). Combining both aspects, the Development Impact – Landscape Sensitivity Matrix (page 66 of Appraisal) shows that road developments have low potential to create adverse impacts on landscape character in Policy Area 2 (*i.e.* Section A of proposed N5 Westport to Turlough Road) and low to medium potential in Policy Area 4 (*i.e.* Sections B, C and D of proposed N5 Westport to Turlough Road).
Table 11.2  Landscape Character Areas J and K

<table>
<thead>
<tr>
<th>Landscape Character Area J: Clew Bay Glacial Drumlins</th>
<th>Landuses</th>
<th>Boundary Determinants</th>
<th>Critical Landscape Factors</th>
</tr>
</thead>
</table>
| Coastal area dominated by undulating drumlins.       | Main land use in this coastal area is agriculture. Primarily areas of pasture lands for livestock rearing. | Northern and southern boundaries of character area are defined by a visually obvious and rapid landscape change from coastal drumlins and sea to mountainous uplands and peat bogs. | **Distinct Coastal Vistas**  
- Complex arrangement of shorelines and drumlin islands results in a disproportionate length of coastline.  
- Uninterrupted vistas across water of bays and channels to opposing shorelines are available from areas of the public realm.  
- All such views are locally important critical views and as such care should be taken to avoid interrupting such views.  
- Complex undulating nature of distinct coastal environment allows for appropriately positioned development to be assimilated into the landscape more easily than for open coastal settings which form the majority of County Mayo’s coastline. |
| Area tilts towards and into Clew Bay creating a labyrinth of islands from partially submerged drumlins. | Interlaced amongst pasture lands are significant areas of transitional woodland scrub. | The eastern boundary is not so visually obvious on the ground. | |
| This low-lying drumlin landscape is sandwiched between the dominating bulk of Croagh Patrick to the south and the Beg Range to the north. | Landscape also contains a significant zone of continuous urban fabric (Westport). | Macro-level topography shows a distinct change in land pattern between the Clew Bay drumlins and the drumlins and hill country to east. | **Prominent Ridge Lines**  
- Prominent ridgelines formed by mountainous northern and southern boundaries of LCA.  
- Ridgelines perform important roles in providing identity, acting as dominant focal points and defining extent of visual catchments.  
- Development should not interrupt integrity of ridgelines. |
| Relatively open vistas are available out to sea and inland toward Castlebar from this area. | Westport golf course to the north-west of the town shows that sport and leisure, together with tourism is also a significant land use in the area. | Transition line is reinforced further by geology, river catchment, and land cover data. | **Undulating Topography**  
- Undulating topography formed by characteristic drumlins has ability to shelter and absorb visual impact of development.  
- Shielding of built form in lee of hills where it does not break skyline is visually unobtrusive and reflective of landscape scale.  
- Dynamic and complex nature of undulating land provides fore, middle, and distant ground to a vista helping to provide realistic scale and visual containment not available in open country. |
| Clew Bay is an area of high scenic value. | | | |
### Landscape Character Area J: Clew Bay Glacial Drumlins

<table>
<thead>
<tr>
<th>Description</th>
<th>Landuses</th>
<th>Boundary Determinants</th>
<th>Critical Landscape Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Shelter Vegetation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Shelter vegetation has landscape shielding and absorbing quality.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Provides natural visual barrier and adds to complexity of a vista</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Provides scale and containment for built forms</td>
</tr>
</tbody>
</table>
## Landscape Character Area K: Central Drumlin Spine

<table>
<thead>
<tr>
<th>Description</th>
<th>Landuses</th>
<th>Boundary Determinants</th>
<th>Critical Landscape Factors</th>
</tr>
</thead>
</table>
| LCA originates on the eastern boundary of Clew Bay Glacial Drumlins LCA. Western boundary is uniform and synonymous with the distinct drumlins of Clew Bay. Inland, the drumlins are less uniform and severe, and eventually, where the terrain encapsulates the towns of Castlebar, Swinford and Charlestown, they merge into several sets of geologically distinct and isolated hills. | Land cover is a mixture of bog / moorland, poor-quality pasture and transitional woodland scrub. Better quality pasture apparent to the east and south. Charlestown, Castlebar and Swinford towns form the dominant urban settlement areas in this region of the County. | North-western boundary, shared with Clew Bay Glacial Drumlins and Central Mayo Mountain Moorlands. Is a function of slope topography and land cover. Boundary is reinforced by geology and soils. Western boundaries are also derived from land cover, slope and topographical change with reinforcement provided by soil type. Less visually obvious is the southern boundary between the Moy and Corrib water catchments. as this has a bearing on visual limits even in low lying terrain. Boundary coincides with gradual change in land cover from poor quality pasture, scrub and bog, to high-quality pasture. | Undulating topography and shelter vegetation  
- Similar to Clew Bay, landscape area is dominated by a gentle rolling topography comprised of drumlins and low hills.  
- Provided that skyline remains unbroken, combination of topography and associated shelter vegetation allows for element of visual shielding of the built form by supplying natural barriers and visual complexity to all views.  

Prominent Ridge Lines  
- Some relatively low and isolated examples of primary and secondary ridge lines through the centre of this area.  
- As with other natural linear features such as shorelines, it is important that development does not interrupt the integrity of these ridgelines.  

Localised Lake Vistas  
- Area envelops a large part of Lough Conn.  
- Low-lying nature of lakeland environments allows for the occurrence of low prospect vistas from roads near the Lough and from its shores.  
- Low viewing points around the lough enhances the potential and likelihood for visual intrusion by development in this vicinity.  

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Plate 11.2– Windsor House (Clogher): Tree Preservation Orders
11.3.4 Westport Town and Environs Development Plan 2010-2016

The route of the proposed N5 Westport to Turlough Road includes for a Northern Relief Road (N5 Link) to the north and north-east of Westport Town. The corridor for the relief road and its connection to the N5 Westport to Turlough Road is identified in the Westport Town and Environs Development Plan 2010-2016. See Map 1 of Westport Town and Environs Development Plan.

Lands either side of a circa 300m section of the proposed route (and identified corridor) are Zoned as Agriculture / High Amenity (Map 1 of the Plan). One of the Objectives of the Westport Town and Environs Development Plan (page 4 of the Plan) is:...‘To provide for the protection of areas of high amenity and strategic views’.

The nature and protection of areas of high amenity is set out under Section 5 Land Use Zoning Objectives, on pages 35-36 of Plan. The stated objective of the Agriculture / High Amenity zoning is:

The objective of the Agriculture/High Amenity land use is to protect this area from development other than permitted agricultural uses and to protect the landscape character of this area.

Most of the remainder of the proposed route corridor passes between lands zoned either as ‘Industrial’ or ‘Residential Phase II’ & ‘Phase III’ – See Map 1 of the Plan.

The amenity zoning comprises most of the upper aspects of Attireesh drumlin but also includes low-lying lands west of the Allergan pharmaceutical campus and north of the old railway line. Within this context, the realigned route runs between the low-lying lands to the south and steeply rising lands further north. The low-lying lands are poor draining with gorse and scrub increasingly evident on the lower slopes of the drumlin. Small pockets of mainly coniferous woodland, tree-lines and hedgerows are located on higher areas near Attireesh Lane.

The zoned lands do not have a direct amenity or recreational use. Nevertheless, they are important in defining the northern edge of the town, and the elevated drumlin is a visually prominent natural landscape feature to the north of the town. Being low-lying, the High Amenity lands directly affected by the realignment are considered to be the least sensitive.

Protected Views and Prospects are indicated both north (V5) and south (V4) from the local road/lane (Greenway) at Attireesh (see Map 2 of the Plan). One of the Principle Objectives of the Westport Town and Environs Development Plan is to ‘To provide for the protection of areas of high amenity and strategic views’ (page 4 of the Plan). Landscape and Natural Environment Policy LO-01 (page 32 of the Plan) reinforces this protection.

Protected View V5 is away from the route corridor and will not be impacted. Views south from Protected View V4 are elevated and panoramic over the town to background hills and mountains. Views from lane down towards the line of the proposed alignment are restricted and/or screened by falling topography and woodland plantings.

The proposed road will cross a cycleway/walkway objective along the line of the old railway and a second similar objective to link the IDA Estate Roundabout / Allergan Roundabout and the upper lane at Attireesh – see Map 2 of the Plan. In addition, the route passes along and through the southern edge of a Local Biodiversity Area
LBA36: Carratowick Meadows at the line of the old railway and north of the Pharmaceutical Campus. A local stream identified as a Linear Corridor in the Plan is crossed by the proposed road at 2 locations (Ch. 3+050 & 3+600) west and east of the Pharmaceutical Campus – see Map 4 of the Plan.

11.3.5 Castlebar Town and Environs Development Plan 2008-2014

The route of the proposed N5 Westport to Turlough Road Project includes for a bypass to the south and east of Castlebar Town, where the proposed route runs close to or along the boundary of the Plan area. The Plan indicates the route of the proposed road development.

Where the route of the proposed N5 Westport to Turlough Road lies within the Plan area it passes between lands that are zoned for either ‘Rural Character’; ‘Enterprise and Employment’; or ‘Residential Low Density (Phase 3)’. The route avoids areas considered for ‘Visual Character / High Amenity’ – see Map No. 1: Zoning / Objectives of the Castlebar Town and Environs Development Plan 2008-2014.

11.3.6 Features of Cultural Heritage Interest

The National Inventory of Architectural Heritage records properties under its listings for Historic Gardens and Designed Landscapes. The properties listed are given a historic feature richness index (FRI) rating ranging between 1 to 16 depending on the quality of the extant features and the state of their preservation. Where virtually no recognisable features remain, properties are considered as having ‘0’ historic feature richness. Where the FRI rating is 5 or above, landscape elements retained on the ground continue to demonstrate the original landscape design intent and structure. Properties with a low rating (i.e. FRI of less than 5) will have experienced significant loss and/or alteration of their original layout. Nevertheless, even where a lower rating has been recorded, individual features may have a landscape significance, e.g. peripheral mature woodland, avenues, parkland trees etc. This landscape and visual chapter includes an assessment of the NIAH listings located close to the proposed road development, together with additional informal demesnes that have not been formally recorded in the NIAH Inventory. These informal demesnes were identified from site visits and in consultation with the Architectural Heritage consultants. These informal demesnes have been included as they exhibit one or more of a combination of mature demesne style woodland, boundary walls and/or designed landscape features. A more detailed consideration of cultural features is provided under Chapter 14 - Archaeology and Cultural Heritage and Chapter 15 – Architectural Heritage.

The properties listed in Table 11.3 lie within relatively close proximity of the proposed road development. However, not all of these historic properties are directly impacted or even indirectly impacted, e.g. in terms of impact on their setting. Demesnes that have the potential to be directly or indirectly impacted are considered in more detail under the section on landscape impacts in Section 11.4 Predicted Impacts below. Historic demesnes with houses that have potential for visual impact have been assessed, together with all other properties, within the VIS Tables 11.1A to 11.1D in Appendix 11.1. Any impact on the historic setting of the properties has been dealt with in the Chapter 15 – Architectural Heritage.

In addition to properties listed in Table 11.3, other demesne / estate landscapes are also present in the landscape. Typically, these do not contain specific elements of historic gardens or designed landscapes, or where present, these features may have been entirely or substantially lost over time. That said, such properties may also contain mature trees, tree-lined boundaries or tree stands, or remnants of other
landscape features such as boundary walls, entrances, etc. The principal properties are Greenhill (See AH-8 @ Ch. 17+250: see Figure 11.6), Pheasant Hill (See AH-10 @ Ch. 20+100: see Figure 11.8), and Rockland House with the present clubhouse located on the site of the original house (See AH-11 @ Ch. 35+150 on Figure 11.11). Greenhill, which adjoins the existing N5, retains its demesne integrity; however the property is over 500m south of the proposed N5 and is not impacted by the scheme. Pheasant Hill is no longer recognisable as a demesne landscape while Rockland, which adjoined Hawthorne Lodge, has been subsumed into Castlebar Golf Course.

11.3.7 Inventory of Outstanding Landscapes in Ireland

The Inventory of Outstanding Landscapes in Ireland prepared by An Foras Forbartha in 1977 remains the only National Assessment of landscape quality published for Ireland. Many of the areas highlighted in the Inventory were subsequently given protection within the statutory County Development Plans and these plans in many instances designate additional areas. The western end of the proposed road commences within the area described as Area 128: Clew Bay: A ‘drowned’ drumlin coastline. However, the distinctive features of the listing relate to Clew Bay itself, its islands and surrounding coast – all of which lie west of the actual corridor of the development.
### Table 11.3  Historic Garden and Designed Landscape listings and Informal Demesnes close to the Proposed Road Development

<table>
<thead>
<tr>
<th>BSM Ref</th>
<th>Name</th>
<th>NIAH Ref</th>
<th>Figure Ref.</th>
<th>Principal Retained Features and NIAH Comments</th>
<th>Location of the Property relative to Route and likelihood of Landscape and/or Visual Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>AH-1</td>
<td>Westport Demesne</td>
<td>6</td>
<td></td>
<td>Main features substantially present - some loss of integrity. A caravan site has been constructed in the core landscape. Housing and a golf course have been constructed in the peripheral landscape. Some sections of woodland have been removed but the structural footprint is largely unchanged.</td>
<td>Boundary of historic demesne is located 150m+ west of proposed tie-in to the existing N59 at Deerpark East. No direct or indirect impact.</td>
</tr>
</tbody>
</table>
### Principal Retained Features and NIAH Comments

<table>
<thead>
<tr>
<th>BSM Ref</th>
<th>Name</th>
<th>NIAH Index</th>
<th>Figure Ref.</th>
<th>Location of the Property relative to Route and likelihood of Landscape and/or Visual Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>AH-6</td>
<td>Turlough Park</td>
<td>3</td>
<td>11.17</td>
<td>Proposed route follows line of previous N5 bypass through Turlough. New interchange proposed at Turlough Church, close to Turlough House and Museum (Figure 11.17). Direct impact on historic boundary. Extant landscape features unaffected. Potential visual impact.</td>
</tr>
<tr>
<td>AH-7</td>
<td>Charleville House</td>
<td>3</td>
<td>11.17</td>
<td>Proposed route follows line of existing N5 over 250m from ruin of Charleville House (Figure 11.17). The site is generally screened. Potential for limited visual impact from proposed interchange.</td>
</tr>
</tbody>
</table>

Main features unrecognisable - peripheral features visible. A major road has been constructed through the centre of the site. Factory* development on the site of the principal building.

* Museum is incorrectly recorded as a Factory

Main features substantially present - peripheral features unrecognisable. A new road crosses the site. The two areas of structural woodland have been joined by a section of screening woodland. A formal or walled garden west of principal building has been lost. The principal drive, originally across parkland, passes alongside woodland. Trees in parkland west of the principal building have been removed.
11.3.8 Summary of Receiving Environment

To the west the landscape has a predominantly undulating topography, characterised by drumlins and low hills. A similar landscape, interspersed with lakes, lies around Islandeady Lough and Castlebar Lough, west and north-west of Castlebar. The intervening landscape is more openly undulating. The landscape south and east of Castlebar is lowland or gently undulating with less drumlin features. Vegetation cover is more of a scrub nature to the west, with increasing tree-lines and stands of mature trees to the east.

While rural throughout, the urban centres of Westport and Castlebar have a strong influence on their setting and their hinterland, increasing the number and prominence of residential development in the surrounding countryside. The main landuse is as agricultural pasture, though marginalised grassland, wetlands, small areas of bog and scrub are common throughout.

The area includes Lough Lannagh and at greater distance, Islandeady Lough. Both lakes are large and significant waterbodies, important features within their landscape and visual context. Other small lakes such as Black Lough are locally attractive, adding interest within the broader landscape mosaic. The Castlebar River runs along the existing N5 east of Castlebar town and passes under the existing N5 near Turlough. The shorelines of the large lakes and the main rivers are designated as vulnerable features, while the waterbodies themselves are considered sensitive features. The route is overlooked from a scenic view on Attireesh Drumlin in Westport, but otherwise there are no scenic routes or vistas along the line of the proposed N5 development.

Mature tree plantings, tree-lines, hedgerows and wooded areas are limited, with prominent stands of trees limited to Shanvally and Clogher, where in the latter case, 5 groups of trees are covered by Tree Preservation Orders. The route passes through the north-western portion of Castlebar Golf Course; the north-eastern edge of Westport GAA Grounds and through the vicinity of Castlebar Rugby Football Grounds.

In general, the land along the proposed route can be categorised as agricultural lands. At Westport and Castlebar, the proposed route corridor is identified in the respective town development plans.

In conclusion, the presence of residential property is a significant feature within the rural landscape. In the context of road development, such development will be likely to experience significant visual impact where it is located at proximity to either the proposed road and/or re-aligned local roads. Rivers and lakeshores, distinctive drumlins, wetlands and natural habitats are amongst the most sensitive and significant landscape features along the proposed route. There are limited designated landscapes along the route, primarily relating to high amenity lands at Westport, lakeshores at Islandeady Lough and Lough Lannagh and Tree Preservation Orders at Clogher, east of Castlebar.

11.4 Predicted Impacts

The circa 26.5kms of the N5 Westport to Turlough Road Project proposes a Type 2 Dual Carriageway together with some lengths of single carriageway and short sections of single carriageway tie-in to the existing N59 and existing N5 at Westport. The development includes nine proposed junctions – eight of which will be
illuminated. One existing roundabout at Allergan Pharmaceutical Campus in Westport will be removed.

The nine new junctions are:

- 1 new at-grade roundabout junction with the existing N59 and N5 Link Road, (N5/N59 Junction) northwest of Westport;
- 1 new at-grade roundabout junction (N5 Link Road Junction) northwest of IDA Estate/ Allergan pharmaceutical campus, Westport;
- 1 new at-grade roundabout junction (Knockranny Junction North) between the N5 Link, Proposed N5 and Knockranny Link to existing N5, east of Westport;
- 1 new at-grade roundabout junction (Knockranny Junction South) between Knockranny Link and existing N5, east of Westport;
- 1 new at-grade roundabout junction with the existing N5 west of Castlebar;
- 2 new grade-separated junctions with the N84 and N60 south and southeast of Castlebar;
- 1 new at-grade roundabout junction with the existing N5 east of Castlebar; and
- 1 new grade separated junction with overbridge on the existing N5 at Turlough, which it is not proposed to illuminate.

The proposed road development crosses a variety of town edge and rural landscapes where residential development is varyingly dispersed and clustered, particularly at Westport and Castlebar and on local roads along the proposed road development. In this landscape, the construction associated with a major road, such as that proposed, will inevitably give rise to incidents of significant negative impacts in terms of disturbance to both the landscape and visual environment. These landscape and visual impacts will be most pronounced during the construction and initial operation stages, after which landscape mitigation will be increasingly effective in reducing impacts.

The main elements that have potential for significant landscape and visual impact during the construction stage are:

- Tree, hedgerow and vegetation removal;
- General landscape disturbance including disturbance to existing property boundaries;
- General construction activity, site compounds, construction traffic;
- Construction of significant earthworks, including embankments and cuttings;
- Construction of major junctions, elevated structures such as bridges; and
- Re-alignments of existing national and local roads.

The main elements that have potential for significant landscape and visual impact during the operational stage are:

- The presence of significant embankments and to a lesser degree deep cuttings;
- The presence of elevated structures such as junctions and bridges;
- Disturbance to existing landscape patterns, new landscape areas;
- Illumination;
- Traffic;
• Noise Barriers.

In addition, there are elements such as signage, roadside barriers, culverts, attenuation ponds, fencing etc. However, given their low elevation and low off-road visibility these features will have little or no landscape or visual impact and the presence of similar features are a common and accepted aspect of all road developments. Ball-stop netting is to be provided at Westport GAA Club and at Castlebar Golf Course. Such measures/netting is commonplace at many sporting grounds and while visible from some surrounding properties, will not give rise to adverse visual impact.

Construction and operational-stage landscape and visual impacts are discussed in the following sections. Direct impacts on trees, other physical features and landscape character have also been assessed. A detailed assessment of visual impacts is also provided in the Visual Impact Schedule (VIS) Tables 11.1A to 11.1D of Appendix 11.1. In addition, the VIS tables are cross-referenced to the Landscape and Visual Impacts Drawings, see Figures 11.1 to 11.17 in Volume 3.

11.4.1 Predicted Landscape Impacts

The proposed road development crosses a generally rural rolling drumlin to lowland landscape which is predominantly in agricultural use but interspersed with small areas of semi-natural peat; scrub; wetlands, lakes and forestry. Residential properties are a common feature of the corridor, particularly around Westport and Castlebar and along local roads. Within this landscape, the construction associated with the road will give rise to incidents of significant negative impact in terms of disturbance to the existing landscape and its character. While these landscape impacts will tend to be most pronounced during the construction and initial operation stages, the scheme will, like in all road schemes, also have a residual or permanent impact.

While the scheme as a whole will have an inevitable impact on the landscape, particularly significant impact is limited to a number of areas of more distinctive character along the proposed road development. These areas are highlighted on the Landscape and Visual Impact Figures 11.1 to 11.17 in Volume 3 and the impact assessed in Table 11.4.

In addition to those more significant areas as highlighted in Table 11.4, aspects such as deep cuttings and high embankments will have an impact across the scheme. Earthworks which will give rise to significant landscape impact are located at:

Section A

• Ch 26+470 - 26+600 Deepark East, Westport. Embankment on lowlands;
• Ch 2+100 – 2+300 Deepark East, Westport. Embankment on lowlands;
• Ch. 2+600 – 3+500 Attireesh, Gortaroe, Westport. Cuttings and Embankments on rising lands at Attireesh / Gortaroe including steepened cut slopes. Embankments across lowlands at Attireesh and along Allergan Road to Carrowbeg;
• Ch 3+650 – 4+050 Monamore, Westport. Embankments over Lodge Road.

Section B

• Ch 11+200 – 11+700 Sheean, Westport. Deep cutting on side of drumlin;
• Ch 12+350 Sheean, Westport. High embankment on local road;
• Ch 14+350 – 18+100 Kilbree Lower, Westport to Claggarnagh East, Castlebar. Series of deep cuttings and high embankments through rolling drumlin landscape;
• Ch. 18+200 – 19+200 Claggarnagh East, Castlebar. High embankment over low-lying wetland landscape at Black Lough;
• Ch. 19+400 – 19+700 Lough Lannagh, Castlebar. High embankments over low-lying wetland landscape at Lough Lannagh.

Section C
• Ch 30+500 – 31+300 Derrylea to Derrynashack, Castlebar. High embankment over railway;
• Ch 32+000 – 32+300 Cloondeash, Castlebar. Deep cuttings and high embankments at local road crossing;
• Ch 33+400 – 33+800 N84, Aghadrinagh, Castlebar. High embankments to grade-separated junction;
• Ch 34+600 – 34+850 Lisnakirka or Milebush, Castlebar. Deep cuttings at local road;
• Ch 35+100 – 36+500 Balloor to Drumaleheen, Castlebar. High embankment through Balloor, over railway and through Shanvally;
• Ch 36+900 – 37+300 N60, Drumaleheen/Doogary, Castlebar. Deep cuttings / high embankments to grade-separated junction;

Section D
• Ch 43+750 Turlough, Castlebar. High embankment to overbridge.

In overall terms the impact on trees, hedgerows and woodlands is considered to be slight, with many areas having low tree and woodland cover. Impacts on trees, hedgerows and woodlands are identified on the Landscape and Visual Impact Figures 11.1 to 11.17 in Volume 3. Significant loss of trees, tree-lines, hedgerows and or woodlands during the construction stage is limited being restricted to the following:

Section A
• T-A1: Ch 2+000 Deerpark East, Westport. Loss of mature standing trees and tree-lines;
• T-A2: Ch 2+250 to 2+500 Attireesh, Westport. Loss of tree-lines/hedgerows along section of old railway line;
• T-A4: Ch 3+250 to 3+350 Gortaroe, Westport. Loss of corner of small stand of mixed trees/plantation near Allergan pharmaceutical campus, Westport;

Section B
• T-B9: Ch 16+400 – 17+150 Dooleague, Castlebar. Loss of mature trees and tree-lines;
- **T-B12**: Ch 19+350 – 20+000 Annagh & Cloonkeen, Castlebar. Loss of mature trees and tree-lines and lakeshore vegetation.

**Section C**

- **T-C7**: Ch 34+650 – 35+000 Lisnakinra or Milebush, Castlebar. Loss of mature trees and tree-lines;
- **T-C10**: Ch 36+150 – 36+600 Hawthornlodge, Shanvally, Castlebar. Loss of trees and tree-lines with up to 50 early-mature ash trees located west of Shanvally Wetland.

**Section D**

- **T-D2 / T-D3 / T-D4 / T-D5 & T-D6**: Ch 40+800 – 40+950 & Ch 41+050 – 41+450 TPO Trees at Breandrum or Windsor / Clogher, Castlebar. It is proposed to remove 13 trees which are in poor and dangerous condition. In addition, it is proposed to remove 34 further trees (33 Beech and 1 Sycamore) to facilitate the construction and safe operation of the road. The majority of the trees to be removed are in fair to poor condition and their loss will not effect the overall integrity, visual prominence or amenity value of the stands of trees;
- It is not proposed to directly impact on the stand of trees covered by TPO 1993/4. The vast majority of the trees are in good condition. However, two trees (Tree Nos. 919 & 920, see Tree Survey Appendix 11.2) are in poor condition and their removal should be planned. Five trees in good condition (Tree Nos. 921 – 926, see Tree Survey Appendix 11.2) are close to the proposed works and will need to be monitored during the works and reassessed on completion of same;
- **T-D11**: Ch 43+600 Along local roads at Turlough and Knockanour. Loss of roadside vegetation, trees and plantings;
- **T-D12**: Ch 43+600 Turlough Church, Drumdaff. Loss of edge of plantation acting as background to setting of church.

In addition to these impacts it is considered that the proposed road development will open up the potential for a number of new scenic views. These will include particularly scenic views towards Islandeady Lough and over Lough Lannagh, together with a series of views to the rolling drumlin landscape between Westport and Castlebar.
### Table 11.4  
**Assessment of Landscape Impact (See Landscape Visual Impact Figures 11.1 to 11.17 in Volume 3)**

<table>
<thead>
<tr>
<th>Landscape Area and Location</th>
<th>Potential Landscape Impact: Construction and Early-operational Stage</th>
<th>Proposed Mitigation Measures</th>
<th>Predicted Residual Landscape Impact</th>
</tr>
</thead>
</table>
| **Land-A1:** Ch. 2+400 to 3+000  
Old Railway Corridor and Low-lying High Amenity lands at Deerpark, Attireesh and Gortaroe, Westport  
Secluded landscape corridor set in valley between the town proper and drumlins on edge of Westport Town. Old railway line used in part as walking route and as access to two residential properties, well maintained with tree planting. | Proposed road development cuts across the old corridor, and lower lands at foot of drumlin. Significant earthworks, loss of existing character and severing of access along railway.  
Profound Construction Impact  
Profound Pre-establishment Operation Impact | Strong locally appropriate planting of cut and embankment slopes, tying proposed road corridor back to background landscape.  
| **Land-B1:** Ch. 11+200 to 11+650  
Drumlin Landscape, Sheean, Westport  
Rural steep sloping drumlin landscape overlooked from large area northwest, north and northeast. Significant numbers of residential properties in wider landscape. | Proposed road development cuts across steep side of north face of drumlin, with significant earthworks and loss of existing rural character.  
Significant Construction Impact  
Significant Pre-establishment Operation Impact | Strong planting of semi-natural native woodland / scrub to cut and embankment slopes and to additional areas in and around local roads and access works.  
See specific landscape mitigation measures LM-B5. | Level of residential development already changing background rural character.  
Moderate to Significant Post-establishment Operation Impact |
| **Land-B2 & B3:** Ch. 15+450 to 16+050  
& Ch. 16+950 to 17+350  
Drumlin Landscape, Drumneen and Claggarnagh West, Castlebar  
Rolling rural drumlin landscape. Increasing numbers of residential properties in wider landscape. | Proposed road development cuts through a series of local drumlin features, resulting in section of deep cutting. Significant earthworks and loss of existing drumlin character.  
Significant Construction Impact  
Significant Pre-establishment Operation Impact | Strong planting of semi-natural native woodland / scrub to upper half of cut slopes and to additional areas in and around local roads and access works.  
Amend landscape mitigation and incorporate specific ecology/habitat mitigation requirements (Chapter 7) as appropriate.  
See specific landscape mitigation measures LM-B11 and LM-B13. | Level of residential development already changing background rural character.  
Moderate Post-establishment Operation Impact |
<table>
<thead>
<tr>
<th>Landscape Area and Location</th>
<th>Potential Landscape Impact: Construction and Early-operational Stage</th>
<th>Proposed Mitigation Measures</th>
<th>Predicted Residual Landscape Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Land-B4</strong>: Ch. 18+300 to 19+000&lt;br&gt;Black Lough, Claggarnagh East, Castlebar&lt;br&gt;Diverse low-lying wetland and lakeshore landscape. Remote and visually attractive.</td>
<td>Proposed road development cuts across the edge of the area on embankment, severing Black Lough from its wider Islandeady landscape. Significant earthworks and intrusion within existing semi-natural character.&lt;br&gt;Profund Construction Impact&lt;br&gt;Profund Pre-establishment Operation Impact</td>
<td>Minimising disturbance of existing habitats; planting of semi-natural native woodland / scrub to embankments.&lt;br&gt;Amend landscape mitigation and incorporate specific ecology/habitat mitigation requirements (Chapter 7) as appropriate.&lt;br&gt;See specific landscape mitigation measures LM-B15 and LM-B16.</td>
<td>Level of residential development already changing background rural character.&lt;br&gt;Significant Post-establishment Operation Impact.</td>
</tr>
<tr>
<td><strong>Land-B5</strong>: Ch. 19+350 to 20+000&lt;br&gt;Lough Lannagh, Pheasanthill, Castlebar&lt;br&gt;Diverse low-lying wetland and lakeshore landscape. Increasing numbers of residential properties in wider landscape.</td>
<td>Proposed road development cuts across end of the lake on embankment. Significant earthworks and intrusion within of existing semi-natural character.&lt;br&gt;Profund Construction Impact&lt;br&gt;Profund Pre-establishment Operation Impact</td>
<td>Minimising disturbance of existing habitats; planting of semi-natural native woodland / scrub to cut and fill slopes and to additional areas in and around local roads and access works.&lt;br&gt;Amend landscape mitigation and incorporate specific ecology/habitat mitigation requirements (Chapter 7) as appropriate.&lt;br&gt;See specific landscape mitigation measures LM-B17 and LM-B18.</td>
<td>Level of residential development already changing background rural character.&lt;br&gt;Significant Post-establishment Operation Impact.</td>
</tr>
<tr>
<td><strong>Land-C1</strong>: Ch. 35+750 to 36+000&lt;br&gt;Castlebar Golf Course&lt;br&gt;Balloor/Hawthornlodge, Castlebar&lt;br&gt;High quality amenity/recreational landscape of golf course.</td>
<td>Proposed road development cuts across edge and northern end of course on high embankment. Significant earthworks and intrusion with direct loss of portion of course and of playing amenity. Almost 400m of ball-stop netting will be provided.&lt;br&gt;Profund Construction Impact&lt;br&gt;Profund Pre-establishment Operation Impact</td>
<td>Planting of embankments and alternative arrangements for new layout of course.&lt;br&gt;See specific landscape mitigation measures LM-C10 and LM-C11.</td>
<td>Significant Post-establishment Operation Impact on visual amenity of portion of the golf course.</td>
</tr>
<tr>
<td>Landscape Area and Location</td>
<td>Potential Landscape Impact: Construction and Early-operational Stage</td>
<td>Proposed Mitigation Measures</td>
<td>Predicted Residual Landscape Impact</td>
</tr>
<tr>
<td>----------------------------</td>
<td>---------------------------------------------------------------</td>
<td>--------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td><strong>Land-C2</strong>: Ch. 36+150 to 36+650 Shanvally, Drumaleheen, Castlebar</td>
<td>Proposed road development cuts across landscape on high embankment. Significant earthworks, loss of trees and intrusion. Profound Construction Impact Significant Pre-establishment Operation Impact</td>
<td>Minimising disturbance of existing habitats; Planting of embankments in sympathy with existing habitats. Amend landscape mitigation and incorporate specific ecology/habitat mitigation requirements (Chapter 7) as appropriate. See specific landscape mitigation measures LM-C12 and LM-C13.</td>
<td>Significant Post-establishment Operation Impact.</td>
</tr>
<tr>
<td>High-quality rural and natural landscape with ash tree-lines, scrub and wetland landscape.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Land-D1</strong>: Ch. 40+600 to 41+400 Clogher, Castlebar</td>
<td>Proposed road development follows the line of the existing N5 but with widening and alternative local access and junction arrangements. Slight earthworks, with some minor loss of trees. Significant Construction Impact Moderate Pre-establishment Operation Impact</td>
<td>Minimising loss of existing trees; Planting of additional areas to match existing stands. See specific landscape mitigation measures LM-D3, LM-D4 and LM-D5.</td>
<td>Slight to Imperceptible Post-establishment Operation Impact. Increased level of new planting will have longer-term positive impact.</td>
</tr>
<tr>
<td>Stands of primarily Beech trees to either side of existing N5 and covered by Tree Preservation Orders (TPOs).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Land-D2</strong>: Ch. 43+500 to 43+900 Turlough, Castlebar. Turlough House and Demesne landscape with associated Church.</td>
<td>Proposed road development follows the line of the existing N5 but with new junction / overbridge arrangement. Significant earthworks, with some loss of trees at Church. Significant Construction Impact Significant Pre-establishment Operation Impact</td>
<td>Minimising loss of existing trees; Planting of fill slopes and additional areas. See specific landscape mitigation measures LM-D11, LM-D14, LM-D15 and LM-D16.</td>
<td>Original character significantly altered by presence of existing N5 Moderate to Slight Post-establishment Operation Impact.</td>
</tr>
</tbody>
</table>
11.4.2 Predicted Visual Impacts

Three hundred and twenty-nine locations (60 in Section A; 106 in Section B; 126 in Section C and 37 in Section D) have been identified along the proposed road development. For the most part these refer to single residential properties; however, occasionally the location refers to a group of residential properties all of which are likely to experience a similar level of visual impact. Apart from residential properties, schools, churches and other properties are also included.

Three properties (H0620, H1710, & H1920) will be demolished as part of the proposed road development. One of the properties (H1710 @ Ch. 34+820) is an old cottage that is now used as a farm outbuilding. Five further properties (H0140; H0186; H1360; H1930 & H1872) will be acquired as part of the road development. All of these properties are included in the 329 locations but are not assessed for visual impact. Therefore, a total of 321 locations have been assessed in detail for potential for visual impact.

The prominence and presence of properties varies greatly along the different sections of the proposed road development. Section D has the lowest number of properties per kilometre (7.8/km), due in major part to the on-line and previously up-graded character of this section. By contrast, but again as might be expected, Section A has the highest number of properties per kilometre (21.1/km) due in main part to its proximity to the recently expanded edge of Westport Town.

The number of properties along Section C (12.5/km) is typical of a route which in-effect is a bypass of a large town. Castlebar, like most towns has a high number of properties located along major roads radiating out from the town, a feature that results in higher than average numbers of properties at locations where the proposed road crosses existing roads. Section B is more complex with an overall average of 10.2 properties per kilometre. However, this average disguises particularly high property numbers albeit in rural locations close to Westport at the western end and close to Castlebar at the eastern end where the number of properties varies between 18 and 26 per kilometre. The least populous section of the entire proposed road development lies between these two areas at either end of Section B, where there is only an average of 5 properties per kilometre.

Construction Stage

Visual impact will tend to be most pronounced during the construction phase when the initial substantial and unfamiliar disturbance at or near properties is at its greatest and effective mitigation is limited. Therefore, negative temporary and short-term visual impact will arise for residential and other properties located close to or adjoining the construction boundary.

Construction stage impact will arise primarily from visual disturbance and visual intrusion resulting from the initial loss of tree and hedgerow screening, earthworks, alteration of ground levels and from construction traffic. Issues such as noise and general construction activity will also have the effect of drawing visual attention to the works, thereby increasing the perceived visual impact associated with visual disturbance. The construction stage visual impact of the proposed road development has been assessed and is set out in detail on a section by section basis in the Visual Impact Schedules (VIS) Tables App-11.1A, App-11.1B, App-11.1C and App-11.1D in Appendix 11.1. The findings are summarised in Table App-11.2 of Appendix 11.1 and in the following.
In overall terms, some 21 locations (7%) will have an imperceptible impact, even during the initial construction stage. A further 174 locations (54%) will have a slight (96) or moderate (78) level of temporary or short-term negative visual impact as a result of construction activities. The remaining 126 locations (39%) will experience varying degrees of significant (69) or profound (57) temporary or short-term negative visual impact associated with the construction phase. Summary details of visual impacts on property locations during all stages of assessment for the development are provided in Tables 11.5 and 11.6.

Focusing on significant and profound visual impacts it is noted that as might be expected, Section D has the lowest percentage (27%) of construction-related visual impacts. This is due in part to the on-line nature of this section of the proposed road development but also in part to the lower number of properties (less than 8 properties per kilometre). By contrast, but again as might be expected, Section B has the highest percentage (47.6%) of significant and profound construction-related visual impacts. This is due to the high number of properties at either end of the section and the rural nature of the background landscape. Sections A and C also have high percentages (38.3% and 35.5% respectively) of significant and profound construction-related visual impacts. This is due to the urban-influenced density of properties located on existing roads along these sections of the proposed road development.

**Operation Stage**

On completion of construction, aspects such as earthworks and disturbance are removed as impacting features. Nevertheless, impacts arising from presence of the proposed road will remain pronounced as mitigation will require a number of years in order to be fully-effective. As such, operational-stage visual impact will be most pronounced in the short-term after construction (*i.e.* pre-establishment stage), however, negative visual impact will also continue to arise for residential and other properties close to or adjoining the boundary of the proposed road development for some considerable period of time (*i.e.* post-establishment stage).

During the operation stage, visual impacts will arise from the built physical presence of the proposed road development, including its structures, traffic usage and additional illumination both fixed and from vehicles, especially where the proposed road development is on embankment or at junctions and bridging points. Depending on height, intervening topography and retained vegetation, embankments have the potential for visual obstruction and significant visual intrusion. Deep cuttings can also result in significant change to the visual nature of landscape continuity. Sloping ground may open up views of deep cut faces, especially where mitigation planting has not effectively established to join severed tree lines and hedgerow at the top of the cut slopes.

The proposed road development lighting design shall meet the requirements of ISEN 13201-2: 2003 Road Lighting Part 2: Performance Requirements and BS5489: 2003, Part 1 - Lighting of Roads and Public Amenity Areas and Part 2 - Lighting of Tunnels, and shall comply with the requirements of the NRA DMRB TD 34/91. The installation of lighting columns is to comply with the requirements of Series 1300 and 1400 of the ‘Specification for Road Works’ as published by the NRA. The detailed lighting design shall be completed in a manner that will minimise light-spill, glare and light pollution.

It is not proposed to illuminate the mainline of the proposed road development except along the single carriageway (Section A) at Westport due to its urban nature. Limited and restricted illumination is to be provided at junctions so that in effect only the
major junctions and approaches to and from such features are to be illuminated. In such instances merge and diverge slip roads shall only be illuminated up to 60m from the junctions. Ten such junctions occur on the proposed road development; however one at Turlough (Ch. 43+600) will not be illuminated. The remaining eight are at Deerpark East (Ch 2+000); Gortaroe (Ch 3+000); Monamore (Ch. 4+200/10+000); the existing N5 west of Westport; the existing N5 at Pheasanthill/Derrylea (Ch. 20+300/30+000), the N84 (Ch. 33+600), the N60 (Ch. 37+100) and the existing N5 Liscromwell (Ch. 39+400/40+000).

Measures for the mitigation of potential noise impact will be required at a number of locations along the proposed road development, especially where residential properties are in close proximity to the carriageway. Such noise impacts and mitigation measures are considered in detail in Chapter 12 - Noise and Vibration. Mitigation measures will involve the provision of 15 barriers or earth bunds or a combination of such features. Many of these barriers (see Table 12.7 of Chapter 12) are of short length (less than 150m) and 10 are less than 2.5m in height with only 5 of between 2.5m and 3.5m. While initially these features may increase the visual presence of the proposed road development, they also provide for immediate visual screening of the proposed road development and its associated traffic. In the majority of circumstances these features can also be appropriately incorporated into the proposed landscaping measures.

The proposed road development also entails re-alignments / tie-ins to existing national and local roads, together with drainage works and accommodation measures, all of which have potential for localised visual impact. Local road realignment is a special case in point as many residential properties tend to be sited along such roads.


In the pre-establishment stage some 43 locations (13.4%) will have an imperceptible impact. A further 186 locations (58%) will have a slight (110) or moderate (76) level of short to medium-term negative visual impact. The remaining 92 locations (28.6%) will experience varying degrees of significant (66) or profound (26) short to medium-term negative visual impact associated with the early operation stage of the proposed development. Summary details of visual impacts on property locations during all stages of assessment for the development are provided in Tables 11.5 and 11.6.

As landscape measures establish the level of visual impact will gradually recede so that in the post-establishment stage some 193 locations (60.1%) will have an imperceptible impact. A further 114 locations (35.5%) will have a slight (69) or moderate (45) level of medium to longer-term negative visual impact. The remaining 14 locations (4.4%) will experience varying degrees of significant (9) or profound (5) medium to longer-term negative visual impact associated with the proposed development. Summary details of visual impacts on property locations during all stages of assessment for the development are provided in Tables 11.5 and 11.6.

Section A has one incident of significant longer-term impact (H0246) and one incidence of profound longer-term impact (H0245). Despite their proximity to Westport Town, both properties are located in an attractive and secluded setting.
along the line of the old railway. The proposed road development will dramatically and profoundly alter the existing visual context and while mitigation proposals will ameliorate the impact, the magnitude of change and intrusion will remain substantial. **Section B** has seven incidents of significant longer-term impact and two incidences of profound longer-term impact. Two of the significantly impacted properties include a permitted dwelling (H0630 @ Ch. 10+870) and a cottage (H0670 @ Ch. 11+050). A further two of the significantly impacted properties (H0700 & H0710) are located to either side of the proposed road development at Sheean (Ch. 11+500). Property H0710 is located near the top of a drumlin slope, while Property H0700 is located at the bottom. The proposed road development will cut across the slope between the two properties resulting in dramatic changes and visual intrusion. The three remaining significantly impacted properties (H1077, H1072 & H1070) are similarly located to either side of the proposed road development at Claggarnagh East (Ch. 18+400). Property H1077 is located near the top of a drumlin slope, while Properties H1072 & H1070, which is uninhabited, are located in a remote setting near Islandeady Lough. The proposed road development will cut between the properties resulting in significant longer-term changes and visual intrusion. The two profoundly impacted properties (H1260 & H1290) are located to either side of the existing causeway bridge over Lough Lannagh (Ch. 19+550) and overlook the southern end of the lake. Again the proposed road development will pass between the two properties crossing the end of the lake and necessitating the raising of the existing local road onto high embankment in bridging over the proposed N5. The resulting visual changes and intrusion will give rise to profound longer-term visual impact.

It is considered that one significant longer-term impact will remain along **Section C**, with a further two profound longer-term impacts for two properties (H1789 & H1790) at Balloor. The significant impact arises on the northern portion of Castlebar Golf Course (P1890b) at Balloor/Hawthornlodge. These three properties are located adjacent to a section of road on high embankment where the setting will be entirely altered.

It is considered that no significant or profound longer-term visual impacts will arise along **Section D**. This is to be expected as the proposed road development is on the line of the existing N5.

**Table 11.5** Summary of Visual Impact Assessment for Property Locations: Section by Section (excluding acquired and/or demolished)

<table>
<thead>
<tr>
<th>Road Section</th>
<th>Imperceptible</th>
<th>Slight</th>
<th>Moderate</th>
<th>Significant</th>
<th>Profound</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Section A: 59 Locations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>1</td>
<td>12</td>
<td>22</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td>Pre-Establishment</td>
<td>3</td>
<td>22</td>
<td>15</td>
<td>16</td>
<td>2</td>
</tr>
<tr>
<td>Post-Establishment</td>
<td>33</td>
<td>17</td>
<td>6</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Section B: 105 Locations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>5</td>
<td>28</td>
<td>22</td>
<td>29</td>
<td>21</td>
</tr>
<tr>
<td>Pre-Establishment</td>
<td>5</td>
<td>34</td>
<td>30</td>
<td>23</td>
<td>13</td>
</tr>
<tr>
<td>Post-Establishment</td>
<td>54</td>
<td>26</td>
<td>16</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td><strong>Section C: 121 Locations</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>11</td>
<td>41</td>
<td>26</td>
<td>19</td>
<td>24</td>
</tr>
<tr>
<td>Pre-Establishment</td>
<td>22</td>
<td>41</td>
<td>27</td>
<td>20</td>
<td>11</td>
</tr>
<tr>
<td>Post-Establishment</td>
<td>75</td>
<td>20</td>
<td>23</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
Roughan & O'Donovan - FaberMaunsell Alliance  
N5 Westport to Turlough Road Project  
Consulting Engineers  
Environmental Impact Statement

### Table 11.6  Overall Summary of Visual Impact Assessment for Property Locations: Sections A to D (excluding acquired and/or demolished)

<table>
<thead>
<tr>
<th>Road Section</th>
<th>Imperceptible</th>
<th>Slight</th>
<th>Moderate</th>
<th>Significant</th>
<th>Profound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section D: 37 Locations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>4</td>
<td>15</td>
<td>8</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Pre-Establishment</td>
<td>13</td>
<td>13</td>
<td>4</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Post-Establishment</td>
<td>31</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Visual impacts will also arise for those who enjoy walking, cycling and/or driving the existing local roads impacted by the proposed development. These otherwise significant impacts will be localised to the vicinity of the proposed works, where local road re-alignments will significantly alter the existing rural character.

By contrast the reduction in through traffic which the development would bring to the towns of Westport and Castlebar will have a positive impact reducing the adverse impact of traffic congestion.

#### 11.4.3 Overall Summary of Landscape and Visual Impacts

The principal significant impacts on landscape will be within the higher valued, high sensitivity area around Black Lough and Lough Lannagh. In both locations the proposed road development crosses through scenic lake or lakeshore landscapes. Other significant but localised impacts will occur along the length of the proposed road development, particularly in the vicinity of major cuttings and embankments. Additional illumination is not a major feature of the proposed road development, nevertheless, the introduction of the road and its associated traffic will bring significant and permanent change to the landscape along the corridor.

The development will also result in visual impacts, with a low level of particularly significant or profound incidents of impact. However, a number of notable impacts do arise, particularly where such impacts coincide with some of the more major landscape impacts, such as at Black Lough and Lough Lannagh and also at Balloor. In summary, 14 locations will continue to experience varying degrees of significant or profound impacts even after establishment of mitigation measures.

#### 11.4.4 Do-Nothing Impact

In the event that the proposed road development does not proceed the existing N5 would continue as the primary road between Westport and Turlough. This would mean that existing through-traffic and associated congestion will continue as a feature of the towns of Westport and Castlebar. Landscape and visual impacts would be restricted to those locations along the existing N5 currently experiencing such impacts and there would be little or no change in such impact.
Landscapes and properties along more rural sections of the proposed road development would not experience the negative landscape and visual impacts that are associated with the proposed road development and their existing setting would be likely to experience little or no change in the short to medium-term.

Lands alongside the existing N5, may from time to time, experience limited and localised road improvement and/or widening as part of general road improvement measures. Such measures would result in short-term but limited negative impacts along particular sections of the existing N5. Such works could include roadside tree and hedgerow removal and increased visual impact. This may have the potential of opening up views from some properties for short periods before the replanted trees and hedgerows grow to screen views again. However, views impacted by this ongoing effect would be limited.

11.5 Mitigation Measures

11.5.1 Introduction

Consideration was given to avoidance of significant landscape and visual impact during the route corridor selection and the Design process for the proposed route development. This consideration commenced with the preparation of a landscape and visual constraints assessment for the study area and continued with an assessment of the likely landscape and visual impact of a number of potential route options. Nevertheless, all road construction projects give rise to some degree of unavoidable landscape and visual impacts.

Mitigation of landscape and visual impacts for the proposed N5 Westport to Turlough Road Project shall have regard to the approach as set out in the following NRA guidance documents:

- Guidelines for the Creation and Maintenance of an Environmental Operating Plan;
- A Guide to Landscape Treatments for National Road Schemes in Ireland;
- Guidelines for the Protection and Preservation of Trees, Hedgerows and Scrub Prior to, During and Post Construction of National Road Schemes;

In the following sections detailed mitigation proposals are set out for both the Construction Stage and Operational Stage.

11.5.2 Mitigation Measures: Construction Stage

During the construction stage, an Environmental Operating Plan (EOP) will be drawn up by the main contractor using the NRA’s ‘Guidelines for the Creation, Implementation and Maintenance of an Environmental Operating Plan’. Adherence to this plan will be a contract requirement and this will ensure good working practices are followed so as to minimise and manage any significant, negative environmental impacts arising from construction. As well as other items, the EOP will include the mitigation set out within this chapter and incorporate them as part of their implementation.
General mitigation will ensure that the works will have continuous monitoring under the Environmental Operating Plan so as to ensure adequate protection of areas outside of the construction works. Specific measures shall ensure that:

- site machinery shall operate within the proposed road development construction area.
- storage areas shall be located so as to avoid impacting further on existing residential and other property, woodlands, trees, hedgerows, drainage patterns, etc.
- solid site hoarding shall be provided where construction works adjoin residential property to the extent and heights as indicated on Figures 11.1 to 11.17 in Volume 3.
- where construction compounds are located within 200m of residential properties, solid hoarding or similar, of minimum 2.0m in height shall be provided for visual and general screening.
- construction compounds shall be fully-decommissioned and reinstated to their pre-construction condition at the end of the construction contract.
- Side slopes and other landscape areas along the proposed road development shall be prepared for soiling, and either seeded and/or planted at the earliest possible opportunity as set out in this Section of the EIS and Figures 11.1 to 11.17. As such, scope exists for undertaking significant areas of seeding and planting prior to the end of the construction works. However, due to construction programming and seasonal restrictions, it is also likely that significant planting works will not be undertaken until the end of the major construction phase.

11.5.3 Mitigation Measures: Operational Stage

Introduction

Measures proposed to mitigate the landscape and visual impacts of the operation stage of the project are considered under General Measures and Specific Measures. General measures are described in the following section, while specific measures are set out in detail in Table 11.7, which describes location specific measures; and in Table 11.8 which describes scheme-wide measures. The measures are also identified on Figures 11.1 to 11.17 in Volume 3.

General Mitigation Measures

Landscape mitigation proposals shall take full account of the approaches and principles as set out in A Guide to Landscape Treatments for National Road Schemes in Ireland, in particular to Chapter 4: Components of the Roadside Landscape; Chapter 5: Soil Geographic Factors; and Chapter 6: Landscape Treatments. Unless otherwise qualified in Section 11.5 of this EIS, seeding and planting proposals, including species and planting type and species shall be in accordance with Chapter 6 of these Landscape Guidelines.

General measures will be applied over the entire proposed road development, depending on the nature of the particular road section. Where feasible such measures shall include for the re-connection of field boundaries with hedgerows established along the boundary of the proposed road development (see Landscape Guidelines, Section 6.2.1: Hedgerows & Tree-lined Hedgerows). Trees within such hedgerows shall be randomly spaced in a visually naturalistic manner.
This approach will be locally modified to incorporate other landscape treatments, which may negate the requirement for the hedgerow, e.g. blocks of native woodland planting (see Landscape Guidelines, Section 6.2: Tree and Shrub Treatments) or naturalising grassland meadows (see Landscape Guidelines, Section 6.1: Grassland Treatments) where it is considered appropriate to have open sections of carriageway. Open sections shall allow for views to the wider landscape where they do not impinge on requirements for screening residential or other amenity.

Proposals will ensure that planting is distributed along the entire proposed road development and the associated local road re-alignments and will vary from typical rural, randomly tree-lined hedgerow reinstatement to wide plantings of landscape and screen planting to the establishment of larger areas of new woodland for integration of the development into the wider landscape. Shrub planting will be used at the edges of the tree planting. This will increase the density and diversity of the plantings and improve the biodiversity structure (see Landscape Guidelines, Section 6.2: Tree and Shrub Treatments).

Treatments will take into consideration the assessment and recommendations of the Ecology section of this EIS (Chapter 7) and will ensure that in general, species which are locally indigenous and native are utilised in the proposed plantings. However, detailed proposals in terms of their nature and approach will consider the locally impacted environment and in terms of species may include non-native plants, e.g. beech at old demesnes or a more ornamental approach where garden plantings are disturbed.

Where areas are in cut or fill, a grass or meadow sward will generally be established over the entire slope except in areas of cutting through stable rock (see Landscape Guidelines, Section 4.2: Cuttings and Embankments). Stable rock slopes will be retained as an exposed face for natural colonisation and as a local landscape feature. In general it is not proposed to plant either cut or fill slopes in their entirety, but to encourage a more naturalistic and locally sympathetic grouping of plantings within a naturalising grass sward.

Along the length of the proposed road development, landscape areas within junctions and small areas of severed fields, plots or other property acquired for the construction of the proposed road development will be varyingly treated including being planted in a semi-natural copse like fashion with native woodland species (see Landscape Guidelines, Section 4.6: Additional Plots and Other Areas). Such woodland blocks dispersed along the proposed road development will assist in the improvement of the longer-term visual character of the proposed road development and local surrounds. Particular attention shall be given to an appropriate extent and scale of planting in and surrounding junctions (see Landscape Guidelines, Section 4.3: Junctions, Interchanges and Roundabouts) and embankments (see Landscape Guidelines, Section 4.2.2: Embankments).

Certain areas along the length of the proposed road development have been set aside for drainage requirements/ pollution control/attenuation. Where such works are of a linear nature, disturbed sections of hedgerow will be reinstated / planted to match the existing. Where attenuation ponds are proposed these will be fenced and will be treated with appropriate hedgerow screen planting along the development boundary to minimise their impact.

In general the proposed planting will generally be established using bare-root transplants, whips and feathered trees which adapt readily to disturbed ground conditions. A proportion, totalling not less than 5% of ‘Half-standard’ (6-8cm girth &
200cm-250cm tall) and a further 5% ‘Standard’ (8-10cm girth & 250cm-300cm tall) trees shall be used to supplement these plantings especially in the vicinity of residential areas. All planting mixes will take cognisance of, and include native and local species as identified in Chapter 7 of this EIS. These requirements have been adapted and further detailed as appropriate to particular areas as set out in Tables 11.7 and 11.8.

Tree species utilised will be selected from a list of primarily native, naturalised and indigenous species (except where the proposed road development is contiguous with existing plantations containing other species such as conifers or beech etc), which will include alder, common ash, common birches, common oaks, mountain ash, Scots pine and willow species. Planting sizes will be from 75cm to 400cm in height and tree species will be planted at average 2.0m centres within the wider planting mix.

Shrub planting species utilised will be selected from a list of primarily native and indigenous species, which will include, blackthorn, elder, hawthorn, hazel, holly, guilder rose, spindle, willows and other plants found naturalised in the affected localities. Planting sizes will vary from 30 to 75cm in height and shrub species will be planted at between 1.0 and 1.5m centres depending of landscape type, see Tables 11.7 and 11.8.

Hedge planting will be primarily of blackthorn and hawthorn interspersed with other species such as elder, hazel, holly and those found locally. Hawthorn within hedgerows shall be planted at between 75 to 90cm in height and at 500mm centres in each of 2 double staggered rows. The hedgerow will be interspersed with standard-sized randomly spaced tree species such as alder, common ash and oaks, as appropriate to particular locality.

Areas to be seeded to naturalising meadow will be thinly topsoiled (5cm layer) and seeded with a locally appropriate seed mix. Mainline and side road verges will be cultivated, topsoiled minimum 20cm deep and stone buried to remove stones down to 25mm diameter prior to seeding to a low-maintenance grass sward.

The proposed road development lighting design shall meet the requirements of BS5489-1: 2003, Code of Practice for Design of Road Lighting. Lighting of Roads and Public Amenity Areas and shall comply with the requirements of the NRA DMRB TD 34-91. The detailed lighting design shall be completed in a manner, which will minimise glare and light pollution that in combination with extensive landscaping as proposed at junctions will ensure that light-spill effect is minimised. It is noted that the proposed road development includes for a minimum of roadside illumination, effectively restricted to major roundabouts and junctions and along the immediate approaches to and from such features.

In specific locations barriers and earth bunds will be provided to reduce the impact of noise. Such barriers will also have the effect of providing immediate visual screening of traffic from properties. Such features shall, wherever possible, be integrated within the proposed landscaping measures. Chapter 12 of this EIS outlines the assessment of noise and the requirements for such mitigation. The noise mitigation measures are proposed as either barriers or bunding or as a combination of such features.

**Specific Mitigation Measures**

Specific mitigation measures are set out on Figures 11.1 to 11.17 in Volume 3, Tables 11.7, 11.8 and 11.9. The measures include construction-related aspects such
as avoidance/minimising impact on property boundaries and landscape features as well as provision of solid screen hoarding during the construction phase for those properties particularly impacted by the works.

Other landscape-related measures are described in detail in Tables 11.7 and 11.8.

**Table 11.7: Specific Landscape and Visual Mitigation Measures (see Figures 11.1 to 11.17 in Volume 3 and Table 11.8).** Note: Proposed Road Development has been abbreviated to PRD in the following Table

<table>
<thead>
<tr>
<th>Reference</th>
<th>Chainage and Location</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>PROPOSED ROAD DEVELOPMENT (PRD): SECTION A</strong></td>
<td></td>
<td>Where impacted, provide for reinstatement and/or provision of new garden property boundaries and planting in agreement with property owners. Elsewhere provide for reinstatement and/or provision of new Boundary Hedgerow Type 1 along full boundary of tie-ins, access links/roads and around roundabout. Provide Landscape Treatment 1 on embankments and between existing and new alignments of N59. Provide new entrance landscape with signage, to match existing, at Westport Industrial Park.</td>
</tr>
<tr>
<td>LM-A1</td>
<td>Deerpark East 0-2+050: N59 tie-in, roundabout and local access 1+900 to 2+150 both sides of PRD</td>
<td>Provide for reinstatement of existing garden property boundary in agreement with property owners at roundabout and local access links/roads. Where feasible, provide for reinstatement and/or provision of new Boundary Hedgerow Type 1 along full boundary of tie-ins, access links/roads and around roundabout. Provide Landscape Treatment 1 on embankments and between existing and new alignments of N59. Provide new entrance landscape with signage, to match existing, at Westport Industrial Park.</td>
</tr>
<tr>
<td>LM-A2</td>
<td>Deerpark East 0-2+000: Roundabout and N59 tie-in south</td>
<td>Provide for Landscape Treatment Type 1 in areas around roundabout and along N59 tie-in south.</td>
</tr>
<tr>
<td>LM-A3</td>
<td>Ch 2+000 to 2+350. Both sides of mainline of PRD.</td>
<td>Provide for Boundary Hedgerow Type 1 along sections of PRD as indicated on Figures 11.1 to 11.17. Provide for Landscape Treatment Type 1 to cut and fill slopes of PRD, including around attenuation pond.</td>
</tr>
<tr>
<td>LM-A4</td>
<td>Ch 2+350 to 3+000 North side of mainline of PRD.</td>
<td>Provide for Boundary Hedgerow Type 2 and Landscape Treatment Type 2 to upper sections of cut slopes of PRD.</td>
</tr>
<tr>
<td>LM-A4</td>
<td>Ch 2+350 to 3+000 South side of mainline of PRD.</td>
<td>Provide for Landscape Treatment Type 2 to full extent of slopes of PRD. Provide for sections of Boundary Hedgerow Type 1 as indicated on Figures 11.1 to 11.17. Landscape works between Ch. 2+550 and 2+750 to be developed in discussion with Property Owners H0245 &amp; H0246.</td>
</tr>
<tr>
<td>LM-A5</td>
<td>Ch 3+000 to 3+600 both sides of PRD.</td>
<td>Provide for Boundary Hedgerow Type 1 along full length of PRD. Provide for Landscape Treatment Type 1 to sections of cut and fill slopes of PRD (as per Figures 11.1 to 11.17), including around attention pond and at existing retained edge of woodland.</td>
</tr>
<tr>
<td>LM-A6</td>
<td>Ch 3+600 to 4+100 both sides of PRD.</td>
<td>Provide for Landscape Treatment Type 2 to full extent of slopes of PRD.</td>
</tr>
<tr>
<td>LM-A7</td>
<td>Ch 4+100 to 10+000 both sides of PRD including roundabout.</td>
<td>Provide for Landscape Treatment Type 1 to upper half (50%) of all cut slopes and to full extent of fill slopes.</td>
</tr>
<tr>
<td>LM-A8</td>
<td>Both sides of link from roundabout on proposed N5 to proposed roundabout on existing N5.</td>
<td>Provide for minimum 5m wide Screen Planting Type 1 to upper half (50%) of all cut slopes and full extent of fill slopes. Extend planting to adjoining additional areas of land.</td>
</tr>
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<td>Reference</td>
<td>Chainage and Location</td>
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</tr>
<tr>
<td>LM-A9</td>
<td>Proposed roundabout on existing N5.</td>
<td>Where impacted, provide for reinstatement and/or provision of new garden property boundaries and planting in agreement with property owners. Provide for re-use of existing stone walls in new roadside boundaries where possible. Elsewhere provide for reinstatement and/or provision of new Boundary Hedgerow Type 1 along full boundary of tie-ins and around roundabout. Include for Screen Planting Type 1 between proposed roundabout and re-aligned local access road.</td>
</tr>
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<tr>
<td>PROPOSED ROAD DEVELOPMENT (PRD): SECTION B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LM-B1</td>
<td>Ch 10+000 to 10+250 north side of PRD</td>
<td>Provide for Landscape Treatment to Peat Fill Areas as set out in Table 11.8. Provide for Landscape Treatment Type 1 to upper half (50%) of all cut slopes and to full extent of fill slopes.</td>
</tr>
<tr>
<td>LM-B2</td>
<td>Ch 10+000 to 10+250 south side of PRD</td>
<td>Provide for Boundary Hedgerow Type 2 along full extent of PRD. Provide for Landscape Treatment Type 1 to upper half (50%) of all cut slopes and to full extent of fill slopes.</td>
</tr>
<tr>
<td>LM-B3 &amp; LM-B4</td>
<td>Ch 10+250 to 11+250 both sides of PRD, including local roads and accesses.</td>
<td>Where impacted, provide for reinstatement and/or provision of new garden property boundaries and planting in agreement with property owners. Provide for Boundary Hedgerow Type 2 along full extent of PRD and all local roads and accesses. Provide for Landscape Treatment Type 2 to full extent of all cut and fill slopes and bunds. Landscape Treatment Type 2 to extend to areas between alignments and any additional lands.</td>
</tr>
<tr>
<td>LM-B5</td>
<td>Ch 11+250 to 11+900 both sides of PRD, including local roads and accesses.</td>
<td>Where impacted, provide for reinstatement and/or provision of new garden property boundaries and planting in agreement with property owners. Provide for Boundary Hedgerow Type 2 along full extent of PRD and all local roads and accesses. Provide for Landscape Treatment Type 2 to upper (50%) of all cut slopes. Provide for Landscape Treatment Type 2 to full extent of all fill slopes and bunds. Landscape Treatment Type 2 to extend to full extent of areas between alignments and any additional lands.</td>
</tr>
<tr>
<td>LM-B6</td>
<td>Ch 11+900 to 12+050 both sides of PRD.</td>
<td>Provide for Boundary Hedgerow Type 2 along full extent of PRD.</td>
</tr>
<tr>
<td>LM-B7</td>
<td>Ch 12+050 to 12+900 both sides of PRD, including local roads and accesses.</td>
<td>Where impacted, provide for reinstatement and/or provision of new garden property boundaries and planting in agreement with property owners. Provide for Boundary Hedgerow Type 1 along full extent of PRD and all local roads and accesses. Provide for Landscape Treatment Type 2 to upper (50%) of all cut slopes. Provide for Landscape Treatment Type 2 to full extent of all fill slopes and bunds. Landscape Treatment Type 2 to extend to full extent of areas between alignments and any additional lands. Incorporate requirements of specific Habitat Mitigation Area 1 – see Figure 7.20.</td>
</tr>
<tr>
<td>Reference</td>
<td>Chainage and Location</td>
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<tr>
<td><strong>LM-B8</strong></td>
<td>Ch 12+900 to 13+900 both sides of PRD, including local roads and accesses and along drainage channels.</td>
<td>Provide for Boundary Hedgerow Type 2 along full extent of PRD and along local roads and accesses. Provide for Landscape Treatment Type 2 to upper half (50%) of all fill slopes and bunds. Provide for Boundary Hedgerow Type 2 in replacement of any disturbed vegetation along drainage works.</td>
</tr>
<tr>
<td><strong>LM-B9</strong></td>
<td>Ch 13+900 to 14+500 both sides of PRD, including local roads and accesses and along drainage channels.</td>
<td>Provide for Boundary Hedgerow Type 2 along full extent of PRD and along local roads and accesses. Provide for Landscape Treatment Type 2 to upper half (50%) of all fill slopes and bunds. Provide for extended 12 – 15m wide area of Landscape Treatment Type 2 to south side between Ch 13+900 and 14+200. Provide for Boundary Hedgerow Type 2 in replacement of any disturbed vegetation along drainage works. Incorporate requirements of specific Habitat Mitigation Area 2 – see Figure 7.21.</td>
</tr>
<tr>
<td><strong>LM-B10</strong></td>
<td>Ch 14+500 to 15+300 both sides of PRD, including local roads and accesses.</td>
<td>Provide for Boundary Hedgerow Type 2 along full extent of PRD and along local roads and accesses. Provide for Landscape Treatment Type 2 to upper half (50%) of all cut and fill slopes and bunds. Provide Landscape Treatment Type 2 to full extent of areas between alignments and to any additional lands.</td>
</tr>
<tr>
<td><strong>LM-B11</strong></td>
<td>Ch 15+300 to 16+200 both sides of PRD, including local roads and accesses.</td>
<td>Where impacted, provide for reinstatement and/or provision of new garden property boundaries and planting in agreement with property owners. Provide for Boundary Hedgerow Type 2 along full extent of PRD and along local roads and accesses. Provide for Landscape Treatment Type 2 to upper half (50%) of all cut and fill slopes and bunds. Provide Landscape Treatment Type 2 to full extent of areas between alignments and to any additional lands.</td>
</tr>
<tr>
<td><strong>LM-B12</strong></td>
<td>Ch 16+200 to 16+950 both sides of PRD, including local roads and accesses.</td>
<td>Provide for Boundary Hedgerow Type 2 along full extent of PRD and along local roads and accesses. Provide for Landscape Treatment Type 2 to upper quarter (25%) of all cut slopes and to full extent of fill slopes and bunds.</td>
</tr>
<tr>
<td><strong>LM-B13</strong></td>
<td>Ch 16+900 to 17+350 both sides of PRD, including local roads and accesses.</td>
<td>Where impacted, provide for reinstatement and/or provision of new garden property boundaries and planting in agreement with property owners. Provide for Boundary Hedgerow Type 1 along full extent of PRD and along local roads and accesses. Provide for Landscape Treatment Type 2 to upper half (50%) of all cut and fill slopes and bunds. Provide Landscape Treatment Type 2 to full extent of areas between alignments and to any additional lands. Provide for Landscape Treatment to Peat Fill Areas as set out in Table 11.8.</td>
</tr>
<tr>
<td><strong>LM-B14</strong></td>
<td>Ch 17+350 to 17+800 both sides of PRD, including local roads and accesses.</td>
<td>Provide for Boundary Hedgerow Type 1 along full extent of PRD and along local roads and accesses. Provide for Landscape Treatment Type 2 to upper half (50%) of large cut slope south of mainline Ch 17+630 – 17+800 and to full extent of area between mainline and realigned local road north of mainline Ch 17+550 – 17+630.</td>
</tr>
<tr>
<td>Reference</td>
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<tr>
<td>LM-B15</td>
<td>Ch 17+800 to 19+400 both sides of PRD, including local roads and accesses. Excludes LM-16 Black Lough, Ch 18+750 – 19+000 see below.</td>
<td>Provide for Boundary Hedgerow Type 2 along full extent of PRD and along local roads, accesses and stream. Provide for Landscape Treatment Type 2 to full extent of all cut and fill slopes. Provide Landscape Treatment Type 2 to full extent of all areas between alignments, to any bunds and to any additional lands.</td>
</tr>
<tr>
<td>LM-B16</td>
<td>Black Lough: Ch 18+750 – 19+000 both sides of PRD.</td>
<td>Minimise impact on lakeside habitats. In general provide for Landscape Treatment Type 2 to full extent of fill slopes, providing for locally appropriate, diverse habitats along mainline. Treatments to be sympathetic to adjoining existing habitats and to have full regard to the requirements of Chapter 7 of this EIS.</td>
</tr>
<tr>
<td>LM-B17</td>
<td>Ch 19+400 to 20+050 both sides of PRD, including local roads and accesses. Excludes LM-18 Lough Lannagh Local Road, Ch 19+575, see below.</td>
<td>Minimise impact on lakeside habitats. In general provide for Landscape Treatment Type 2 to full extent of cut and fill slopes, providing for locally appropriate, diverse habitats. Treatments to be sympathetic to adjoining existing habitats and to have full regard to the requirements of Chapter 7 of this EIS. Provide for Boundary Hedgerow Type 1 leading to and from lakeshore and along local roads and accesses. Provide for Provide Landscape Treatment Type 2 to full extent of all areas between alignments, to any bunds and to any additional lands. Incorporate requirements of specific Habitat Mitigation Area 3 – see Figure 7.25.</td>
</tr>
<tr>
<td>LM-B18</td>
<td>Ch 19+575 both sides of Lough Lannagh Local Road,</td>
<td>Where impacted, provide for reinstatement and/or provision of new garden property boundaries and planting in agreement with property owners. Minimise impact on lakeside habitats. In general provide for Landscape Treatment Type 2 to full extent of cut and fill slopes. Treatments to be sympathetic to adjoining existing habitats and to have full regard to the requirements of Chapter 7 of this EIS. Provide for Boundary Hedgerow Type 1 leading to and from lakeshore. Provide for Provide Landscape Treatment Type 2 to full extent of all areas between alignments, to any bunds and to any additional lands.</td>
</tr>
<tr>
<td>LM-B19</td>
<td>Ch 20+050 – 20+310, both sides of PRD, including proposed roundabout on existing N5.</td>
<td>Where impacted, provide for reinstatement and/or provision of new garden property accesses and boundaries and planting in agreement with property owners. Provide for Boundary Hedgerow Type 1 along full extent of PRD and along local roads and accesses. Provide for Landscape Treatment Type 2 to full extent of all cut and fill slopes. Provide Landscape Treatment Type 2 to full extent of any additional lands.</td>
</tr>
</tbody>
</table>

**PROPOSED ROAD DEVELOPMENT (PRD): SECTION C**

<table>
<thead>
<tr>
<th>Reference</th>
<th>Chainage and Location</th>
<th>Description</th>
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<tbody>
<tr>
<td>LM-C1</td>
<td>Ch 30+000 to 30+500 both sides of PRD, including proposed roundabout on existing N5.</td>
<td>Where impacted, provide for reinstatement and/or provision of new garden property accesses and boundaries and planting in agreement with property owners. Provide for Boundary Hedgerow Type 2 along full extent of PRD and along local roads and accesses and to full extent of any additional lands. Provide for Landscape Treatment to any Peat Fill Areas as set out in Table 11.8. Provide for Landscape Treatment Type 2 to upper half (50%) of all cut slopes and bunds and to full extent of fill slopes.</td>
</tr>
<tr>
<td>Reference</td>
<td>Chainage and Location</td>
<td>Description</td>
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</tr>
<tr>
<td>LM-C2</td>
<td>Ch 30+500 to 31+400 both sides of PRD, including accesses and along drainage channels.</td>
<td>Provide for Boundary Hedgerow Type 1 along full extent of PRD and along local roads and accesses. Provide for Landscape Treatment to any Peat Fill Areas as set out in Table 11.8. Provide for Landscape Treatment Type 2 to full extent of all bunds, all fill slopes and any additional west of railway. Provide for Landscape Treatment Type 2 to upper half (50%) of all slopes east of railway. Provide for Boundary Hedgerow Type 2 in replacement of any disturbed vegetation along drainage works.</td>
</tr>
<tr>
<td>LM-C3</td>
<td>Ch 31+400 to 31+950 both sides of PRD, including accesses and along drainage channels.</td>
<td>Provide for Boundary Hedgerow Type 1 along full extent of PRD and along local roads and accesses. Provide for Landscape Treatment Type 2 to upper half (50%) of all bunds and all fill slopes. Provide for Boundary Hedgerow Type 2 in replacement of any disturbed vegetation along drainage works.</td>
</tr>
<tr>
<td>LM-C4</td>
<td>Ch 31+950 to 32+400 both sides of PRD, including local roads and accesses.</td>
<td>Where impacted, provide for reinstatement and/or provision of new garden property accesses and boundaries and planting in agreement with property owners. Provide for Boundary Hedgerow Type 1 along full extent of PRD and along local roads and accesses. Provide for Landscape Treatment Type 2 to upper half (50%) of all bunds and all cut and fill slopes. Provide for Boundary Hedgerow Type 2 in replacement of any disturbed vegetation along drainage works.</td>
</tr>
<tr>
<td>LM-C5</td>
<td>Ch 32+400 to 33+300 both sides of PRD, including accesses and along drainage channels.</td>
<td>Provide for Boundary Hedgerow Type 1 along full extent of PRD and accesses. Provide for Boundary Hedgerow Type 1 in replacement of any disturbed vegetation along drainage works.</td>
</tr>
<tr>
<td>LM-C6</td>
<td>Ch 32+300 to 34+250 both sides of PRD, including junction, local roads and accesses.</td>
<td>Provide for Boundary Hedgerow Type 1 along full extent of PRD, junctions ramps and along local roads and accesses. Provide for Landscape Treatment Type 1 to upper half (50%) of all bunds and all cut and fill slopes. Provide for Landscape Treatment Type 3 in areas within junctions and in any additional landscape areas.</td>
</tr>
<tr>
<td>LM-C7</td>
<td>Ch 34+250 to 34+600 both sides of PRD.</td>
<td>Provide for Boundary Hedgerow Type 1 along full extent of PRD.</td>
</tr>
<tr>
<td>LM-C8</td>
<td>Ch 34+600 to 35+100 both sides of PRD, including local roads and accesses and along drainage channels.</td>
<td>Where impacted, provide for reinstatement and/or provision of new garden property accesses and boundaries and planting in agreement with property owners. Provide for Boundary Hedgerow Type 1 along full extent of PRD and along local roads and accesses. Provide for Landscape Treatment Type 1 to upper half (50%) of all bunds and all cut and fill slopes. Provide for Landscape Treatment Type 3 to additional areas of land east and west of Milebush Local Road and north of PRD. Provide for Boundary Hedgerow Type 1 in replacement of any disturbed vegetation along drainage works.</td>
</tr>
<tr>
<td>LM-C9</td>
<td>Ch 35+100 to 35+700 both sides of PRD and along drainage channels.</td>
<td>Provide for Boundary Hedgerow Type 1 along full extent of PRD and in replacement of any disturbed vegetation along drainage works.</td>
</tr>
<tr>
<td>LM-C10</td>
<td>Ch 35+700 to 36+100 south / east side of PRD.</td>
<td>Provide for Boundary Hedgerow Type 1 along full extent of PRD. Provide for Landscape Treatment Type 1 to full extent of all fill slopes.</td>
</tr>
<tr>
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</tr>
<tr>
<td>LM-C11</td>
<td>Ch 35+700 to 36+100 north / west side of PRD.</td>
<td>Avoid impact on boundary hedgerow. Provide minimum 4.0m high hoarding to protect hedgerow and properties. During scheme construction, provide second minimum 2.0m high hoarding at top of side slope as soon as constructed to screen construction traffic. Provide for Boundary Hedgerow Type 1 where existing boundary hedgerow is not retained. Provide for Landscape Treatment Type 1 to full extent of all fill slopes and any adjoining additional area.</td>
</tr>
<tr>
<td>LM-C12</td>
<td>Ch 36+100 to 36+650 both sides of PRD, including accesses.</td>
<td>Minimises impact on tree-lines and associated habitats. Provide for Boundary Hedgerow Type 1 along full extent of PRD and accesses. Provide for Landscape Treatment Type 1 to full extent of all fill slopes. Details of landscape proposals to be informed by requirements of Chapter 7 of this EIS. Incorporate requirements of specific Habitat Mitigation Area 4 – see Figure 7.29.</td>
</tr>
<tr>
<td>LM-C13</td>
<td>Ch 36+650 to 36+900 both sides of PRD.</td>
<td>Provide for Boundary Hedgerow Type 1 along full extent of PRD. Incorporate requirements of specific Habitat Mitigation Area 4 – see Figure 7.29.</td>
</tr>
<tr>
<td>LM-C14</td>
<td>Ch 36+900 to 37+300 both sides of PRD, including junction, local roads and accesses.</td>
<td>Where impacted, provide for reinstatement and/or provision of new garden property accesses and boundaries and planting in agreement with property owners. Provide for re-use of existing stone walls in new property boundaries. Provide for Boundary Hedgerow Type 1 along full extent of PRD and along local roads and accesses. Provide for Landscape Treatment Type 1 to upper half (50%) of all bunds and all cut and fill slopes.</td>
</tr>
<tr>
<td>LM-C15</td>
<td>Ch 37+300 to 37+600 both sides of PRD.</td>
<td>Provide for Boundary Hedgerow Type 1 along full extent of PRD. Provide for Landscape Treatment Type 1 to upper half (50%) of all bunds and all cut and slopes.</td>
</tr>
<tr>
<td>LM-C16</td>
<td>Ch 37+600 to 37+800 both sides of PRD, including local roads and accesses.</td>
<td>Where impacted, provide for reinstatement and/or provision of new garden property accesses and boundaries and planting in agreement with property owners. Provide for Boundary Hedgerow Type 1 along full extent of PRD and along local roads and accesses. Provide for Landscape Treatment Type 1 to upper half (50%) of all bunds and all cut and fill slopes and to additional lands.</td>
</tr>
<tr>
<td>LM-C17</td>
<td>Ch 37+800 to 38+700 both sides of PRD including local roads and accesses.</td>
<td>Provide for Boundary Hedgerow Type 1 along full extent of PRD, local roads and accesses. Provide for Landscape Treatment Type 1 to upper half (50%) of all bunds and fill slopes.</td>
</tr>
<tr>
<td>LM-C18</td>
<td>Ch 38+700 to 39+386 both sides of PRD including local roads and accesses.</td>
<td>Provide for Boundary Hedgerow Type 1 along full extent of PRD, local roads and accesses. Provide for Landscape Treatment Type 1 to upper half (50%) of all bunds, cut slopes and to full extent of additional lands.</td>
</tr>
<tr>
<td>Reference</td>
<td>Chainage and Location</td>
<td>Description</td>
</tr>
<tr>
<td>-----------</td>
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<td>-------------</td>
</tr>
<tr>
<td>LM-D1</td>
<td>Ch 40+000 to 41+050; Ch 41+600 to 41+800; Ch 42+200 to 43+100 and Ch 43+400 to 43+600 on north side of PRD, and Ch 40+000 to 40+650; Ch 40+700 to 40+900; Ch 41+100 to 41+320; Ch 41+500 to 40+900; Ch 42+200 to 43+050 on south side of PRD, and including any local roads / accesses.</td>
<td>Minimise impact on existing roadside plantings and boundaries. Where impacted, provide for reinstatement and/or provision of new Boundary Hedgerow Type 1 along full extent of PRD and along local roads and accesses. Provide for Landscape Treatment Type 2 to the upper half (50%) of all fill slopes over 2.0m in height; to the upper quarter (25%) of all cut slopes over 3.0m in height, and to the full extent of all bunds.</td>
</tr>
<tr>
<td>LM-D2</td>
<td>Ch 40+000 to 41+400 on north side of PRD, including around proposed roundabout on existing N5.</td>
<td>Minimise impact on riverside habitats and where impacted provide Landscape Treatment Type 2 to full extent of impacted area. Proposals to be informed by requirements of Chapter 7 of this EIS</td>
</tr>
<tr>
<td>LM-D3</td>
<td>Ch 40+650 to 40+700 on south side of PRD, including along Windsor Local Road. (TPO 1993/3)</td>
<td>Fence off and minimise impact on 3 retained beech trees. Monitor retained trees during construction and re-assess condition at end of works. Provide for planting of 8 new semi-mature (18-20cm girth) rootballed beech trees at junction of PRD and Windsor Local Road. Fence-off new trees to protect from rabbits and livestock.</td>
</tr>
<tr>
<td>LM-D4</td>
<td>Ch 40+800 to 40+950 on south side of PRD. (TPO 1993/4)</td>
<td>Fence-off and avoid impact on retained trees in existing stand of beech trees. Monitor retained trees during construction and re-assess condition at end of works. Plant retained edge with 10no heavy-standard (12-14cm girth) rootballed beech trees. Fence-off new trees to protect from rabbits and livestock.</td>
</tr>
<tr>
<td>LM-D5</td>
<td>Ch 41+050 to 41+400 on north side of PRD. (TPOs 1993/5 &amp; 1993/6)</td>
<td>Fence off and where possible avoid impact on edge of existing plantation. Monitor retained trees during construction and re-assess condition at end of works. Plant at 1.5m centres along full length of edge of plantation and up to 3m in width with beech transplants 75-90cm in height. Fence-off new trees to protect from rabbits and livestock.</td>
</tr>
<tr>
<td>LM-D6</td>
<td>Ch 41+350 to 41+620 on north side of PRD and Ch 40+950 to 41+100 and Ch 41+320 to 41+510 on south side of PRD.</td>
<td>Provide for Landscape Treatment Type 1 (modified to replace all tree species with 20% beech at 90-120cm in height) to full extent of upper half (50%) of slopes and to additional areas.</td>
</tr>
<tr>
<td>LM-D7</td>
<td>Ch 41+780 to 42+000 on north side of PRD including local road and access.</td>
<td>Provide for Boundary Hedgerow Type 1 along full extent of PRD and access. Provide for Landscape Treatment Type 2 to full extent of fill slopes.</td>
</tr>
<tr>
<td>LM-D8</td>
<td>Ch 42+000 to 42+200 both sides of PRD, including local road and accesses.</td>
<td>Provide for Boundary Hedgerow Type 1 along full extent of PRD, local roads and accesses. Provide for Landscape Treatment Type 1 to upper half (50%) of all bunds and fill slopes and full extent of additional land at Abbeybreaffy Nursing Home and opposite properties H2374 and H2375.</td>
</tr>
<tr>
<td>LM-D9</td>
<td>Ch 43+100 to 43+400 north side of PRD including local access.</td>
<td>Provide for Boundary Hedgerow Type 1 along full extent of PRD and local accesses. Provide for Landscape Treatment Type 1 to full extent cut and fill slopes and all bunds. Provide additional tree planting of 25no. Heavy-Standards (12-14cm girth) Beech and Oak along boundary with Turlough Park.</td>
</tr>
<tr>
<td>Reference</td>
<td>Chainage and Location</td>
<td>Description</td>
</tr>
<tr>
<td>-----------</td>
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<td>-------------</td>
</tr>
<tr>
<td>LM-D10</td>
<td>Ch 43+020 to 43+600 south side of PRD including local access.</td>
<td>Provide for Boundary Hedgerow Type 1 along full extent of PRD and local accesses. Provide for Landscape Treatment Type 2 to the upper half (50%) of all fill slopes over 2.0m in height; to the upper quarter (25%) of all cut slopes over 3.0m in height, and to the full extent of all bunds.</td>
</tr>
<tr>
<td>LM-D11</td>
<td>Both sides of local road realignment</td>
<td>Provide for Boundary Hedgerow Type 1 along both sides of local road realignment. Where impacted, provide for reinstatement and/or provision of new garden property accesses and boundaries and planting in agreement with property owners.</td>
</tr>
<tr>
<td>LM-D12</td>
<td>Both sides of local road realignment</td>
<td>Protect and retain existing boundaries where possible. Provide for Boundary Hedgerow Type 1 along both sides of local road realignment.</td>
</tr>
<tr>
<td>LM-D13</td>
<td>Northern access and embankments to overbridge</td>
<td>Minimise impact on riverside habitats and where impacted provide Landscape Treatment Type 2 to full extent of impacted area. Extend treatment to full extent of fill slopes and to additional lands. Proposals to be informed by requirements of Chapter 7 of this EIS.</td>
</tr>
<tr>
<td>LM-D14</td>
<td>Southern access and embankments to overbridge at Turlough Church</td>
<td>Minimise impact on riverside habitats and where impacted provide for Landscape Treatment Type 2 to full extent of fill slopes. Proposals to avoid screening view of Turlough Church from N5.</td>
</tr>
<tr>
<td>LM-D15</td>
<td>Both sides of local road realignment</td>
<td>Where impacted, provide for reinstatement and/or provision of new garden property accesses and boundaries and planting in agreement with property owners. Provide additional lands to Turlough Church as overflow carparking. Provide for appropriate boundaries and seeding of verges in agreement with Church.</td>
</tr>
<tr>
<td>LM-D16</td>
<td>Ch 43+800 to 44+650 on north side of PRD and Ch 43+800 to 44+400 on south side of PRD.</td>
<td>Minimise impact on existing roadside plantings and boundaries. Where impacted, provide for reinstatement and/or provision of new Boundary Hedgerow Type 2 along full extent of PRD.</td>
</tr>
<tr>
<td>LM-D17</td>
<td>Ch 44+400 to 44+650 on north side of PRD</td>
<td>Provide for Landscape Treatment Type 2 to additional lands between N5 and cul-de-sac on local road.</td>
</tr>
</tbody>
</table>

Table 11.8: Specific Landscape and Visual Mitigation Elements and Treatments (refer to Table 11.7 above) Note Proposed Road Development has been abbreviated to PRD in the following Table.

<table>
<thead>
<tr>
<th>Reference</th>
<th>Chainage and Location</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verge</td>
<td>Mainline and Local Roads Generally</td>
<td>Minimum 3.0m wide verge (which includes 0.5m hard strip) shall be provided along both sides of mainline, around junctions and to full width of local road re-alignments and tie-ins. Verges shall be finished to even gradients, with minimum 100mm topsoil and stone buried or raked to be free of rubble and stones over 25mm diameter. Verges to be seeded to low-maintenance seed mix.</td>
</tr>
<tr>
<td>Reference</td>
<td>Chainage and Location</td>
<td>Description</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Cut slopes and Embankments</td>
<td>Mainline and Local Roads Generally</td>
<td>Cut slopes and embankments shall be finished to even gradients, topsoiled unless otherwise stated in this table, Table 11.7 above or elsewhere in EIS. Slopes shall be free of rubble and stones over 50mm diameter. All such rubble/stone shall be removed or buried. Unless otherwise stated in the EIS slopes shall be seeded to a non-agricultural meadowgrass.</td>
</tr>
<tr>
<td>Ponds, swales, ‘V-drains’ etc.</td>
<td>Generally</td>
<td>All slopes shall be evenly graded and free of rubble and stones over 50mm diameter. Slopes shall be seeded to non-agricultural meadowgrass allowing for natural development over time. Steep slopes on pond edges and ‘V-drains’ shall be hydro-seeded. Non-palisade type fencing shall be used around pond areas. Areas around ponds shall be a diverse landscape of meadowgrass / species-rich meadowgrass and plantings of low-canopy woodland and shrub planting. Hedgerow (without tree species) shall be established along all non-roadside boundaries.</td>
</tr>
<tr>
<td>Peat fill areas</td>
<td>All ‘LM-PA’ Areas (see Figures 11.1 to 11.17 in Volume 3)</td>
<td>Unless otherwise stated in the EIS, peat areas shall be allowed to naturally regenerate to heath grassland. Between 25 and 50% of area shall be planted to a mosaic mix of alder, birch, Scots pine and willow species. Subsoil may be mixed into final surface to improve surface rigidity.</td>
</tr>
<tr>
<td>Noise barriers / bunds</td>
<td>Generally</td>
<td>Low-canopy woodland, hedgerow and/or shrub planting of native species shall be established as either a narrow planting of 3.0m minimum width or double-staggered hedgerow along the full external face of barriers. Low-canopy and/or shrub planting of native species shall be established on the full external face of bunds. The planting shall include ash, birch, blackthorn, elder, hawthorn, and/or willow species as appropriate. Plants shall be 90 to 120cm in height at planting.</td>
</tr>
<tr>
<td>Plants and Planting Areas</td>
<td>Generally</td>
<td>All tree species over 150cm in height together with all Pine shall be appropriately staked and tied. All failed, dead or defective plants shall be replaced before the end of each and every year of defect aftercare. Full planting area to free of stones over 50mm in diameter.</td>
</tr>
<tr>
<td>Grass</td>
<td>Generally</td>
<td>Grass areas shall provide full sward cover within 12 months of seeding. Any failed, bare or defective areas shall be re-seeded between March – May and/or August – September in each and every year of defect aftercare.</td>
</tr>
<tr>
<td>Unauthorised Access, Parking and/or Encampment</td>
<td>Generally</td>
<td>Landscape proposals shall avoid creating areas considered as being suitable for unauthorised parking and shall use landscape proposals to deter and prevent such use.</td>
</tr>
<tr>
<td>Headlight Impacts</td>
<td>Generally</td>
<td>Landscape proposals shall use specific landscape treatments to avoid and/or reduce the potential impact of headlights on residential and other sensitive property. The measure shall apply equally to the mainline, junctions, roundabouts, tie-ins and local and link roads.</td>
</tr>
<tr>
<td>Reference</td>
<td>Chainage and Location</td>
<td>Description</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Fill Areas and/or Surplus Areas</td>
<td>Generally</td>
<td>Any post-construction surplus lands shall be treated to a diverse range of planting and non-planting proposals to include a minimum 50% Landscape Treatment Type 1 and/or Type 2 and/or Type 3, as locally appropriate. The remaining area shall be treated as locally appropriate meadowgrass / species-rich meadowgrass.</td>
</tr>
<tr>
<td>Screen Planting Type 1</td>
<td>As noted in Table 11.7 Planting at 1.0m centres for visual screening shall be of a minimum of 5m in width. The planting shall extend for a minimum of 100m to either side of any adjoining residential property or amenity.</td>
<td>Planting will include a minimum of 5% of ‘standard-sized’ trees (8-10cm girth); 5% of half-standard trees (6-8cm girth); 15% of ‘whips’ (minimum 150cm in height), together with a further 10% of evergreen Scots pine of minimum 60cm in height at planting. Standard and Half-standard tree species shall be ash. Standard, Half-standard and Pine to be planted at average 2.5, centres throughout. The planting shall include a dense under-storey (at average 1 plant/metre) of woodland transplants and shrubs. Transplants, which shall include 20% Hawthorn, shall be between 90 to 120cm in height) Shrub species shall be 30 to 50cm in height and include a minimum of 10% holly.</td>
</tr>
<tr>
<td>Screen Planting Type 2</td>
<td>As noted in Table 11.7 Planting at 1.0m centres for visual screening shall be of a minimum of 5m in width. The planting shall extend for a minimum of 100m to either side of any adjoining residential property or amenity.</td>
<td>Planting shall include a minimum of 5% of ‘standard-sized’ trees (8-10cm girth); 5% of half-standard trees (6-8cm girth); 15% of ‘whips’ (minimum 150cm in height). Standard and Half-standard tree species shall be ash. Standard and Half-standard trees shall be planted at average 2.5, centres throughout. The planting shall include a dense under-storey (at average 1 plant/metre) of woodland transplants and shrubs. Transplants, which shall include 30% hawthorn, shall be between 90 to 120cm in height) Shrub species shall be 30 to 50cm in height and include a minimum of 20% holly.</td>
</tr>
<tr>
<td>Boundary Hedgerow Type 1</td>
<td>As noted in Table 11.7 General double staggered hedgerow with tree planting</td>
<td>Primarily blackthorn (20%) and hawthorn (40%) hedgerow interspersed with other species such as elder, hazel, holly and those found locally. Hawthorn plants shall be of between 75 to 90cm in height and planted at 50cm centres in each of two double staggered rows, 25cm apart. Other plants shall be interspersed and of between 30 to 50cm in height. The hedgerow shall be interspersed with ‘standard-sized’ (8-10cm girth) randomly planted ash and/or oak trees planted at random naturalistic spacings but averaging 1 tree per 25 linear metre.</td>
</tr>
<tr>
<td>Boundary Hedgerow Type 2</td>
<td>As noted in Table 11.7 Double staggered hedgerow with little or no tree species</td>
<td>Primarily blackthorn (25%) and hawthorn (60%) hedgerow interspersed with other species such as elder, hazel, holly and those found locally. Hawthorn plants shall be of between 75 to 90cm in height and planted at 50cm centres in each of two double staggered rows, 25cm apart. Other plants shall be interspersed and of between 30 to 50cm in height. The hedgerow shall be interspersed with ‘standard-sized’ (8-10cm girth) randomly planted ash and/or oak trees planted at random naturalistic spacings but averaging 1 tree per 25 linear metre. Limited tree species, such as birch and mountain ash may be included as ‘whips’ at 150cm metres in height.</td>
</tr>
</tbody>
</table>
### Landscape Treatment Type 1

**As noted in Table 11.7**

**General low-canopy woodland planted at average 1.5m centres**

Area to be planted to native or indigenous woodland. Planting shall include a proportion, totalling not less than 5% of ‘Half-standard’ trees (6-8cm girth & 200cm-250cm tall) and a further 5% ‘Standard’ trees (8-10cm girth & 250cm-300cm tall) to be used to supplement a general planting of 10% tall whips (150cm minimum) 10% whips (120 - 150cm) 25% transplants (90-120cm), and shrub plantings.

Species to include alder, ash, birch, blackthorn, hawthorn, hazel, holly, mountain ash, oak, Scots pine and willows as locally appropriate. Half-standard and Standard-sized trees to be alder, ash, mountain ash and/or oak.

### Landscape Treatment Type 2

**As noted in Table 11.7**

**Semi-natural low-canopy woodland with limited tree species planted at average 1.5m centres**

Area to be planted to native or indigenous semi-natural woodland with limited tree species. Planting shall include a proportion, totalling not less than 15% whips (120 - 150cm) 30% transplants (90-120cm) and shrub plantings.

Species to include alder, birch, blackthorn, hawthorn, hazel, holly, mountain ash and willows as locally appropriate. If locally appropriate tree species may be omitted entirely.

### Landscape Treatment Type 3

**As noted in Table 11.7**

**High-canopy Woodland planted at average 1.5m centres**

Area to be established as native semi-natural high-canopy woodland containing higher percentage ash, oak and/or Scots pine.

Planting shall include a proportion, totalling not less than 5% of ‘Half-standard’ trees (6-8cm girth & 200cm-250cm tall) and a further 5% ‘Standard’ trees (8-10cm girth & 250cm-300cm tall) to be used to supplement a general planting of 10% tall whips (150cm minimum) 10% whips (120 - 150cm) 25% transplants (90-120cm), and shrub plantings.

Species to include alder, ash, birch, blackthorn, hawthorn, hazel, holly, mountain ash, oak, Scots pine and willows as locally appropriate. Half-standard and Standard-sized trees to be ash, and/or oak and Scots Pine to be minimum 10% of planting.

### Construction Screening

**Specifically as indicated on Figures 11.1 to 11.17 in Volume 3**

Provide for solid screening hoarding of the heights stated for the duration of the construction stage for those properties most particularly impacted by the works (See also LM-C11).

### 11.6 Residual Impacts

#### 11.6.1 Landscape

The proposed road development as with all such developments, by the means of its very presence will have a permanent effect and therefore some degree of residual impact on the landscape character of its immediate corridor. Nevertheless, it is considered that with the gradual establishment of proposed landscape mitigation measures, the proposed road development will be successfully integrated within its landscape setting in the longer-term. The longer-term development of overall landscape mitigation proposals shall also have a residual positive impact in terms of increased landscape diversity and structure.

It is considered that some level of slight to moderate residual impact will remain along Sections A, B and C of the scheme generally, with significant residual impacts.
limited to the Black Lough / Lough Lannagh and Balloor / Hawthornlodge / Shanvally areas.

The proposed road development will have no residual negative impact on demesne landscapes or on aspects of landscape planning. Careful construction, together with appropriate replanting and management can improve the longer-term status of previously impacted beech woodlands that are subject to tree preservation orders at Clogher.

11.6.2 Visual

Residual landscape impacts are generally as outlined in the Visual Impact Schedule tables (Tables 11.1A to 11.1D of Appendix 11.1). After planting and mitigation measures have established and developed, the severity and prominence of visual intrusion will be gradually and increasingly mitigated, especially where the proposed road development is in cutting; is at some distance from the impacted properties, or where such properties are already similarly influenced by the presence the existing N5. Nevertheless, the proposed road development will – as with all such developments – also by its presence, continue to have residual visual effects for properties in proximity to the development. Details of such impacted properties are set out in the VIS, Tables 11.1A to 11.1D in Appendix 11.1 and illustrated on Figures 11.1 to 11.17 in Volume 3.