

Appendix C

Other Plans & Programmes Assessed

Relevant plans and programmes assessed to determine cumulative impacts.

| Aspect | Relevant Plan/Policy | Objective |
|--------------------------|--|--|
| Planning and Development | National Development Plan, 2007-2013 | The €184 billion National Development Plan 2007-2013 builds on the significant social and economic achievements of the NDP/CSF (2000-2006). Launched in January 2007, and entitled Transforming Ireland - A Better Quality of Life for All, this new seven year plan is another major milestone in building a prosperous Ireland for all its people, characterised by sustainable economic growth, greater social inclusion and balanced regional development. |
| | National Spatial Strategy, 2002-2020 | A coherent national planning framework for Ireland for the next 20 years. The NSS aims to achieve a better balance of social, economic and physical development across Ireland, supported by more effective planning. |
| | National Strategic Reference Framework, 2007-2013 | Sets out policy context within which funding available to Ireland under the EU structural funds may be applied. |
| | Regional Planning Guidelines for the Greater Dublin Area 2004-2016 | The regional planning guidelines give regional effect to the National Spatial Strategy. These guidelines provide the consolidation of development in the Metropolitan Area and articulate the vision and strategy for the region in economic and social terms. The guidelines recommend that all future development of any significant size should be undertaken in the context of Local Area Plans. |
| | Dublin City Development Plan, 2005-2011 | The City Development Plan proposes a sustainable and vibrant city in the context of the strategy for the development of a Greater Dublin'. It promotes the consolidation of the city, maximising efficient use of land and integrating land use and transport. |
| | South Dublin County Development Plan 2004-2010 | The main aim is to provide for the future of well being of the residents and to facilitate the future sustainable development of the county as a vibrant place in which to live and work, visit and enjoy within the strategic framework of the greater Dublin area. |
| | Dun Laoghaire-Rathdown County Development Plan 2010-2016 | To plan for and co-ordinate operate sustainable development in Dun Laoghaire-Rathdown based on high quality residential, working and recreational environments and sustainable transportation patterns. To create a high quality physical environment to meet the growing needs of those living working or visiting the county in a sustainable, inclusive, balanced and integrated way and where communities can thrive in an ecologically, socially and economically sustainable manner. |
| | Glenasmole/Bohernabreena Housing & Planning Study, 2002 | To plan for the sustainable development of the Glenasmole/Bohernabreena area which lies at the foothills of the Dublin Mountains approximately 15km from Dublin city centre and just south of the built up area of Tallaght. It lies in the administrative area of South Dublin County Council. The proximity of the area to the urban fringe has put it under increasing development pressure. |
| | Ballsbridge Draft Local Area Plan | Draft statement with maps, plans and drawings setting out objectives for the proper planning and sustainable development of the Ballsbridge area. |
| | Stillorgan Local Area Plan 2007 | Plan for the proper planning and sustainable development of the area - Dun Laoghaire-Rathdown County Council. |
| | Glencullen Local Area Plan 2008 | Plan for the proper planning and sustainable development of the area - Dun Laoghaire-Rathdown County Council. |
| | Enniskerry Local Area Plan, 2002-2008 | Plan for the proper planning and sustainable development of the area - Wicklow County Council. |
| | Tallaght Town Centre Local Area Plan, 2006-2012 | Plan for the proper planning and sustainable development of the area - South Dublin County Council. |

| Aspect | Relevant Plan/Policy | Objective |
|--------------------|--|---|
| | Rathmines Local Action Plan 2009 | Plan for the proper planning and sustainable development of the area – Dublin City Council. |
| | A Vision for Dublin Bay | An integrated economic, cultural and social vision for sustainable development – Dublin City Council |
| | Dublin Docklands Area Master Plan, 2003-2008 | Overall strategy for the proper planning and sustainable development of the area – Dublin Docklands Development Authority. |
| Habitat Management | Management Plan for Wicklow Mountain National Parks 2005-2009 | The primary aims of the management plan are to: develop and maintain the highest standards of conservation management and educational provision; facilitate appropriate recreational, community and commercial interests and activities, consistent with the conservation and educational imperative; ensure the orderly implementation of strategies in consultation with local interests and statutory agencies; and, by so doing; ensure that the Park is a protected landscape of the highest international standards for all our visitors, and for the generations to come, in full accordance with the principles of sustainable development. |
| Water Quality | Eastern River Basin District Management Plan 2009 - 2015 and associated Programmes of Measures | <p>a) prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems;</p> <p>b) promotes sustainable water use based on a long-term protection of available water resources;</p> <p>c) aims at enhanced protection and improvement of the aquatic environment, including through specific measures for the progressive reduction of discharges, emissions and losses of priority substances and the cessation or phasing-out of discharges, emissions and losses of the priority hazardous substances;</p> <p>d) ensures the progressive reduction of pollution of groundwater and prevents its further pollution, and</p> <p>e) contributes to mitigating the effects of floods and droughts.</p> |

A13.1

Soils, Geology and
Hydrogeology Impact

Appendix A13.1 Soils, Geology and Hydrogeology Impact Assessment Criteria

To assess the extent and degree of impacts associated with both the construction and operational phases of the development may have on the soils and geological aspects of the environment, an approach has been prepared with reference to the document produced by the Institute of Geologists of Ireland (IGI) entitled *Geology in Environmental Impact Statements – a Guide* (IGI, 2002).

No significance rating criteria are provided in this document or any others in Ireland. For this reason, the significance criteria from the NRA guidance document, *Guidelines on Procedures for Assessment and Treatment of Geology, Hydrology and Hydrogeology for National Road Schemes* (NRA, 2009b), was used to provide the significance ratings for this impact assessment.

The NRA document was developed for road schemes, however many of the soil/geology and hydrogeological impacts that may occur on the Dodder Flood Alleviation Scheme Phase 2C-2E (e.g. potential for contamination from spills and during excavation) are similar to those that occur on road schemes so the use of this document was deemed most appropriate.

Table A13.1 shows the criteria for assessing the importance of soil and geology features within the study area.

Table A13.1: Criteria for Rating Soil and Geology Site Attributes (based on Box 4.1, NRA 2009b)

| Importance | Criteria | Typical Example |
|------------------|--|--|
| Very High | <p>Attribute has a high quality, significance or value on a regional or national scale</p> <p>Degree or extent of soil contamination is significant on a national or regional scale</p> <p>Volume of peat and/or soft organic soil underlying route is significant on a national or regional scale</p> | <p>Geological feature rare on a regional or national scale (NHA)</p> <p>Large existing quarry or pit</p> <p>Proven economically extractable mineral resource</p> |
| High | <p>Attribute has a high quality, significance or value on a local scale</p> <p>Degree or extent of soil contamination is significant on a local scale</p> <p>Volume of peat and/or soft organic soil underlying route is significant on a local scale</p> | <p>Contaminated soil on site with previous heavy industrial usage</p> <p>Large recent landfill site for mixed wastes</p> <p>Geological feature of high value on a local scale (County Geological Site)</p> <p>Well drained and/or highly fertility soils</p> |
| Medium | <p>Attribute has a medium quality, significance or value on a local scale</p> <p>Degree or extent of soil contamination is moderate on a local scale</p> <p>Volume of peat and/or soft organic soil underlying route is moderate on a local scale*</p> | <p>Contaminated soil on site with previous light industrial usage</p> <p>Small recent landfill site for mixed wastes</p> <p>Moderately drained and/or moderate fertility soils</p> <p>Small existing quarry or pit</p> |

| Importance | Criteria | Typical Example |
|------------|---|--|
| Low | <p>Attribute has a low quality, significance or value on a local scale</p> <p>Degree or extent of soil contamination is minor on a local scale</p> <p>Volume of peat and/or soft organic soil underlying route is small on a local scale*</p> | <p>Large historical and/or recent site for construction and demolition wastes</p> <p>Small historical and/or recent landfill site for construction and demolition wastes</p> <p>Poorly drained and/or low fertility soils</p> <p>Uneconomically extractable mineral resource</p> |

*relative to the total volume of inert soil disposed of and/or recovered

Table A13.2 shows the criterion for assessing the importance of hydrogeology features within the study area.

Table A13.2: Criteria for Rating Hydrogeology Site Attributes (based on Box 4.3, NRA 2009b)

| Importance | Criteria | Typical Example |
|-----------------------|---|---|
| Extremely High | Attribute has a high quality or value on an international scale | Groundwater supports river, wetland or surface water body ecosystem protected by EU legislation e.g. SAC or SPA status |
| Very High | Attribute has a high quality or value on a regional or national scale | <p>Regionally Important Aquifer with multiple wellfields.</p> <p>Groundwater supports river, wetland or surface water body ecosystem protected by national legislation – e.g. NHA status</p> <p>Regionally important potable water source supplying >2500 homes Inner source protection area for regionally important water source</p> |
| High | Attribute has a high quality or value on a local scale | <p>Regionally Important Aquifer</p> <p>Groundwater provides large proportion of baseflow to local rivers</p> <p>Locally important potable water source supplying >1000 homes</p> <p>Outer source protection area for regionally important water source</p> <p>Inner source protection area for locally important water source</p> |
| Medium | Attribute has a medium quality or value on a local scale | <p>Locally Important Aquifer Potable water source supplying >50 homes</p> <p>Outer source protection area for locally important water source</p> |
| Low | Attribute has a low quality or value on a local scale | <p>Poor Bedrock Aquifer</p> <p>Potable water source supplying <50 homes</p> |

The criterion for establishing the magnitude of impacts on soil/geology attributes, based on the NRA Guidelines (NRA, 2009b) is outlined in **Table A13.3**.

Table A13.3: Criteria for rating Soil and Geology impact significance at EIS stage (based on Box 5.1, NRA 2009b)

| Magnitude of Impact | Criteria | Typical Examples |
|----------------------------|---|---|
| Large Adverse | Results in loss of attribute | Loss of high proportion of future quarry or pit reserves Irreversible loss of high proportion of local high fertility soils Removal of entirety of geological heritage feature Requirement to excavate / remediate entire waste site Requirement to excavate and replace high proportion of peat, organic soils and/or soft mineral soils beneath alignment |
| Moderate Adverse | Results in impact on integrity of attribute or loss of part of attribute | Loss of moderate proportion of future quarry or pit reserves Removal of part of geological heritage feature Irreversible loss of moderate proportion of local high fertility soils Requirement to excavate / remediate significant proportion of waste site Requirement to excavate and replace moderate proportion of peat, organic soils and/or soft mineral soils beneath alignment |
| Small Adverse | Results in minor impact on integrity of attribute or loss of small part of attribute | Loss of small proportion of future quarry or pit reserves Removal of small part of geological heritage feature Irreversible loss of small proportion of local high fertility soils and/or high proportion of local low fertility soils Requirement to excavate / remediate small proportion of waste site Requirement to excavate and replace small proportion of peat, organic soils and/or soft mineral soils beneath alignment |
| Negligible | Results in an impact on attribute but of insufficient magnitude to affect either use or integrity | No measurable changes in attributes |
| Minor Beneficial | Results in minor improvement of attribute quality | Minor enhancement of geological heritage feature |
| Moderate Beneficial | Results in moderate improvement of attribute quality | Moderate enhancement of geological heritage feature |
| Major Beneficial | Results in major improvement of attribute quality | Major enhancement of geological heritage feature |

The criterion for establishing the magnitude of impacts on hydrogeology attributes, based on NRA Guidelines (2009) is outlined in **Table A13.4**.

Table A13.4: Criteria for rating hydrogeology impact significance at EIS stage (based on Box 5.3, NRA 2009b)

| Magnitude of Impact | Criteria | Typical Examples¹ |
|----------------------------|---|---|
| Large Adverse | Results in loss of attribute and /or quality and integrity of attribute | Removal of large proportion of aquifer Changes to aquifer or unsaturated zone resulting in extensive change to existing water supply springs and wells, river baseflow or ecosystems Potential high risk of pollution to groundwater from routine run-off ² Calculated risk of serious pollution incident >2% annually ³ |
| Moderate Adverse | Results in impact on integrity of attribute or loss of part of attribute | Removal of moderate proportion of aquifer Changes to aquifer or unsaturated zone resulting in moderate change to existing water supply springs and wells, river baseflow or ecosystems Potential medium risk of pollution to groundwater from routine run-off ² Calculated risk of serious pollution incident >1% annually ³ |
| Small Adverse | Results in minor impact on integrity of attribute or loss of small part of attribute | Removal of small proportion of aquifer Changes to aquifer or unsaturated zone resulting in minor change to water supply springs and wells, river baseflow or ecosystems Potential low risk of pollution to groundwater from routine run-off ² Calculated risk of serious pollution incident >0.5% annually ³ |
| Negligible | Results in an impact on attribute but of insufficient magnitude to affect either use or integrity | Calculated risk of serious pollution incident <0.5% annually ³ |

¹ Additional Examples are provided in the NRA Guidance Document, 2009

² refer to Annex 1, Method C, Annex 1 of HA216/06

³ refer to Appendix B3/Annex 1, Method D, Annex 1 of HA216/06

The significance of potential environmental impacts on the soils/geology and on the hydrogeological environments are based on the matrix presented in **Table A13.5** which takes account of both the importance of an attribute and the magnitude of the potential environmental impacts on the attribute.

Table A13.5: Rating of Significant Environmental Impacts at EIA Stage (based on Box 5.4, NRA 2009b)

| | | Magnitude of Impact | | | |
|--------------------------------|-----------------------|----------------------------|--------------------------|--------------------------|------------------------|
| | | Negligible | Small | Moderate | Large |
| Importance of Attribute | Extremely High | Imperceptible | Significant | Profound | Profound |
| | Very High | Imperceptible | Significant/ Moderate | Profound/ Significant | Profound |
| | High | Imperceptible | Moderate/ Slight | Significant/ Moderate | Severe/ Significant |
| | Medium | Imperceptible | Slight | Moderate | Significant |
| | Low | Imperceptible | Imperceptible | Slight | Slight/Moderate |