

SEA STATEMENT

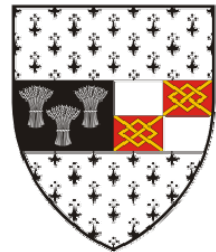
FOR THE

MASTERPLAN FOR ABBEY CREATIVE QUARTER 2015

STRATEGIC ENVIRONMENTAL ASSESSMENT

for: Kilkenny County Council

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SEPTEMBER 2015

Table of Contents

Section 1	Introduction	1
1.1	Terms of Reference	1
1.2	SEA Definition	1
1.3	Legislative Context.....	1
1.4	Content of the SEA Statement	1
1.5	Implications of SEA for the Masterplan	1
Section 2	How Environmental Considerations were integrated into the Masterplan 3	
2.1	Introduction	3
2.2	Consultations	3
2.3	Communication of environmental sensitivities.....	3
2.4	Appropriate Assessment and Flood Risk Assessment	3
2.5	Masterplan Strategies.....	5
2.6	Kilkenny City Development Plan	6
Section 3	Environmental Report and Submissions & Observations.....	8
3.1	Introduction	8
3.2	Submissions	8
3.3	Environmental Report	12
Section 4	Alternatives	13
4.1	Introduction	13
4.2	Description of Alternatives.....	13
4.3	Summary of Evaluation of Alternatives.....	14
Section 5	Monitoring Measures.....	20
5.1	Introduction	20
5.2	Indicators and Targets	20
5.3	Sources	20
5.4	Reporting.....	20
5.5	Thresholds	21

Section 1 Introduction

1.1 Terms of Reference

This is the SEA Statement for the approved Masterplan for Abbey Creative Quarter 2015.

1.2 SEA Definition

SEA is a systematic process of predicting and evaluating the likely environmental effects of implementing a plan, or other strategic action, in order to ensure that these effects are appropriately addressed at the earliest appropriate stage of decision-making on a par with economic and social considerations.

1.3 Legislative Context

Directive 2001/42/EC of the European Parliament and of the Council, of 27 June 2001, on the assessment of the effects of certain plans and programmes on the environment, referred to hereafter as the SEA Directive, introduced the requirement that SEA be carried out on plans and programmes which are prepared for a number of sectors, including land use planning.

The SEA Directive was transposed into Irish Law through the European Communities (Environmental Assessment of Certain Plans and Programmes) Regulations 2004 (Statutory Instrument Number (SI No. 435 of 2004) and the Planning and Development (Strategic Environmental Assessment) Regulations 2004 (SI No. 436 of 2004). Both sets of Regulations became operational on 21 July 2004. The Regulations have been amended by the European Communities (Environmental Assessment of Certain Plans and Programmes) (Amendment) Regulations 2011 (SI No. 200 of 2011) and the Planning and Development (SEA) (Amendment) Regulations 2011 (SI No. 201 of 2011).

The Habitats Directive requires, inter alia, that plans and programmes undergo an Appropriate Assessment (AA) process to establish the likely or potential effects arising from implementation of the Masterplan. Arising from this assessment, it is necessary to undertake Stage 2 AA of the Masterplan as it is likely to have a significant environmental effect or a potentially significant

environmental effect on the Natura 2000 Network of designated ecological sites. The undertaking of Stage 2 AA necessitates the undertaking of SEA as the SEA Directive (Article 3 (2)) requires that SEA is carried out for plans and programmes which are being subjected to Stage 2 AA.

Where SEA is undertaken, the Directive requires that a Statement is prepared and made available to the public and the competent environmental authorities after approval of the Masterplan. This Statement is referred to as an SEA Statement¹.

1.4 Content of the SEA Statement

The SEA Statement is required to include information summarising:

- a) how environmental considerations have been integrated into the Masterplan;
- b) how the following have been taken into account during the preparation of the Masterplan:
 - the environmental report,
 - submissions and observations made to the planning authority on the Draft Masterplan and Environmental Report, and
 - any transboundary consultations [this is not relevant to this SEA]
- c) the reasons for choosing the Masterplan in the light of the other reasonable alternatives dealt with; and
- d) the measures decided upon to monitor the significant environmental effects of implementation of the Masterplan.

1.5 Implications of SEA for the Masterplan

SEA has been undertaken and the findings of the SEA are expressed in an Environmental Report, the first published version of which

¹ Department of Environment, Heritage and Local Government (2004) Implementation of SEA Directive (2001/42/EC): Guidelines for Regional Authorities and Planning Authorities, Dublin: Government of Ireland.

accompanied the Draft Masterplan on public display. The Environmental Report was updated in order to take account of:

- recommendations contained in submissions; and
- changes to the Draft Masterplan which were made on foot of submissions.

Members of the planning authority have taken into account the findings of all relevant SEA output during their consideration of the Draft Masterplan and before its approval.

Section 2 How Environmental Considerations were integrated into the Masterplan

2.1 Introduction

Environmental considerations were integrated into the Masterplan through:

- Consultations with environmental authorities;
- Communication of environmental sensitivities through the SEA and associated Appropriate Assessment (AA) and Strategic Flood Risk Assessment (SFRA) processes; and
- Suggestions of Masterplan provisions to mitigate effects.

2.2 Consultations

As environmental authorities identified under the Planning and Development (SEA) Regulations, as amended, the following authorities were sent SEA scoping notices indicating that submissions or observations in relation to the scope and level of detail of the information to be included in the environmental report could be made to the Council: Department of Agriculture, Food and the Marine; Department of Arts, Heritage and the Gaeltacht; Department of Communications, Energy and Natural Resources; Department of the Environment, Community and Local Government; Environmental Protection Agency; Carlow County Council; Laois County Council; Tipperary County Council; Waterford County Council; and Wexford County Council.

Furthermore, submissions were made on the Draft Masterplan and SEA Environmental Report while they were on public display and these resulted in updates being made to the SEA documents (see Section 3).

2.3 Communication of environmental sensitivities

Environmental considerations were integrated into the Draft Masterplan before it was placed on public display. Environmental sensitivities were mapped in order to identify which areas of

the area would be most sensitive to development and would suffer the most adverse effects if growth was to be accommodated in those areas unmitigated.

The sensitivities were communicated to the Masterplan-making team on a regular basis from the outset of the Masterplan preparation process. Identifying areas with the most limited carrying capacity within the Masterplan area helped future growth to be diverted away from these areas.

A number of these sensitivities are mapped on Figure 2.1.

Kilkenny County Council made resources available to facilitate the undertaking of the following studies which informed the baseline description and the Masterplan:

- Appropriate Assessment²;
- Flood Risk Assessment³; and
- Kilkenny Masterplan Area Archaeological Framework⁴.

2.4 Appropriate Assessment and Flood Risk Assessment

A Stage 2 Appropriate Assessment (AA) and a Flood Risk Assessment (FRA) have both been undertaken alongside the preparation of the Masterplan.

The requirement for AA is provided under the EU Habitats Directive (Directive 1992/43/EEC). The requirement for FRA is provided under 'The Planning System and Flood Risk Management Guidelines for Planning Authorities' (DEHLG and OPW, 2009).

² CAAS for Kilkenny County Council (2015) *Appropriate Assessment Natura Impact Report for the Masterplan for Abbey Creative Quarter*

³ RPS for Kilkenny County Council (2015) *Abbey Creative Quarter, Kilkenny Flood Risk Assessment*

⁴ Courtney Deery Heritage Consultancy (2015) *Kilkenny Masterplan Area Archaeological Framework*

The AA concluded that the Masterplan will not affect the integrity of the Natura 2000 network (this includes downstream Natura 2000 sites including the Lower River Suir cSAC)⁵. Various measures have been integrated into the Masterplan to facilitate this.

The FRA has facilitated the integration of flood risk management considerations into the Masterplan.

The preparation of the Masterplan, SEA, AA and FRA has taken place concurrently and the findings of the AA and FRA have informed both the Masterplan and the SEA. All recommendations made by the AA and SEA were integrated into the Masterplan.

The Appropriate Assessment resulted in a number of updates being made to the Masterplan which are detailed below:

Removal of all proposals for development within the Natura 2000 sites.

Insertion of the following text into Section 1 Introduction:

This Masterplan requires that:

1. All projects and plans arising from the Masterplan will be screened for the need to undertake Appropriate Assessment under Article 6 of the Habitats Directive. A plan or project will only be authorised after the Council has ascertained, based on scientific evidence, Screening for Appropriate Assessment, and a Stage 2 Appropriate Assessment where necessary, that:

a. The Plan or project will not give rise to significant adverse direct, indirect or secondary effects on the integrity of any European site (either individually or in combination with other plans or projects); or

b. The Plan or project will have significant adverse effects on the integrity of any European site (that does not host a priority natural habitat type/and or a priority species) but there are no alternative solutions and the plan or project must nevertheless be carried out for imperative reasons of overriding public interest, including those of a social or economic nature. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000; or

c. The Plan or project will have a significant adverse effect on the integrity of any European site (that hosts a natural habitat type and/or a priority species) but there are no alternative solutions and the plan or project must

⁵ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- (a) no alternative solution available;
- (b) imperative reasons of overriding public interest for the plan/programme/project to proceed; and
- (c) adequate compensatory measures in place.

nevertheless be carried out for imperative reasons for overriding public interest, restricted to reasons of human health or public safety, to beneficial consequences of primary importance for the environment or, further to an opinion from the Commission, to other imperative reasons of overriding public interest. In this case, it will be a requirement to follow procedures set out in legislation and agree and undertake all compensatory measures necessary to ensure the protection of the overall coherence of Natura 2000.

2. No projects giving rise to significant cumulative, direct, indirect or secondary impacts on Natura 2000 sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this Masterplan (either individually or in combination with other plans or projects⁶).

Proposals for development within the Masterplan area must comply as appropriate with the relevant provisions included within the Kilkenny City Development Plan 2014-2020. A number of City Plan provisions which contribute towards environmental protection and sustainable development are reproduced in the Masterplan.

3. Proposals for development should ensure that they are consistent with all the provisions contained within the City Plan.

Insertion of the following text into Section 4.4.4 Environment Strategy:

Developments which may lead to adverse impacts on the River Nore will not be permitted as part of the Masterplan. Linear Park development and associated works will not be permitted within the boundaries of either Natura 2000 site, unless it is demonstrated, by means of project level Appropriate Assessment, that such development will not lead to adverse impacts on the integrity of the sites⁷.

The Appropriate Assessment for the linear park shall be informed by an ecological impact assessment which shall consider issues including ecological connectivity and species such as otters and kingfishers (including potential interactions with food sources and aquatic and terrestrial habitats) and bats (including potential interactions with roosts, foraging sites and lighting). The ecologist working on AA for the project shall be consulted at the start of the project so that any necessary mitigation or design changes can be incorporated early in the project.

⁶ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- a) no alternative solution available,
- b) imperative reasons of overriding public interest for the plan to proceed; and
- c) Adequate compensatory measures in place.

⁷ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

- a) no alternative solution available,
- b) imperative reasons of overriding public interest for the plan to proceed; and
- c) Adequate compensatory measures in place.

Insertion of the following text into Section 4.3.5
Linear Park Strategy:

In addition to the provision of walking and cycling facilities along the river bank, access to the river for water based leisure facilities will be considered in the detailed design of the park subject to compliance with the EU Habitats and Birds Directives.

Insertion of the following text into Section 4.3.7
New Street / Lanes Strategy:

Have regard to the natural heritage and ensure compliance with the requirements of the EU Habitats and Birds Directives.

Insertion of the following text into Section 4.4.7
Water Conservation:

Details of this proposal will need to consider the potential for adverse effects on the ecology of the River Barrow and Nore cSAC and the River Nore SPA as required under Article 6 of the EU Habitats Directive.

The Flood Risk Assessment assessed the flood risk in the context of the proposed development and identified suitable mitigation measures which were incorporated into the Masterplan where appropriate, including setting finished floor levels for the development.

2.5 Masterplan Strategies

The text of the Masterplan outlines how the various Strategies in the Masterplan will contribute towards environmental protection and sustainable development. Key Strategies and the environmental components which they would benefit are identified in the subsections below.

2.5.1 Connectivity and Movement Strategy

The Connectivity and Movement Strategy addresses a number of issues including Smarter Travel / Mobility Management Plan, Pedestrian and Cyclist Movement and Public Transport.

Likely Positive effects facilitated by this Strategy include the following:

- Contribution towards a shift from car to more sustainable and non-motorised transport modes
- Contribution towards managing traffic flows and associated adverse effects on air quality

- Contribution towards reductions in travel related greenhouse gas and other emissions to air
- Contribution towards reduction in energy usage

2.5.2 Conservation and Heritage Strategy

The Conservation and Heritage Strategy addresses both archaeology and architectural heritage.

Likely Positive effects facilitated by this Strategy include the following:

- Contribution towards the protection of architectural and archaeological heritage and its context by facilitating compliance with relevant legislation

2.5.3 Urban Design Strategy

The Urban Design Strategy addresses various issues including Movement Strategy, Archaeology Strategy, Environmental Strategy and Architectural Strategy.

Likely Positive effects facilitated by this Strategy include the following:

- Contribution towards a shift from car to more sustainable and non-motorised transport modes
- Contribution towards managing traffic flows and associated adverse effects on air quality
- Contribution towards reductions in travel related greenhouse gas and other emissions to air
- Contribution towards reduction in energy usage
- Contribution towards the protection of architectural and archaeological heritage and its context by facilitating compliance with relevant legislation
- Contribution towards the protection of designated ecological sites (candidate Special Area of Conservation and Special Protection Area) and ecological connectivity
- Contribution towards the protection of status of surface waters

2.5.4 Sustainability Strategy

The Sustainability Strategy addresses various issues including Transport, Environmental Quality, Energy and Water Conservation.

Likely Positive effects facilitated by this Strategy include the following:

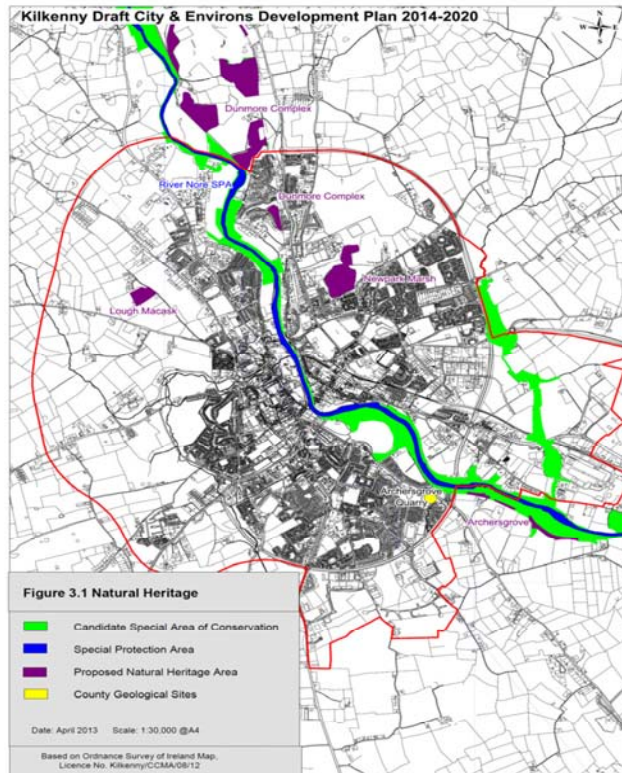
- Contribution towards a shift from car to more sustainable and non-motorised transport modes
- Contribution towards managing traffic flows and associated adverse effects on air quality
- Contribution towards reductions in travel related greenhouse gas and other emissions to air
- Contribution towards reduction in energy usage
- Contribution towards waste management
- Contribution towards the protection of designated ecological sites (candidate

Special Area of Conservation and Special Protection Area) and ecological connectivity

- Contribution towards the protection of status of surface waters

2.6 Kilkenny City Development Plan

In addition to the Masterplan Strategies detailed above, proposals for development within the Masterplan area must comply as appropriate with the relevant provisions included within the Kilkenny City Development Plan 2014-2020. A number of City Plan provisions which contribute towards environmental protection and sustainable development are reproduced in an Appendix to the Masterplan and in the SEA Environmental Report.



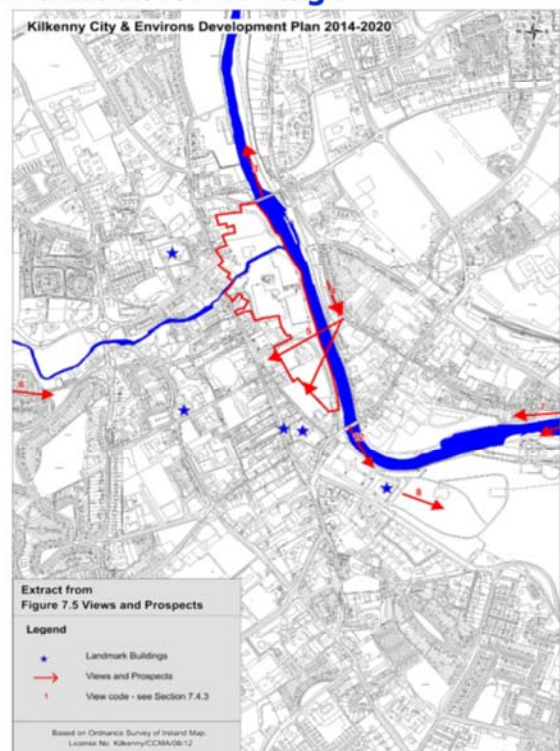
Designated Ecological Sites



Architectural Heritage



Archaeological Heritage



Views and Prospects

Figure 2.1 Selection of Environmental Sensitivities

Section 3 Environmental Report and Submissions & Observations

3.1 Introduction

This section details how both the Environmental Report and submissions and observations made to the planning authority on the Environmental Report and SEA process have been taken into account during the preparation of the Masterplan.

3.2 Submissions

3.2.1 Scoping

As environmental authorities identified under the Planning and Development (SEA) Regulations, as amended, the following authorities were sent SEA scoping notices indicating that submissions or observations in relation to the scope and level of detail of the information to be included in the environmental report could be made to the Council: Department of Agriculture, Food and the Marine; Department of Arts, Heritage and the Gaeltacht; Department of Communications, Energy and Natural Resources; Department of the Environment, Community and Local Government; Environmental Protection Agency; Carlow County Council; Laois County Council; Tipperary County Council; Waterford County Council; and Wexford County Council. Submissions were made by the Department of Agriculture, Food and the Marine, the Department of Arts, Heritage and the Gaeltacht and the Environmental Protection Agency. These submissions influenced the scope of the assessments.

3.2.2 Submissions on the Draft Masterplan and associated Environmental Report and Appropriate Assessment

A number of changes were made to the original Draft Masterplan before approval on foot of submissions made on the Draft Masterplan and associated documents.

These changes were screened for the need to undergo SEA and AA and it was determined that full assessments were not required to be undertaken on the changes.

The earlier of the SEA Environmental Report which accompanied the Draft Masterplan on public display has however been updated in order to take account of these changes and in order to take account of suggestions and recommendations contained in submissions.

Changes to the Masterplan and the outcome of the SEA and AA screenings are detailed on Table 3.1.

Table 3.1 Changes to the Masterplan and the outcome of the SEA and AA Screenings

Change to Masterplan	Outcome of SEA and AA Screenings
Change the last statement of the Vision Statement in Section 2.2.1 of the Masterplan as follows... 'where smarter travel principles are provided for will apply throughout'.	This change would be likely to result in environmental effects above those already foreseen by the assessments. Full SEA is not required for this change. No potential for adverse impacts on European sites is foreseen. Such a change would not necessitate Stage 2 Appropriate Assessment.
Include ideas from Appendix F into Opportunities in Section 3.2.2	This change would be likely to result in environmental effects above those already foreseen by the assessments. Full SEA is not required for this change. No potential for adverse impacts on European sites is foreseen. Such a change would not necessitate Stage 2 Appropriate Assessment.
Clearer labelling of buildings in Section 5.3 of the Masterplan document	This change would be likely to result in environmental effects above those already foreseen by the assessments. Full SEA is not required for this change. No potential for adverse impacts on European sites is foreseen. Such a change would not necessitate Stage 2 Appropriate Assessment.
Change Vision Statement in Section 2.2.1 of the Masterplan to include reference to higher level education as follows: sustaining growth in employment, 3rd and 4th level education and advancing economic activity.	This change would be likely to result in environmental effects above those already foreseen by the assessments. Full SEA is not required for this change. No potential for adverse impacts on European sites is foreseen. Such a change would not necessitate Stage 2 Appropriate Assessment.
Insert in Section 4.2.3 of the Masterplan at the end of the second last bullet point as follows: Works associated with the development of the linear park will comply with the archaeological strategy.	Contributions towards the protection of archaeology is facilitated under various Masterplan/ Variation / City and Environs Development Plan provisions. This change would be likely to further contribute towards the protection that is already facilitated and would not be likely to result in environmental effects above those already foreseen by the assessment of the Draft Masterplan. Full SEA is not required for this change. No potential for adverse impacts on European sites is foreseen. Such a change would not necessitate Stage 2 Appropriate Assessment.
Insert the following at Section 4.4.4 of the Masterplan: The Appropriate Assessment for the linear park shall be informed by an ecological impact assessment which shall consider issues including ecological connectivity and species such as otters and kingfishers (including potential interactions with food sources and aquatic and terrestrial habitats) and bats (including potential interactions with roosts, foraging sites and lighting). The ecologist working on AA for the project shall be consulted at the start of the project so that any necessary mitigation or design changes can be incorporated early in the project.	Contributions towards the protection of the ecology including corridors and species is facilitated under various Masterplan/ Variation / City and Environs Development Plan provisions ⁸ . This change would be likely to further contribute towards the protection that is already facilitated and would not be likely to result in environmental effects above those already foreseen by the assessments. Full SEA is not required for this change. No potential for adverse impacts on European sites is foreseen. Such a change would not necessitate Stage 2 Appropriate Assessment.

⁸ E.g.

Ensure that an ecological impact assessment is carried out for any proposed development likely to have a significant impact on rare and threatened species including those species protected by law and their habitats.

Ensure appropriate avoidance and mitigation measures are incorporated into development proposals as part of any ecological impact assessment.

Proposals must demonstrate that they will not adversely affect any habitats and/or species of interest or compromise the river's function as a green infrastructure corridor

To ensure the protection of the special character and setting of protected structures, ACAs and Recorded Monuments, and protected species when considering proposals for floodlighting.

Change to Masterplan	Outcome of SEA and AA Screenings
<p>Change fourth last bullet point in Section 3.1.10 in the Draft Masterplan from: 'Maintain the quality of the urban fabric of the city by extending the medieval character of the streetscapes in the city centre to the site' to "Maintain the quality of the urban fabric of the city by planning for the area as a seamless complement to the medieval city"</p>	<p>This change would be likely to result in environmental effects above those already foreseen by the assessments. Full SEA is not required for this change.</p> <p>No potential for adverse impacts on European sites is foreseen. Such a change would not necessitate Stage 2 Appropriate Assessment.</p>
<p>Add the following text to Section 4.4.4 of the masterplan: 'Any contaminated soils identified during the development of existing brownfield lands shall be remediated and managed appropriately. The Southern Regional Waste Management Plan should also be taken into account as appropriate in this regard.'</p>	<p>The St. Francis Abbey Brewery which is located within the Masterplan area to which the Variation relates was operated by Diageo Global Supply until production activities ceased on 12th May 2014. With respect to the on-site condition of soils, the potential for contaminated land within the site was considered by the EPA in their Site Visit Report (March, 2015) which identifies that: <i>The condition of the site was assessed and it is the opinion of this inspector that the site of the activity was in a satisfactory state on the day of the site visit and it was considered unlikely to cause environmental pollution or to contain any potentially polluting residues.</i></p> <p>The City Development Plan contains various provisions relating the protection and management of the environment including those relating to contaminated soils which are applicable to the development of the Masterplan area.</p> <p>It is noted that the Council is required to comply with the provisions of the Southern Regional Waste Management Plan as appropriate. This change would be likely to further contribute towards the management of any contaminated soils that might be encountered that is already facilitated and would not be likely to result in environmental effects above those already foreseen by the assessments.</p> <p>No potential for adverse impacts on European sites is foreseen. Such a change would not necessitate Stage 2 Appropriate Assessment.</p>

Changes to the SEA Environmental Report and AA made on foot of suggestions and recommendations contained in submissions are detailed on Table 3.2.

Table 3.2 Changes to the SEA Environmental Report and AA

Change to SEA ER/AA	Relevant SEA ER/AA Section(s)
Identify that the Masterplan area contains both upstanding/above ground structures and buried archaeological remains.	SEA ER Section 4.9
Update the indicator for SEO B1 to specifically reference birds and plants.	Throughout SEA ER
Insert the following text: Contributions towards the protection of ecology including Annex IV species is facilitated under various Masterplan/ Variation / City and Environs Development Plan provisions. The Masterplan area may facilitate certain protected species such as otters, kingfishers and bats.	SEA ER Section 4.3 and Section 7
SEA and AA reports will be updated to make explicit reference to designated sites beyond the 15km radius which are downstream.	SEA ER Section 4.3 and AA report
Insert text to demonstrate that the Variation/Masterplan will not impact upon downstream Natura 2000 sites including the Lower River Suir cSAC.	SEA ER Section 3.2 and 8.3 and AA report
Explicitly identify in the AA report (Table 2.3) cumulative interactions with existing linear parks.	AA report Table 2.3
To insert the following text: Potential impacts that could occur on kingfisher and otter species, if unmitigated, include disturbance to breeding sites (which are unlikely to be present taking into account the characteristics of the site) during construction and operation. However the mitigation of such effects will be facilitated by various Masterplan/ Variation / City and Environs Development Plan provisions which contribute towards the protection of these species and their habitats ⁹ .	SEA ER Section 4.3 and Section 7 and AA report
Add reference to the following: - Irish Water's Water Services Strategic Plan (WSSP) - Southern Regional Waste Management Plan	SEA ER Section 2
Provide detail on the Central Access Scheme (SEA ER Table 2.1) Address the Scheme (and potential interactions with noise)	SEA ER Sections 2, 7 and 8
To identify the following in the AA and SEA documents: An ecological report which was commissioned by the main contractor on the Central Access Scheme and undertaken by ECOFACT identifies that the river in proximity to the bridge works undertaken in October 2014 was impacted previously. However, no impacts on the river are foreseen as a result of implementing the plan - therefore in-combination impacts should not arise. All lower level projects are required to be subject to Appropriate Assessment. As part of Kilkenny County Council's due diligence a further ecological report was commissioned and published in December 2014. This report concludes that: "The works in the River Nore have resulted in a relatively small area at the site being denuded of natural substratum. This is now being re-colonised by macroinvertebrates. It is not possible to determine to what extent silt generated by the works contributed to the silted substratum in the slack water immediately upstream of the weir. However, it must be borne in mind that conditions here would not be suitable for most protected aquatic species, apart from lamprey ammocoetes, for which a small amount of additional siltation would not be problematic. Downstream of the weir, silt is absent from the substratum and the macroinvertebrate faunal composition does not show any indication of a siltation impact. The river here is at Q4, the same as upstream of the works. This indicates that any silt generated had only a temporary impact here. High flows in the River Nore in mid-November (see Appendix 4) would, presumably, have flushed silt deposits near the site of the works to more depositing locations farther downstream."	SEA ER Section 4.3

⁹ E.g.

The Appropriate Assessment for the linear park shall be informed by an ecological impact assessment which shall consider issues including ecological connectivity and species such as otters and kingfishers (including potential interactions with food sources and aquatic and terrestrial habitats) and bats (including potential interactions with roosts, foraging sites and lighting). The ecologist working on AA for the project shall be consulted at the start of the project so that any necessary mitigation or design changes can be incorporated early in the project.

Ensure that an ecological impact assessment is carried out for any proposed development likely to have a significant impact on rare and threatened species including those species protected by law and their habitats.

Ensure appropriate avoidance and mitigation measures are incorporated into development proposals as part of any ecological impact assessment.

Proposals must demonstrate that they will not adversely affect any habitats and/or species of interest or compromise the river's function as a green infrastructure corridor

To ensure the protection of the special character and setting of protected structures, ACAs and Recorded Monuments, and protected species when considering proposals for floodlighting.

Change to SEA ER/AA	Relevant SEA ER/AA Section(s)
<p>Insert the following text:</p> <p>Consideration of strategic alternatives is required by the SEA Directive and the highest tier of strategic alternatives are considered by the SEA. These are reasonable alternatives taking into account the objectives and the geographical scope of the Masterplan. The alternatives consider a wide range of approaches to the development of the site given that it is an objective of the City Plan to prepare a Masterplan for the site. The alternatives and their evaluation was informed by input from the Planning Department and their architects, SEA specialists and ecologists.</p>	SEA ER Section 6
<p>Footnote 63 of the SEA be changed to: <i>It is intended to place the Abbey Creative Quarter masterplan on a statutory footing by way of Variation No. 1 a separate and subsequent Variation to the Kilkenny City & Environs Development Plan 2014-2020.</i></p>	SEA ER Section 7

3.3 Environmental Report

The Draft Masterplan and accompanying documents (including SEA Environmental Report, AA Natura Impact Report and Flood Risk Assessment) were placed on public display. SEA recommendations were fully integrated into the Draft Masterplan.

Responses to submissions made on the Environmental Report during the period of public display (of the Draft Masterplan) were integrated into the Chief Executive's Report and circulated to Elected Members.

The Environmental Report was updated in order to take account of recommendations included in the submissions as well as changes which were made to the original Draft Masterplan that was placed on public display.

Members of the planning authority have taken into account the findings of all relevant SEA output during their consideration of the Masterplan and before its approval.

After the Masterplan was approved, the original Environmental Report which had been placed on public display alongside the Draft Masterplan was updated to become a final Environmental Report which is consistent with the approved Masterplan.

Section 4 Alternatives

4.1 Introduction

Consideration of strategic alternatives is required by the SEA Directive and the highest tier of strategic alternatives are considered by the SEA. These are reasonable alternatives taking into account the objectives and the geographical scope of the Masterplan. The alternatives consider a wide range of approaches to the development of the site given that it is an objective of the City Plan to prepare a Masterplan for the site. The alternatives and their evaluation was informed by input from the Planning Department and their architects, SEA specialists and ecologists.

4.2 Description of Alternatives

Alternative 1: Redevelop the Brewery Site, and reuse of existing buildings on site (Mayfair, Brewhouse, & Maturation building) providing for a new City Quarter with linear park.

This would involve the upgrading and retrofitting of the existing buildings to a near zero energy building standard for use as third/fourth level education, office and other appropriate uses depending on demand and the provision of a linear park along the river Nore.

The following would be the key elements of this development strategy:

- Mayfair and Brewhouse buildings retained and upgraded and retrofitted, other non-protected buildings demolished;
- Develop remaining land for mixed use development; and
- Linear park provided along the river Nore from Bateman Quay to Greens Bridge.

Alternative 2: Redevelop the Brewery Site, without retaining the existing buildings, and provide for a new City Quarter with linear park.

This would involve the demolition of all existing industrial buildings and the provision of a linear park along the river Nore.

The following would be the key elements of this development strategy:

- Demolition of all existing buildings (excluding St Francis Abbey & City Walls);
- Develop the lands for mixed use development; and
- Linear Park provided along the river Nore from Bateman Quay to Greens Bridge.

Alternative 3: Intensive redevelopment of the Brewery Site to maximise the development footprint incorporating mixed uses (e.g. retail, office, leisure and other commercial activity along with third level uses) providing for a new City Quarter.

This would involve maximizing the development potential of the site reducing the linear park to a minimum and intensifying the uses on the site.

The following would be the key elements of this development strategy:

- Demolition of all existing buildings (after relevant structures are delisted from protection);
- Develop (for mixed uses) buildings and structures to maximise development potential;
- Linear park provided along the river Nore but minimised to allow increased development potential.

Alternative 4: Low intensity intervention with the majority of the Brewery Site devoted to a public park.

This would involve the retention of Mayfair, Brewhouse and Maturation building with the remainder of the area devoted to recreational use including a linear park along the river Nore from Bateman quay to Greens Bridge.

The following would be the key elements of this development strategy:

- Mayfair and Brewhouse buildings retained and upgraded and retrofitted, other non-protected buildings demolished;
- Linear park provided along the river Nore from Bateman Quay to Greens Bridge; and
- The remainder of the site developed as a public park.

4.3 Summary of Evaluation of Alternatives

A number of potentially significant adverse effects, if unmitigated, are common to all alternatives as each alternative provides for the development of the Masterplan site. These effects would be present to varying degrees and are as a result of activities including demolition, construction and usage including that arising from recreation and tourism.

Table 4.1 Potentially Significant Adverse Effects common to all Alternatives

Environmental/ Component	Potential Significant Adverse Effect, if unmitigated
Biodiversity and Flora and Fauna	<p>Loss of/disturbance to biodiversity with regard to Natura 2000 Sites, including the River Barrow and River Nore candidate Special Area of Conservation and the River Nore Special Protection Area</p> <p>Loss of/disturbance to biodiversity with regard to ecological connectivity and non-designated biodiversity</p> <p>Loss of/disturbance to biodiversity with regard to listed species</p>
Population and Human Health	Spatially concentrated deterioration in human health
Soil	Damage to the hydrogeological and ecological function of soil
Water	<p>Potential interactions with the status of water bodies (River Nore, River Breagagh and groundwater) and entries to the WFD Register of Protected Areas, arising from:</p> <ul style="list-style-type: none"> - Changes in quality, flow and/or morphology; and - Increases in outflow at waste water treatment plant as a result of increases in population.
Flood Risk	Increase in flood risk
Material Assets	<p>The need to provide adequate and appropriate water services (it is the function of Irish Water to provide for such needs)</p> <p>Increases in waste levels</p>
Archaeological and Architectural Heritage	<p>Effects on the Zone of Archaeological Potential, St. Francis Abbey, Kilkenny Town wall, Evans Tower, entries to the Record of Monuments and Places and other archaeological heritage</p> <p>Effects on entries to the Records of Protected Structures, National Inventory of Architectural Heritage and Architectural Conservation Areas (St. Canice's ACA and City Centre ACA) and other architectural heritage</p>
Landscape	Occurrence of adverse visual impacts especially with respect to protected views and prospects

Alternative 1

Alternative 1 facilitates the reuse and regeneration of brownfield lands thereby contributing towards a higher efficiency of land utilisation, sustainable mobility and a reduction in the need to develop greenfield lands on the outskirts of the City. By reducing the need to develop greenfield lands, potential adverse effects upon environmental components including ecology, landscape designations, architectural and archaeological heritage and soil will be avoided. The site also has access to existing water and other services. This alternative also allows for a greater number journeys via sustainable

transport modes and would be likely to contribute towards associated positive environmental effects on overall greenhouse gas emissions, energy usage and air and noise emissions.

Potential conflicts associated with the redevelopment of the site under this alternative - including demolition of certain non-protected buildings and construction of new buildings and other development – are less than those under Alternatives 2 and 3.

This alternative provides for the retention of designated archaeological and architectural heritage. In response to the Architectural Heritage Protection - Guidelines for Planning Authorities' aspiration to reuse existing buildings Alternative 1 proposes to retain the Mayfair and Brewhouse Buildings. The Brewhouse building is not a Protected Structure but it has been identified both as having architectural merit as an industrial building of its type and as not being replicated elsewhere in the City. The Mayfair building is identified as having merit with respect to social heritage. Renovation and re-use of the Mayfair and Brewhouse buildings accords with the principle of sustainable re-use of existing building assets and facilitates the protection of non-designated architectural heritage.

Once undertaken in compliance with the provisions of the Habitats Directive, the development of the Linear Park from Bateman Quay to Greens Bridge would facilitate contributions towards sustainable mobility and enhancement of ecological connectivity along the banks of the Nore.

Alternative 2

The evaluation for Alternative 2 is the same as that provided for Alternative 1 with one difference. Alternative 2 provides for the demolition of the Mayfair and Brewhouse Buildings. The Brewhouse building is not a Protected Structure but it has been identified both as having architectural merit as an industrial building of its type and as not being replicated elsewhere in the City. The Mayfair building is identified as having merit with respect to social heritage. Demolition of these buildings potentially conflicts with the protection of non-designated architectural heritage.

Alternative 3

Alternative 3 facilitates the reuse and regeneration of brownfield lands thereby contributing towards a higher efficiency of land utilisation, sustainable mobility and a reduction in the need to develop greenfield lands on the outskirts of the City - it does this to a higher intensity than is the case under Alternatives 1 and 2, maximising the development footprint and associated positive effects. By reducing the need to develop greenfield lands, potential adverse effects upon environmental components including ecology, landscape designations, architectural and archaeological heritage and soil will be avoided. The site also has access to existing water and other services. This alternative also allows for a greater number journeys via sustainable transport modes and would be likely to contribute towards associated positive environmental effects on overall greenhouse gas emissions, energy usage and air and noise emissions.

Due to the intensity of the development provided for by this alternative, potential conflicts – and any residual effects – associated with the redevelopment of the site under are greater than those likely under Alternatives 1 and 2. This includes loss of cultural heritage (including context and associated interactions with landscape) as a result of the demolition of all existing buildings (after relevant structures delisted are from protection).

The development of the Linear Park under this alternative – which would be required to be developed in compliance with the Habitats Directive – would be minimised and would be unlikely to contribute towards enhancement of ecological connectivity along the banks of the Nore.

Alternative 4

Alternative 4 would not contribute towards efficiency of land utilisation. Under this alternative there would be a failure to maximise sustainable mobility (and associated interactions with greenhouse gas emissions, energy usage and air and noise emissions).

This alternative would not provide for the reduction in the need to develop greenfield lands on the outskirts of the City (as would be provided for by Alternatives 1, 2 and 3) – as a result the avoidance of adverse effects upon environmental components including ecology, landscape designations, architectural and archaeological heritage and soil would not be achieved.

There would be potential conflicts associated with the redevelopment of the site under this alternative - including the demolition of buildings and development of a public park.

This alternative provides for the retention of designated archaeological and architectural heritage. In response to the Architectural Heritage Protection - Guidelines for Planning Authorities' aspiration to reuse existing buildings Alternative 4 proposes to retain the Mayfair and Brewhouse Buildings. The Brewhouse building is not a Protected Structure but it has been identified both as having architectural merit as an industrial building of its type and as not being replicated elsewhere in the City. The Mayfair building is identified as having merit with respect to social heritage. Retention of these buildings facilitates the protection of non-designated architectural heritage.

Once undertaken in compliance with the provisions of the Habitats Directive, the development of the Linear Park from Bateman Quay to Greens Bridge would facilitate contributions towards sustainable mobility and enhancement of ecological connectivity along the banks of the Nore.

4.4 Reasons for choosing the Masterplan in light of the other alternatives dealt with

The selected alternative for the Masterplan¹⁰ is *Alternative 1*.

This alternative facilitates the improvements in various environmental components by accommodating new development on the Masterplan site thereby reducing the need for new greenfield development on the outskirts of the City. This alternative also allows for a greater number journeys via sustainable transport modes and would be likely to contribute towards associated positive environmental effects on overall greenhouse gas emissions, energy usage and air and noise emissions. Potential conflicts associated with the redevelopment of the site under this alternative - including demolition of certain non-protected buildings and construction of new buildings and other development – are less than those under the other alternatives.

There are potentially significant adverse effects arising from the alternative and these are tabulated overleaf. These effects will be mitigated by, inter alia, the various provisions which have been integrated into the Masterplan. These mitigating provisions together with the contribution that the Masterplan will make towards sustainable mobility will mean that the selected alternative facilitates various significant positive effects upon environmental components.

A number of design options were considered to varying degrees at various stages throughout the Masterplan preparation process. These considerations were informed by the environmental sensitivities which are presented in this SEA Environmental Report and other associated Masterplan documents.

By complying with appropriate mitigation measures – including those which have been integrated into the Masterplan – potentially significant adverse environmental effects which could arise as a result of implementing the Masterplan would be likely to be avoided, reduced or offset.

Table 4.2 details the following with respect to the selected alternative which was developed for the Variation and the Masterplan, placed on public display and adopted and approved (this final design is provided at Figure 4.1:

- Significant positive effects facilitated;
- Potentially significant adverse effects, if unmitigated; and
- Potential significant Residual Adverse Effect once all mitigation is adhered to.

¹⁰ The Masterplan document has been approved by Kilkenny County Council by way of Resolution. Variation No. 1 to the City Development Plan includes high level objectives for the Masterplan area. It is intended to place the Abbey Creative Quarter masterplan on a statutory footing by way of Variation No. 1 a separate and subsequent Variation to the Kilkenny City & Environs Development Plan 2014-2020. Variation No. 1 and associated SEA and AA documents are available alongside the approved Masterplan and its associated SEA and AA documents.

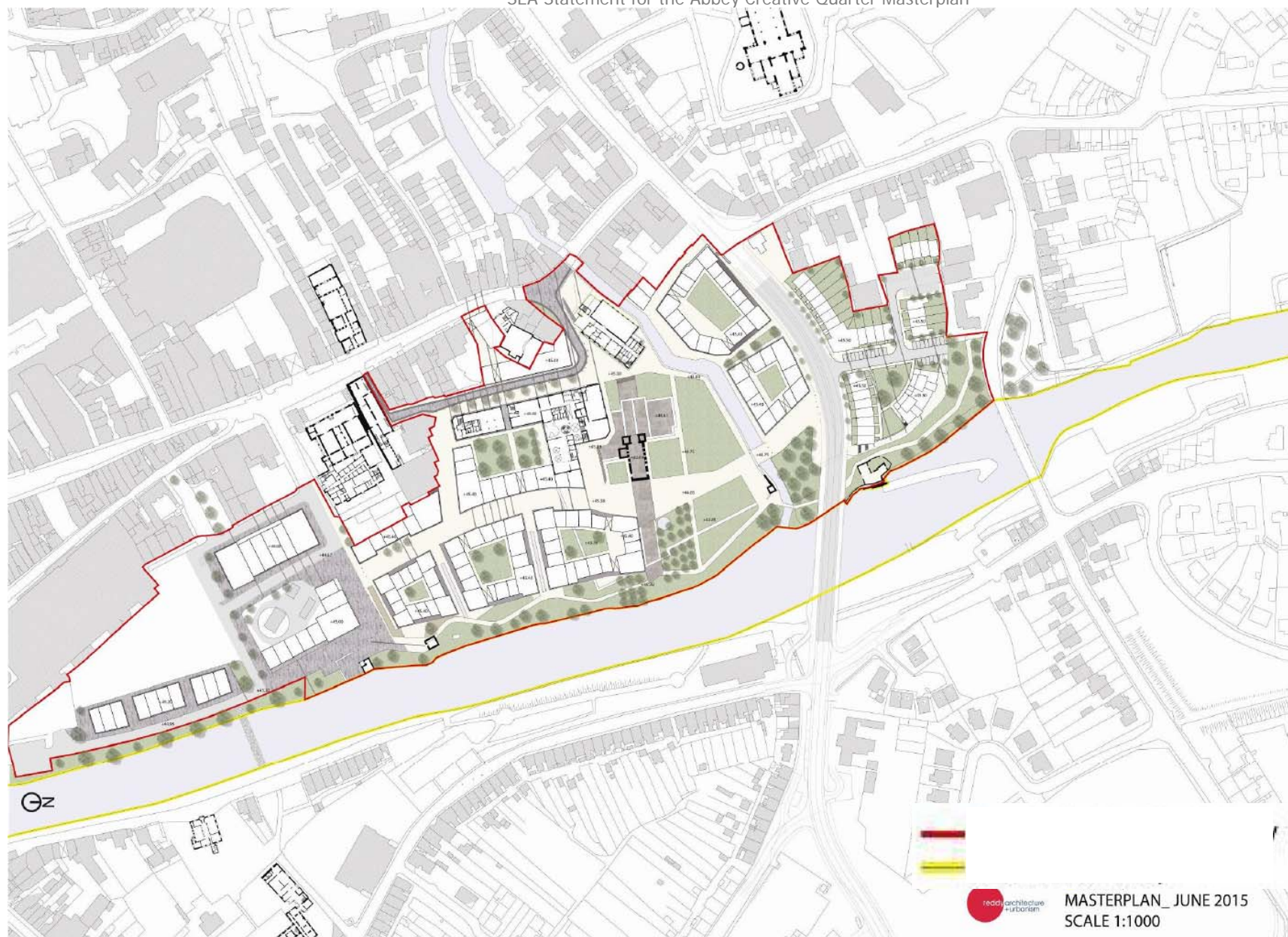


Figure 4.1 Area subject to both cSAC and SPA designation in the vicinity of the Masterplan area

Source: Masterplan Final Design Map; NPWS (datasets downloaded March 2015)

Table 4.2 Significant positive effects facilitated, potentially significant adverse effects, if unmitigated, and residual non-significant adverse effects

Environmental/ Component	Significant Positive Effect facilitated	Potentially Significant Adverse Effect, if unmitigated	Potential Significant Residual Adverse Effect once all mitigation is adhered to
Biodiversity and Flora and Fauna	<ul style="list-style-type: none"> Contribution towards the protection of designated ecological sites (River Barrow and River Nore candidate Special Area of Conservation and the River Nore Special Protection Area) and ecological connectivity Contribution towards enhancement of ecological connectivity along the banks of the Nore Reduces need to develop greenfield lands (with associated impacts upon biodiversity elsewhere) Contributions towards the protection of ecology including Annex IV species is facilitated under various Masterplan/ Variation / City and Environs Development Plan provisions. The Masterplan area may facilitate certain protected species such as otters, kingfishers and bats. 	<ul style="list-style-type: none"> Loss of/disturbance to biodiversity with regard to Natura 2000 Sites, including the River Barrow and River Nore candidate Special Area of Conservation and the River Nore Special Protection Area Loss of/disturbance to biodiversity with regard to ecological connectivity and non-designated biodiversity Loss of/disturbance to biodiversity with regard to listed species Potential impacts that could occur on kingfisher and other species, for example, if unmitigated, include disturbance to breeding sites (which are unlikely to be present taking into account the characteristics of the site) during construction and operation. However the mitigation of such effects will be facilitated by various Masterplan/ Variation / City and Environs Development Plan provisions which contribute towards the protection of these species and their habitats. 	<ul style="list-style-type: none"> None
Population and Human Health	<ul style="list-style-type: none"> Contribution towards the protection of human health as a result of contributing towards the protection of environmental vectors, especially air 	<ul style="list-style-type: none"> Spatially concentrated deterioration in human health 	<ul style="list-style-type: none"> Flood related risks remain due to uncertainty with regard to extreme weather events
Soil	<ul style="list-style-type: none"> Reduces need to develop greenfield lands (with associated impacts upon soil elsewhere) 	<ul style="list-style-type: none"> Damage to the hydrogeological and ecological function of soil 	<ul style="list-style-type: none"> None
Water	<ul style="list-style-type: none"> Contribution towards the protection of status of surface and ground waters 	<ul style="list-style-type: none"> Potential interactions with the status of water bodies (River Nore, River Breaghagh and groundwater) and entries to the WFD Register of Protected Areas¹¹, arising from: <ul style="list-style-type: none"> Changes in quality, flow and/or morphology; and Increases in outflow at waste water treatment plant as a result of increases in population. Increase in flood risk 	<ul style="list-style-type: none"> Flood related risks remain due to uncertainty with regard to extreme weather events

¹¹ The River Nore is a designated Salmonid water under SI 293 of 1988 and groundwater under the area is listed on the Register for groundwater that is used for drinking water.
CAAS for Kilkenny County Council

SEA Statement for the Abbey Creative Quarter Masterplan

Environmental/ Component	Significant Positive Effect facilitated	Potentially Significant Adverse Effect, if unmitigated	Significant Residual Adverse Effect once all mitigation is adhered to
Air and Climatic Factors and Sustainable Transport	<ul style="list-style-type: none"> • Contribution towards a shift from car to more sustainable and non-motorised transport modes • Contribution towards managing traffic flows and associated adverse effects on air quality • Contribution towards reductions in travel related greenhouse gas and other emissions to air • Contribution towards reduction in energy usage 	<ul style="list-style-type: none"> • Failure to contribute towards sustainable transport and associated impacts (energy usage and emissions to air including noise and greenhouse gases) 	<ul style="list-style-type: none"> • None
Material Assets	<ul style="list-style-type: none"> • Enhances public assets • Facilitates provision of water services and waste management 	<ul style="list-style-type: none"> • The need to provide adequate and appropriate water services (it is the function of Irish Water to provide for such needs) • Increases in waste levels 	<ul style="list-style-type: none"> • Residual wastes to be disposed of in line with higher level waste management policies
Archaeological and Architectural Heritage	<ul style="list-style-type: none"> • Contribution towards the protection of architectural and archaeological heritage and its context by facilitating compliance with relevant legislation • Reduces need to develop greenfield lands (with associated impacts upon architectural and archaeological heritage elsewhere) 	<ul style="list-style-type: none"> • Effects on the Zone of Archaeological Potential, St. Francis Abbey, Kilkenny Town wall, Evans Tower, entries to the Record of Monuments and Places and other archaeological heritage • Effects on entries to the Records of Protected Structures, National Inventory of Architectural Heritage and Architectural Conservation Areas (St. Canice's ACA and City Centre ACA) and other architectural heritage 	<ul style="list-style-type: none"> • Potential alteration to the context and setting of designated cultural heritage however these will occur in compliance with provisions of the Masterplan and relevant legislation. • Potential loss of unknown archaeology however this loss will be mitigated by measures which have been integrated into the Masterplan
Landscape	<ul style="list-style-type: none"> • Contribution towards the protection of landscape designations by facilitating compliance with City Development Plan • Opens up new views • Reduces need to develop greenfield lands (with associated impacts upon landscapes elsewhere) 	<ul style="list-style-type: none"> • Occurrence of adverse visual impacts especially with respect to protected views and prospects 	<ul style="list-style-type: none"> • None

Section 5 Monitoring Measures

5.1 Introduction

The SEA Directive requires that the significant environmental effects of the implementation of plans and programmes are monitored. The monitoring of potential significant effects within the Masterplan area will be undertaken in conjunction with the monitoring programme for Variation No. 1 to the Kilkenny City Development Plan. The indicators below are the same as those included as part of the monitoring programme detailed for Variation No. 1.

Monitoring can enable, at an early stage, the identification of unforeseen adverse effects and the undertaking of appropriate remedial action.

5.2 Indicators and Targets

Monitoring is based around indicators which allow quantitative measures of trends and progress over time relating to the Strategic Environmental Objectives identified in Section 4 and used in the evaluation. Each indicator to be monitored is accompanied by the target(s) which were identified with regard to the relevant strategic actions.

Table 5.1 overleaf shows the indicators and targets which have been selected for monitoring the likely significant environmental effects of implementing the Masterplan, if unmitigated.

The Monitoring Programme may be updated to deal with specific environmental issues - including unforeseen effects - as they arise. Such issues may be identified by the Council or identified to the Council by other agencies.

5.3 Sources

Measurements for indicators generally come from existing monitoring sources. Existing monitoring sources include those maintained by the Council and the relevant authorities e.g. the Environmental Protection Agency, the National Parks and Wildlife Service and the Central Statistics Office.

Internal monitoring of the environmental effects of grants of permission in the Council will provide monitoring of various indicators and targets on a grant of permission by grant of permission¹² basis. Where significant adverse effects - including positive, negative, cumulative and indirect - have the potential to occur upon, for example, entries to the RMP, entries to the RPS or ecological networks as a result of the undertaking of individual projects or multiple individual projects such instances should be identified and recorded and should feed into the monitoring evaluation.

5.4 Reporting

A stand-alone Monitoring Report on the significant environmental effects of implementing Variation No. 1 to the Kilkenny City Development Plan and the Masterplan will be prepared in 2017 and again in 2019. The Kilkenny City Development Plan will be reviewed in 2019-2020 and monitoring arrangements will be re-examined at this stage. Monitoring reports should address the indicators set out below.

The Council is responsible for the ongoing review of indicators and targets, collating existing relevant monitored data, the preparation of monitoring evaluation report(s), the publication of these reports and, if necessary, the carrying out of corrective action.

¹² The likely significant effects of development proposals on environmental sensitivities are further determined during the development management process. By documenting this determination (e.g. whether a proposed development will impact upon a Protected Structure or whether a proposed development can be adequately served with water services) while granting permissions, or at a later date, the requirement to monitor the effects of implementing the Masterplan can be achieved.

5.5 Thresholds

Thresholds at which corrective action will be considered include:

- The occurrence of flood events;
- Court cases taken by the Department of Arts, Heritage and the Gaeltacht regarding impacts upon archaeological heritage including entries to the RMP;
- Complaints received from statutory consultees regarding avoidable environmental impacts resulting from development which is granted permission in the Masterplan area;
- Boil notices on drinking water; and
- Fish kills.

Table 5.1 Selected Indicators, Targets and Monitoring Sources

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source (Frequency)
Biodiversity, Flora and Fauna	B1: Conservation status of habitats and species (including birds and plants) as assessed under Article 17 of the Habitats Directive	B1: Maintenance of favourable conservation status for all habitats and species protected under national and international legislation to be unaffected by implementation of the Variation ¹³	<ul style="list-style-type: none"> • Internal monitoring of environmental effects of grants of permission (grant by grant). • Department of Arts, Heritage and the Gaeltacht report of the implementation of the measures contained in the Habitats Directive - as required by Article 17 of the Directive (every 6 years). • Consultations with the NPWS (at monitoring evaluation - see Section 5.4).
	B2: Percentage loss of functional connectivity without remediation resulting from development granted permission in the Masterplan area	B2: No significant ecological networks or parts thereof which provide functional connectivity to be lost without remediation resulting from development granted permission in the Masterplan area	<ul style="list-style-type: none"> • Internal monitoring of environmental effects of grants of permission (grant by grant). • CORINE mapping resurvey (every c. 5 years).
	B3i: Number of significant impacts on relevant habitats, species, environmental features or other sustaining resources resulting from development granted permission in the Masterplan area B3ii: Number of significant impacts on the protection of species listed on Schedule 5 of the Wildlife Act 1976	B3i: Avoid significant impacts on relevant habitats, species, environmental features or other sustaining resources resulting from development granted permission in the Masterplan area B3ii: No significant impacts on the protection of species listed on Schedule 5 of the Wildlife Act 1976	<ul style="list-style-type: none"> • Internal monitoring of environmental effects of grants of permission (grant by grant). • Consultations with the NPWS (at monitoring evaluation - see Section 5.4).
Population and Human Health	PHH1: Occurrence (any) of a spatially concentrated deterioration in human health arising from environmental factors resulting from development granted permission in the Masterplan area, as identified by the Health Service Executive and Environmental Protection Agency	PHH1: No spatial concentrations of health problems arising from environmental factors as a result of implementing the Variation	<ul style="list-style-type: none"> • Consultations with EPA and Health Service Executive (at monitoring evaluation - see Section 5.4).
Soil	S1: Soil extent and hydraulic connectivity	S1: To minimise reductions in soil extent and hydraulic connectivity	<ul style="list-style-type: none"> • Internal monitoring of environmental effects of grants of permission (grant by grant).

¹³ Except as provided for in Section 6(4) of the Habitats Directive, viz. There must be:

(a) no alternative solution available;
 (b) imperative reasons of overriding public interest for the plan/programme/project to proceed; and
 (c) adequate compensatory measures in place.

SEA Statement for the Abbey Creative Quarter Masterplan

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source (Frequency)
Water	W1i: Classification of Overall Status (comprised of ecological and chemical status) under the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (SI No. 272 of 2009)	W1i: Not to cause deterioration in the status of any surface water or affect the ability of any surface water to achieve 'good status' ¹⁴ by 2015	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant). Data issued under the Water Framework Directive Monitoring Programme for Ireland.
	W2: Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	W2: Not to affect the ability of groundwaters to comply with Groundwater Quality Standards and Threshold Values under Directive 2006/118/EC	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant). Data issued under the Water Framework Directive Monitoring Programme for Ireland (multi-annual).
	W3: Number of incompatible developments granted permission on lands which pose - or are likely to pose in the future - a significant flood risk	W3: Minimise developments granted permission on lands which pose - or are likely to pose in the future - significant flood risk in compliance with The Planning System and Flood Risk Management Guidelines for Planning Authorities	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant).
Material Assets	M1: Number of new developments granted permission which can be adequately and appropriately served with waste water treatment infrastructure over the lifetime of the Masterplan	M1: All new developments granted permission to be connected to and adequately and appropriately served by waste water treatment infrastructure over the lifetime of the Masterplan	<ul style="list-style-type: none"> Internal monitoring of environmental effects of grants of permission (grant by grant).
	M2: Number of non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Variation	M2: No non-compliances with the 48 parameters identified in the European Communities (Drinking Water) Regulations (No. 2) 2007 which present a potential danger to human health as a result of implementing the Variation	<ul style="list-style-type: none"> EPA The Provision and Quality of Drinking Water in Ireland reports (multi-annual). EPA Remedial Action List (every quarter).
	M3: Preparation and implementation of construction and environmental management plans	M3: For construction and environmental management plans to be prepared and implemented for relevant projects	<ul style="list-style-type: none"> EPA National Waste Reports Internal monitoring of environmental effects of grants of permission (grant by grant).
Air and Climatic Factors	C1: Percentage of the City's population travelling to work, school or college by public transport or non-mechanical means	C1: An increase in the percentage of the City's population travelling to work, school or college by public transport or non-mechanical means	<ul style="list-style-type: none"> CSO Population Data (every c. 5 years).

¹⁴ Good status as defined by the WFD equates to approximately Q4 in the current national biological classification of rivers.

SEA Statement for the Abbey Creative Quarter Masterplan

Environmental Component	Selected Indicator(s)	Selected Target(s)	Source (Frequency)
Cultural Heritage	CH1: Percentage of entries to the Record of Monuments and Places - including Zones of Archaeological Potential (and the context of the above within the surrounding landscape where relevant) – protected from adverse effects resulting from development which is granted permission in the Masterplan area	CH1: Protect entries to the Record of Monuments and Places - including Zones of Archaeological Potential (and their context of the above within the surrounding landscape where relevant) from adverse effects resulting from development which is granted permission in the Masterplan area	<ul style="list-style-type: none"> • Internal monitoring of environmental effects of grants of permission (grant by grant). • Consultation with Department of Arts, Heritage and the Gaeltacht (at monitoring evaluation - see Section 5.4).
	CH2: Percentage of entries to the Record of Protected Structures and Architectural Conservation Areas and their context protected from adverse effects resulting from development which is granted permission in the Masterplan area	CH2: Protect entries to the Record of Protected Structures and Architectural Conservation Areas and their context from adverse effects resulting from development which is granted permission in the Masterplan area	<ul style="list-style-type: none"> • Internal monitoring of environmental effects of grants of permission (grant by grant). • Consultation with Department of Arts, Heritage and the Gaeltacht (at monitoring evaluation - see Section 5.4).
Landscape	L1: Number of complaints received from statutory consultees regarding avoidable impacts on the landscape - especially with regard to protected views - resulting from development which is granted permission in the Masterplan area	L1: No developments permitted which result in avoidable impacts on the landscape - especially with regard to protected views - resulting from development which is granted permission in the Masterplan area	<ul style="list-style-type: none"> • Internal monitoring of environmental effects of grants of permission (grant by grant).