KILKENNY COUNTY COUNCIL

Comhairle Chontae Chill Chainnigh

In Accordance with Section 179 of the
Planning and Development Acts, 2000-2015

Kilkenny Biodiversity & Recreation Countryside Park

For consideration by the Elected Members
of Kilkenny County Council
at monthly meeting to be held
on 15th March 2021

March 2021

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INTRODUCTION

This report has been prepared for submission to the elected members of Kilkenny County Council and contains information regarding the proposed development, issues raised following the erection of the public notice of the proposed development with the display for public inspection of the plans and particulars and other matters as required in accordance with Section 179 of the Planning & Development Acts, 2000-2015.

DESCRIPTION OF PROPOSED DEVELOPMENT

The proposal put forward provides for the following: -

It is proposed to develop a biodiversity and recreation countryside park on the site of the now closed municipal landfill at Dunmore, County Kilkenny. The landfill commenced operation in 1989 and closed in 2010. The site occupies an area of circa. 17 acres and is located 5km north of Kilkenny city centre. The proposed countryside park will develop trails for uses such as walking, running, cycling, and orienteering, along with educational opportunities related to natural heritage and biodiversity enhancement and management. The park will be attractive to the general public, schools and recreation groups, and those with specific environmental interests such as photography and bird-watching in the context of an amenity which is close to nature.

The park will be accessed, with bicycle and car parking provided, from the following separate access points:-

- Dunmore village from the existing Dunmore Community Hall carpark and Mass Path in the townland of Loughmerans and Dunmore
- From a proposed new car and bicycle park area within the curtilage of the proposed development via the Bleach Road LS6601
- Accessible car parking will be provided within the existing GAA overflow car-parking area by-way of 3no. dedicated accessible car parking bays. These 3no. bays will be accessed from the N77 (Castlecomer Road) utilising the existing entrance to the Dunmore Recycling and Refuse Disposal Centre and Kilkenny County GAA Training Centre.

PRE-PLANNING

As part of the planning application process the Council's Environment Section was advised of planning requirements through a formal pre-planning submission prior to lodging the application – Planning Ref No.: 12-20.

NOTICE OF DEVELOPMENT

Notice of the proposed development was advertised by Notice in the Kilkenny People newspaper published on Wednesday 9th & 10th December 2020. Public Notices were also erected at the entrance to the Dunmore Recycling and Refuse Disposal Centre and at the Kilkenny County GAA Training Centre, the Dunmore Community Carpark, the N77/L66013 Junction at Dunmore and the L6601/L66012 Junction at the Bleach Road on the 9th & 10th December 2020.

Location map

Dunmore Civic Amenity / GAA entrance

Bleach Road / L66013 Junction

Dunmore Community Carpark

Dunmore N77/L66013 Junction

A copy of the notice is provided in Appendix A.

Details of the proposed scheme were also advertised via the Kilkenny County Council Public Consultation Portal http://consult.kilkenny.ie/ and via Kilkenny County Council website.

Plans and particulars for the proposed Scheme were made available for inspection from Wednesday 9th December 2020 to Friday 22nd January 2021 at the following locations:

- Planning Dept., Kilkenny County Council, County Hall, John St., Kilkenny City from 9am to 1pm & 2pm to 4pm Monday to Friday (excluding weekends and Bank Holidays).
- www.kilkennycoco.ie
- https://consult.kilkenny.ie/

In addition, an electronic project information visual display ran over the period from the Council building window facing out onto John Street, Kilkenny City.

Submissions and observations were invited with respect to the proposed development dealing with the proper planning and development of the area in which the proposed development will be carried out, with a final date for receipt of submissions on Friday 5th February 2021.

The documents on public display were as follows:-

- Application Form for Part VIII Development
- Summary Report
- Final Part 8 Landscaping Report
- Appendix A Landscape Drawings
- Appendix B Appropriate Assessment Screening Report -Final
- Appendix C Ecological Impact Assessment – Final
- Appendix D Traffic Assessment Report
- Appendix E Drainage Report
- Appendix F Archaeological Heritage Report
- Scheme Drawings (including Carpark drawings scale 1: 500)
- Letter of support – Dunmore Community Committee (Trustees for Dunmore Carpark)
- Letter of support – Kilkenny GAA County Board (Lessee of area of overflow carpark at GAA Training Facility and Dunmore Civic Amenity Site.

REFFERALS

The following Statutory and Non-Statutory Bodies were invited to make submissions on the scheme:-

- National Parks and Wildlife Section
- National Monuments Section.
- Transport Infrastructure Ireland
- Roads Design Office
- Heritage Officer
- Conservation Officer
- Fire Officer
- The Heritage Council
- An Taisce
- An Chomhairle Ealaíon
- Fáilte Ireland
- EPA
- Inland Fisheries Ireland
- Dunmore Community Committee
- Cathaoirleach Kilkenny GAA.

DESIGN CRITERIA

The design of the proposed Kilkenny Biodiversity & Recreation Countryside Park has taken into consideration the requirements of the following Regulations and Policy documents:-

- Planning & Development Act 2000, as amended
- Planning & Development Regulations, 2001, as amended
- Dunmore Landfill remediation works and future protection thereof
- EPA Licence requirements for aftercare
- Habitat Survey and Management for Pollinators (Draft) Report; (D D'Arcy Ecologist)
- Dept. of Rural and Community Development, 2020 Outdoor Recreation Infrastructure Scheme – Measure 3 criteria
- The Kilkenny City & Environs Development Plan 2014-2020
- The Kilkenny County Development Plan 2014-2020
- The Draft Kilkenny City and County Development Plan 2020 -2026
- Kilkenny County Council Climate Adaptation Strategy 2019-2024
- Kilkenny County Council Climate Change Adaptation Strategy 2019 – 2024
- Kilkenny County Council Pollinator Action Plan 2020
- All Ireland Pollinator Plan 2015-2020 and related guidance documents (Councils: Actions to Help Pollinators) National Biodiversity Data Centre (NBDC)
- Aftercare and landscape maintenance requirements
- All Ireland Pollinator Plan (Adopted by Kilkenny Local Authority)
- National Biodiversity Action Plan 2017-2021
- The Biodiversity Climate Change Sectoral Adaptation Plan 2019
- Heritage in Schools
- National Children's Play Policy 'Ready Steady Play'
- County Kilkenny Play Policy and Implementation Plan
- Get Walking Ireland (Coillte & Mental Health Ireland) Woodlands for Health Programme
- Building for Everyone: A Universal Design Approach Book 1 External environment and approach National Disability Authority.

SUBMISSIONS RECEIVED

The submissions received are summarised in the following Table:-

	List of Submissions
1	Candida Frith-Macdonald
2	Áine Ryan Consulting on behalf of Mr. Shane Clancy
3	Karl O'Donnell
4	Mairéad Mac Eoin = Submission 1
5	Mairéad Mac Eoin – Submission 2
6	Niall McManus
7	Mary T. Brennan, Honorary Secretary, An Taisce Kilkenny Association
8	Benny McDonagh, Sustainable Energy, Limerick Institute of Technology,
9	Heritage Council, Kilkenny
10	KCH (Kilkenny City Harriers) coaches and athletes
11	Liam O'Neill, Dunmore
12	Cllr. Maria Dollard
13	Mary Rice
14	Road Design Office, Kilkenny Co. Co.

15	Transport Infrastructure Ireland
16	Gillian Tyrrell
17	Padraic Hickey

Summary of submissions and responses to same are provided for in Appendix 5. Full copies of the submissions received are provided in Appendix 6. The particular issues raised in the submissions are outlined and considered in the Senior Planners Report, presented in Appendix 2.

IMPLICATIONS FOR THE PROPER PLANNING AND SUSTAINABLE DEVELOPMENT OF THE AREA

The Planning Authority has determined that the proposed development is consistent with the proper planning and sustainable development of the area of the proposed development (see Senior Planners Report in Appendix 2) and the proposed development is consistent with the provisions of the Kilkenny City & Environs Development Plan 2014 – 2020, the Kilkenny County Development Plan 2014-2020 and Draft Kilkenny City & County Development Plan 2021-2027.

KILKENNY COUNTY COUNCILS INTENTION WITH REGARD TO THE PROPOSED DEVELOPMENT

Proposed Development: Part VIII Proposal

The repurposing and development of the now closed municipal landfill at Dunmore, County Kilkenny, into a biodiversity and recreation countryside park.

I recommend that Kilkenny County Council proceed with the proposed development in accordance with the plans and particulars made available for public inspection and taking into account the recommendations made by the Planning Department and other commitments given in this report.

Signed :

Sean McKeown
Director of Service

I recommend that Kilkenny County Council proceed with the proposed development in accordance with the plans made available for public inspection and taking into account the recommendations made by the Planning and other Service Departments.

Signed:

Colette Byrne
Chief Executive

Appendix 1

COPY OF PUBLIC NOTICE

Planning and Development Act 2000, as amended
Planning and Development Regulations 2001, as amended
NOTICE OF PROPOSED DEVELOPMENT BY A LOCAL AUTHORITY

Kilkenny Biodiversity & Recreational Countryside Park

In accordance with the provisions of Part XI of the Planning & Development Act 2000, as amended, and Part 8, Article 81, of Planning and Development Regulations 2001, as amended, Kilkenny County Council gives notice of its intention to develop a recreational and biodiversity park on the site of the now closed municipal landfill at Dunmore, County Kilkenny. The closed landfill site occupies an area of circa. 17 acres and is located 5km north of Kilkenny city centre. The proposed countryside park will develop trails for uses such as walking, running, cycling, and orienteering, along with educational opportunities related to natural heritage and biodiversity enhancement and management. The park will be attractive to the general public, schools and recreation groups, and those with specific environmental interests such as photography and bird-watching in the context of an amenity which is close to nature.

The park will be accessed, with carparking provided, from three separate access points, namely: -

1) Dunmore village from the existing Dunmore Community Hall carpark and Mass Path in the townland of Loughmerans and Dunmore, the southern part of the Mass Path is adjacent to The Church of The Most Holy Trinity, a Protected Structure.
2) From the National Road route N77 (Castlecomer Road) utilising the existing entrance to the Dunmore Recycling and Refuse Disposal Centre and Kilkenny County GAA grounds, with proposed works to the existing GAA overflow car-parking area.
3) From a proposed new small car and bicycle parking area via the Bleach Road LS6601.

Plans and particulars of the proposed development will be available for inspection or purchase for a fee not exceeding the reasonable cost of making a copy during office hours from **11th December 2020 until 22nd January 2021 inclusive,** at the following Kilkenny County Council offices by appointment only:

• Planning Dept., Kilkenny County Council, County Hall, John St., Kilkenny City from 9am to 1pm & 2pm to 4pm Monday to Friday (excluding weekends, Public Holidays and Bank Holidays). To make an appointment please contact: 056 7794010 or email: planning@kilkennycoco.ie
• Details of the proposed development can also be viewed at https://consult.kilkenny.ie/

In accordance with the requirements of Article 120(1)(a) of the Planning and Development Regulations 2001 (as amended) the Planning authority has made a preliminary examination of the nature, size and location of the proposed development.

The authority has concluded that there is no real likelihood of significant effects on the environment arising from the proposed development and a determination has been made that an Environmental Impact Assessment (EIA) is not required.

As per Article 120(3) of the Planning and Development Regulations 2001 (as amended), where any person considers that the development proposed to be carried out would be likely to have significant effects on the environment, he or she may, at any time before the expiration of 4 weeks beginning on the date of the publication of this updated notice apply to An Bord Pleanála for a screening determination as to whether the development would be likely to have a significant effect on the environment.

Submissions or observations with respect to the proposed development, dealing with the proper planning and sustainable development of the area in which the development will be carried out, may be made online at https://consult.kilkenny.ie/ , in writing to the Planning Section, Kilkenny County Council, County Hall, John Street, Kilkenny or sent to the following e-mail address: kkbiodunmorepart8@kilkennycoco.ie

The latest time and date for receipt of submissions on the development is 5.00pm on 5th February 2021.

Submissions should be clearly marked "Kilkenny Biodiversity & Recreational Countryside Park - Part 8"

Sean McKeown
Director of Services.
Planning, Environment, Building Control, Parks, LEO/Economic Development, Tourism Marketing & Veterinary Services

Appendix 2

Senior Planner's Report

Comhairle Chontae Chill Chainnigh
Kilkenny County Council

Part 8
Planning Report

Planning & Development Acts, 2000 – 2020
Planning & Development Regulations, 2001 - 2021

Planning Ref. Part 8: 12/ 20

Subject: **Part 8 application for the following:**
Kilkenny County Council propose to develop a recreational and biodiversity park on the site of the now closed municipal landfill at Dunmore, County Kilkenny. The closed landfill site occupies an area of circa. 17 acres and is located 5km north of Kilkenny city centre. The proposed countryside park will develop trails for uses such as walking, running, cycling, and orienteering, along with educational opportunities related to natural heritage and biodiversity enhancement and management. The park will be attractive to the general public, schools and recreation groups, and those with specific environmental interests such as photography and bird-watching in the context of an amenity which is close to nature. The park will be accessed, with carparking provided, from three separate access points, namely: -

- **Dunmore village from the existing Dunmore Community Hall carpark and Mass Path in the townland of Loughmerans and Dunmore, the southern part of the mass path is adjacent to The Church of The Most Holy Trinity, a Protected Structure**
- **From the National Road route N77 (Castlecomer Road) utilising the existing entrance to the Dunmore Recycling and Refuse Disposal Centre and Kilkenny County GAA grounds, with proposed works to the existing GAA overflow car-parking ***
- **From a proposed new small car and bicycle parking via the Bleach Road. ***

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* Note: modified access has been proposed subsequent to consideration of submissions and referral responses received

Part 8 progression

Display and time-frame for submissions

The proposed Part 8 application documents were made available for inspection from 9th December 2020 until 22nd January 2021. Submissions were invited until 5th February 2021.

Submissions

17 submissions were received in total in relation to the proposed development – including thirteen public submissions and four referral responses from prescribed bodies.

Amendments to the Proposal

Having considered the submissions and referral responses, the proposing section have modified the proposed development with particular regard to vehicular and bicycle access. Associated environmental and transport reports have assessed the modified proposals and updated copies of these reports have been submitted to the Planning Authority.

Submissions and Referral Responses

During the period for submissions 13 public submissions were received and four referral responses were received from prescribed bodies. One of the submissions includes 88 signatures attached to submission on sheets headed 'Public submission to Kilkenny County Council regarding (1) Dunmore Biodiversity and Recreational Park, (2) Kilkenny County and City Development Plan 2021 to 2027'.

The planning issues raised in the submissions and referral responses have been taken into account in the assessment of this application. A brief outline of the issues raised in the submissions and referral responses received are set out below.
The proposed development has been modified where considered appropriate to address the concerns raised in the submissions and referral responses.

Submissions

Public Transport, Walking and Cycling

- Scheme is too car centric. Given the focus on Climate Change, the primary means of access should be walking or cycling. This infrastructure needs to be set up before the recreation park is developed; car access should be actively discouraged.
- Increase bicycle spaces, prioritise sustainable transport and future proof scheme.
- Kilkenny 2 bus route should be extended to service the park.
- Omit car park facilities at Entrance 2 off the Bleach Road.
- Recommend safe walking and cycling access via Bleach Road, and a segregated cycle path along Bleach Road to the park and linking via a bridge at the end of Bishops Meadow/Bleach Road into the Linear Park in Kilkenny and back to the city centre. Access for children to the countryside.
- Encourage walking and cycling between Dunmore Village and Kilkenny for work/education and recreation, and enable locals cycling from Kilkenny to the proposed Park, Dunmore Caves and to Jenkinstown Woods.
- The N77 is not a suitable road for walking and cycling unless walking/cycle paths are developed.

Roads and Vehicular Access

- Seeks reduction in speed limit along the Bleach Road.
- Established vehicular access along the mass path/ public road L66013 to dwelling to be considered and retained, warning signs and passing points to be established.
- Disappointed about lack of plans to upgrade the N77 road from Castlecomer Roundabout to Dunmore Village and beyond. Significant road upgrade works needed urgently to improve road safety for all users, including road widening, cycle-paths, footpaths, lighting, traffic calming measures, enhanced visibility at junctions.

Residential Amenity

- Queries if additional lighting will be erected in the Community Carpark.
- Will a future traffic management system for Dunmore cause congestion for existing entrances.
- Concerns over privacy and security along low shared boundary with the community carpark and increased capacity; suggests a height increase to the wall and planting along the boundary.

Amenities and Facilities

- Include playground similar to Castle Park for small children and their families to get out into nature.
- Include accessible toilet facilities, using composting toilet and reed bed treatment system to demonstrate environmental benefits.
- Provide drinking water for reusable water bottle refill for visitors as an essential need.
- Significant value of the development to the athletics club; suggests wider maintained grass trails for exercise on softer impact surfacing to reduce wear and tear, low energy trail lighting for extended use especially during winter months.
- Provision of bicycle stands at the weir swimming area, and hooks on river side of wall to hang towels. Consider access for swimmers in winter when the flood gate is up.

Environment and Design

- Include rainwater harvesting system to demonstrate sustainable methods in new builds. Suggestion for anaerobic digestor.
- A recreation park cannot be described as a biodiversity park as the presence of lots of people will deter wild animals and birds, the dog run will negatively impact on wild animals currently frequenting areas.
- Would welcome more definite areas of woodland planting and an area of wetland.
- The landscape design is too formal, suggests input of community engagement with Keep Kilkenny Beautiful volunteers in terms of planting and layout.
- Sand Martins habitat off Mass Path - the Glendine quarry 30 years ago had a large number of Sand Martins nesting in the south facing cliff. This nearby habitat has been destroyed to facilitate housing. The Mass Path to south side has similar properties to the Glendine south facing cliff. Without an environmental assessment unknown if sand martins are using this bank. Avoid disturbing the cliffs to the south of the path while making modifications to the path, and take opportunity to enhance the cliff banks to make them suitable for sand martins.
- A number of submissions welcome the proposed development.

Referrals
The Part 8 application was referred to the following prescribed bodies:
National Parks and Wildlife Section, National Monuments Section, Transport Infrastructure Ireland, An Taisce, Failte Ireland, Enviornmental Protection Agency, Inland Fisheries, The Heritage Council, An Chomhairle Ealaion, and internal referrals to Road Design, Heritage Officer, Conservation Officer, and Fire Officer.
Referral responses received from Transport Infrastructure Ireland, An Taisce, The Heritage Council and Road Design.

- Concerns raised relating to access and car-park at existing entrance to the recycling centre at entrance 3, with regard to safety, and conflict with national and county policies for access onto national road outside of 60kmph speed limit.
- Number of recommendations included for road safety, including safety of vulnerable road users, construction and signage.
- Concerns raised relating to access by vulnerable road users along the national road.
- Recommendations include move away from car in favour of pedestrian, cycling and pulic transport access, and linking with existing green infrastructure.
- Recommends increased tree planting and areas for undisturbed wildlife.

Policy
Relevant EU, national, regional and local legislation, policy and guidelines have been taken into account in the assessment of this application. Set out below are extracts from the draft and current Kilkenny development plans.

The Draft Kilkenny City and County Development Plan 2020-2026 which is currently on public display supports the provision of a public park at this location, and the draft states as follows:
The Council is currently engaged in developing a recreational and biodiversity park on the site of the now closed municipal landfill at Dunmore, adjacent to the Civic Amenity Site and the training facility for Kilkenny GAA. This Park can be accessed from the existing public roads; the Castlecomer Road, N77 and the Bleach Road. It is an objective to provide for pedestrian and cycle access to the facility utilising the River Nore Linear Park. A pedestrian bridge at Talbotsinch would provide connectivity from the western side of the City to the linear park and then onto the proposed biodiversity park.
Regional Park Objectives:
To progress plans for the provision of a pedestrian bridge upstream of Greens Bridge including the provision of access along the eastern bank of the river up from Greensbridge, to the proposed bio-diversity park at Dunmore as part of the River Nore Linear Park.

Kilkenny County Development Plan 2014-2020
11.7.3 Access to National Roads
National policy in relation to access to national roads is set out in the Spatial Planning and National Roads Guidelines193 and followed here. The Guidelines state that "*The policy of the Planning Authority will be to avoid the creation of any additional access point from new development or the generation of increased traffic from existing accesses to national roads to which speed limits greater than 60kmh apply. This provision applies to all categories of development, including individual houses in rural areas, regardless of the housing circumstances of the applicant.*"

History
The site has been used as a landfill and is now topped and grassed. The levels on site vary substantially, with some steep gradients at the field margins. The existing civic amenity recycling centre is located in an area to the east of the site, close to the national road.

Location
The site is located approx. 5km to the north of Kilkenny City with access onto the national route N77 to the east and the local road LT66012-2 to the west.
The mass-path extends from the south of the car-park and graveyard to the rear of the church, graveyard and continues in a north-westerly direction for a distance of approx. 850m before it joins the local cul-de-sac road LT66012-2 which leads onto the Bleach Road to the west. There is an existing single storey dwelling located mid-way along the mass path.
The width of the path varies along its length. On site inspection it was noted that the pathway was not suitable for some users and was muddy in places.
There are a number of dwellings located in close proximity to the proposed accesses to the site and also to the site boundaries.
A Recorded Monument has been identified on site, and the proposed access via the community car-park is adjacent to the protected structure of the Church of the Most Holy Trinity. The Loughmerans Stream flows through the site. The River Nore SAC is located to the west of the site.

Proposed Development
Proposed development of a recreational and biodiversity park on the site of the now closed municipal landfill. The closed landfill site occupies an area of circa. 17 acres. The countryside park proposal includes trails for uses such as walking, running, cycling, and orienteering, along with educational opportunities related to natural heritage and biodiversity enhancement and management. It proposed that the park will be attractive to the general public, schools and recreation groups, and those with specific environmental interests such as photography and bird-watching in the context of an amenity which is close to nature.
The park will be accessed, with carparking provided, from three separate access points:

- Dunmore village from the existing Dunmore Community Hall carpark and Mass Path in the townland of Loughmerans and Dunmore, the southern part of the mass path is adjacent to The Church of The Most Holy Trinity, a Protected Structure
- *From the National Road route N77 (Castlecomer Road) utilising the existing entrance to the Dunmore Recycling and Refuse Disposal Centre and Kilkenny County GAA grounds, with proposed works to the existing GAA overflow car-parking **
- *From a proposed new small car and bicycle parking via the Bleach Road*.*

* Denotes original proposal; the proposal has been modified as follows:
The park will be accessed, with bicycle and car parking provided, from the following separate access points:-

- Dunmore village from the existing Dunmore Community Hall carpark and Mass Path in the townland of Loughmerans and Dunmore
- From a proposed new car and bicycle park area within the curtilage of the proposed development via the Bleach Road LS6601
- Accessible car parking will be provided within the existing GAA overflow car-parking area by-way of 3no. dedicated accessible car parking bays. These 3 no. bays

will be accessed from the N77 (Castlecomer Road) utilising the existing entrance to the Dunmore Recycling and Refuse Disposal Centre and Kilkenny County GAA Training Centre.

Observations

The development proposal includes for re-use of a site used as a landfill which has now been closed. The proposed development seeks to establish a recreational, educational and biodiversity use for this site.

The documents submitted with the Part 8 proposal included a number of reports which contributed to the proposed development including:
Landscaping Report and drawings, Appropriate Assessment Screening Report, Ecological Impact Assessment, Traffic Assessment Report, Drainage Report, Archaeological Heritage Report, Scheme Drawings, and Letters of support from Dunmore Community Committee and Kilkenny GAA County Board.

Following the receipt of public submissions and referral responses, the proposed development has been modified in a number of areas.

- Revised proposals for access to the site, including reduction from 20 car-parking and one coach space at entrance 3 (existing entrance to the civic amenity site) to three accessible car-parking spaces, as suitable accessibility routes could not accommodate at entrances 1 or 2 due to topographical constraints. The proposal includes for a dedicated Park Warden and signage and clamping for any non-compliance with accessibility only parking in this area.
- The revised proposals would not conflict with the national roads policy, the revised proposal indicated that there is negligible potential for the intensification of use of the direct access to the N77 national secondary road, (i.e. <1.5%).
- Increased provision made for parking and bicycle parking at the access via the Bleach Road at entrance 2 for 17 parking bays, and provision for 60 bicycles, increased from 4 car parking bays and provision for 40 bicycles as per the original proposals. Entrance 2, Bleach Road, is the only entrance point where bicycle parking will now be provided. Cyclists accessing the park will be encouraged to use the local road network, i.e. the Bleach Road section of the North Kilkenny Cycle Trail, as opposed to the national road network and a signage strategy will be implemented. The overall split between bicycle and car parking is 60 bicycle stands to 20 car bays; a ratio of 3 to 1 in favour of bicycle parking provision.
  Shared Space Signage, will be installed at regular intervals along the Bleach Road from the city to Entrance 2.
- Proposal states that there will be no conflict having regard to existing and anticipated pattern of uses relying on the community hall car-park.
- Minimal intervention proposed to the Mass Path which will be contained within the existing path cross-section, including improvements to surface, passing areas and shared surface signage.
- The revised Traffic Assessment notes that comparing anticipated usage of the proposed park with Woodstock Gardens, that the reduction from 79 to 62 car parking spaces is deemed appropriate.

The following reports have been submitted to assess and support the modified Part 8 proposals: Updated Appropriate Assessment Screening Report for Modified Proposal, Updated Ecological Impact Assessment for modified proposal, Additional Traffic

Assessment on Modified Proposal and Drainage Design for Modified Proposal, in addition to revised drawings.

Impact on Natura 2000 site
A Screening exercise was completed, which showed that no significant environmental impact is likely on any Natura 2000 site.

EIA Conclusion
A preliminary examination of the nature, size and location of the proposed development has been carried out which determines that there is no real likelihood of significant effects on the environment arising from the proposed development. It is therefore concluded that an EIAR is not required.

Part 8: 12/ 20 Recommendation

- All undertakings and measures proposed in the documents and supporting reports submitted as part of this Part 8 application to be implemented in full during the construction, and operation phases of development.

- Minimise disturbance to graveyard, as desire line may be created between car-park and mass path via the style in churchyard wall. Any signage in community centre car-park should indicate distance to park entrance and uneven levels.

- The development to address treatment of steep gradients on site, existing pipes and infrastructure, any emissions, and stability of walls along mass path.

In principle there are no objections to this proposal from a planning perspective. It is recommended that the Part 8 application, as modified, for a recreational and biodiversity park on the site of the now closed municipal landfill at Dunmore, Co. Kilkenny, be **Approved** by the Council subject to the recommendations above.

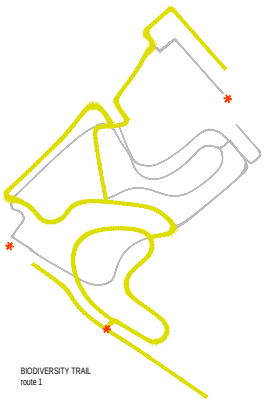
Claire Kelly 4/3/21.
C. Kelly, Executive Planner

4/3/21
A. O' Connor, Senior Executive Planner

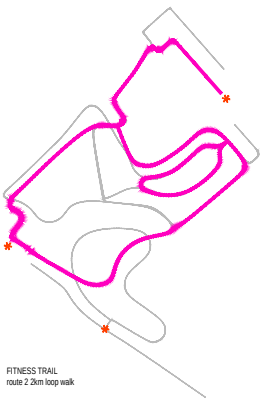
5/3/21
D. Malone, Senior Planner

Appendix 3

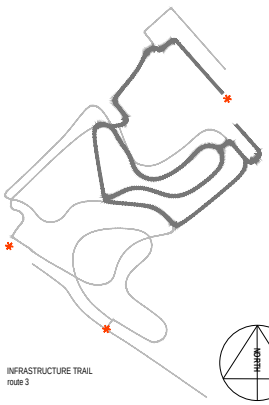
Part 8 Original Display Drawings



BIODIVERSITY TRAIL
route 1



FITNESS TRAIL
route 2 2km loop walk



INFRASTRUCTURE TRAIL
route 3

scale 1:1000

KEY

- Site boundary
- Existing contour line
- Carpark permeable surface
- 3.0m wide tarmacadam path with 1.0m wide mown lawn edge
- Self compacting gravel surface path 3.0m wide typ. Kilkenny Limestone Gravel Dust 50mm deep
- Mown lawn path 2.0m wide
- Stone mulch band
  Note: All existing manhole covers outside of paved areas shall have a stone mulch surround 1.0m dia 200mm deep
- Viewing points - Arrival Plaza
- Recycled plastic sleeper step/ramp
- Proposed orchard tree
- Proposed mixed shrub and tree planting
- Proposed Wildflower seeding
- Proposed garden perennial planting
- Proposed clipped hedge
- Amenity grassland area
- Dry meadow grassland
- Dry calcareous and neutral grassland
- Exposed sand gravel with blue fleabane
- Wet grassland
- Meadow scrub
- Broad leaved woodland
- Oak Ash Hazel woodland
- Treeline/Hedgerow existing
- Seating
- Hammocks
- Play elements
- Sheltered viewing space

MITCHELL + ASSOCIATES
Landscape Architecture Architecture Urban Design
Unit 5 Woodpark The Rise Glasnevin Dublin 9 Ireland
T. + 353 1 454 5066
info@mitchellassoc.net

CLIENT: KILKENNY CITY COUNCIL	**PROJECT:** KILKENNY BIODIVERSITY AND RECREATION PARK		**JOB NO.** LDUN028
	DRAWING: LANDSCAPE MASTERPLAN	**DATE:** 2020.12.01	**SCALE:** 1:1000@A1
	DRAWN BY: CELIA HARRIS		**CHK'D:** CH
	STATUS: PLANNING SUBMISSION		**REVISION.** -

DRAWING NO. 100

NOTES
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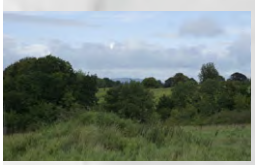
1 ENTRANCE SLOPED ACCESS

2 PARKING - GRAVEL

3 ORCHARDS

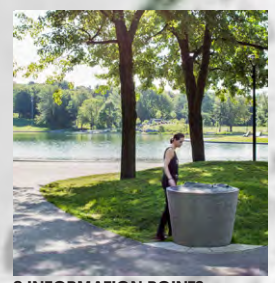
4 OUTDOOR CLASSROOM



5 GATHERING AND VIEWING POINT

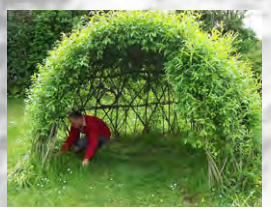
6 MAIN PATH - 3M WIDE COMPACTED LIMESTONE DUST

7 MOWN GRASS PATHS



8 INFORMATION POINTS

9 HAMMOCKS



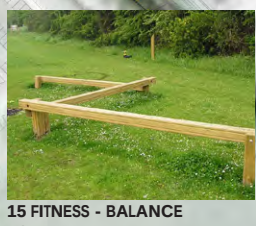
10 PLAY ELEMENTS - NESTS

11 VIEWING POINT WITH GRASS EMBANKMENT

12 SHRUB PLANTING TO FRAME VIEWS AND PLACES

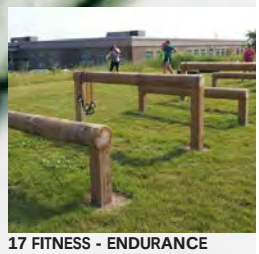
13 NATURAL PLAY ELEMENTS

14 SENSORY PATH



15 FITNESS - BALANCE EQUIPMENT

16 FITNESS - POWER EQUIPMENT



17 FITNESS - ENDURANCE EQUIPMENT

KILKENNY BIODIVERSITY AND RECREATION PARK

CONCEPT PLAN

MITCHELL + ASSOCIATES

Site boundary

Existing contour line

Carpark permeable surface

3.0m wide tarmacadam path with 1.0m wide mown lawn edge

Self compacting gravel surface path 3.0m wide typ. Kilkenny Limestone Gravel Dust 50mm deep

Mown lawn path 2.0m wide

Stone mulch band
Note: All existing manhole covers outside of paved areas shall have a stone mulch surround 1.0m dia 200mm deep

Viewing points - Arrival Plaza

Recycled plastic sleeper steplramp

Proposed orchard tree

Proposed mixed shrub and tree planting

Proposed Wildflower seeding

Proposed garden perennial planting

Proposed clipped hedge

Amenity grassland area

Dry meadow grassland

Dry calcareous and neutral grassland

Exposed sand gravel with blue fleabane

Wet grassland

Meadow scrub

Broad leaved woodland

Oak Ash Hazel woodland

Treeline/Hedgerow existing

Seating

Hammocks

Play elements

Sheltered viewing space

Note:
Existing boundary fence retained

NORTH

scale 1:500

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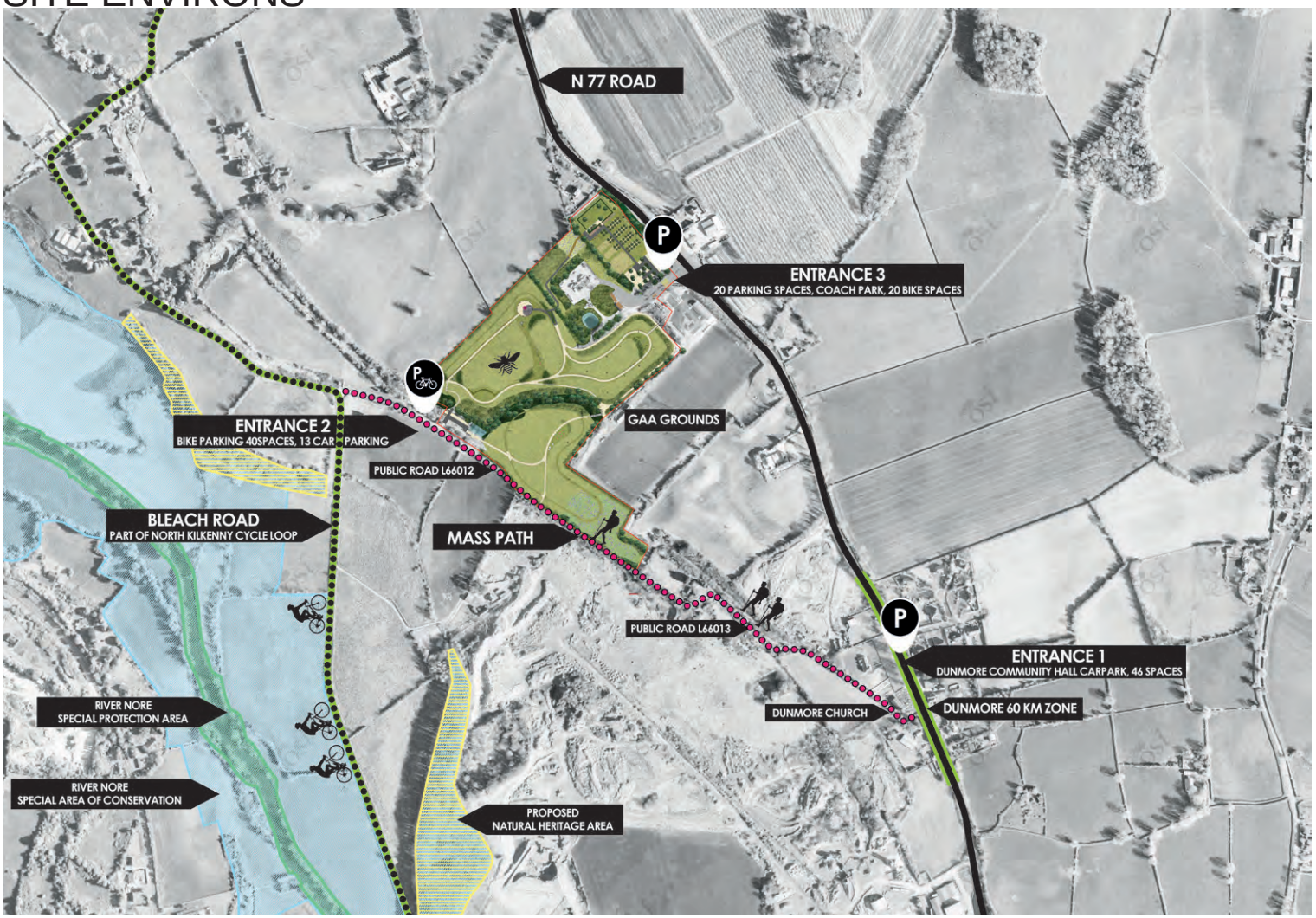
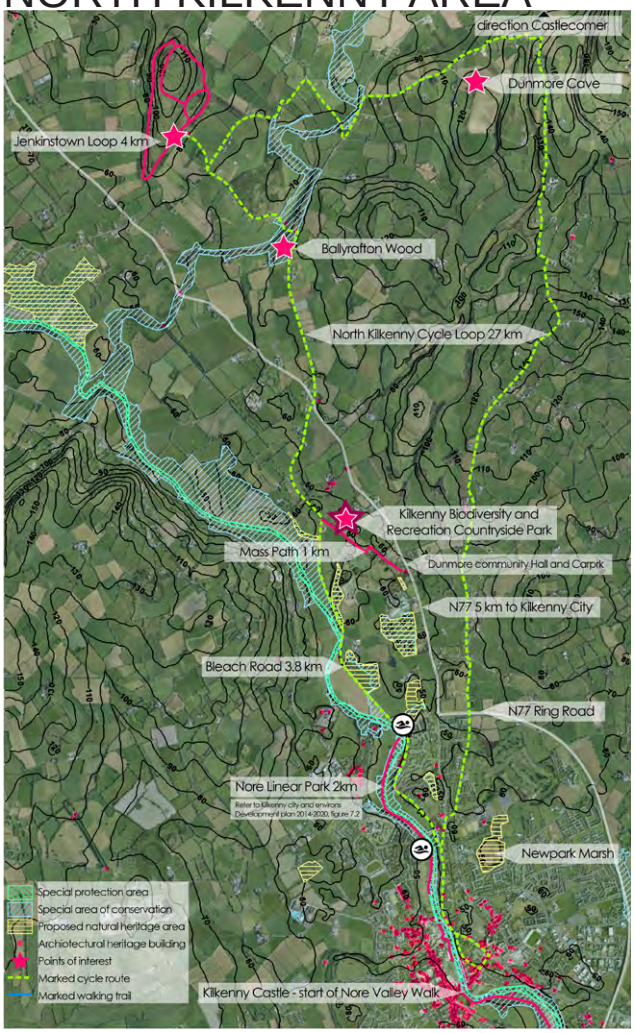
CLIENT: KILKENNY CITY COUNCIL	**PROJECT:** KILKENNY BIODIVERSITY AND RECREATION COUNTRYSIDE PARK			**JOB NO.** 1DUN028
	DRAWING: CARPARK DETAIL PLAN	**DATE:** 2020.11.25	**SCALE:** 1:500@A1	**DRAWING NO.** 101
NOTES Do Not Scale. Use Figured Dimensions Only. Not for Construction Purposes unless Specifically Marked.	**DRAWN BY:** CELIA HARRIS		**CHK'D:** CH	**REVISION.**
	STATUS: PLANNING SUBMISSION			

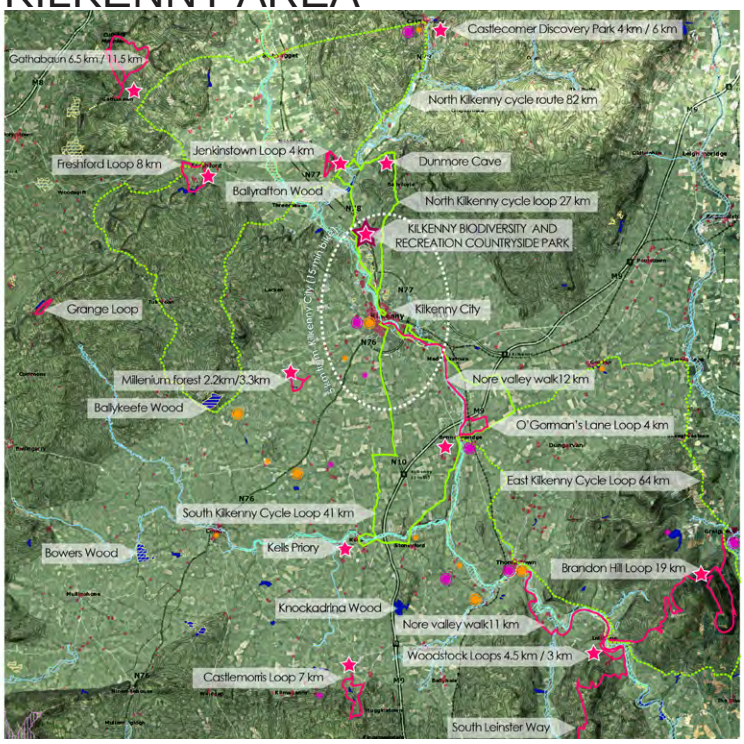
SITE ENVIRONS



NORTH KILKENNY AREA



KILKENNY AREA



LEGEND
- Special protection area
- Special area of conservation
- Proposed natural heritage area
- National Survey of Native woodland
- Archiotectural heritage building
- Points of interest
- Marked cycle loop
- Marked cycle route
- Marked walking trail
- Taste of Kilkenny Food Trail Producers and Outlets
- MADE in Kilkenny Crafts People

NORTH

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CLIENT: KILKENNY CITY COUNCIL	PROJECT: KILKENNY BIODIVERSITY AND RECREATION COUNTRYSIDE PARK			JOB NO.: LOUN20
	DRAWING: SITE CONTEXT PLANS	DATE: 2020.11.25	SCALE:	DRAWING NO.: 102
NOTES: Do Not Scale - Use Figured Dimensions Only. Not for Construction Purposes unless Specifically Marked.	DRAWN BY: VERONIKA KUNCLOVA		CHK'D: CH	REVISION: -
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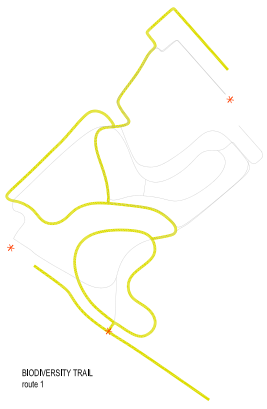
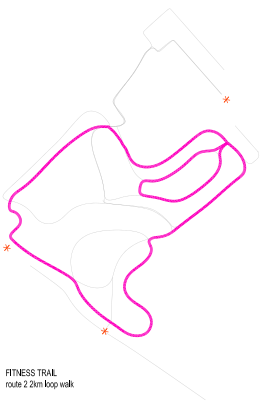
Appendix 4

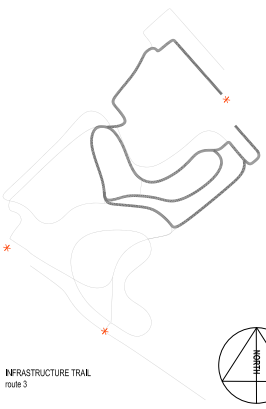
Part 8 Modified Drawings – Feb 21



BIODIVERSITY TRAIL
route 1



FITNESS TRAIL
route 2 2km loop walk



INFRASTRUCTURE TRAIL
route 3

scale 1:1000

KEY

- Site boundary
- Existing contour line
- Carpark permeable surface
- 3.2m wide tarmacadam path with 1.0m wide mown lawn edge
- Self compacting gravel surface path 3.0m wide typ., Kilkenny Limestone Gravel Dust 50mm deep
- Mown lawn path 2.0m wide
- Stone mulch band
  Note: All existing manhole covers outside of paved areas shall have a stone mulch surround 1.0m dia 200mm deep
- Viewing points - Arrival Plaza
- Recycled plastic sleeper step/ramp
- Proposed orchard tree
- Proposed mixed shrub and tree planting
- Proposed Wildflower seeding
- Proposed garden perennial planting
- Proposed clipped hedge
- Amenity grassland area
- Dry meadow grassland
- Dry calcareous and neutral grassland
- Exposed sand gravel with blue fleabane
- Wet grassland
- Meadow scrub
- Broad leaved woodland
- Oak Ash Hazel woodland
- Treeline/Hedgerow existing
- Seating
- Hammocks
- Play elements
- Sheltered viewing space

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CLIENT: KILKENNY CITY COUNCIL	PROJECT: KILKENNY BIODIVERSITY AND RECREATION COUNTRYSIDE PARK			JOB NO. LOUN08
	DRAWING: LANDSCAPE MASTERPLAN	DATE: 2021.02.23	SCALE: 1:1000@A1	DRAWING NO. 100
NOTES: Do Not Scale, Use Figured Dimension Only. Not for Construction Purposes unless Specifically Marked.	DRAWN BY: CELIA HARRIS		CHK'D: CH	REVISION. 01
	STATUS: PLANNING SUBMISSION			

1 ENTRANCE SLOPED ACCESS

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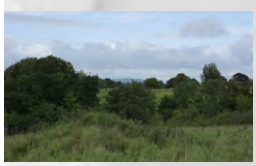
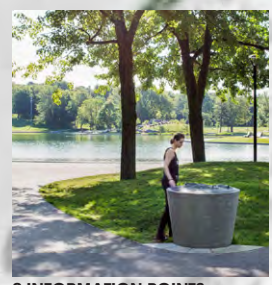
4 OUTDOOR CLASSROOM



5 GATHERING AND VIEWING POINT

6 MAIN PATH - 3M WIDE COMPACTED LIMESTONE DUST

7 MOWN GRASS PATHS



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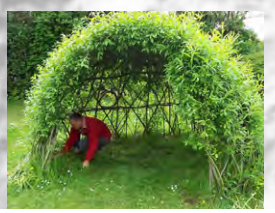

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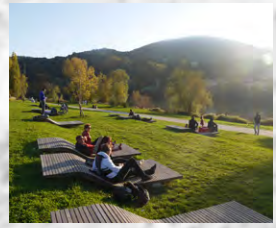

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12 SHRUB PLANTING TO FRAME VIEWS AND PLACES

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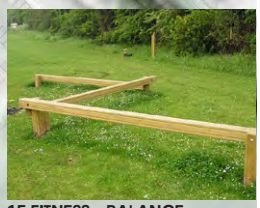
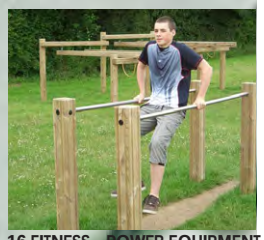
14 SENSORY PATH



15 FITNESS - BALANCE EQUIPMENT



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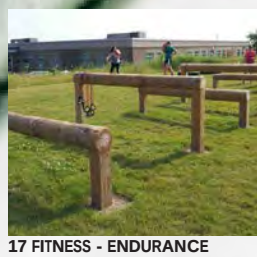

17 FITNESS - ENDURANCE EQUIPMENT

KILKENNY BIODIVERSITY AND RECREATION PARK

CONCEPT PLAN

MITCHELL + ASSOCIATES

Site boundary
Existing contour 5m
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Recycled plastic sleeper step/ramp

Proposed orchard tree
Proposed mixed shrub and tree planting
Proposed Wildflower seeding
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Wet grassland
Meadow scrub
Broad leaved woodland
Oak Ash Hazel woodland
Treeline/Hedgerow excluding
Seating
Hammocks
Play elements
Sheltered viewing space

Note:
Existing boundary fence retained

NORTH

scale 1:500

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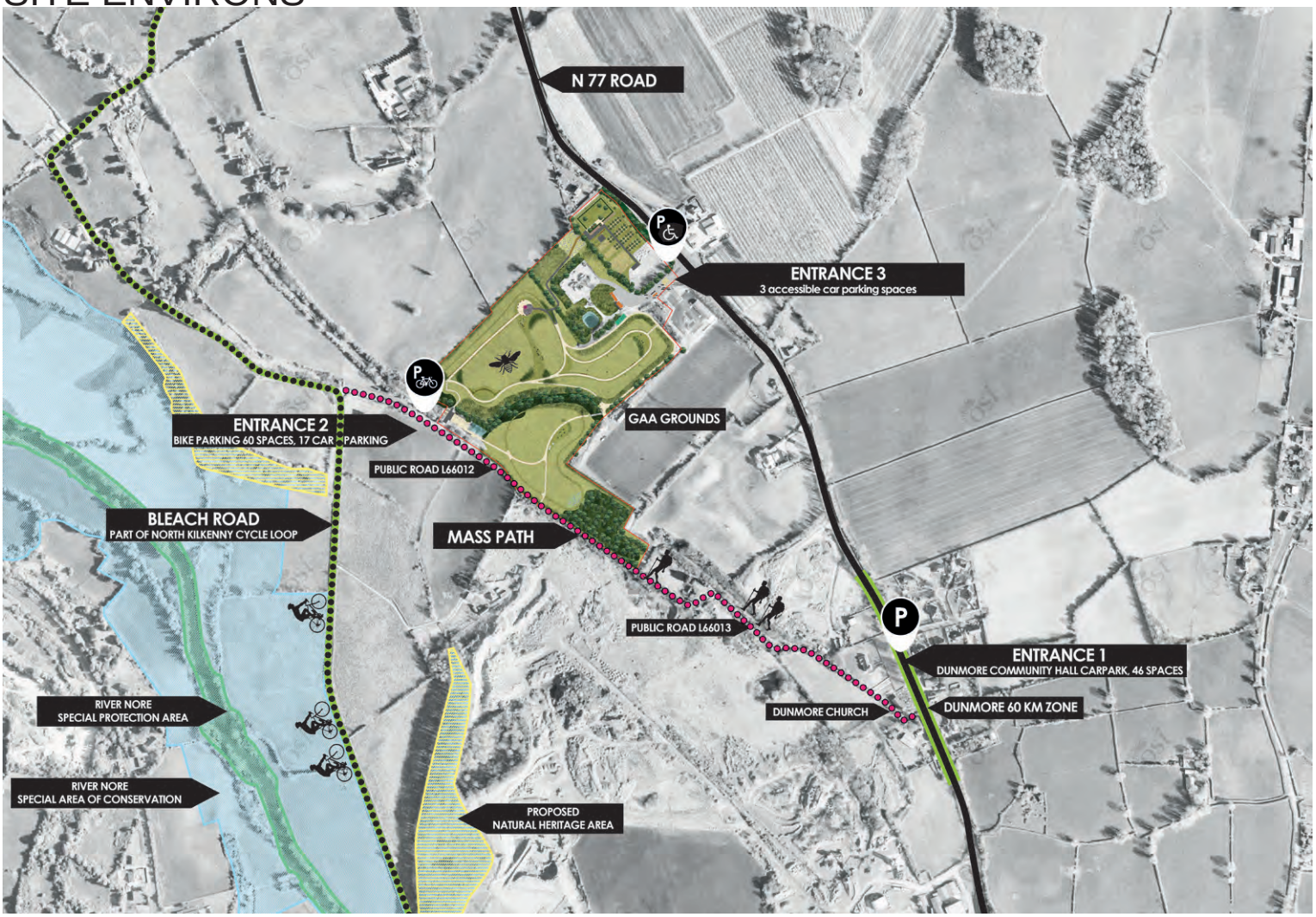
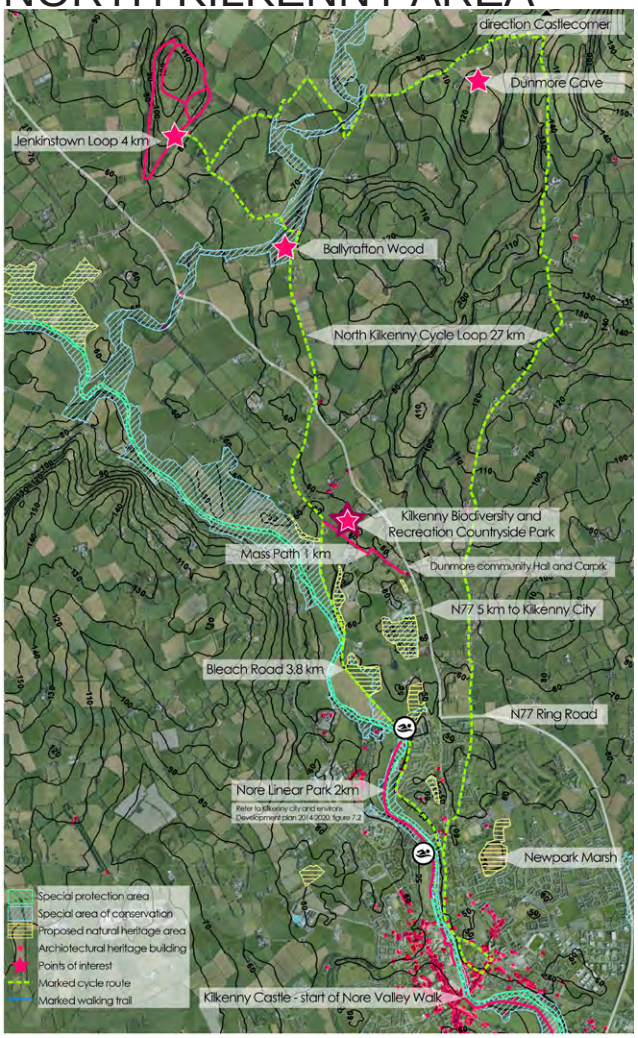
CLIENT: KILKENNY CITY COUNCIL	PROJECT: KILKENNY BIODIVERSITY AND RECREATION COUNTRYSIDE PARK			JOB NO. LDJ4039
NOTES: Do Not Scale. Use Figured Dimensions Only. Not for Construction Purposes unless Scaling is Noted.	DRAWING: CARPARK DETAIL PLAN	DATE: 2021.02.23	SCALE: 1:500@A1	DRAWING NO. 101
	DRAWN BY: CEILIN HARRIS		CHK'D: DH	REVISION: 01
	STATUS: PLANNING SUBMISSION			

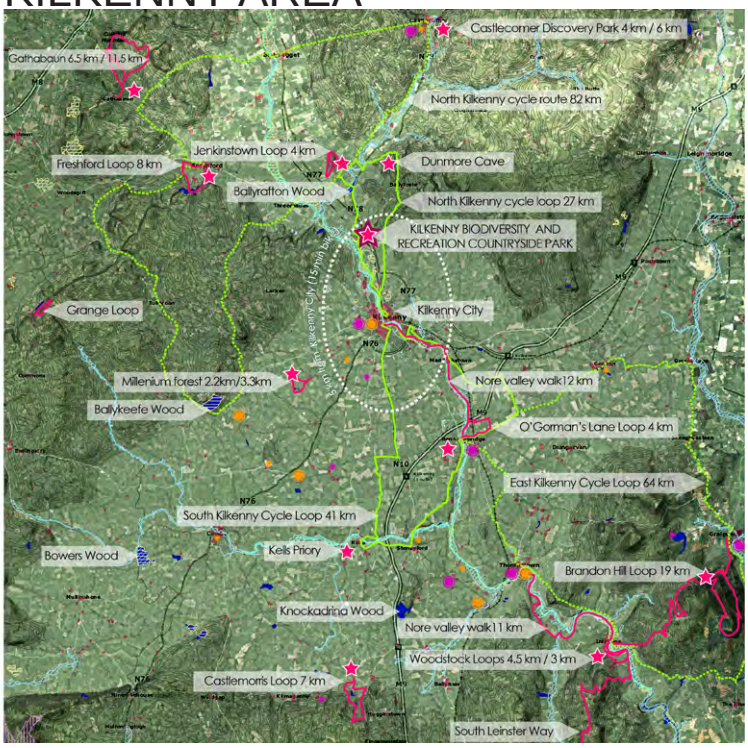
SITE ENVIRONS



NORTH KILKENNY AREA



KILKENNY AREA



LEGEND
- Special protection area
- Special area of conservation
- Proposed natural heritage area
- National Survey of Native woodland
- Archiotectural heritage building
- Points of interest
- Marked cycle loop
- Marked cycle route
- Marked walking trail
- Taste of Kilkenny Food Trail Producers and Outlets
- MADE in Kilkenny Crafts People

NORTH

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CLIENT: KILKENNY CITY COUNCIL	PROJECT: KILKENNY BIODIVERSITY AND RECREATION COUNTRYSIDE PARK			JOB NO. LDU1028
NOTES: Do Not Scale. Use Figured Dimensions Only. Not for Construction Purposes unless Specifically Stated.	DRAWING: SITE CONTEXT PLANS	DATE: 2021.02.23	SCALE:	DRAWING NO. 102
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	STATUS: PLANNING SUBMISSION			

Appendix 5

Summary & Response to Submissions Received

Submission Details	Response
Candida Frith-Macdonald **1)** Diversity/balance of environments: Would welcome more definite areas of woodland planting and an area of wetland. **2)** Recreation and Community Facilities: Safe walking and cycling access via Bleach Road, recommends the omission of car park facilities at Entrance 2 off the Bleach Road.	1) The planting strategy includes for areas of woodland and woodland scrub planting. Area H of the Habitat Management Plan includes for a native woodland to the southeast of the parklands which will be implemented. "This area is very overgrown with tall sward and dense thatch of grass and is wetter than other areas. Option for planting native woodland including willow for spring forage for pollinators." The landfill infrastructure areas are restricted for heavy tree cover. Woodland scrub areas are part of the planting strategy on embankment areas. The provision for bicycle parking at Entrance 2 off the Bleach Road has increased from 40no. to 60no. stands and this is the only entrance point where bicycle parking will be provided. Cyclists accessing the park will be encouraged to use the local road network, i.e. the Bleach Road section of the North Kilkenny Cycle Loop (promoted by Trail Kilkenny), as opposed to the national road network, namely the N77 and a signage strategy will be implemented in this regard (refer to Appendix 9 – Revised Part 8 Transport Design Proposal – Feb 21). Under the modified layout car parking provision for 17 car parking spaces will be provided off Entrance 2. It is anticipated that same will be utilised by local residents or residents living within the Greens Hill, Bleach Road area of the city. As part of the proposal to raise awareness to road users to the likely multi-modes of travel and road users, "Shared Space" signage will be installed at regular intervals along the Bleach Road from the city to Entrance 2(refer to Appendix 9 – Revised Part 8 Transport Design Proposal– Feb 21).
Áine Ryan Consulting on behalf of Mr. Shane Clancy 1) Dwelling house for sale accessed via vehicular access from the N77 and via the local road L66013. Concern to potential purchaser that vehicular access would be adversely impacted by the proposed development. The proposed Biodiversity Park at Dunmore will increase pedestrian movements along the	1) It is acknowledged that public road L66013 serves a single dwelling. It is also noted that pedestrian numbers using the L66013 (Mass Path) as a consequence of the development of the Park are likely to increase. It is also noted that vehicular traffic movements along this road, given it serves a

L66013 through 'Entrance No. 1' it is requested that Local Authority have regard to the established vehicular use of this Local Route. 2) Considers it prudent to consider the following safety measures, as follows: • Vehicular and pedestrian 'passing points' along the L66013. • Ancillary warning signage infrastructure along the L66013.	single house, would generally consist of very few movements each day. 2) However, notwithstanding the above the following measures are proposed to cater for increased multi-modal use of the said road: • Provision of pedestrian/cyclist passing bays (c.2m wide by 4m long) at regular intervals along the lane from the junction with the N77 at Dunmore to the said dwelling house. • Install "Shared Space" signage to alert road users to the likely multi-modes of travel and road users using the said road (refer to Appendix 9 – Revised Part 8 Transport Design Proposal– Feb 21).
Karl O'Donnell 1) Queries if additional lighting will be erected in the Community Carpark. 2) Notes that traffic comes through Dunmore at speeds far in excess of the 60km speed limit and queries if there is going to be a traffic management system on the main road causing congestion outside their driveway entrance. 3) Concerns over privacy and security along shared boundary with the community carpark and increased capacity effect given low boundary wall. Suggests a height increase to the wall along this boundary and the inclusion of planting along the boundary.	1) It is not the intention to provide additional lighting within the carpark or along the Mass Path. The park will only be open to the public during daylight hours. 2) As part of the proposal an undertaking is given to investigate the potential of including additional traffic calming measures on the north and south approaches to Dunmore village, such as village gateway signage at the 60kph speed limits and driver speed feedback signage within the village itself. Regarding the traffic volumes it is noted the annual average daily traffic on the N77 is c.9,500 vehicles, which is quite low for a National Secondary Route. It is also noted that parks in general don't have peak visiting times as visitors normally visit at various times throughout the day with weekends generally busier. Therefore, park traffic won't be concentrated at the typical N77 commuter traffic AM and PM peaks in the weekday mornings and evenings. There is currently capacity for 46 spaces within the carpark in Dunmore village adjacent to the Community Centre, there is no proposal to increase this number. Permission has been given by the Dunmore Community Centre Committee for use of the carpark to access the Kilkenny Biodiversity and Recreation Countryside Park. This carpark is also used by parishioners of the Dunmore Catholic Church also located close by. There is only one mass

	held weekly at the Church on Sundays at 11.00am.There are no weekday masses held other than funerals, Christmas Day and St Patrick's Day. Experience from other similar Parks operated by Kilkenny County Council (e.g. Woodstock) suggests that the majority of visitors utilise the carparks at these parks in the afternoon. There will not therefore be any potential conflict in the use of the car park by visitors to the Dunmore Biodiversity Park and the Church. Having consideration to the above the view has been formulated that visitors using the Dunmore Community carpark will not create congestion on the N77 for the reasons outlined. 3) As part of the works an undertaken is given to look to enhance the existing screening along the property boundary with Dunmore Community Carpark. Same may include infill planting with semi-mature trees/hedging, subject to agreement from relevant property owners.
Mairéad Mac Eoin – submission 1 1) Welcomes the park proposal 2) Notes it was disappointing that there does not appear to be any immediate plans to upgrade the N77 road from Castlecomer Roundabout to this amenity/Dunmore Village and beyond. 3) Requests that significant road upgrade works be undertaken on this stretch of road as a matter of urgency to include: o Widening of the road o Provision of cycle-paths and footpaths with appropriate lighting o Traffic calming measures o Enhanced visibility at junctions o These measures would:- Ensure significantly improved road safety for all road users Encourage people to walk and cycle between Dunmore Village and Kilkenny for both work/education and recreational purposes. It would enable locals and visitors to Kilkenny to cycle out from Kilkenny to the proposed	1) Noted 2) As part of the proposal an undertaking is given to investigate the potential of including additional traffic calming measures on the north and south approaches to Dunmore village, such as village gateway signage at the 60kph speed limits and driver speed feedback signage within the village itself. 3) Apart from the above, improvement works along the N77 National Secondary Road are deemed outside the scope of this project. However, the submission received will be forwarded to the Council's Road Design Office with a request that the contents of the submission be raised with Transport Infrastructure Ireland (TII - the Sanctioning Authority for the National Road Network.) 4) This submission was also forwarded to the Planning Section for consideration with

Dunmore Biodiversity and Recreational Park, Dunmore Caves and to Jenkinstown Woods, etc.	respect to the Draft Kilkenny County and City Development Plan 2021-2027.
Mairéad Mac Eoin – submission 2 **1)** Welcomes the park proposal and the asset it will be to Kilkenny. **2)** Welcomes the natural play elements but requests further consideration is given to the inclusion of a significant playground similar to the playground in Castle Park for small children and their families to get out into nature.	1) Noted. 2) The proposed park will provide for recreational trails such as walking, running, cycling orientating and so on. Family groups and young children will be provided for with outdoor leisure / fun activities which will be informed by the National Children's Play Policy 'Ready Steady Play' with a particular focus on a natural '"free" playground across the site. It is not proposed to provide a traditional enclosed playground. It is noted that Kilkenny Council County have provided and / or maintain in excess of 30no. playgrounds across the city and county. This is considered adequate to provide families the option on the type of play experience wish to part-take in.
Niall McManus **1)** Warmly welcomes the proposal . 2) Considers the scheme too car centric. 3) Recommends increasing the bicycle spaces to promote and prioritise sustainable transport and future proof scheme 4) Suggests KK2 bus route should be extended to service the park. 5) Suggests a segregated cycle path along Bleach Road to the park and linking via a bridge at the end of Bishops Meadow/Bleach Road into the Linear Park in Kilkenny and back to the city centre. Access for children to the countryside.	1) Noted The carparking provision for the park at Entrance 3 (Existing GAA overflow carpark) has reduced from 20 carparking spaces and 1no. coach bay to 3no. accessible parking bays only. The latter are proposed at this location as the topography at this location is the only entrance point of the three proposed that provides accessible gradients. At Entrance 1 the Dunmore Community Carpark - it is not intended to increase the capacity of same. The new carpark at Entrance 2, off the Bleach, Road, will provide for 17 parking bays. This is an increase of 4no. car parking bays from the display documents. The provision for bicycle parking at Entrance 2 has also increased from 40no. to 60no. stands and this is the only entrance point where bicycle parking will now be provided. Cyclists accessing the park will be encouraged to use the local road network, i.e. the Bleach Road section of the North Kilkenny Cycle Trail, as opposed to the national road network, namely the N77 and a signage strategy will be implemented in this regard (refer to Appendix 9 – Revised Part 8 Transport Design Proposal– Feb 21). Thus, the overall split between newly provided bicycle and car parking is 60 bicycle stands to

	20 car bays which equates to a ratio of 3 to 1 in favour of bicycle parking provision. 2) The provision of a bus service to service the park is outside the scope of this proposal. But an undertaking is given to engage with the National Transport Authority (NTA - operators of the new Kilkenny Bus Service) and also private bus operators to explore this option into the future. Major interventions to Bleach Road such as widening is deemed outside the scope of this project. It is noted that traffic volumes are extremely low on this road. However, as part of the proposal to raise awareness to road users to the likely multi-modes of travel and road users using the Bleach Road, Shared Space Signage, will be installed at regular intervals along the Bleach Road from the city to Entrance 2 (refer to Appendix 9 – Revised Part 8 Transport Design Proposal– Feb 21). 3) In terms of developing greater connectivity between the city and the park, it is noted the following objective is contained within the draft Kilkenny County and City Development Plan 2021-2027, "To progress plans for the provision of a pedestrian bridge crossing at the northern side of Greens Bridge (upstream) proximate to Talbotsinch, including the provision of access along the eastern bank of the river up from Greensbridge, to the proposed bio-diversity park at Dunmore as part of the River Nore Linear Park."
Mary T. Brennan, Honorary Secretary, An Taisce Kilkenny Association Notes the development of a park on a closed landfill site is a positive move which will provide important community, ecological and environmental functions. Wishes to make observations on the following: 1) Biodiversity versus anthropogenic value: The proposal to use the closed landfill for parkland which will benefit the community is welcomed. Recommends that the southern wet area be planted with willow if the landfill capping allows it. To include areas for undisturbed wildlife and better biodiversity objective of park.	1) The planting strategy includes for areas of woodland and woodland scrub planting. Area H of the Habitat Management plan includes for a native woodland to the southeast of the parklands which will be implemented. "This area is very overgrown with tall sward and dense thatch of grass and is wetter than other areas. Option for planting native woodland including willow for spring forage for pollinators." The landfill infrastructure areas are restricted for heavy tree cover. Woodland scrub areas are part of the planting strategy on embankment areas. The landfill infrastructure areas are restricted for heavy tree cover.

2) Landfill trail: o Notes the proposal to provide a landfill infrastructure and interpretative trail is potentially of great educational value *"to encourage us to alter our consumption habits, avoid waste production, reduce, reuse and recycle, thereby limiting the need for more landfill"* 3) Access to the park: Car dominance of access, suggests not to oversell project in order to limit disturbance to wildlife. Suggests the inclusion of public transport provision of a local bus service. Recommends the pedestrian and cycle access infrastructure via the Nore Linear Park and a pedestrian bridge at Talbotsinch are put in place prior to opening the park. 4) Potential consequences: Notes provision of a park may increase pressure for rural housing especially linear development on the Castlecomer Road north of Kilkenny.	2) It is confirmed that the Landfill Infrastructure Interpretative Trail will aim to acknowledge the landfill history and demonstrate the positive transformation of the site as a biodiversity and recreation resource. The carparking provision for the park at Entrance 3 (Existing GAA overflow carpark) has reduced from 20 carparking spaces and 1no. coach bay to 3no. accessible parking bays only. The latter are proposed at this location as the topography at this location is the only entrance point of the three proposed that provides for accessible gradients. At Entrance 1 the Dunmore Community Carpark it is not intended to increase the capacity of same. The new carpark at Entrance 2, off the Bleach Road, will provide for 17 parking bays, this is an increase of 4no. car parking bays from display documents. The provision for bicycle parking at Entrance 2 has also increased from 40no. to 60no. stands and this is the only entrance point where bicycle parking will now be provided. Cyclists accessing the park will be encouraged to use the local road network, i.e. the Bleach Road section of the North Kilkenny Cycle Loop (promoted by Trail Kilkenny), as opposed to the national road network, namely the N77, and a signage strategy will be implemented in this regard (refer to Appendix 9 – Revised Part 8 Transport Design Proposal– Feb 21). 3) Thus, the overall split between newly provided bicycle and car parking is 60 bicycle stands to 20 car parking spaces, which equates to a ratio of 3 to 1 in favour of bicycle parking provision. The provision of a bus service to service the park is outside the scope of this proposal. But an undertaking is given to engage with the National Transport Authority (NTA - operators of new Kilkenny Bus Service) and private bus operators to explore this option into the future. In terms of developing greater connectivity between the city and the park, it is noted the following objective is contained within the

	draft Kilkenny County and City Development Plan 2021-2027, the delivery programme for same will be dependent of the appropriate planning consents and the allocation of funding. 4) Planning policy for the development of the city and environs will be consistent with the proper planning and sustainable development of the area. The provision of the proposed park will not result in a deviation from the planning policy.
Benny McDonagh, Sustainable Energy, Limerick Institute of Technology, 1) Welcomes development as a valuable amenity for Kilkenny 2) Requests the inclusion of accessible Toilet Facilities and suggests a composting toilet and reed bed treatment system would demonstrate environmental benefits. The provision of drinking water for reusable water bottle refill for visitors as an essential need suggests Rainwater harvesting system is included to demonstrate sustainable methods in new builds.	1) Noted. 2) The provision of amenity facilities of this nature is outside the scope of this project. However, facilities of this nature may be considered at some point in the future. The type and design of such facilities, if provided, would be developed in line with the most appropriate sustainable methods available at the time. The introduction of same would be subject to the necessary planning consents and appropriate funding allocation.
Heritage Council, Kilkenny 1) Welcomes development and notes the positive and forward-thinking approach by KCoCo to develop the former landfill site to a public amenity space and biodiversity asset. Notes the much-needed recreation objectives included and educational/interpretative aspects stated. **2) Access:** Requests that provision be made to relocate the terminus of the new Kilkenny Bus Route KK Route 1 from the Castlecomer Road to the Dunmore Recycling Centre/Kilkenny County GAA Training facility for safe public access and access via non-car means. Commends linkages to existing walkways and trails and suggests extensions of safe and appropriate pathways on the Castlecomer Road to the Mass Path link. **3) Landscape Plan** Welcomes many targeted actions designed to create significant benefits for biodiversity, in particular pollinators.	1) Noted. 2) The provision of a bus service to service the park is outside the scope of this proposal. But an undertaking is given to engage with the National Transport Authority (operators of new Kilkenny Bus Service) and private bus operators to explore this option a public transport service at some point in the future. In terms of developing greater pedestrian and cyclist connectivity between the city and the park, the main focus will be via the Bleach Road. To this end, it is noted that the following objective is contained within the draft Kilkenny County and City Development Plan 2021-2027, "To progress plans for the provision of a pedestrian bridge crossing at the northern side of Greens Bridge (upstream) proximate to Talbotsinch, including the provision of access along the eastern bank of the river up from Greensbridge, to the proposed bio-diversity park at Dunmore as part of the River Nore Linear Park."

Advocate for less intensive resource depleting grass-based land management and the inclusion of more native woodland habitat, for habitat connectivity, carbon sink, habitat for flora and fauna, flood management. 4) HC comments seek *"enhanced benefits for both biodiversity and climate change and hopefully the accrued benefits will in time stand as a beacon as to how we are seeking to take seriously the actions required to turn the tide on past action"*	3) The planting strategy includes for areas of woodland and woodland scrub planting. Area H of the Habitat Management Plan includes for a native woodland to the southeast of the parklands which will be implemented. "This area is very overgrown with tall sward and dense thatch of grass and is wetter than other areas. Option for planting native woodland including willow for spring forage for pollinators." The landfill infrastructure areas are restricted for heavy tree cover. Woodland scrub areas are part of the planting strategy on embankment areas. 4) Noted.
KCH (Kilkenny City Harriers) coaches and athletes • Notes the significant value of the development of the recreational and biodiversity park to the athletics club Suggests the inclusion of: • Wider maintained grass trails than those proposed for exercise on softer impact surfacing and to reduce wear and tear • Low energy lighting around the trails to allow for extended use of facility especially during winter months. Notes the positive effects of physical exercise on mental health and wellbeing.	• Given that the overall objective of the park is to provide a space for biodiversity and recreation, it is important that the right balance is struck so one doesn't negatively impact on the other. • Facilitating an organisation such as an athletics club would tip the balance in favour of recreation to the detriment of biodiversity for the following reasons:- o The number of athletes and coaches involved o The modifications required to the trails to accommodate such numbers o The impact such numbers would have on the natural trail surfaces o Evening training would negatively impact on nocturnal fauna o The need to install artificial lighting would be at odds with the ethos of the park and again severely impact on nocturnal fauna such as bats and so on. o The park will be closed to the public from before dusk in order to provide nocturnal fauna with the space to act out natural behavior.
Liam O'Neill, Dunmore 1) Request to bear in mind public road L66013 leads to main vehicular entrance for our house and lands and that same needs to be retained to allow access to property.	1) It is acknowledged that public road L66013 serves a single dwelling and whilst vehicular traffic along this road would generally consist of very few movements each day the following measures are proposed:- • Provide pedestrian/cyclist passing bays (c.2m wide by 4m long) at regular intervals along the lane from the junction with the N77 at Dunmore to the said dwelling house.

	• Install "Shared Space" signage to alert road users to the likely multi-modes of travel and road users using the said road.
Cllr. Maria Dollard 1) Welcomes the valuable amenity for the citizens of Kilkenny. 2) Requests the inclusion of Toilet Facilities and the provision of drinking water for reusable water bottle refill for visitors as an essential need 3) Notes the N77 is not a suitable road for walking and cycling unless walking/cycle paths are developed. 4) Suggests the landscape design is too formal and suggests the inclusion / input of community engagement with Keep Kilkenny Beautiful volunteers in terms of planting and layout.	1) Noted. 2) The provision of amenity facilities of this nature is outside the scope of this project. However, facilities of this nature maybe considered at some point in the future. The type and design of such facilities would be developed in line with the most appropriate sustainable methods available at the time. The introduction of same would be subject to the necessary planning consents and funding allocation. The provision for bicycle parking at Entrance 2, Bleach Road, has been increased from 40no. to 60no. stands and this is now the only entrance point where bicycle parking will be provided. Cyclists accessing the park will be encouraged to use the local road network, i.e. the Bleach Road section of the North Kilkenny Cycle Trail, as opposed to the national road network, namely the N77, and a signage strategy will be implemented in this regard (refer to Appendix 9 – Revised Part 8 Transport Design Proposal– Feb 21). As part of the proposal an undertaking is given to investigate the potential of including additional traffic calming measures on the north and south approach to Dunmore village, such as `village gateway signage at the 60kph speed limits and driver speed feedback signage within the village itself. Apart from this, improvement works along the N77 National Secondary Road are deemed outside the scope of this project. However, the submission received will be forwarded to the Council's Road Design Office with a request that the contents of the submission be raised with Transport Infrastructure Ireland (TII - the Sanctioning Authority for the national road network.) 3) Formal planting is proposed in one area only to the northwest of the park. This area will consist of an orchard using a mix of pollinator friendly heritage species with biodiversity friendly under planting.

	Regarding community Involvement with groups like Keep Kilkenny Beautiful (KKB) volunteers and so on. There is a proposal in the planting design for a demonstration planting area to include for pollinator friendly garden plants, input from Keep Kilkenny Beautiful volunteers and others in this area would be a positive development.
Mary Rice 1) Biodiversity V Nature friendly, believes a recreation park cannot be described as a biodiversity park for the following reasons:- • The presence of lots of people is likely to deter wild animals and birds • The presence of a dog run will have a very negative impact on wild animals currently frequenting areas. 2) Given the focus on Climate Change, the primary means of access should be walking or cycling. This infrastructure needs to be set up before the recreation park is developed. I believe access by car should be actively discouraged.	1) The points made are acknowledged and the challenge is to strike the correct balance. It is our view that the proposal put forward achieves this balance. The trail layout within the proposal was designed with consideration to minimising the negative impact on the biodiversity potential of the park. The planting and management of the park shall be undertaken in accordance with the pollinator friendly management objectives as outlined in the " All Ireland Pollinator Plan 2015-2020 (Councils: Actions to Help Pollinators)". The planting strategy includes for areas of woodland and woodland scrub planting. Area H of the Habitat Management plan includes for a native woodland to the southeast of the parklands which will be implemented. "This area is very overgrown with tall sward and dense thatch of grass and is wetter than other areas. Option for planting native woodland including willow for spring forage for pollinators." The dog friendly zone is to northeast side of the Park. This area will be enclosed with secure fencing. Within all other areas of the park, dog owners will be required to keep their dogs on a lead. 2) The overall split within the modified proposal, between newly provided bicycle and car parking, is 60 bicycle stands to 20 car bays, this equates to a ratio of 3 to 1 in favour of bicycle parking provision. Cyclists accessing the park will be encouraged to use the local road network, i.e. the Bleach Road section of the North Kilkenny Cycle Trail. The provision of a bus service to service the park is outside the scope of this proposal. But

	an undertaking is given to engage with the National Transport Authority (NTA - operators of new Kilkenny Bus Service) and private bus operators to explore this option into the future. Major interventions to the road infrastructure are deemed outside the scope of this project. It is noted that traffic volumes are extremely low on the Bleach road and cyclists will be encouraged to use same to access the park. As part of this proposal to raise awareness to road users to the likely multi-modes of travel and road users using the Bleach Road, Shared Space Signage will be installed at regular intervals along the Bleach Road from the city to Entrance 2 (refer to Appendix 9 – Revised Part 8 Transport Design Proposal– Feb 21). In terms of developing greater pedestrian and cyclist connectivity between the city and the park. It is noted the following objective is contained within the draft Kilkenny County and City Development Plan 2021-2027, "To progress plans for the provision of a pedestrian bridge crossing at the northern side of Greens Bridge (upstream) proximate to Talbotsinch, including the provision of access along the eastern bank of the river up from Greensbridge, to the proposed bio-diversity park at Dunmore as part of the River Nore Linear Park."
Road Design Office, Kilkenny Co. Co. 1) Assumed carparks will be permanently opened to public. 2) Safety concerns regarding current and proposed arrangement of the accesses to the recycling centre/carpark no. 3/ GAA grounds form crossroads junction. 3) Bleach Road / LT66012 junction to Carpark 2 currently blocked by barrier assumed gate will be removed. Recommends that Stage ½ Road Safety Audit be undertaken and recommendations implemented given intensification of use of said junction.	1) The park will be closed to the public from before dusk and the carpark under the control of the Local Authority will closed in line with same. 2) The carparking provision for the Park at Entrance 3 (Existing GAA overflow carpark) has reduced from 20 carparking spaces and 1no. coach bay to 3no. accessible parking bays. The latter are proposed at this location as the topography at this location is the only entrance point of the three proposed that provides for accessible gradients. The 3 disabled car park spaces to be provided at the GAA overflow carpark will not be a source of intensification (i.e. <1.5%). However, the said junction will be reviewed to determine if additional safety measures can be

4) It notes it's not apparent if the carparks are to be lit-up. If public lighting is intended same should be designed that same is adequately lit. 5) All road markings and signage must be in compliance with the DOT, Traffic Signs Manual, 2019. 6) Construction Management Plan and Road Maintenance Plan shall be submitted to the Area Engineer for agreement prior to commencement of works. **7)** Prior to the opening of the development a Stage 3 Road Safety Audit shall be undertaken.	incorporated to minimise the potential risk associated with the 3 additional accessible parking bays. 3) It is intended that the barrier will be removed and a gate provided at the entrance to the carpark. A safety audit will be undertaken at this junction in conjunction with the detail design process. 4) It is not intended to light up the carpark under the control of the Local Authority and the said carpark will be locked at night. 5) Agreed 6) Agreed 7) Agreed.
Transport Infrastructure Ireland 1) Supports the development of the proposed countryside recreational park subject to national road policy and road safety issues It is noted that an existing access to the N77, national secondary road, is proposed to be utilised as one of three access points to the proposed countryside park. The Authority's records indicate that the existing direct access to the N77 is located were an 80kph speed limit applies The Council will be aware that official Government policy in relation to development impacting national roads as set out in the Section 28 Ministerial Guidelines 'Spatial Planning and National Roads Guidelines for Planning Authorities' (DoECLG, 2012). The provision of a countryside recreational park with direct access to/from the N77, national road, in combination with the existing facilities has the potential to increase turning movements onto and off the national road at this location contrary to the provisions of official Government policy. Notes direct access to/from the N77will provide access to a car and coach park with a 20-space bicycle park. This has the potential to encourage vulnerable road users onto the national road without measures provided to segregate vulnerable road users from high speed traffic on the national road or to address potential road safety issues that may arise.	1) The carparking provision for the park at Entrance 3 (Existing GAA overflow carpark) has reduced from 20 carparking spaces, 1no. coach bay and 20 bicycle stands to just 3no. accessible car parking bays. The latter are proposed at this location as the topography at this location is the only entrance point of the three proposed that provides for accessible gradients. It is demonstrated in the revised Part 8 Transport Design Proposals that the above revised proposals have a negligible potential for the intensification of use of the direct access to the N77 national secondary road, (i.e. <1.5%), (refer to Appendix 9 – Revised Part 8 Transport Design Proposal– Feb 21). The provision for bicycle parking at Entrance 2, Bleach Road, has been increased from 40no. to 60no. stands and this is the only entrance point where bicycle parking will now be provided. Cyclists accessing the park will be encouraged to use the local road network, i.e. the Bleach Road section of the North Kilkenny Cycle Loop (as promoted by Trail Kilkenny), as opposed to the national road network, namely the N77 and a signage strategy will be implemented in this regard (refer to Appendix 9 – Revised Part 8 Transport Design Proposal– Feb 21).

2) Recommend that the Council explore and utilise to the fullest extent possible the available access to local road L-66012 Bleach Road to the west and via the Mass Path from Dunmore Village within the 60kph speed limit zone on the national road.	
Gillian Tyrrell 1) Delighted and excited about proposal. 2) Seeks reduction in speed limit along the Bleach Road. 3) Seeking provision of bicycle stands at the weir swimming area together with the provision of hooks of the river side of the wall to hang towels will swimming. Consider access for swimmers in winter when the flood gate is up.	1) Noted. 2) Amendments to the speed limit along the Bleach Road would have to be considered as part of a Non-national Road County Review of the Speed Limit Bye-laws. Such a review is currently not on the agenda. However, these comments will be forwarded to the Council's Road Design Section with a request to retain same on file and that consideration be given to same when the next speed limit review is undertaken. It is noted that traffic volumes are extremely low on the Bleach Road. However, as part of the proposal to raise awareness to road users to the likely multi-modes of travel and road users using the Bleach Road, Shared Space Signage will be installed at regular intervals along the Bleach Road from the city to Entrance 2 (refer Appendix 9, Additional Traffic Assessment on modified proposal). 2) This area is outside the scope of this project but will be assessed by the Water Safety Officer / Area Office.
Padraic Hickey 1) Sand Martins habitat off Mass Path, The Glendine quarry 30 years ago had a large number of Sand Martins nesting in the south facing cliff. This nearby habitat has since been destroyed to make way for housing. Noticed that the Mass Path to south side has similar properties to the Glendine south facing cliff. Given that an environmental assessment is not being carried out on the site we don't know if sand martins are using this bank or not. At the very least we should beware of disturbing the cliffs to the south of the path while making modifications to the path. Even better would be the opportunity to enhance the cliff banks to make them suitable for sand martins.	Intervention to the Mass Path will be minimal, consisting of the application for 150mm compacted Kilkenny limestone gravel. These works will be contained within the existing path cross-section and will not impact of the existing flora and fauna (Refer to Appendix 7 – Updated Appropriate Assessment Screening for modified proposal – Feb 21, Appendix 8 – Update Ecological Impact Assessment for modified proposal – Feb 21 and Appendix 9 – Revised Part 8 Transport Design Proposal– Feb 21). The provision/ enhancement lands outside the confines of the Park and outside the scope of the project.

Appendix 6

Submissions Received

Dunmore Biodiversity & Recreational Countryside Park

Unique Reference Number:
KK-C161-KBIOP-5
Author:
Candida Frith-Macdonald
Consultation:
Kilkenny Biodiversity & Recreational Countryside Park
Status:
Submitted
Date Submitted:
05.02.2021 - 2:51pm
No. of documents attached:
0
Boundaries Captured on Map:
No

Author:
Candida Frith-Macdonald

Observations

Environment & Biodiversity
Title:
Diversity/balance of environments
Although the planting concept in the Mitchell document mentions woodland, the drawn plans seem to be almost exclusively meadow or other grassland (both visually and in the annotations). What trees are present (mostly already on the site?) are confined to narrow bands, more like hedgerows. Hedgerows are fine, but this does not feel as diverse as it could be. It would be better to see some definite area of woodland providing more extenside canopy cover for woodland flora and the fauna that would find it. Also would be good to see some wetland are (not sure how well the leachate pond can fulfill this?) if possible; perhaps through a slow-permeable buried membrane that inhibits drainage to provide a boggy area. Meadow and hedge just isn't that diverse, it's just the existing countryside without agrichemicals. Aim higher!

Recreation & Community facilities
Title:
Safe walking and cycling access via Bleach Road
Given that Bleach Road is *already* designated as part of the cycle loop, and that walking or cycling access on the N77 could never be said to be or feel safe, wouldn't it be better *not* to provide car parking spaces at Entrance 2? Encouraging any cars to come to that entrance by putting 13 spaces there inevitably puts more traffic onto a road that is twisty and feels unsafe in parts already, especially to families (I live in the city centre and have become familiar with it as part of my 5km outings in the last year). Why not aim to keep vehicle traffic on the more major road, and passively discourage cars from the Bleach Road by simply not providing for them? If you build it, be sure they WILL come! And if more than 13 come, having driven out all that way, they will likely try to just pull up in a hedge neaby and be more of a nuisance and a danger. If people know from the outset there is no parking at that entrance, they will not be inclined to drive there.

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ARC
Áine Ryan Consulting

Kilkenny Biodiversity & Recreational Countryside Park - Part 8

22nd January 2021

Submission to:

Kilkenny County Council

Relating to:

Part 8 Proposed Biodiversity Park, Dunmore,

Co. Kilkenny

On Behalf of:

Mr. Shane Clancy

Table of Contents

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1.0 INTRODUCTION

This submission has been prepared by Áine Ryan Consulting (ARC), in response to an invitation for submissions from Kilkenny County Council in respect to the Notice of Proposed Development by a Local Authorty for the Kilkenny Biodiversity and Recreational Countryside Park, located at Dunmore, Co. Kilkenny. This submission is presented on behalf of my client, Mr. Shane Clancy of 16 St Johns Terrace, Dublin Road, Kilkenny with the co-operation and permission of Mr. Liam O' Neill, Dunmore, Co. Kilkenny, R95 XH51,

Mr. Clancy is currently in the process of purchasing the O' Neill residential holding located adjoining the proposed Biodiversity Parkland (O' Neill Residence, Dunmore, Co. Kilkenny, R95 XH51) and thus, aligned with Mr. O' Neill has an interest in the future sustainable planning and development of the Biodiversity Parkland.

At the outset, ARC wishes to state that our client is fully supportive of the proposed principle of development which forms the Part 8 proposal by the Local Authortiy. It is considered that the Dunmore Biodiversity Park will further enhance the green infrastructure of the wider County, providing a valuable educational, recreational and amenity asset and as such, its proposed development is a welcome addition to the Dunmore rural area.

This submission seeks to highlight concerns arising following a full review of the published Part 8 documentation, principally concerning the impact on existing vehicular access to/from the O' Neill lands, arising from the proposed pedestrian access via 'Entrance No. 1'. This submission will outline how a co-operative approach through landholder engagement can assist in the equitable development of the proposed amenity, as follows:

- Section 2 sets out the context within which the O' Neill residential lands are located situate to the proposed park.
- Section 3 identifies key planning policies and guidelines applicable to the proposed development and concerns arising.
- Section 4 reviews key impact on residential vehicular movements.

2.0 SITE LOCATION AND CONTEXT

The subject residential landholding is in the ownership of Mr. Liam O' Neill and is located adjoining the 'Mass Path' or Local Road L66013, to the south east of the proposed biodiversity park. The subject landholding shares a boundary with the 'Mass Path' of some 312 metres. The location of the subject lands is identified in Figure 2.1 overleaf. The site has been in the ownership of the O' Neill family for three generations in constant use as a private residential landholding and was occupied as same until recently.

Furthermore the L66013 route has only recently been in use by pedestrians, as, the route from the residence to the Bleach Road was largely overgrown and unused.

The landholding is currently on offer of sale through the Auctioneering services of Mr.Godfrey Greene, Kilkenny and following close of sale, is intended for future occupation by Mr. Shane Clancy and family.

Figure 2.1 Site Location adjoining L66013 (*Source NPAD & Landscape Masterplan LDUN028).*

Mr. Clancy confirms that as part of due diligence prior to entering into purchasing discussions, he has liasied with Ms. Claire Kelly (Planning Department, Kilkenny County Council) regarding the nature of permissible internal repairs that can be made to the existing residential structure to ensure it will be habitable for his young family into the future.

Vehicular access to the O' Neill lands is from the N77 and via the local road L66013 (See Figure 2.2, overleaf). Pedestrian access is also achieved further along this route (also known as the 'Mass Path); via a stepped stile to the rear of the Church of the Most Holy Trinity graveyard.

The L66013 (Mass Path) is idenfifed in the proposed Landscape Masterplan as a pedestrian linkage to Entrance No. 1 (the Biodiversity Trail). Entrance No. 1 thus connects from Dunmore Church of the Most Holy Trinity along the existing L66013. The Plan states that infrastructural works are not proposed for this area. A biodiversity themed trail (wet meadowlands trail and educational stations) is proposed at the linkage point from the route into the Parkland.

Figure 2.2 Current Access Conditions from L66013 to O' Neill Landholding (Not to Scale).

Whilst the Ecological surveys which were carried out in support of the proposed Biodiversity Park acknowledge that the L66013 is located outside the proposed site boundary, it is recommended that any vegetation management in this area be implemented senstively and in accordance with the All Ireland Pollinator Plan Guidelines.

Table 2.1 summarises the key impacts anticipated to arise during the construction and operational phases of the proposed Biodiversity Park, as relevant to the habitats alongside the L66013 (as abridged).

Element	Impact	Mitigation
Hedgerows	Risk of Calamint habitat disturbance during works to create link between Park and Mass Path.	Hedgerows will be retained and enhanced where appropriate with native planting.
Treeline	Removal/pruning of low number of trees (if required).	Negligible effect on the habitat overall due to the minimal number of trees.
Bats	Not expected to support high numbers of bats or permanent roost sites of high conservation significance.	Removal/pruning of these trees is not anticipated to have a significant negative impact on the local bat population.

Table 2.1 Habitat Impact and Mitigations. (Source: Ecological Impact Assessment, Section 6.2).

The Assessment further identifies that the minimal direct habitat loss which will ocurr to facilitate the overall development of the proposed Biodiversity Park will be: *'compensated for by the improvement in the management regime of the grassland and no negative impact is anticipated. With an appropriate management regime which will promote species richness in the meadow grassland a* ***net positive impact*** *is likely'.*

Of further relevance, the AA Screening Report concludes that there will be no habitat loss or displacement of species arising from the proposed development and no impacts on the integrity of the Rivers Barrow and Nore SAC/SPPA. Furthermore, the site does not contain any species or ecological features of relevance to Annex II habitats.

It is noted that the Ecological Impact Assessment which accompanies the Part 8 documentation states that: *'The mass path is relatively untouched and is bordered by treelines and an old stone wall and a hedgerow.'*

Route L66013, whilst identified in local vernacular as a 'Mass Path' is a classified as a Local Road. The Department of Transport acknowledges that Regional and Local roads are: *'often the sole means of access for local economic activity.'* Local Roads also play key roles in providing access for dispersed population, tourism. agriculture and rural development and urban regeneration. (Publication - *'Regional and Local Roads', September 2019).*

As such the primary responsibility for improvement and maintenance of such routes rests with the Local Authority, however in the case of Route L66013 Mr. O' Neill has traditionally played an active part in route maintenance, including the maintainance of verges and surface repairs, in order to maintain vehicular access safety (see Figure 2.3).

Figure 2.3 Simple grass verge and roadway maintenance to L66013

Appendix B (AA Screening Report) as accompaning the Landscape Report outlines the key elements of the proposed Biodiversity Park, incorporating:

- Walking, running, cycling and orienteering trails;
- Educational opportunities related to natural heritage, biodiversity and resource management; and
- Parklands will be open to the general public, schools and relevant interest groups

3.0 ESTABLISHED PLANNING CONTEXT FOR PROPOSED DEVELOPMENT

This section highlights the nature of the proposed development with specific regard to access concerns arising for the O' Neill landholding, which in turn underpin the basis of case for this submission.

3.1 Biodiversity Plans

The **National Biodiversity Action Plan 2017-2021** sets a clear agenda for the conservation, restoration and protection of biodiversity and ecosystems within the Country to, in part, deliver: '*benefits essential for all sectors of society and that Ireland contributes to efforts to halt the loss of biodiversity and the degradation of ecosystems in the EU and globally*'. Action 1.1.7 seeks to develop a Green Infrastructure at local, regional and national levels, within which the development of the proposed Dunmore Biodiversity Park is compliant.

The **Biodiversity Climate Change Sectoral Adaptation Plan 2019**, (Department of Culture, Heritage and the Gaeltacht.) seeks to protect biodiversity from climate change impact and manage ecosystems and biodiversity. Action 4.4 of this Plan seeks to: '*Co-design green spaces and wildlife refuges in cities and peri-urban areas with local communities to provide habitats for species under threat from climate change and to connect people to biodiversity*'. This Action can be achieved through the development of the proposed Biodiversity Park at Dunmore, where both Local Authority and surrounding community can work collaboratively to ensure equitable and sustainable development.

The **Kilkenny County Council Climate Change Adaptation Strategy 2019 – 2024** is a broad strategy which seeks to incorporate the overarching national guidance on climate change and biodiversity into the future. Section 5.5.7 (Nature-Based and Communities Action) is suppportive of the proposed Dunmore Biodiversity Park, wherein Action 6 seeks to: *'Continue to develop public-use amenity trails throughout Kilkenny County'*. Such development is mandated to occur within the sustainable planning and development policies and objectives of the County Development Plans (which are further detailed in Section 3.2 of this submission).

3.2 County Development Plans

3.2.1 Kilkenny County Development Plan 2014 - 2020

The timeframe for this plan and its review has been extended due to constraints imposed by the Covid 19 pandemic. A Draft Plan review is currently ongoing (further detailed in Section 3.2.2 below). Whilst is is reasonably envisaged that the development of the proposed Biodiversity Park at Dunmore will be completed during the lifetime of the new Development Plan, the policies of the current 2014 Development Plan outline the strategic vision for the area and remain the statute planning policy for the area.

The Plan commits the Local Authority to a number of recreational and amenity provisions, including:

- To protect the sustainable development of recreation and amenity areas within the County (Section 7 - Recreation, Tourism and the Arts).

- To require well designed and managed Green Infrastructure and '*To prepare and support the implementation of a Green Infrastructure Strategy for County Kilkenny' (*Objective 8D).

Thus the overall strategic objective to increase green infrastructure and promote biodiversity is well established within the current Plan. It is also noted that the Plan states that this work will have to be carried out in a co-operative manner with those impacted by such developments:

- *'The Council will also encourage the provision of access routes to amenity areas* ***in co-operation with landowners*** *and protect amenity areas from infringement by inappropriate development, and will seek to improve the provision of local parks and play spaces and* ***extend those spaces and pathways that can usefully form green links,*** *footways and cycle ways to connect residential areas with parks and open spaces and with each other. Issues of accessibility such as car parking for walkers and cyclists to the trails will be addressed in any strategy.* ***Possibilities for improved signage and maps should be facilitated to ensure wider access to the county's recreational asset.*** *(*Section 7.3.2 – Walking and Cycling **[Emphasis Added]).**

- *High quality, safe and well located facilities and infrastructure are essential in creating a good experience for visitors. This includes infrastructure such as walking and cycling trails,... transport and signage.' '****The council will improve tourism infrastructure throughout the County such as signage, public realm upgrading,*** *parking facilities, traffic management, and amenities and service/rest facilities as resources permit.' (*Section 7.9.4 – Tourist Facilities and Infrastructure **[Emphasis Added]**).

Underpinning the development of the proposed Biodiverstiy Park at Dunmore is the provision of adequate transport infrastructure. The maintenance, development and improvement of existing local roads is a development management policy of the current Development Plan, including:

  - 'The Council will prioritise its spending on local roads which are deficient according to the **strategic benefits and improved traffic and pedestrian safety** which will result.

  - The Council will have regard to the transportation needs of development generally, particularly that associated with agribusiness, **tourism** and the need to promote rural development and diversification in the prioritising of its spending. (Section 11.7.5 – Local Roads **[Emphasis Added]**).

3.2.2 Draft Kilkenny City and County Development Plan 2021 - 2027

Whilst this plan is currently at Draft Stage, it is envisaged to be the guiding plan in place by the time of the Biodiversity Park development. Its policies and objectives strenghten and replicate social, economic and environmental stragtegic goals for the County as previously identified in Section 3.2.1 above.

The provisions of the Draft Plan encourages the creation of living and working enviornments of high quality and to conserve and build upon positive elements in the built and natural environment and to protect amenities (Strategic Aim, Chapter 13). This is fully in accordance with the proposed biodiverstiy park and the aim of this submission to ensure a co-operative approach to protect the natural environmnt and established residential amenities (the O' Neill landholding).

The Draft Plan has a clear objective upon which the development of the proposed biodiversity park is based (Objective 8A). Within this objective the principle of access via existing public roads, the N77 and Bleach Road is established.

The continued support of existing and proposed recreational areas is a central tenant of the Draft Plan. Section 8.4 states that: *'Issues of accessibility such as car parking for walkers and cyclists to the trails must be included in any strategy. Possibilities for improved signage and maps should be facilitated to ensure wider access to the County's recreational assets.'*

The protection of such development is further enhanced within Section 8.2.4[1] of the Draft Plan wherein development which is incompatible with green infrastructure is restricted. However, works that are considered necessary may be considered following the demonstration of a listed requirement, which of relevance to the subject site includes:

- *There is a clear excess of playing fields or open space provision within the area. This should take into account the long-term needs of the community, the type, recreational, amenity value and accessibility of such provision.*
- *The continued use, proper maintenance and enhancement of the amenity/facility can best be achieved by the redevelopment of a portion of the site that will not adversely affect its overall sporting, recreational, amenity or place making value of the facility.*

As noted in Section 2.0 (Page 7) above, mitigation measures including hedgerow maintainence and treeline pruning are not anticipated to have a negative impact upon the ecological balance of the proposed park and its hinterland, as there is an abundance of natural habitat already in existance or planned for the area. Therefore the tenant of Section 8.2.4 of the Draft Plan can be reasonably held in compliance should improvement works be made to the L66013 in order to facilitate safe pedestrian and vehicular movements, as further outlined in Sections 4 and 5 of this submission.

[1] 8.2.4 Protection of Open Space - The Council will not normally permit development which is not compatible with or would result in the loss of green infrastructure or land zoned for recreational or open space purposes.

Importantly, the Draft Plan expressly addresses the issue of adjoining landholder rights of way, stating: *'The Council will also encourage the provision of access routes to amenity areas **in co-operation with landowners** and protect amenity areas from infringement by inappropriate development, and will **seek to extend those spaces and pathways that can usefully form green links, footways and cycle ways** to connect residential areas with parks and open spaces and with each other.' (Source Section 8.4, [**Emphasis Added[**)*

Section 12.11.5 of the Draft Plan states that Local Roads, often the sole means of access for local ecnonomic activity, have an important economic role and valuable social and community function. In this regard the Draft Plan commits Council priority spending on local roads with regard to the: *'transportation needs of development generally, particularly that associated with agribusiness, **tourism and the need to promote rural development** and diversification in the prioritising of its spending.'(**Emphasis Added).***

It is thus respectfully submitted that further enhancements to the L66013, in order to safeguard the established vehicular movements occuring in connection with the O' Neill landholding; and the proposed requirement for pedestrian access to the Biodiversity Park via Entrance No. 1 can be achieved in accordance with the policies of the current and proposed devleopment plan and Mr. Clancy and Mr. O' Neill remain open to co-operation with the Local Authority.

4.0 ACCESS PROVISIONS TO O' NEILL LANDHOLDING

It is respectfully asserted that the Draft Kilkenny City and County Development Plan 2021 - 2027 states that the Council *'recognises the legal rights of all landowners...' (Section 8.6)* and furthermore, Section 8.4 identifies the requirement for a co-operative approach to include relevant landholders in the development of amenity areas (see Section 3.2.2 above), all of which is fully supported by Mr. Clancy and Mr. O' Neill.

Furthermore, national guidance for co-operative amenity land development is well established. The Department of Transport, Tourism and Sport has idenfied the need for co-operation with stakeholders in the development of greenway infrastructure, of which these established principles are most relevant to the subject proposal:

- *'It is essential in those cases that proposals and routes are developed in a consultative and proactive manner with the potentially affected landowners, that is sensitive to their needs, that maximises their support for, and goodwill towards, the proposed Greenway and is in line with an agreed code of practice.'*
- *'The goal is to ensure that any impact on a landowner's business or livelihood is kept to a minimum...In the vast majority of cases it is anticipated that agreement with landowners can be achieved on the exact routing and accommodation works. ' Source: Strategy for the Future Development of National and Regional Greenways Department of Transport Tourism and Sport.*

It has been established that Entrance No. 1 to the proposed biodiversity Park is served by the existing 46 No. space car park serving the Church of the Most Holy Trinity graveyard and proposed pedestrian route along the L66013 ('Mass path). Over thee generations, this access road has been the sole vehicular access to the O' Neill landholding; and as illustrated in Figure 4.1 is still in use today. It is thus a significant concern to ensure that vehicular access which has been established for generations, will not be adversly impacted by the propsoed development.

Figure 4.1 Vehicular tyre track use on L66013 (note limited pedestrian passing opportunities).

A Traffic Assessment for the proposed development has been carried out by Roadplan Consulting on behalf of the Local Authority and is provided as Appendix D (LDUN028 - Landscape Report) of the consultation documents. The report states that a number of key design criteria were considered in the assessment, including, inter alia:

- Ensure the existing infrastructure in the vicinity of the development is fit for purpose
- Review road safety aspects of the development.

In identifying Entrance No. 1 provisions, the Assessment states: *'This existing carpark is the primary vehicle carparking area for the development which we anticipate will cater for 70% of the vehicles which will travel from the south on the N77. It is the most southern access (Entrance 1) which is closest to the nearby Kilkenny City Urban population and offers 46 carparking spaces.'*

The report further establishes that the existing car park is currently underutilised and that traffic generated by the proposed Biodiversity Park will not conflict with peak traffic times as park usage tends to be random in nature, and is anticipated to occur predominately

on Saturdays and Sundays, which have been confirmed via standard traffic counts as being low traffic volume days. The report thus concludes that:

'The type and volume of generated traffic anticipated from this development are not of a nature to raise concerns about effects on road safety and road infrastructure as peak traffic hours for this type of recreational facility will not coincide the peak traffic volumes experienced on the N77.'

It is thus apparent that the Traffic Assessment was focused on the future traffic impacts upon the National N77 route arising from the proposed development and vehicular movements (albeit minor) arising from the O' Neill lands was not considered. However, in accordance with Section 8.4 of the Draft Development Plan as outlined above, the Local Authority are requested to consider the impact upon access conditions for the O' Neill landholding.

Following from the Roadplan audit, it is clear that on a weekend, the potential exists for up to 46 car journeys to Entrance 1 to be undertaken at any one time[2]. Occupants will park in the designated car park and walk along the L66013, past the O' Neill landholding into the proposed Biodiversity Park. Should all vehicles carry a *minimum* of two passengers, the predicted footfall along the L66013 will be in the order of 92 persons *each way* (many of whom will be young families, availing of the educational and recreational features proposed at the Biodiversity Park). This level of footfall will require further consideration of vehicular and pedestrian safety for both residents[3] and visitors alike.

It is considered that the proposed Biodiversity Park will be a popular attraction within the wider area, as supported by the Dunmore Community Committee and local GAA County Board within the Part 8 proposal. Aligned to the proposed level of interest there are clear indications that the current Covid 19 pandemic has increased domestic awareness and footfall to local amenity areas by family groups, of which the proposed Biodiversity Park will be well placed to capitalise upon.

The Failte Ireland Visitor Attractions Survey 2019 has provided footfall figures for all national sites on an annual basis. The figures for 2019 indicate that the Kilkenny Castle parklands had the second highest number of visitors at 905,642 persons during 2019. The nearby Castlecomer Discovery Park was ranked No. 26, with some 142,000 visitors. Similar themed parklands include the Lough Boora Discovery and Biodiversity Park in Co. Offaly recorded some 101,000 visitors during the 2019 period. It is thus resonably predicted that the park will operate at a high capacity and as predicted by the Traffic Assessment, Entrance No. 1 will likely accomodate up to 70% of all vehicular traffic occuring.

[2]If each visitor spends up to 2 hours in the park, the turnover rate of pedestrian traffic will be significantly higher during the day.

[3]Whilst vehicular movements arising from the O' Neill lands are not onerous (being of single residential use in nature) once the lands are sold, residential use and associated vehicular movements will continue along the L66013.

On the basis that the proposed Biodiversity Park at Dunmore will increase pedestrian movements along the L66013 through 'Entrance No. 1' it is respectfully requested that the Local Authority have regard to the established vehicular use of this Local Route by the O' Neill family. In co-operation, it is considered that the needs of residents and visitors can be equitably accomodated, in compliance with Local and National guidance, as highlighted in this submission.

4.1 Safe Access Proposals

As previously illustrated, the L66013 is of a narrow dimension and the grass verge on either side of limited capacity. Maintenance on this route way as carried out over the years by Mr. O' Neill has not had to provide for excessive pedestrian footfall. Footfall is expected to increase dramatically following the opening of the proposed Biodiversity Park. In this regard, it is considered prudent to consider the following safety measures, as follows:

- Vehicular and pedestrian 'passing points' along the L66013.
- Ancillary warning signage infrastructure along the L66013.

4.1.1 Vehicular and Pedestrian Movement Points

Full consideration must be given to the ability to see both vehicular and pedestrian traffic travelling along the L66013, upon establishment of the proposed Biodiverstiy Park. Overgrowth is a deterrent to visibility and safe passage of users. The removal or reduction of overgrowth aids visibility and ease of movement. It may thus be necessary to remove portions of hedgerows along the line of the road so that visibility can be achieved and pedestrian passing points (or lay-by) provided.

With regard to the suggested maintenance of verges to aid vehicular and pedestrian visiblity, the Local Authority is respectfully directed to the findings of the Ecological and Appropriate Assessments which accompany the Part 8 documentation, wherein limited removal or pruning of hedgerows and or treeline is considered to present minimal negative impact. This is also highlighted in Section 2 and Table 2.1 of this submission.

The walking distance from the stile at the Church Graveyard to the O' Neill lands is not onerous, with the property sharing a boundary with the 'Mass Path' of approximately 312 metres. It is submitted that in tandem with vergeway trimming, there are also existing points within the grass verge on route to the O' Neill landholding where pedestrian 'layby' or safe standing points are available to allow for passing vehicles to be accomodated. These are illustrated in Figure 4.2 overleaf.

An assessment will need to be undertaken by the Local Authority in this regard to confirm suitability to Roads Safety standard.

Figure 4.2 **Pedestrian Passing Opportunity Spaces on L66013 towards O' Neill land.**

4.1.2 Ancillary Infrastructure

Ancillary infrastructure is required to make the L66013 more attractive and safer for vehicular and pedestrian movements. This infrastructure should not detract from the

current rural environment along the L66013, rather provide necessary safety information via new signage.

The Landscape Masterplan which accompanies the Part 8 documents does not provide for remediation works to the L66013. Section 3.0 of the document lists those materials considered appropriate to incorporate in site furniture to serve the propsed development. Such materials include black tarmacadam for the path networks and car parking areas, wayfinding marker posts and distance markers and interpretative signage.

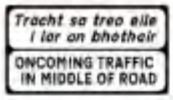
It is considered that these elements should also be applied to the L66013 for the reasons of enhanced vehicular and pedestrian safety during Park operation. Current signage serves local purpose only and is considered not fit for standard to cater for the predicted footfall along the L66013, once the proposed Biodiversity Park is established, as illustrated in Figure 4.3.

Figure 4.3 Examples of existing signage on L66013

The Local Authority is thus requested to reveiw the route information visibility and safety needs associated with the proposed pedestrian footfall associated with Entrance No. 1; and aligned with the established vehicular access to the O' Neill residential land.

Waymarking should be clearly provided at the proposed pedestrian entrance with vehicular hazard signage prominent. Examples of appropriate signage include:

- The Department of Transport Traffic Signs Manual 2010 mandates that Pedestrian routes to tourist attractions are indiated by symbol T42 or T41.



P 060
Oncoming Traffic
in Middle of Road

- Warning Signs used to alert road users to danger or potential danger ahead indicate a need for caution.

- Signs such as those used to indicate 'Vehicles Exiting Ahead' or 'Oncoming Traffic' are appropriate in this instance. 'Shared Space' signage would also be appropriate at the entrance to the L66013 to give advance warning to all users.

5.0 CONCLUSION

This submission has recognised the positive impact the proposed Biodiversity Park will have for the rural Dunmore area and the wider County hinterland. This submission has further outlined the National and Local Planning Policy supports for green infrastruture and those policies requiring consideration of affected third party landholders.

In this regard, the O' Neill residential landholding, which is located along Local Road L66013 has an established vehicular access, which will be impacted upon by increased pedestrian footfall in association with the propsoed Biodiversty park Entrance No. 1.

Proposals which seek to safe guard an established vehicular access right are outlined in this submission. These proposals can be achieved in accordance with the policies of the current and Draft Development Plans.

We wish to reiterate that we would welcome further discussion with the Local Authority in order to ensure that vehicular and pedestrian movements along the L66013 can be achieved in an equitable and safe manner into the future.

We look forward to this collaboration at earliest available opportunity. Please address all correspondence to the undersigned.

Yours Sincerely

Áine Ryan

ÁINE RYAN CONSULTING

From: Karl O'Donnell
Sent: Friday 29 January 2021 10:07
To: Frank Stafford <
Cc: Jessica McDonald <
Subject: Biodiversity & Recreational Park Dunmore

Hi Frank,

Hope this email finds you well. Your contact information was passed to me by xxxxxxx in Dunmore as I had some queries on the proposed Biodiversity & Recreational Park and he noted you might be able to assist.

First and foremost both my wife and I are in favour of the development and have no doubt it will be a fantastic amenity, not only for the wider north Kilkenny area, but also ourselves.

We do however have some concerns about the use of the existing carpark in Dunmore at the community hall. For context, we live in the recently built house right beside the hall on the Castlecomer side.

We have been here since October 2019, so 6 months or so pre COVID 19, and are also very familiar with the area and so are acutely aware of the typical usage of the Parish hall and as such the adjoining cark park. Outside of a Sunday morning for mass and 2 evenings a week this area got very little usage

and so we currently have no concerns regarding our privacy or pollution be that (noise or light). Under current plans this carpark will be heavily used going forward for three reasons. 1. It will be the first carpark you come across coming out of Kilkenny which will be the main artery for the development and 2. the other carpark near the recycling centre may not be developed for some time and finally, the carpark on the beach road is peripheral and will in all likelihood only be used by people living in that area and perhaps cyclists. As noted in publicly available information this park has the potential to attract in excess of 100,000 people per annum, and so we have 3 main concerns.

- Will there be additional lighting erected in the Carpark facing onto our property.
- Traffic comes through Dunmore at speeds far in excess of the 60km limit so is there going to be a traffic management system on the main road causing congestion right outside our driveway entrance.
- And most importantly, I assume you plan to make the best use of the space available there which will see cars parked effectively right up to our boundary wall which is only a little over 3 foot high – this will indeed have a big effect on our privacy and security – I appreciate this is an easy fix be it increasing the size of the wall and the planting of some trees/shrubs so are happy to discuss same.

I appreciate the date for formal written submissions is fast approaching so happy to discuss before then if possible

Regards,

Karl O'Donnell

Mairéad Mac Eoin

To whom it may concern:

We have carefully reviewed the City and County Development Plan 2021 and it is great to see all of the positive developments proposed for Kilkenny City and County, including the proposed Dunmore Recreational and Biodiversity Park. However, it was disappointing to note that there does not appear to be any immediate plans to upgrade the N77 road from Castlecomer Roundabout at the end of the Kilkenny Ringroad to this amenity/Dunmore Village and beyond.

This is one of the busiest approach roads into Kilkenny with daily school, work and heavy industry traffic (particularly HGVs travelling between the Glanbia plants in Ballyragget and Bellview daily) from North Kilkenny (including Castlecomer the 3rd largest town in Kilkenny). In addition, a large proportion of the traffic coming from the West and Midlands travelling to the South East of the country travel this road en-route to Kilkenny and other urban centres such as Rosslare, Waterford, Wexford, etc.

Significant road upgrades have been undertaken on a lot of the other major routes (notably the Callan road) into Kilkenny which is to be welcomed. However, no major road upgrade works have been undertaken on this stretch of the N77 road in living memory.

At present we would have significant safety concerns for all road users (pedestrians, cyclists and drivers) as the road is very narrow, with numerous dangerous bends, dangerous junctions, poor visibility and large volumes of traffic. We feel it is not fit for purpose and is more akin to a regional or local road, rather than a national road (which is its designated status).

<u>We would request that significant road upgrade works be undertaken on this stretch of road as a matter of urgency to include:</u>

- Widening of the road
- Provision of cycle-paths and footpaths with appropriate lighting
- Traffic calming measures
- Enhanced visibility at junctions

These measures would:

- Ensure significantly improved road safety for all road users
- Encourage people to walk and cycle between Dunmore Village and Kilkenny for both work/education and recreational purposes. It would enable locals and visitors to Kilkenny to cycle out from Kilkenny to the proposed Dunmore Biodiversity and Recreational Park, Dunmore Caves and to Jenkinstown Woods, etc.

We would be most grateful if serious consideration could be given to the proposals outlined above, as we strongly believe that this stretch of road does require urgent upgrading at this stage for the safety of local residents and all road users

Public submission to Kilkenny County Council regarding

1. Dunmore Biodiversity and Recreational Park
2. Kilkenny County and City Development Plan 2021 to 2027

Name	Address
Patrick Nolan	Baun, Dunmore Lower, Kilkenny
Mairéad Mac Eoin	Baun, Dunmore Lower, Kilkenny
Aoife Nolan	Baun, Dunmore Lower, Kilkenny
Róisín Nolan	Baun Dunmore Lower Kilkenny
Niall Curran	Dunmore PK Dunmore
Rachel Curran	3 Dunmore Park, Dunmore
Paddy Curran	49 Glendine Heights
Susan Cullenby	Dunmore
Margaret Harmer	2 Dunmore Park, Kilkenny
Terry Harmer	2 Dunmore Park, Kilkenny
Matt Peters	10 Dunmore Park KK
Catherine Peters	10 Dunmore Park KK.
Billy Peters	10 Dunmore Park KK
Ellie Peters	10 Dunmore Park KK
Becky Peters	10 Dunmore Park KK
Liam Kelly	"Hillcrest", Glendine Rd. KK
Ann Kelly	"Hillcrest" Glendine Rd KK
Emily Murtagh	Beech Road, Dunmore Kilkenny
Ellen Duggan	Ossory Lodge Dunmore Kilkenny
Vincent Duggan	Ossory Lodge Dunmore Kilkenny
Rob Heffernan	Ossory Lodge Dunmore Kilkenny
Willie Duggan	Ossory Lodge, Dunmore, Co. Kilkenny
Richard Eardly	Dunmore Kilkenny
Jessica O'Donnell	Dunmore, Village

Public submission to Kilkenny County Council regarding

1. Dunmore Biodiversity and Recreational Park
2. Kilkenny County and City Development Plan 2021 to 2027

Name	Address
Michael + Mary Hayden	Dunmore, Ballyfoyle R95 A3A8
Pierce + Mary Lennon	Dunmore Park Kilkenny
Edward Lennon	" "
Beth Phelan	Dunmore Park Kilkenny
Aidan Phelan	Dunmore Park Kilkenny
Ella Phelan	" " "
Gavin Phelan	" " "
Chloe Phelan	" " "
Helen O'Neill	Bleach Road Dunmore
Marion O'Neill	" " "
Brian O Neill	" " "
Yvonne O'Neill	" " "
Laura O Neill	" " "
Evan O'Neill	" " "
Shane O' Neill	" " "
Joe + Carmel Nolan	The Rise Dunmore
Jack, Anna + Alice Nolan	" "
Aidan Brennan	Talbots Grove
Claire Brennan	Talbots Grove
[illegible] Connell	[illegible] East Comp, Co Kerry
Kate Fleming	5 Dunmore Park, Dunmore
David Fleming	" " " "
Hugo Fleming	" " " "
Pia Fleming	" " " "

Public submission to Kilkenny County Council regarding

1. Dunmore Biodiversity and Recreational Park
2. Kilkenny County and City Development Plan 2021 to 2027

Name	Address
Heidi Fleming	5 Dunmore Park, Dunmore,
Blánaid Purcell	12 Auburn Drive
Hannah Stewart	No 1 Dunmore Park, Dunmore
David Stewart	No 1 Dunmore Park, Dunmore
Megan Stewart	No 1. Dunmore Park, Dunmore
Hazel Stewart	No 1. Dunmore Park, Dunmore
SUZANNE LANGTON	Dunmore, Kilkenny
Natasha Langton	Dunmore, Kilkenny
Tommy Langton	Dunmore, Kilkenny
David Langton	Dunmore, Kilkenny
Kelli Langton	Dunmore, Kilkenny
Peter O'Dowd	Grange Road, Kilkenny
Teresa Manning	Dunmore Park, Bally Fyle Rd
Mick Manning	" " " "
Cliodhna Manning	" " " "
Jack Manning	" " " "

Public submission to Kilkenny County Council regarding

1. Dunmore Biodiversity and Recreational Park
2. Kilkenny County and City Development Plan 2021 to 2027

Name	Address
Joe Trant	BAWN DUNMORE
Mary Trant	Bawn Dunmore
Liam Trant	Bawn Dunmore
Cian Trant	Bawn. Dunmore.
Micéal Trant	BAWN DUNMORE
James Trant	Bawn, Dunmore
AM Ivers	Bawn Dunmore
David Ivers	Bawn Dunmore
Saoirse Ivers	Bawn Dunmore
Grace Ivers	Bawn Dunmore
Cathal Ivers	Bawn Dunmore
[illegible]	Bawn Dunmore
[illegible]	Bawn Dunmore
[illegible]	Bawn Dunmore
Agnes Connolly	Bawn Dunmore
Frank Connolly	Bawn Dunmore
Martin Duggan	BAWN DUNMORE
Tadhg Duggan	BAWN DUNMORE
Marie Kennedy	Jerkinstown, Kilkenny
Christy "	" "
Chloe "	" "
Eva "	" "
Emily "	" "
Grace "	" "

Public submission to Kilkenny County Council regarding

1. Dunmore Biodiversity and Recreational Park
2. Kilkenny County and City Development Plan 2021 to 2027

Name	Address
[illegible]	Dunmore Village [illegible]
Kiadan Blanche	Dunmore Village
Derek Blanche	Dunmore Village
Karl O Donnell	Dunmore Village
Margaret Nolan	Jenkinstown
James Nolan	Jenkinstown
Marian Eardly	Dunmore KK.
Edel Eardly	" "
Tania Eardly	" "
Celine Eardly	" "
Eleanor Holder	Dunmore Park
Elizabeth Holder	Dunmore Park
Daryl Holder	Dunmore Park
Fiona Maddock	Radestown
Roseleen Ryan	Brooklawn Ballyfoyle Rd.
Sinead Ryan	Brooklawn Ballyfoyle Rd.
Eoghan Ryan	Brooklawn, Ballyfoyle rd.
Aine Ryan	Brooklawn, Ballyfoyle Rd.
[illegible]	Dunmore Castle
Liz Joyce	" "
David Barrett	" "
Nichola Clancy	Highfield, Dunmore Village
Charlie Redmond	Highfield, Dunmore Village
Anabel Redmond	Highfield, Dunmore Village

-----Original Message-----
From: Mairead MacEoin <Mairead.MacEoin@welfare.ie>
Sent: Sunday 10 January 2021 16:45
To: kkbiodunmorepart8 <kkbiodunmorepart8@kilkennycoco.ie>
Subject: Kilkenny Biodiversity and Recreational Countryside Park - Part 8

Hi,

I was delighted to see details regarding the Dunmore Biodiversity Park and think it will be huge asset to Kilkenny.

Having looked through the plans, they look great and obviously have incorporated a huge amount of thought and work. However, there does not appear to be a significant playground for children included in the plans. I know there are areas for natural play and hideouts included which look great. However, I strongly believe that a playground somewhat similar to the playground in the Castle Park would add greatly to this amenity.

I realise a playground may not be fully in keeping with the ethos of the Park. However, it would get small children and their families outside and out into nature. Without doubt, a good playground will attract children and their families back time and time again and would add significantly to the number of people attending the park on a regular basis. There are a huge amount of families with small children living just inside the ringroad. A lot of these families could potentially cycle to Dunmore (if/when there is cycle path out) and then use the playground.

If further consideration could be given to the addition of a playground this would be gratefully appreciated,

Kind regards,

Mairéad Mac Eoin

Extending public bus route KK1, segregated bicycle lane to park, extension of Linear Park/Bishop's Meadows with bridge to Beech Road

Unique Reference Number:
KK-C161-KBIOP-3
Author:
Niall McManus
Consultation:
Kilkenny Biodiversity & Recreational Countryside Park
Status:
Submitted
Date Submitted:
27.01.2021 - 10:31am
No. of documents attached:
1
Boundaries Captured on Map:
Yes

Author:
Niall McManus

Observations

Recreation & Community facilities
Title:
Additional Bike spaces, segregated cycle track on the Bleach Road, extending KK2 bus route, bridge connecting Linear Park to Bleach Road
Hi KK Council

The project as described is warmly welcomed yet I consider too car centric eliminating access for those without cars, or teenage children.

1- The project is to promote biodiversity and species lost, which is accepted to be caused by anthropogenic actions including Greenhouse Gases (GHG). The internal combustion engine is one of these contributors. The project promotes 20 bicycle spaces and 20 car spaces. I recommend increasing the bicycle spaces considerably to 1, **Promote and prioritise sustainable transport** 2, Future proof the project to have the capacity to service this mode of transport which is to increase in the future.

2- The KK2 bus route should be extended to service the park. This does not need to be for every schedule but for limited number of trips in the day.

3- The marking of a cycle route does not make it a safe route no mater how many road signs to warn drivers are erected. The only way to ensure the safety of vulnerable road users is to segreate them. With the continued success of the Linear Park in Kilkenny, and the pending improved connectivity with the Brewery Quarter and the extension to Bishop's Meadow under Greens Bridge there is a realistic opportunity to provide a safe car-free link from Kilkenny city centre (including Black Quarry Bridge) to the Biodiversity Park for walkers and cyclists. This can be achieved by a pedestrian bridge at the end of Bishop's Meadows crossing over to the Bleach Road, and then into the Park. The Bleach Road would need interverntion to provide **hard** segregation, and access to the park by a greenway along the boundary of the NHA forest. The ultimate outcome would allow children access to the countryside without the need of parents and guardians driving them. All that is required is to get them into the centre of the city and they have access to so much.

Thank you for considering my submission and I have attached a screen shot showing my idea.

Yours faithfully

Niall McManus

An Taisce
The National Trust for Ireland

Kilkenny Association

Ruthstown,
Ballyfoyle,
Co. Kilkenny.
01/02/2021

Planning Section, Kilkenny County Council.
Response from An Taisce – a prescribed body
Re: *Kilkenny Biodiversity & Recreational Countryside Park – Part 8*

Dear Sir / Madam,

An Taisce welcomes the opportunity to respond to the Part 8 consultation on the proposed park at the now closed municipal landfill site at Dunmore.

We wish to make the following observations:

1. *Biodiversity versus anthropogenic value*: The proposal to use the closed landfill for parkland which will benefit the community is welcomed. The enhancement of the site with a mosaic of habitats including pollinator friendly meadows and trees should increase biodiversity locally. However the design of the park with a multiplicity of paths and emphasis on recreational and amenity services leaves little space for undisturbed wildlife. This is not best practise for biodiversity. It is important to include some wild areas, for example we recommend that the southern wet area be planted with willow if the landfill capping allows it.

2. *Landfill trail*: We believe the proposal to provide a landfill infrastructure and interpretative trail is potentially of great educational value. Landfill closure and long term care is expensive with obligations for removal and treatment of leachate, groundwater quality monitoring, and maintenance of the gas management system and the landfill cover. Furthermore, landfills persist for much longer than previously thought and the compacted waste may remain intact for centuries, prolonging the expense. There is an opportunity to encourage us to alter our consumption habits, avoid waste production, reduce, reuse and recycle, thereby limiting the need for more landfill.

3. *Access to the park*: It is clear that the main means of accessing the park will be via cars reflected in the provision of three car parks and the aspiration that the park serve city, county and region. With an area of approximately 7 ha, it will be a relatively small park with only 5 km of trails (Phoenix Park in Dublin has 707 ha) it might be wiser not to oversell the project in order to limit disturbance of wildlife.

We note that there are no short term plans for public transport, yet the park is less than 3 km north of the Castlecomer Road roundabout and it should be possible to provide a local bus service.
There is a long term objective expressed to provide for pedestrian and cycle access via the Nore Linear Park and a pedestrian bridge at Talbotsinch. The onward routes via both the Bleach Road and Castlecomer Road have no pathways and are extremely dangerous for both walkers and cyclists. We recommend that infrastructure for accessing the park via these means be put in place prior to opening the Park.

4. *Potential consequences*: Provision of a park may increase pressure for rural housing especially linear development on the Castlecomer Road north of Kilkenny.
The present transport model for accessing the park i.e. via private car, does nothing to decarbonise our economy, and until electric vehicles prevail it will continue to increase output of greenhouse gases.

Overall we believe the development of a park on the closed landfill site is a positive move which will provide important community, ecological and environmental functions.

Yours sincerely,

Mary T. Brennan

Mary T. Brennan
Honorary Secretary, An Taisce, Kilkenny Association.
E-mail: brennanmt14@gmail.com
T: 087 6733518

From: Benny.McDonagh <Benny.McDonagh@lit.ie>
Sent: Friday 5 February 2021 19:03
To: ourplan <ourplan@kilkennycoco.ie>
Subject: AD at the biodiversity Park

Hi

Hope all well,

Our internet was down today so I couldn't upload my submission for Dunmore Biodiversity & Recreational Countryside Park. So I'll add it here and hopefully it will be accepted.

Thanks

I am delighted to see this development. It will be a welcome and valuable amenity Kilkenny.

Toilet facilities -I cannot see mention of toilet facilities and I think accessible toilet facilities are essential. This development is quite a distance from any public facilities and if visitors travel by walking/cycling then toilet facilities are essential a composting toilet should be provided for environmental and dissemination benefits of showing this innovative idea to the visitors. This system separates solids and liquids, solids can be composted safely with earth worms and liquids can be diverted to a reed bed or stored for further treatment.
Drinking Water - there needs to be sources of drinking water for reusable water bottle refill for visitors.
Rainwater harvesting systems should be installed and a system that can filter to potable water quality selected again to demonstrate sustainable measures and added as a requirement for new builds and considered in retrofitting.
Anaerobic Digestion a correctly sized system should be installed at the landfill and open to public visits in certain circumstances. The feedstock would come from food waste and slurry designed correctly there would not be a smell the gas could then be used to supply biogas to the Kilkenny CoCo large transport including the new exceptional bus service.
the end product could be sold or given back to farmers as a stable fertiliser which would also act as a soil improver and conditioner it would also sequester carbon and reduce methane emissions from slurry and waste decomposition

All the best

Slán

Benny McDonagh
Senior Project Assistant – Sustainable Energy
MSc AEE, BSc Eng, ACIBSE, MIEI, CEM
Development Unit
Limerick Institute of Technology,

Nenagh Road, Thurles, Co. Tipperary, Ireland,

Proposed Development - Kilkenny Biodiversity & Recreational Countryside Park, Dunmore

Planning and Development Act 2000, as amended Planning and Development Regulations 2001, as amended

NOTICE OF PROPOSED DEVELOPMENT BY A LOCAL AUTHORITY: Kilkenny Biodiversity & Recreational Countryside Park

Please see attached submission from the Heritage Council (HC) to the planned development of lands at Dunmore, Co. Kilkenny to a Biodiversity & Recreational Countryside Park and Kilkenny CoCo's request for observations. The Heritage Council welcomes their extensive public engagement process. This submission covers areas relating to the remit of the Heritage Council and is based on the HC advice on previous consultations as well as from experience on various HC initiatives.

The Heritage Council would welcome the opportunity to discuss this submission further.

For further information, please contact **Beatrice Kelly**, Head of Policy and Research
bkelly@heritagecouncil.ie tel: 056 7770777.

This submission is made to respect the consultation deadline and will be put before the Board of the Heritage Council on the 25th February please consider this a draft until that point. If there are any changes after the 25th, we will be sure to respond in full.

1.0 Introduction

1.1 The Heritage Council, notes the positive and forward thinking approach by Kilkenny County Council to develop the former landfill site to a public amenity space and one that will add to the sum of Kilkenny City's biodiversity assets and should link with other fragmented habitat sites in the general area of the River Nore cSAC. The HC also notes the objective to provide much needed services for Kilkenny's citizens: runners, (dog) walkers and cyclists, amongst others. The Heritage Council wishes to make a small number of comments, that is felt reflect on how some elements might be enhanced further and or best practice actions that might also add greater value to this welcome development.

2.0 Access to the Kilkenny Biodiversity & Recreational Countryside Park

2.1 The HC note the opening statement that access to the park is by means of a public car parks at 3 locations, while the HC do not object to these car parks, in of themselves, the Council believes that a move away from car-dominated travel would reflect current direction in terms of moving away from car dependency. One simple manifestation of this would be to relocate the terminus of the new Kilkenny Bus Route (**KK Route 1**) from the Castlecomer Road to the current hard base at Dunmore Recycling Centre / Kilkenny County GAA Training facility. This should offer the public safe access, especially those with a disability or who might need assistance such as school children or the infirm, while offering the bus route added value to the public and therefore the company.

2.2 The HC can see that Kilkenny County Council are looking to link up with existing walkways & trails, this is to be commended and we feel a tangible way to improve the facilities available to many. It is the belief of the Heritage Council that extending safe and appropriate pathways as far as the Mass Track from the existing pathways on the Castlecomer road would achieve this and again encourage less car usage, if lit and safe.

3.0 Landscape Plan for the Kilkenny Biodiversity & Recreational Countryside Park

3.1 The Heritage Council acknowledge the many targeted actions designed to create significant benefits for biodiversity and in particular pollinators, all of which are understood and welcomed in the plan, however, looking to the other stated national crisis of climate change, the HC would advocate for a change from grassland based land management to a greater land cover for native woodland habitats. The HC does see species-rich grassland as an important component for Kilkenny's habitat mix and the planned management would result in many opportunities for pollinators, however the HC see greater benefits from the natural climax vegetation type of Oak, Ash, Holly, with a species rich shrub/ground layer.

3.1.1 The rationale for seeking this change are many, grasslands not grazed, require significant use of carbon-based machinery with the resultant "grass waste" requiring composting. The establishment and management phases too can require watering during periods of drought, all of which deplete important resources. The establishment of a more native woodland habitat landscape has, on the other hand many advantages, once established they require much less intervention, especially native species and they should provide a significant CO^2 sequestration sink that can be off set against Kilkenny CoCo's climate balance budget.

3.1.2 Other reasons for a much wider woodland cover can be argued in regard to enhancing the wider River Nore cSAC, the remnant, fragmented deciduous woodlands in the Nore valley would significantly benefit from habitat connectivity and certainly the many flora & fauna species, which are dependant on this restricted habitat, could access this new opportunity, becoming more resilient. Other considerations should include the wider water management in the Nore valley and its environs, in regard to flood management and distillation to ground water and connecting surface waters, these would all benefit from an established woodland complex.

4.0 Conclusion:

4.1 The Heritage Council wish to again acknowledge the very positive aspects and the wider forward-thinking approach of this planned development by Kilkenny CoCo, we can see and appreciate the significant benefits sought to redress the stated National Biodiversity Crisis and in particular our pollinators. Kilkenny CoCo have also demonstrated the significant ecological benefits sought through a well-developed interpretation and educational aspects stated, which the HC support. The comments

attached here by the HC are stated to seek enhanced benefits for both biodiversity and climate change and hopefully the accrued benefits will in time stand as a beacon as to how we are seeking to take seriously the actions required to turn the tide on past actions.

END

Submissions or observations with respect to the proposed development, dealing with the proper planning and sustainable development of the area in which the development will be carried out, may be made online at https://consult.kilkenny.ie/, in writing to the Planning Section, Kilkenny County Council, County Hall, John Street, Kilkenny or sent to the following e-mail address: kkbiodunmorepart8@kilkennycoco.ie

The latest time and date for receipt of submissions on the development is 5.00pm on 5th February 2021.

***Submissions should be clearly marked "Kilkenny Biodiversity & Recreational** Countryside Park - Part 8"*

SEAN MCKEOWN DIRECTOR OF SERVICES.

Planning, Environment, Building Control, Parks, LEO/Economic Development, Tourism Marketing & Veterinary Services

1

Planning Registration Number: LDUN028

Submitted on behalf of the Club by: John Maye, James Ledingham, Michael Raggett, Paul Moran, Brian Maher, Niamh Murphy, Noel Richardson

Correspondent: John Maye

Auburn, College Gardens,

Callan Rd, Kilkenny.

Email address: johnpmaye@gmail.com

To whom it may concern,

1. **Introduction**

   On behalf of KCH (Kilkenny City Harriers) coaches and athletes I would like to make observations pertaining to the proposed development of a recreational and biodiversity park on the site of now closed multiple landfills at Dunmore Co. Kilkenny. The notice supporting the above development outlines development of trails for uses such as walking, running cycling and orienteering. With some modest alterations to the proposed plans, it would be a force multiplier on the potential benefits to the people of Kilkenny and the surrounding area. The following observations are being put forward by the club and will be developed in detail further in the submission:

   a. Wider maintained grass trails than those proposed.
   b. Low energy lighting around the trails to allow for extended use of facility especially during winter months.

2. **Background to Submission**

   The positive effects of physical exercise for individuals have long been established. A recent study showed 65 per cent of regular runners are motivated to go for a run to improve their mental health, while 53 per cent go running to simply be out in the fresh air and be in nature. Engaging in just 20 minutes of aerobic exercises, such as walking or running, can improve mood and reduce levels of anxiety for several hours post-exercise. Walking and running are the purest and simplest forms of exercise and the range of benefits are enormous. Physical exercise improves your cardiovascular fitness and health, increases lung capacity, helps control weight or enhance weight-loss and increases bone density. It can also prevent high blood pressure and strengthen the immune system.

   However, it is perhaps even more beneficial for our mental health and wellbeing, as research consistently finds that aerobic exercise, particularly walking and running, can help to reduce symptoms of depression and anxiety by reducing stress levels, enhancing our mood, and helping to improve our sleep quality. Some studies have found that as little as 20 minutes of walking or running can reduce anxiety and improve mood for several hours afterwards, while exercising regularly can help improve self-esteem and confidence when we start to see improvements in fitness levels, stamina, and personal best times. We are fast becoming a nation of movers and joggers, with over 300,000 adults running and even more walking on a regular basis. This dramatic increase is very evident in our local community.

   The draft development plan for Kilkenny shows excellent foresight in its linkage with relevant policy and national funding priorities (in particular, policy relating to climate action and Sustainable development goals). The proposed Dunmore site will allow people link by bicycle to the town centre. The usage of public recreational amenity sites in Kilkenny has tripled during the COVID period (unpublished data from OPW, Coillte, Trail Kilkenny). The value of well-designed public realm has arguably never been more evident to the public. Designing the Dunmore recreational facility with optimal access for all, including those who may not be able to afford access to gyms or classes, at all times of day makes good sense from all perspectives. This can only happen if adequate lighting is included in the plan. The city is well served for daytime access but there is a dearth of opportunity for safe, affordable, equitable physical activity in the evenings and in wintertime.

   The ECO Park offers less predictable surfaces for training in the form of grass and trail. There has been significant research in recent years identifying the increased risks of injury to those who exercise regularly on harder surfaces such as tarmac or concrete. Our youth and female population are most at risk of such injuries. Less predictable surfaces reduce load experienced by the body and in turn reduce risk of injuries. A recent review by Francis & Schofield (2020) explores the benefits of training in minimalist footwear or barefoot. This can only be achieved through grass or sand surfaces. Francis and Schofield believe there are several compelling arguments for the inclusion of barefoot or minimalist training in a runner's program, towards the aim of injury prevention. First, an increase in sensory input to the sole of the foot improves postural stability and therefore, fine control of movement. Exercises to improve intrinsic foot muscle strength have been prescribed and advanced by the stimulation of foot

muscles in more functional positions. The availability of suitable areas to exercise is limited with most being on surfaces that increase the risk of injury.
Although Kilkenny has one of the most beautiful parks in the country, its availability during the winter months is restricted to 0900 to 1630hrs. Unfortunately for most, the best hours are committed to working and education. For most individuals, early mornings and evenings are windows of opportunity for exercise. In reality the only safe places to exercise are the street light paths around the streets of Kilkenny. We have taken the time to reinforce the positive impact that such a facility to both physical and mental wellbeing as well as the benefits of exercising on less predictable surfaces such as trail or grass. For coaches, athletes, and individuals who engage in exercise for general health & well being, there is a real sense of excitement of having a safe, purpose build park to exercise body and mind away from the busyness of urban environments. The most significant consideration we feel is the availability of the facility especially during the winter months after natural light hours. In Nordic countries huge monies have been invested on the development of such facilities and the impacts of such are enormous on physical and mental health.

3. **Considerations in the design of the facility:**

We would recommend that the grass trails are maintained to a wide 3 (4m) TBC. This would allow for exercising of large numbers in groups and reduce wear and tear of the grass trails in 1 area especially in the winter months when the ground may be more vulnerable to the impact of traffic.

a. Wider grass trails would also allow for the hosting of Cross-Country events for both club and school events at local, provincial, and national level. Such sporting events have a significant immediate and long-term impact on the local economy for the following reasons:
    i. Visitors will use amenities in the surrounding area when travelling to such events such as restaurants and petrol stations.
    ii. The Biodiversity & Recreational Countryside Park is exposed to a wider community and this helps promote the park along with the media attention that such events bring again highlight the value f such an amenity.
    iii. Those drawn by such events and are exposed to the beautiful amenities of Kilkenny.

b. Park lighting
    i. The second recommendation is low energy soft lighting on the trails (or part thereof) of the park to allow for the use of the facility during the hours of darkness.
    ii. There is no such facility available in Kilkenny city or the surrounding area that allows for exercise during the hours of darkness especially during the winter months. Such a lite facility would be of particular benefit to our youth who are in school during the winter months and for those who cannot exercise during the working day.
    iii. Such lighting would only be available during set hours to reduce cost and environmental impacts for example from 1700-2000hrs daily.

4. Overview Kilkenny City Harriers (KCH)

Kilkenny City Harriers Club was formed in 1953. Now one of the largest clubs outside of the Capital (with 605 members in December 2020, making it the sixth largest club in the country), the Club is a huge success story and has made provisions within its club for all levels of activities. There are three distinct areas within the club which include a Juvenile, Fit for Life and Senior members.
The Juvenile club creates an exceptionally positive environment for the youth of the Kilkenny area and has 340 members, which has had to be limited by the availability of suitable training grounds.
KCH Fit4Life Running Club is a program for all runners whether you are a complete beginner or a regular jogger/runner. It aims to help achieve improved levels of fitness and wellbeing in a club structure, thus making exercising a more fun and sociable experience.
Many KCH athletes, both ladies and men, have displayed their great talents in the international arena. BLOE, the relatively independent juvenile section of BLE, gave similar opportunities to younger athletes.

A member of KCH, Art Anglin, was elected national chairman of the BLOE in 1980. These two bodies were later replaced by AAl, the new Athletic Association of Ireland. A number of KCH athletes won scholarships to USA and/ or competed at international level, including participation in the Olympic Games. Included in this role of honour were Marita Walton-Lanigan, Sinead Delahunty, Geraldine Nolan, Fiona Norwood, Emily Maher, Joanne Cuddihy, Seamus Murphy, lan Wilkinson, Phil Brennan, Eamon and Seamus Costelloe, Adrian O'Dwyer, Eileen O'Keeffe, Ciara Everard, Brian Maher, Aoife Hickey, Brendan Nugent, Aoibhe Richardson, Peter Lynch and Shay McEvoy.

5. Conclusion

The development of a recreational and biodiversity park in Dunmore will be of significant value to the future success of the club at all levels. An athletics club like KCH has lasting effects and benefits not just its members but directly and indirectly influences others in the community to get active. Use of the facility would therefore be a force multiplier to the success of the Park into the future.

Signature:_____ Date:

SUBMISSION TO KILKENNY CO. COUNCIL RE.
ROADWAY NOE ENTERANCE L66013 FROM CAR PARK
AT DUNMORE TO BIODIVERSITY COUNTRYSIDE PARK
EROM LIAM O NEILL AND FAMILY DUNMORE

DEAR SIR,

WHILE PLANNING ENTERANCE FROM CAR PARK AT COMMUNITY CENTRE, PLEASE CONSIDER AND BARE IN MIND THAT THE PUBLIC ROAD L66013 LEADS UP AND IS THE MAIN VEHICULAR ENTERANCE TO OUR HOUSE AND LAND'S, IN USE FOR OVER SEVENTY YEARS, THAT HOUSE AND HEME IS WHERE MYSELF AND MY BROTHERS AND SISTERS WERE BORN AND RAISED AND WHERE MY BROTHERS LIVED UP TO RECENTLY I MYSELF HAVE BEEN DRIVING UP AND DOWN THAT ROADWAY FOR YEARS TO SEE MY BROTHERS ALSO USED BY THE POSTMAN. I AM UP THERE IN MY CAR REGULARLY PLEASE NOTE THE SECOND PART OF THAT ROADWAY FROM OUR HOUSE TO BLEACH ROAD WAS OVERGROWN AND CLOSED OFF FOR OVER FORTY YEARS UPUNTIL RECENTLY AT THE START OF THE PANDEMIC, OPENED UP BY THE CO. COUNCIL FOR LOCALS TO WALK.

I HAVE BEEN DOING MAINTAINANCE ON THAT ROADWAY FOR OVER SIXTY YEARS TRIMMING HEDGES TAKING UP LEAVES AND MUD, FROM THE CASTLECOMER ROAD UP TO THE HOUSE. IT IS A LONG ROADWAY AND BACK BREAKING WORK.

AS THE HOUSE AND LAND'S ARE IN THE PROCESS OF BEING SOLD THE NEW OWNER WILL BE USING THAT ROADWAY ENTERANCE TO THE PROPERTY AND PROVISIONS SHOULD BE MADE SO HE CAN DO SO SAFELY. HE FELL IN LOVE WITH THE AREA AS HE, LIKE YOURSELVES LOVES TREES PLANTS SHRUBS FLOWERS AND ALL BIODIVERSITY, A GOOD NEIGHBOUR OF THE PARK THE NEW OWNER WITH MYSELF AND FAMILY WELCOME THE NEW COUNTRYSIDE PARK TO DUNMORE BUT WE MUST RETAIN OUR ABILITY TO HAVE OUR VEHICLE ANTHISTORICAL ENTERANCE ALONG ROADWAY TO OUR PROPERTY THANKING YOU YOURS SINCERELY

LIAM ONEILL & FAMILY TEL 7762665

1. Kilkenny Recreation and Biodiversity Park

Unique Reference Number:

KK-C161-KBIOP-4

Author:

maria dollard

Consultation:

Kilkenny Biodiversity & Recreational Countryside Park

Status:

Submitted

Date Submitted:

04.02.2021 - 6:07pm

No. of documents attached:

0

Boundaries Captured on Map:

No

Author:
maria dollard

Observations

Recreation & Community facilities

Title:

Toilet facilities and

I am delighted to see this development. It will be a welcome and valuable amenity for the citizens of Kilkenny.

Toilet facilities - I cannot see mention of toilet facilities and I think accessible toilet facilities are essential. This development is quite a distance from any public facilities and if visitors travel by walking/cycling then toilet facilities are essential.

Drinking Water - there needs to be sources of drinking water for reusable water bottle refill for visitors

Accessability/permeability - The N77 is not a suitable road for walking and cycling unless sheilded walking/cycle paths are developed. The Bleach rd is the intended route for cyclists and walkers and I think it is important that the permeability of the site is addressed at the same time that the park is being developed.

Environment & Biodiversity

Title:

Landscaping

The recreational aspect of the Park is clearly identified however I feel that the landscaping as suggested looks too formal and not what might be imagined when thinking of biodiversity. To my mind the term biodiversity suggests sanctuaty for wildlife and wildness. It may be the constraints of the software but I would like to see a less structured layout and feel to the planting of the orchard for example. Keep Kilkenny Beautiful volunteers have exxpertise in this area and might be able to be part of the development of the layout and planting and there could be some community engagement with local people to engage in a 'Meithal' type project. The consultation with young people on the development of the skatepark was a fine example of how engaging the community works very well. This woud be very good for the community, our health and wellbeing and our sense of place in turning a waste park into a haven for plants and wildlife as well as a visitor attraction.

From: Mary Rice <maryrkilk@gmail.com>
Sent: Friday 5 February 2021 12:03
To: kkbiodunmorepart8 <kkbiodunmorepart8@kilkennycoco.ie>
Subject: Submission

I would like to comment on two aspects of this development:

1. Biodiversity V Nature friendly

My key concern with this development is that I don't believe a recreation park can properly be described as a biodiversity park for the following reasons:

- the presence of lots of people is likely to deter wild animals and birds
- the presence of a dog run will no doubt attract lots of dogs which will have a very negative impact on the wild creatures currently frequenting the area

I appreciate the park is going to be nature friendly but believe the it would more accurately be named/described as a 'Nature Friendly Recreation Park'.

Biodiversity is defined as the variety of plant and animal life in a particular habitat, a high level of which is usually considered to be important and desirable. If it is intended to have a biodiversity park, then encouraging lots of people and dogs to visit does not make sense. In my view a biodiversity park could only exist in a genuinely wild area with people just passing through and certainly no dogs.

2. Given the focus on Climate Change, the primary means of access should be walking or cycling. This infrastructure needs to be set up before the recreation park is developed. I believe access by car should be actively discouraged.

Regards.

Mary Rice

Comhairle Chontae Chill Chainnigh
Halla an Chontae, Sráid Eoin, Cill Chainnigh, R95 A39T.

Kilkenny County Council
County Hall, John Street, Kilkenny, R95 A39T.

Ms. Una Kealy,
Administrative Officer
Planning

1st February 2021.

Ref Part 8 12/20

Re: Part 8 Proposal – Kilkenny Biodiversity & Recreational Park, Dunmore, Co. Kilkenny.

A Chara,

I refer to your email in relation to the above,

I have inspected the application for the proposed development and I wish to make the following comments:-

I note the longer-term aspiration to provide a pedestrian/cyclist linkage from the proposed development via the Bleach Road to the existing linear Park. This would be a great asset if completed and benefit significant residents in Dunmore and the wider environment in providing a safe pedestrian/cyclist linkage to and from the city.

There seems to be an interchange at times on drawings/text in respect of the descriptions of car park numbers and entrances. This can be somewhat confusing.

It is assumed that all the carparks will be permanently left open for unrestricted access but this is not fully clear from the application documents.

I note the Traffic Assessment Report, Nov 2020 as submitted by Malone O'Regan Consulting Engineers. I note it draws significantly from the conclusions contained in the original planning reports of the Dunmore GAA facility in respect of the provision of carpark no 3 (GAA overflow facility). A more detailed assessment, focusing more closely on the traffic arising from the proposed development is warranted to demonstrate that the conclusions referred are justified for Carpark No 3.
The current and proposed arrangement of the accesses to the recycling centre/carpark No 3/GAA grounds form a crossroads junction.
The gate to the existing GAA overflow parking area is generally locked and only opened on rarer occasions. The proposal would seem that this will be permanently left open to traffic. Therefore, it would seem necessary that the pedestrian and traffic movements to accommodate for all needs to be made clearer. A formal pedestrian link from the carpark 3 to the GAA facility needs to be provided. It is considered necessary that a Stage 1/2 Road Safety Audit is necessary to address the entirety of this area encompassing now an entrance to the Landfill and Recycling Facility, the GAA

Cuthán/Telephone: 056 7794000 Faics/Fax: 056 7794004
R-post/Email: info@kilkennycoco.ie Gréasán/Webpage: www.kilkennycoco.ie

facility and now the Biodiversity Park this overall entrance area and additional works/amendments as necessary completed to address and deficiencies noted. The sightlines, who has right of way etc needs careful consideration, and the visual cues need to be there for all to follow. A speed ramp on the exit from the landfill before the entrance to the proposed carpark 3 entrance may help reduce speeds of approaching drivers as they exit the recycling centre.
I note that this carpark is also intended to address the needs of buses. Details of the movement of buses into, within and out of carpark No 3 are required which should form part of the RSA audit required.
I note also that it appears that the entirety of the area that could be converted to vehicular parking is not being utilised. It would be appropriate to clarify if this is the final long-term plan or if only 20 vehicular spaces are intended with the remainder landscaped or otherwise.

The Bleach road shall be noted to be Road Ref LS6601 and the small section of cul-de-sac roadway linking to proposed carpark no 2 to be the LT66012.
It is noted that the LT66012 is presently blocked with a gate so it is assumed that there are proposals to remove this gate as part of the proposed development.
The layout of the junction of the LS6601 & LT66012 is also noted as an approximately 90-degree bend. Given the intensification in use of this junction to access carpark No 2 a Stage 1/2 Road Safety Audit is necessary and additional works/amendments as necessary completed to address any deficiencies noted.

It is noted that there are several pedestrian accesses to the development from each of the car parks, most if not all may include steps or stairwells. Consideration should be given to ensure that areas of the parkland are accessible for mobility impaired pedestrians where possible and that adequate surface finishes are provided.

In respect of carpark No 1 (Dunmore Community Centre) I note the following:
The proposed carpark is already in existence and located within the 60km/hr speed limit area. It is not clear if modifications to this carpark are proposed. A Road Safety Review is recommended and additional works/amendments completed as necessary to address in particular the needs of vulnerable road users.

It is also not immediately apparent if public lighting of carparks etc is intended. If public lighting is proposed it shall ensure that the public lighting is designed in such a manner that all areas of the carpark are adequately lit. The timing of when the lighting is switched on/off may need to be considered as it would seem unnecessary to have it illuminated throughout the night if the park itself is not intended to be illuminated. Where provided the public lighting provided shall have energy efficient LED technology and capable to be adapted for use with a central management system (CMS –with 7pin NEMA sockets) or equivalent. The LEDs installed shall be set at a minimum of 3000 Kelvin. All proposed lighting columns shall be set a minimum of 750mm from the roadside kerb or vehicular driving/parking areas
Advance signage indicating the proposed carparks shall be provided on approaches to any of the carpark.

In addition to the comments above if granted consideration to the inclusion of the following submissions is recommended.

All road markings and signage provided shall follow the Department of Transport, Traffic Signs Manual, 2019. Any faded roadmarkings shall be renewed as necessary where they facilitate the proposed development.

The applicant shall ensure that during the construction phase adequate parking is provided for all personnel working on the site as parking on the public roadway shall not be permitted.

Prior to the commencement of development, the applicant is required to submit to the Municipal District Engineer for written agreement a Construction Management Plan to include details regarding a Works Schedule for the phasing of the development, construction working hours, storage of construction materials, construction traffic and traffic management, access, supervision details etc. Construction on Sundays and Bank Holidays is not permitted, without prior written consent from the Planning Authority.

Prior to the commencement of any works, the applicant shall submit to the Municipal District of Engineer for formal written agreement, a Roads Maintenance Programme for the construction phase of the development including street sweeping/cleaning in order to prevent muck/debris, excavated materials and construction materials interfering with the safe operation of the public road. No materials either excavated or for construction purposes, shall be stored on the public road.

Prior to the opening of the development a Road Safety Audit Stage 3 shall be undertaken. The recommendations of same shall be submitted for the agreement of the Road Design Office and the cost to implement any such agreed recommendations shall be borne by the applicant.

Mise le meas,

Seamus Foley,
Senior Executive Engineer
Road Design

Bonneagar Iompair Éireann

Planning Section
Kilkenny County Council
County Hall
John Street
Kilkenny

by e.mail; kkbiodunmorepart8@kilkennycoco.ie

Dáta|Date
19 January, 2021

Ár dTag|Our Ref.
TII20-112047

Re: Part 8 Proposal – Kilkenny Biodiversity and Recreational Countryside Park

Dear Sir/Madam,

The Authority acknowledges receipt of the referral in relation to the above Part VIII proposal and supports the development of the proposed countryside recreational park subject to national road policy and road safety issues being considered, and where relevant, resolved by the Council. It would be expected that the Part VIII proposal will promote and encourage active travel (cycling and walking).

It is noted that an existing access to the N77, national secondary road, is proposed to be utilised as one of three access points to the proposed countryside park. The Authority's records indicate that the existing direct access to the N77 is located were an 80kph speed limit applies. This access also serves the existing Civic Amenity Site and the Kilkenny GAA County Board Training Facility (planning application ref. 11/561).

Two other access points are also indicated, one on local road l-66012 Bleach Road to the west and one via the Mass Path from Dunmore Village within the 60kph speed limit zone on the national road.

The Council will be aware that official Government policy in relation to development impacting national roads is set out in the Section 28 Ministerial Guidelines 'Spatial Planning and National Roads Guidelines for Planning Authorities' (DoECLG, 2012). In relation to lands adjoining national roads at locations outside the 50-60kph urban speed limit, as in the case of the subject proposal access to the N77, national road, the DoECLG Guidelines state;

> Section 2.5; *The policy of the planning authority will be to avoid the creation of any additional access point from new development or the generation of increased traffic from existing accesses to national roads to which speed limits greater than 60 kmh apply. This provision applies to all categories of development, including individual houses in rural areas, regardless of the housing circumstances of the applicant.*

The provision of a countryside recreational park with direct access to/from the N77, national road, in combination with the existing Civic Amenity Site and the Kilkenny GAA County Board Training Facility (planning application ref. 11/561) has the potential to increase turning movements onto and off the national road at this location contrary to the provisions of official Government policy. The Part VIII details provided do not appear to have addressed this aspect of the proposal.

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It is also noted that the existing direct access to/from the N77, national road, will provide access to a car and coach park with a 20 space bicycle park. The nature of the development proposed and the access provided from the N77, national road, has the potential to encourage vulnerable road users onto the national road without, it appears, any appraisal, access strategy or mitigation measures provided to segregate vulnerable road users from high speed traffic on the national road or to address potential road safety issues that may arise.

The proposal as outlined has the potential to conflict directly with the provisions of official policy concerning access to national roads arising from the potential for intensification of use of the direct access to the N77, national road, contrary to the provisions of the Section 28 Ministerial Guidelines 'Spatial Planning and National Roads Guidelines for Planning Authorities' (DoECLG, 2012).

In addition, the absence of a safety appraisal with measures to address the potential for increased vulnerable road user activity along the section of N77, national road, raises road safety concerns.

TII recommends that the proposed Part VIII should be reviewed prior to adoption to address the policy conflict and road safety issues identified in the foregoing. TII would in particular recommend that the Council explore and utilise to the fullest extent possible the available access to local road L-66012 Bleach Road to the west and via the Mass path from Dunmore Village within the 60kph speed limit zone on the national road.

The Authority requests that the foregoing observations are taken into account in the consideration of the proposed Part VIII development in the interests of adhering to the provisions of official policy and safeguarding road user safety, particularly, the safety of vulnerable road users.

Any costs associated with upgrades to the national road to facilitate the proposed development are a matter for the Council and, where applicable, shall be subject to Road Safety Audit in accordance with TII Publications GE-STY-01024.

Yours sincerely,

Michael McCormack
Senior Land Use Planner

Author:
Gillian Tyrrell

Observations

Parks
Title:
Kilkenny Biodiversity & Recreational Countryside Park
I am delighted and excited with the proposals for the Kilkenny Biodiversity & recreational Countryside Park.

As a resident of Bleach Road and a recreational user of the road for walking, running, cycling, walking the dog and swimming at the weir I would like to propose as part of the development (or ideally in advance of it) a reduction of the speed limit on the road to 30km/hr and most importantly, consideration of the road as as **shared** recreational space where **priority** is given to walkers, runners and cyclists alike. The road is just over 5km long and lends itself to the above considerations (note that I am not using the term 'restrictions'). The only cost that would be involved with this proposal would be signage at either end of the road where it is accessed.

I would also like to suggest the placing of bicycle stands at the weir (swimmers cannot secure their bikes while swimming there at the moment) together with provision of hooks on the river side of the weir wall for hanging clothes/towels while swimmers swim. Furthermore, access for swimmers in the form of a stile over the wall during winter when the flood gate is up, is to be recommended.

I belive all the above considerations would enhance the proposed development and create an amazing recreational space for all users. We are very excited with proposals

Modifications to the south side of the mass path to create ideal Sand Martin habitat

Unique Reference Number:
KK-C161-KBIOP-1
Author:
Padraic Hickey
Consultation:
Kilkenny Biodiversity & Recreational Countryside Park
Status:
Submitted
Date Submitted:
20.01.2021 - 11:02pm
No. of documents attached:
0
Boundaries Captured on Map:
Yes

Author:
Padraic Hickey

Observations

Environment & Biodiversity
Title:
Potential to create an ideal sand martin habitat on the south side of the mass path
The Glendine quarry 30 years ago had a large number of Sand Martins nesting in the south facing cliff. This nearby habitat has since been destroyed to make way for housing. According to the npws the sand martin numbers have decreased by 30% since 1998 (https://www.npws.ie/sites/default/files/publications/pdf/IWM115.pdf) . Upon a recent visit to the KIlkenny biodiversity and recreational park I noticed that the mass path to south side has similar properties to the Glendine south facing cliff.

Given that an environmental assessment is not being carried out on the site we don't know if sand martins are using this bank or not. At the very least we should beware of disturbing the cliffs to the south of the path while making modifications to the path.

Even better would be the opportunity to enhance the cliff banks to make them suitable for sand martins. I appreciate that this bank itself is not inside the park boundary but it is bordering on the proposed site and it might be an ideal opportunity with miminal effort to create suitable habitat. Sand Martins need a steep vegetation free surface.

Appendix 7

Updated Appropriate Assessment Screening Report for Modified Proposal – Feb 21

APPROPRIATE ASSESSMENT SCREENING REPORT

KILKENNY
BIODIVERSITY AND RECREATION PARK

DUNMORE

Deborah D'Arcy Ecologist ACIEEM

Date of report: February 2021

Deborah D'Arcy Ecologist ACIEEM
Email: darcyecology@gmail.com

Table of Contents

1 INTRODUCTION

Deborah D'Arcy was commissioned by Mitchell & Associates on behalf of Kilkenny County Council to carry out an Appropriate Assessment (AA) Screening Report under Article 6(3) of the EU Habitats Directive in relation to proposed development of a Biodiversity And Recreation Countryside Park at Dunmore Recycling And Waste Disposal Centre, Kilkenny.

This Appropriate Assessment Screening report provides information in order that the Local Authority, Kilkenny County Council, can undertake Appropriate Assessment screening of the proposed project submitted as a Part VIII planning application. An Appropriate Assessment is an assessment of the potential effects of a proposed project or plan on its own or in combination with other plans or projects on Natura 2000 sites.

The Natura 2000 network provides an ecological infrastructure for the protection of sites that are of particular importance for rare, endangered or vulnerable habitats and species within the EU. Natura 2000 sites include Special Areas of Conservation (SACs) designated under the EU Habitats Directive and Special Protection Areas (SPAs) designated under the EU Birds Directive (2009/147/EC).

1.1 About the author

Deborah D'Arcy is an Ecologist with an MSc in Ecological Assessment and 8 years ecological consultancy experience and is an Associate Member of the Chartered Institute of Ecology and Environmental Management (CIEEM), the chief professional body for Ecologists in Ireland and as such is bound by their professional code of conduct. Deborah has previous experience of carrying out Appropriate Assessment screening reports for a range of development types.

1.2 Legislative context

This screening report has been compiled in accordance with Article 6(3) of the Habitats Directive 92/43/EEC which establishes the requirement for Appropriate Assessment.

Article 6(3) – "*Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. In the light of the conclusions of the assessment of the implications for the site and subject to the provisions of paragraph 4, the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned and, if appropriate, after having obtained the opinion of the general public."*

The Habitats Directive is transposed into Irish Law by the European Communities Natural Habitats Regulations S.I. No. 477 of 2011.

1.3 Guidelines

This report has been carried with reference to the following guidelines:

- *Appropriate Assessment of Plans and Projects in Ireland. Guidelines for Planning Authorities*. DoEHLG, 2009.
- Circular NPWS 1/10 & PSSP 2/10 Appropriate Assessment under Article 6 of the Habitats Directive: Guidance for Planning Authorities
- *Managing Natura 2000 sites – The Provisions of Article 6 of The Habitats Directive 92/43/EEC.* European Commission, 2000.
- *Managing Natura 2000 sites – Commission Notice. The Provisions of Article 6 of The Habitats Directive 92/43/EEC.* European Commission, 2018.
- *Assessment of Plans and Projects Significantly Affecting Natura 2000 sites. Methodological Guidance on the Provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.* European Commission, 2002.
- Circular L8/08 Water Services Investment and Rural Water Programmes – Protection of Natural Heritage and National Monuments 2 September 2008
- CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine.* Chartered Institute of Ecology and Environmental Management, Winchester.

The purpose of Appropriate Assessment (AA) screening is to determine, on the basis of a preliminary assessment and objective criteria, whether the project, alone or in combination with other plans or projects, could have significant effects on a Natura 2000 site in view of the site's conservation objectives.

The notion of what is 'significant' needs to be determined objectively. The significance of effects should be determined in relation to the specific features and environmental conditions of the protected site concerned by the plan or project, taking particular account of the site's conservation objectives and ecological characteristics (EU, 2018).

The conclusions should enable the competent authorities to ascertain whether the plan or project will adversely affect the integrity of the site concerned. The focus of the appropriate assessment is therefore specifically on the species and/or the habitats for which the Natura 2000 site is designated (EU, 2018).

Screening for AA is undertaken without the consideration of any mitigation measures, unless potential impacts can be clearly avoided through modification or re-design of the project (DoEHLG, 2009). If significant effects on Natura sites cannot be ruled out then Appropriate Assessment and a Natura Impact Statement is required.

The need to apply the precautionary principle in making any key decisions in relation to the tests of AA has been confirmed by European Court of Justice case law. Therefore, where significant effects are likely, uncertain or unknown at screening stage, AA will be required.

Appropriate Assessment Screening involves the following process (DoEHLG 2009)*:*

- Description of plan or project, and local site or plan area characteristics
- Identification of relevant Natura 2000 sites, and compilation of information on their qualifying interests and conservation objectives

- Assessment of likely significant effects – direct, indirect and cumulative- undertaken on the basis of available information as a desk study or field survey or primary research as necessary
- Screening Statement with conclusions.

2 METHODOLOGY

2.1 Desktop research

Desktop research was carried out to review and collate available information, datasets and documentation sources relevant for the completion of this AA Screening Report. The desk study, included review of the following information:

- Information on the network of Natura 2000 sites, boundaries, qualifying interests and conservation objectives, obtained from the National Parks and Wildlife Service (NPWS) at *www.npws.ie*;
- Text summaries of the relevant Natura 2000 sites taken from the respective Standard Data Forms and Site Synopses available at *www.npws.ie*;
- Information on species records and distributions, obtained from the National Biodiversity Data Centre (NBDC) at *maps.biodiversityireland.ie*;
- Information on waterbodies, catchment areas and hydrological connections obtained from the Environmental Protection Agency (EPA) at *gis.epa.ie*;
- Information on bedrock, groundwater, aquifers and their statuses, obtained from Geological Survey Ireland (GSI) at *www.gsi.ie*;
- Satellite imagery and mapping obtained from various sources and dates including Google, Digital Globe, Bing and Ordinance Survey Ireland;
- Information on the existence of permitted developments, or developments awaiting decision, in the vicinity of the proposed development from Kilkenny County Council available at: http://planning.kilkennycoco.ie.

2.2 Ecological field surveys

Previous ecological surveys were carried out by Deborah D'Arcy to map the habitats on the Dunmore site in July 2019 to inform a habitat management plan. Habitats were classified according to the Heritage Council scheme (Fossitt, 2000). An ecological field survey of the proposed development site for the purposes of this AA screening assessment was carried out on the 15th October 2020. The habitat mapping was updated and particular attention was paid during the ecological survey to identify any ecological linkages with the Natura 2000 site and to the location of drainage ditches and watercourses in view of the hydrological connectivity to the River Nore.

2.3 Assessment of Impacts

The potential for significant negative effects on the conservation objectives of the relevant Natura sites was examined with reference to the information pertaining to the conservation objectives of the Natura

sites, the ecology of the designated habitats and species and known or potential sensitivities of the habitats and species.

The potential for significant effects as a result of the proposed parkland development were considered through the use of key indicators (EU, 2002):

- Habitat loss or alteration;
- Habitat/species fragmentation;
- Disturbance and/or displacement of species;
- Changes in population density; and
- Changes in water quality and resource.
- The potential for spread of invasive plant species

3 DESCRIPTION OF THE PROJECT AND SITE

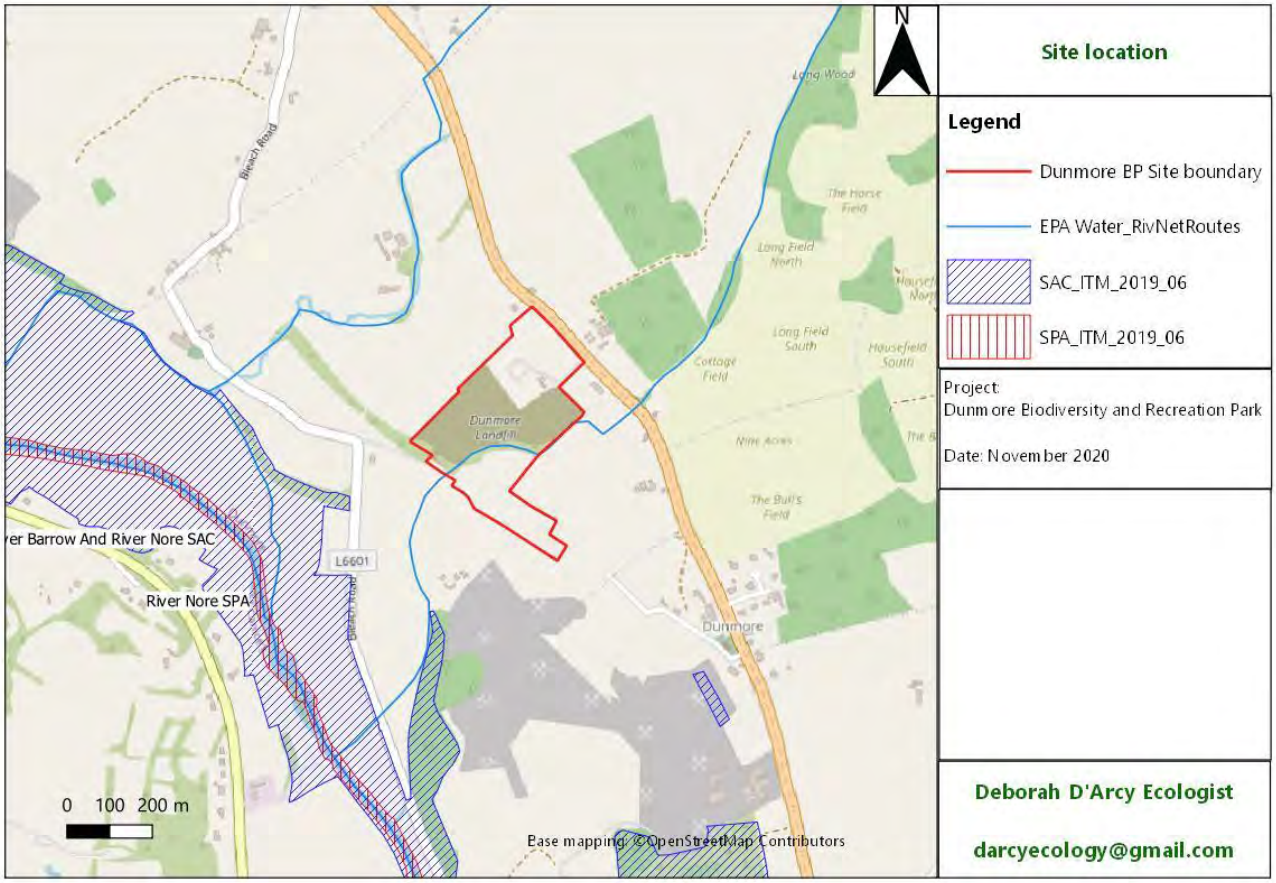
3.1 Site location

The proposed Biodiversity and Recreational Countryside Park development is located in the townland of Dunmore on the now closed Dunmore municipal landfill site in Kilkenny (ITM 649621, 660632). The closed landfill site is approximately 11 ha (17 acres) in area. The Dunmore Recycling & Waste Disposal Centre adjoins the site. The site is accessed from the Castlecomer Road N77 to the east and a local road, the Bleach Road, to the west. The boundary of the proposed development site also includes land to the north of the Dunmore Recycling and Waste Disposal Centre part of which is used as an overflow car park by Kilkenny GAA training facility. Kilkenny County Council entered a longterm lease in 2012 for a section of the former landfill site to Kilkenny GAA for training pitches and accommodations.

The site is bounded by the Kilkenny GAA Club to the east, agricultural land and residential property to the west and south. There is also a sand/gravel extraction pit located to the south.

The site is located approximately 200 m from the boundary of the River Barrow and River Nore SAC and 440 m from the boundary of the River Nore SPA. The location of the site is shown in Figure 1.

Figure 1. Location of the proposed Dunmore Biodiversity Park



3.2 Project Description

Kilkenny County Council proposes to develop a recreational and biodiversity park on the site of the now closed municipal landfill at Dunmore, County Kilkenny. The closed landfill site occupies an area of circa. 17 acres and is located 5km north of Kilkenny city centre. The proposed countryside park will develop trails for uses such as walking, running, cycling, and orienteering, along with educational opportunities related to natural heritage, biodiversity enhancement and management. The park will be attractive to the general public, schools and recreation groups, and those with specific environmental interests such as photography and birdwatching in the context of an amenity which is close to nature.

A copy of the landscape plan is provided in the Appendix A.

The park will be accessed, with carparking provided, from three separate access points, namely:-

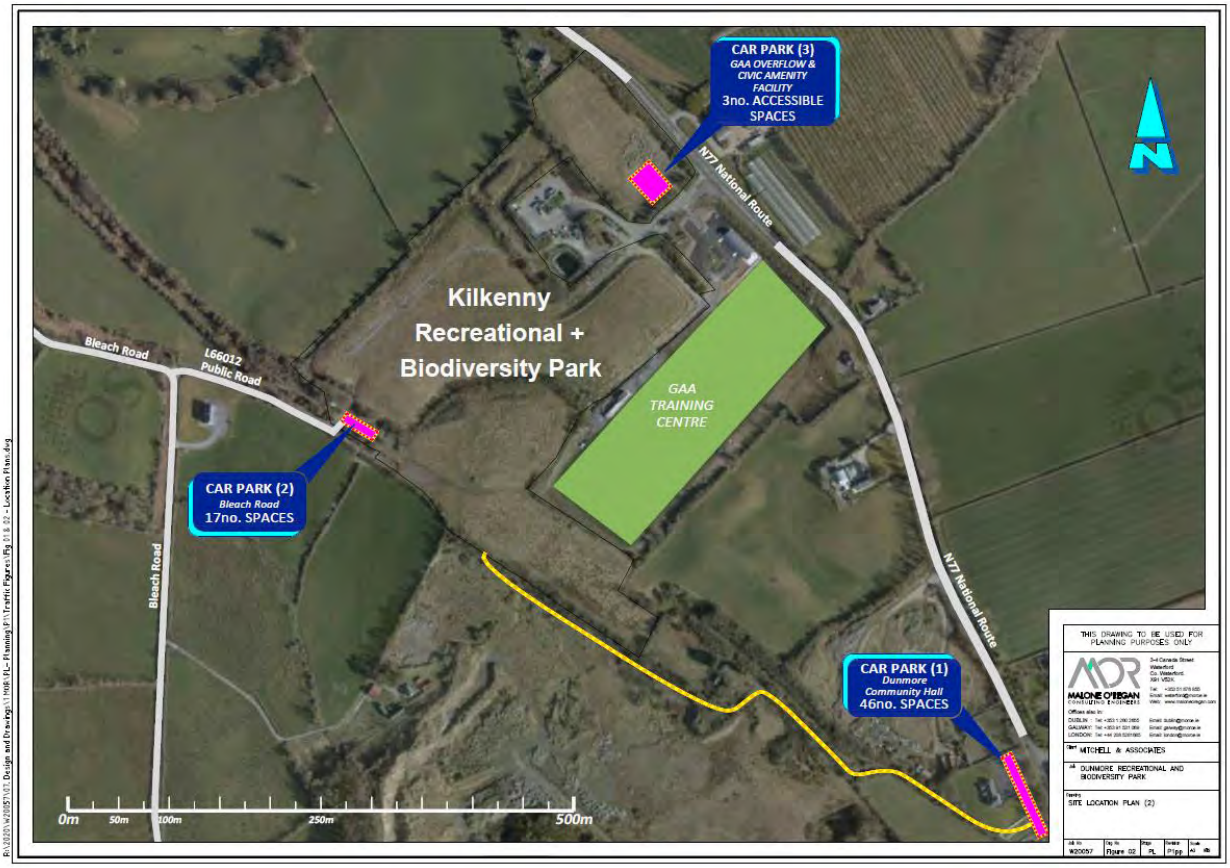
Carpark 1 at Dunmore village from the existing Dunmore Community Hall carpark and Mass Path in the townlands of Loughmerans and Dunmore, the southern part of the mass path is adjacent to The Church of The Most Holy Trinity, A Protected Structure.

Carpark 2 Proposed small car and bicycle parking off the local Bleach Road

Carpark 3 Off the National Road route N77 (Castlecomer Road) utilising the existing entrance to the Dunmore Recycling and Refuse Disposal Centre and Kilkenny County GAA grounds. Accessible parking spaces only under caretaker management.

The location of the access and carparks are shown Figure 2 below.

Figure 2 Access and carparks for the Dunmore Recreational & Biodiversity Park (provided by Malone O'Regan)



Background and Concept

The project description below is based on the Kilkenny Biodiversity and Recreation Countryside Park Landscape Design Report (2020) provided by Mitchell +Associates.

Dunmore Landfill commenced operation in 1989 under EPA Licence (W0030-02) and operated until March 2010. The Contracting Authority continues to discharge its functions with regard to the aftercare of the

former landfill site. This includes dust, water and gas monitoring, leachate management along with services, gas wells/gas manifold maintenance, haul road and perimeter fencing maintenance.

The key element of the concept for the project is to create a new country park on the former Dunmore landfill site to support the objectives of "Countryside Recreation" with the provision of trails and facilities for health, fitness and play, with an ecological/biodiversity focus.

The waste infrastructure function of the site is now part of its history. With the remedial works completed, a mosaic of habitats exist and are developing on the site. These habitats were mapped and classified in a report commissioned by Kilkenny County Council in 2019 *Dunmore Civic Amenity Recycling Centre and Surrounding Lands, Habitat Survey and Management for Pollinators* (D'Arcy D., 2019).

The aim is through management of these habitats to maintain and increase their biodiversity value in addition to new planting and recreational infrastructure that the park will continue to contribute to develop positive environmental change along with societal benefit.

The transformative nature of the project from a symbol of waste to a beacon of biodiversity creates a landmark destination anchored by the green infrastructure connections out to the immediate locality and wider Kilkenny environs.

The park will incorporate interpretive educational information with the aim to promote a greater awareness and understanding of the importance of biodiversity. Because of its proximity to Kilkenny City it has great potential as an area for teaching field biology, environmental studies and Reduce Reuse Recycle curriculum.

Park Circulation and Activities

Themed integrated walkway loops form the main circulation routes for pedestrians and cyclists. They weave around and through the mapped habitats on the site. The trails will incorporate play elements, educational and art opportunities for nature interpretation and enable outdoor recreation activities such as a trim trail, orienteering, running and athletics training. A dog park is included as a designated fenced and gated area for exercising and socialising dogs.

The upper walkways can exploit views across the wider environment, locate amenity spaces and seating and enable local group activities such as photography or wildlife viewing.
Play provision across the site will seek to utilise existing features of the site to create a natural "free" playground across the site.

An arrival viewing terrace provides a gathering space for events/education opportunities, a focal point with an "attractor" such as a feature for play/sculpture/information, an outdoor classroom.

Three themed routes are proposed:

1. **The Biodiversity Trail:** Grass mown paths provide a trail up close through meadow grasslands, alongside hedgerows and tree lines and an education seating area at the stream edge. Education stations along the route highlight species diversity found in the park.
2. **The Landfill Infrastructure interpretative trail:** A compacted limestone dust path network which connects visible remnant landfill infrastructure, a legible expression of the landfill history and its transformation. Interpretative elements to be incorporated into the design to describe the site history as a Landfill site and express remaining infrastructure of 56 gas wells, leachate management and maintaining access for landfill aftercare. The aim is to acknowledge the landfill history and demonstrate the positive transformation of the site for a biodiversity and recreational resource.
3. **The Fitness Trail**: A varied surface path, tarmacadam, compacted gravel, mown lawn, network of paths with fitness stations incorporated. The path takes in level changes across the park with flights of steps and ramped paths up the sloped sides of the landfill for increased aerobic activity.

Planting Structure and Management

4. The planted structure is designed to create different experiences of containment/protected microclimates provided by woodland copse planting, woodland scrub planting to bank area, hedgerow and treeline planting and open grass areas and varying meadow types for active recreation and biodiverse habitats.
5. Implementation of the Habitat Management for Pollinators recommendations for varied cutting regimes for diversity in meadow areas, mown paths, additional selected seeding to create high value habitats for pollinating insects and implementing management practices to maximise this benefit.
6. Planting and management of the park shall be undertaken in accordance with the pollinator friendly management objectives as outlined in the "All Ireland Pollinator Plan 2015-2020 (Councils Actions to Help Pollinators), National Biodiversity Data Centre.

Planting Strategy

The overarching aim for the establishment of vegetation communities at the site is to create and maintain through habitat management practices and new planting a mosaic of native habitats. A number of specimen trees will be planted around the site individually and in small groups. The species have been chosen to complement the landscape character or to be native species in the area. An orchard will be planted with fruit trees.

Construction materials and design

- Carparks with permeable surfacing and reinforced grass carparking surface
- Tarmacadam path (3 m side), compacted limestone paths.
- Gabion retaining wall
- Recycled plastic sleeper step and ramps
- Seating, play structures and fitness Equipment

Wastewater
There will be no additional discharge of wastewater from the site as a result of the proposed development. There is no proposal to provide public toilet facilities on the site.

Storm water
Surface water from the parklands will continue to drain to the existing surface water drainage system on site. The existing infrastructure includes swales which carry surface water off the capped landfill to the Loughmerans Stream at three points along the site.

There is quarterly water quality monitoring of surface water on site. This is monitored at a point called 'Upstream A' on the opposite side of the N77 before the watercourse meets the facility and at 'Downstream A' at the south or the landfill where it leaves the facility.

The majority of the proposed path network is mown lawn paths and compacted gravel with one tarmacadam path to bring park users from the carpark off the N77 to the primary viewing point on the top of the landfill. The surface water runoff from the proposed pathways will run off the surface to permeate to ground locally. Throughout the park all existing manhole covers with have a stone mulch surround 1m in diameter and 200mmm deep.

The storm water drainage design has been designed by Malone O'Regan Consulting Engineers. The proposed storm sewer servicing car parking areas will connect to an existing sewer which bounds the site. The storm water will pass through a petrol interceptor before leaving the site, details of which are included in the Engineers drainage report. In additional to storing oil, fuel oil separators are designed with capacity to remove and store silts.

Surface water run-off for the proposed site layouts will calculated using the Modified Rational Method in accordance with the Greater Dublin Strategic Drainage Study (GDSDS) and attenuated for a 1 in 30 year event with 10% added for climate change in accordance with the Kilkenny County Council Development plan.

Construction Management
The appointed contractor for the proposed park will be required to submit a Construction Management Plan to be approved by Kilkenny County Council.

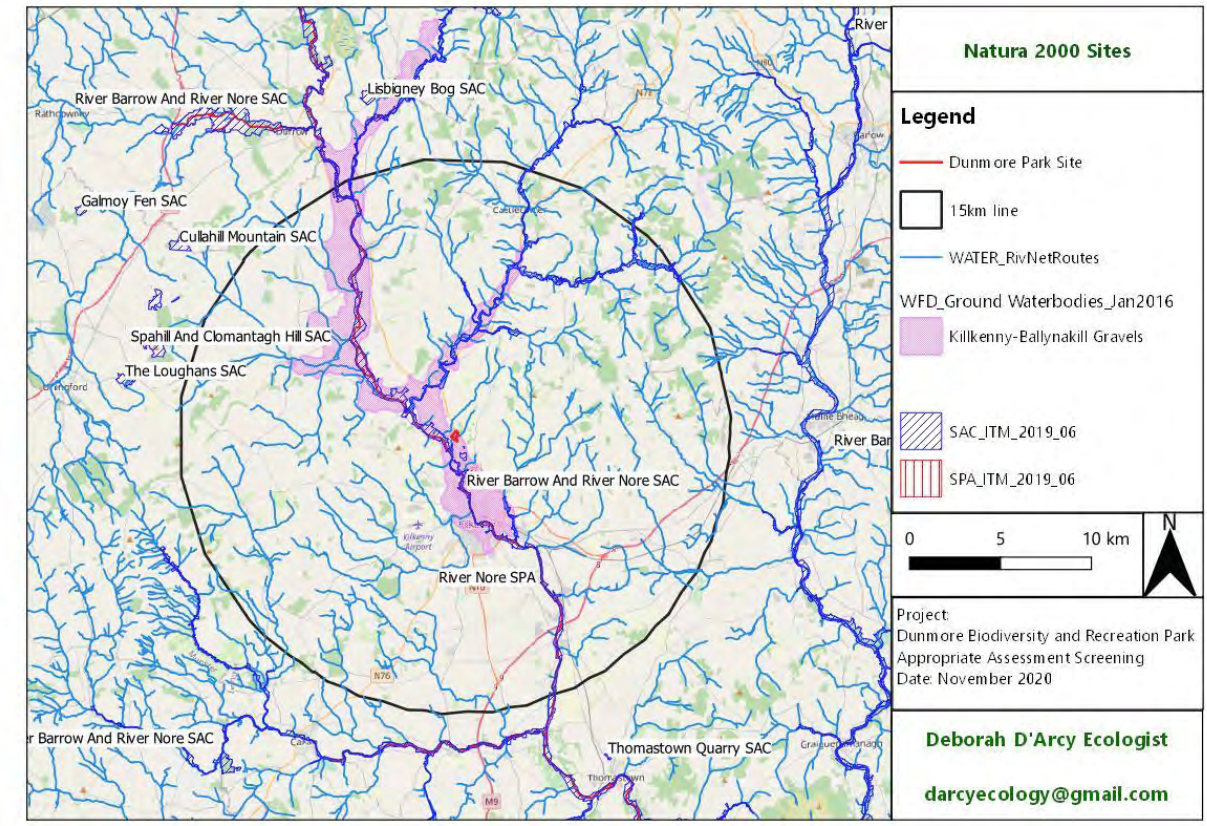
4 IDENTIFICATION OF NATURA SITES WITHIN THE ZONE OF INFLUENCE

The source-pathway-receptor analysis was applied to identify potential ecological linkages with Natura sites and to establish the potential zone of influence of the project.

In order to identify Natura 2000 sites potentially within the zone of influence of the project all Natura sites within 15km (Figure 3) and all Natura sites within the same groundwater body delineation and those

hydrologically linked downstream were identified and the conservation interests of these sites were reviewed for their sensitivity and potential pathways for impacts from the proposed development. Subsequently the sites were determined as whether they were in or outside the zone of influence of the project. The Natura sites determined to be within the zone of influence of the proposed project is presented in Table 1.

Figure 3. Natura sites located within 15 km of the development site



The River Barrow and River Nore SAC is located approximately 200 m west of the boundary of the proposed Dunmore Biodiversity and Recreation Park. The River Nore SPA is located approximately 440 m west of the boundary of the proposed park. EPA river routes map data shows the Loughmerans Stream running though Dunmore landfill site providing hydrological connectivity to the River Nore. Therefore, these Natura sites were considered to be within the zone of influence of the proposed development.

There were no other Natura sites downstream of the Dunmore Park that are connected by surface water to the Dunmore Park.

Thomastown Quarry SAC is located approximately 20km south of Dunmore. The feature of interest in Petrifying springs. Thomastown quarry is located within a different groundwater body (Clifden South) than Dunmore (Kikenny-Ballynakill gravels) and the site is not connected by surface waters. Therefore, this site

was not considered to be within the zone of influence of the project as there are no pathways for transmission of effects to this SAC. There are no Natura sites within the same groundwater body delineation as the Dunmore Park.

Therefore, it was determined that the Natura sites within the zone of influence of the proposed project are The River Barrow and River Nore SAC (site code 002162) and the River Nore SPA (site code: 004233). Table 1 below records the above analysis.

Table 1 Natura 2000 sites determined to be within the zone of influence

Natura 2000 site	Distance (m)	Within the zone of influence?	Comment
River Barrow and River Nore SAC (002162)	200	Yes	Site is hydrologically connected by the Loughmerans Stream
River Nore SPA (004233)	440	Yes	Site is hydrologically connected by the Loughmerans Stream

5 CHARACTERISTICS OF THE RIVER BARROW AND RIVER NORE SAC

5.1 River Barrow and River Nore SAC

A summary of the characteristics of the River Barrow and River Nore SAC is given below based on the site synopsis (DAHG, 2016). A complete site synopsis is available at: https://www.npws.ie/protected-sites/sac/002162.

This site consists of the freshwater stretches of the Barrow and Nore river catchments as far upstream as the Slieve Bloom Mountains, and it also includes the tidal elements and estuary as far downstream as Creadun Head in Waterford. Both rivers rise in the Slieve Bloom mountains and the confluence of the two rivers is located near New Ross, Co. Wexford.

The site is a Special Area of Conservation (SAC) selected for the following habitats and species listed in Table 2 below.

Table 2 Qualifying Interests (QI) of the River Barrow and River Nore SAC (* = priority; numbers in brackets are Natura 2000 codes):

HABITATS	SPECIES
[1130] Estuaries	[1016] Desmoulin's Whorl Snail
[1140] Tidal Mudflats and Sandflats	[1029] Freshwater Pearl Mussel
[1170] Reefs	[1092] White-clawed
[1310] *Salicornia* Mud	[1095] Sea Lamprey
[1330] Atlantic Salt Meadows	[1096] Brook Lamprey
[1410] Mediterranean Salt Meadows	[1099] River Lamprey
[3260] Floating River Vegetation	[1103] Twaite Shad
[4030] Dry Heath	[1106] Atlantic Salmon
[6430] Hydrophilous Tall Herb Communities	[1355] Otter
[7220] Petrifying Springs*	[1421] Killarney Fern
[91A0] Old Oak Woodlands	[1990] Nore Freshwater Pearl Mussel
[91E0] Alluvial Forests*	

A wide range of habitats associated with the rivers are included within the site, including substantial areas of woodland (deciduous mixed), dry heath, wet grassland, swamp and marsh vegetation, salt marshes, a small dune system and intertidal sand and mud flats. Areas of improved grassland, arable land and coniferous plantations are included in the site for water quality reasons (Natura 2000 standard Data form IE0002162 River Barrow and River Nore SAC).

The site is very important for the presence of a number of E.U. Habitats Directive Annex II animal species including Freshwater Pearl Mussel (both *Margaritifera margaritifera* and *M. m. durrovensis*), White-clawed Crayfish, Salmon, Twaite Shad, three lamprey species – Sea Lamprey, Brook Lamprey and River Lamprey, the tiny whorl snail *Vertigo moulinsiana* and Otter. This is the only site in the world for the hard water form of the Freshwater Pearl Mussel, *M. m. durrovensis* which is limited to a 10 km stretch of the Nore. The site is one of only a handful of spawning grounds in the country for Twaite Shad. The freshwater stretches of the River Nore main channel is a designated salmonid river. The Barrow/Nore is mainly a grilse fishery though spring salmon fishing is good in the vicinity of Thomastown and Inistioge on the Nore. The upper stretches of the Barrow and Nore, particularly the Owenass River, are very important for spawning.

Land use at the site consists mainly of agricultural activities – mostly intensive in nature and principally grazing and silage production. Slurry is spread over much of the area. Arable crops are also grown. The spreading of slurry and fertiliser poses a threat to the water quality of the salmonid river and to the

populations of E.U. Habitats Directive Annex II animal species within the site. Several industrial developments, which discharge into the river, border the site.

The main threats to the site and current damaging activities include high inputs of nutrients into the river system from agricultural run-off and several sewage plants, over-grazing within the woodland areas, and invasion by non-native species, for example Cherry Laurel (*Prunus laurocerasus*) and Rhododendron (*Rhododendron ponticum*). The water quality of the site remains vulnerable. Good quality water is necessary to maintain the populations of the Annex II animal species listed above. Good quality is dependent on controlling fertilisation of the grasslands, particularly along the Nore. It also requires that sewage be properly treated before discharge. Drainage activities in the catchment can lead to flash floods which can damage the many Annex II species present. Capital and maintenance dredging within the lower reaches of the system pose a threat to migrating fish species such as lamprey and shad. Land reclamation also poses a threat to the salt meadows and the populations of legally protected species therein.

5.2 The River Nore SPA

The site is a Special Protection Area (SPA) under the E.U. Birds Directive of special conservation interest for the following species: Kingfisher.

A survey in 2010 recorded 22 pairs of Kingfisher (based on 16 probable and 6 possible territories) within the SPA. Other species which occur within the site include Mute Swan (35), Mallard (267), Cormorant (14), Grey Heron (45), Moorhen (14), Snipe (17) and Sand Martin (1,029) – all figures are peak counts recorded during the 2010 survey.

The River Nore SPA is of high ornithological importance as it supports a nationally important population of Kingfisher, a species that is listed on Annex I of the E.U. Birds Directive (NPWS, 2011).

6 CONSERVATION OBJECTIVES

The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest. These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and

- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

6.1 Conservation Objectives of the River Barrow And River Nore SAC

Site specific conservation objectives have been compiled for the River Barrow and River Nore SAC (NPWS, 2011 Version 1). The conservation objectives of the River Barrow and River Nore SAC are to maintain or restore the favourable conservation condition of the features of interest for which the site is designated.

A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site. The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

6.2 Conservation Objectives of the River Nore SPA

There are no site-specific conservation objectives available for The River Nore SPA. The conservation objective is to maintain or restore the favourable conservation condition of the Kingfisher listed as Special Conservation Interests for the SPA. (NPWS, 2020)

7 BASELINE ENVIRONMENT

7.1 Desktop study

Desktop research was carried out to gather information on the local environment of the site. Records for the grid square S46 were extracted from the National Biodiversity Data Centre database on 14-10-2020. Subsequently pertinent records relevant to this assessment were searched to obtain further details for the record. As expected, these records show the occurrence of some Qualifying Interest (QI) species of the River Barrow and River Nore SAC and the River Nore SPA in the wider area of the development.

Table 3 Records of relevant species in the hectad S46 of the development site

Species	Location	Site	Date	Source
Otter	S46	-	1986	Badger and Habitats Survey of Ireland
Otter	S458628	Three Castles Bridge	2013	Atlas of Mammals in Ireland 2010-2015
Otter	S458627	Three Castles Bridge	2005	Otter survey of Ireland 2004 & 2005

Species	Location	Site	Date	Source
Otter	S441665	Inchbeg, Freshford	2013	Atlas of Mammals in Ireland 2010-2015
Crayfish	S479628	Dinin Bridge	2001	River Biologists' Database (EPA)
Crayfish	S458626	Three castles Bridge	1995	River Biologists' Database (EPA)

7.2 Geology and soils

Review of Geological Survey Ireland (GS1) Spatial Resources mapping indicates that the bedrock geology for the Dunmore area belongs to the Killeshin Siltstone formation of muddy siltstone and silty mudstone. Soils for the area (EPA maps) are characterised by the Irish Soils Information System (SIS) as the Elton Association of Fine loamy drift with limestones.

The Loughmerans Sand and Gravel pit to the south of the site is a sand and gravel pit in a limestone gravel deposit.

7.3 River water quality

EPA data maps the Loughmerans River waterbody code: IE_SE_15N011750 flowing through the Dunmore Park site. This watercourse is mapped as arising in the townland of Dunmore Park 1.7km from the site boundary and flows through the site into the River Nore with a mapped total length of 2893m from source to confluence.

The River Nore is a designated Salmonid River (S.I 293/1988) European Communities (Quality of Salmonid Waters) Regulations 1988.

Rivers are assessed under the European Union Water Framework Directive (WFD). Rivers are classified into five quality classes (status) under the WFD as high, good, moderate, poor or bad.

The site lies within the River Nore Catchment. The EPA water quality maps (https://gis.epa.ie/EPAMaps/) indicate that the latest water quality results in 2019 for the River Nore upstream of the Dunmore site is good (Q4) monitored at Three Castles Bridge (RS15N011700). This good status is maintained downstream at Green's Bridge (RS15N011800).

The WFD status for River Nore segment Nore_160 which includes the stretch of the River Nore directly west of the Dunmore site is not at risk. Downstream the WFD status for River Nore segment Nore_170 is under review (https://gis.epa.ie/EPAMaps/). EPA data indicates the ecological status of this section of the river has been good since 2012 and improvement on the moderate score recorded for the 2007-2009 reporting period.

Pressures on water quality

Water quality in Ireland is improving in some areas and getting worse in others, but that overall there has been a net decline in water quality since 2013 (EPA ,2019). The continuing decline in the ecological health of rivers is associated with a rise in the concentration of nutrients in rivers and lakes, as well as impacts from chemicals, and changes to the physical habitat conditions. The main significant pressures impacting water quality in Ireland include agriculture, wastewater discharges, physical impacts on habitats including excess fine sediment, and pressures from forestry activities.

The ecological status change across river catchments between 2010–2015 and 2013- 2018 indicates that 19 water bodies in the Nore River catchment declined in status. River sites with increasing nitrogen concentration are mostly located in the more intensively farmed areas in the south, south-east and east of the country, where the soils are more freely draining and vulnerable to nitrate leaching. The River Nore is included in the river catchments with highest number of river sites with increasing nitrogen and phosphorus concentration.

Significant pressures have been identified for waterbodies that are At Risk of not meeting their water quality objectives under the Water Framework Directive. While there are a multitude of pressures in every waterbody, the significant pressures are those pressures which need to be addressed in order to improve water quality (https://gis.epa.ie/EPAMaps/Water).

River extractive industry, agriculture and abstraction pressures, have been identified for the River Dinin a tributary of the Nore upstream of Dunmore. Agriculture pressures have been identified for the Nuenna a tributary of the River Nore upstream of Dunmore. River industry, hydromorphology and abstraction pressures are identified for the Breagagh downstream of Dunmore. Agriculture pressures effect the Kilderry and Rathgarvan or Clifden river bodies downstream of Kilkenny. No significant pressures were identified or mapped for the River Nore segment west of the site or for the Loughmerans Stream.

7.4 Groundwater

The site is situated on a Regionally important sand gravel aquifer (Rg). An aquifer is an underground body of water-bearing rock or unconsolidated materials (gravel or sand) from which groundwater can be extracted in useful amounts. GSIs Aquifer classes are divided into three main groups based on their resource potential, and further subdivided based on the type of openings through which groundwater flows (https://gis.epa.ie/EPAMaps/). Groundwater vulnerability is classified as high.

The WFD Groundwater status for the Kilkenny-Ballynakill Gravels is Good. There are no significant pressures identified by the EPA for the Kilkenny-Ballynakill gravels aquifer. Anthropogenic pressures are identified as a significant on the adjacent Ballingarry groundwater body. Anthropogenic pressures may include nutrient, chemical and microbiological.

7.5 Ecological survey results

Previous ecological surveys were carried out by Deborah D'Arcy to map the habitats on the Dunmore site in July 2019 to inform a habitat management plan. Habitats were classified according to the Heritage Council scheme (Fossitt, 2000). Additional ecological field surveys of the proposed development site for the purposes of this screening assessment and a separate ecological impact assessment were carried out on the 15th October 2020. Particular attention was paid during the ecological survey to identify any ecological linkage with the River Barrow and River Nore SAC and the River Nore SPA and to the location of drainage ditches and watercourses in view of the hydrological connectivity to the River Nore.

Habitats on site

A habitat map of the site and adjacent lands is provided in Figure 4.

The proposed development site is primarily composed of moderately species rich dry meadow grassland (GS2) and an overgrown and rank wet grassland (GS4) bounded by hedgerows (WL1), treelines (WL2) and linear woodland (WN2). The Dunmore Recycling and Waste Disposal Centre is composed of an artificial surface (BL3) and is bounded by scrub on embankments with as a small area of dry calcareous grassland (GS1) on a slope to the east of the area . There is a small area of exposed sand and gravel (ED1) to the north of the compound area. The GAA overflow carpark is surfaced with gravel, the margins of which are recolonising bare ground (ED3). There is a stone built building (BL1) to the south of the compound.

There are two constructed lagoons (FL8) on the site lined with impermeable membrane which contain leachate from the capped landfill. The lagoons are fenced with robust metal palisade fencing.

The Loughmerans Stream (FW2) enters the site through the GAA pitches adjacent to the N77. The stream is culverted under the first pitch and along the landfill site boundary with the GAA facility. The stream opens up inside the landfill site and runs along the tree line. The stream bed was dry at the time of survey in October 2020 and in July/ August 2019 and there was no wetland vegetation observed in the stream bed. From this treeline the stream is culverted again under a haul road and laneway on the southern part of the site where it then opens up in agricultural lands to the south of the landfill site. Here the watercourse runs along a hedgerow and is filled with vegetation including nettle (*Urtica diocia*) and great willowherb (*Epilobium hirsutum*).

Surface water swales carry surface water off the capped landfill to the watercourse at three points along the site. The watercourse runs from higher ground in the Johnswell area but runs dry from April/May to October/November depending on weather conditions (Alan Rhatigan, Site Manager personal communication).

Adjacent habitats

The GAA grounds to the east of the site are composed primarily of highly managed amenity grassland (GA2) characteristic of playing pitches. The GAA car park area is surfaced with tarmac (BL3).

Land to the north of the site is improved agricultural grassland (GA1) grazed by sheep at the time of survey in October 2020.

To the south of the Dunmore former landfill site is a sand and gravel pit which although not surveyed appears from a distance and from review of satellite imagery (google satellite) to support scrub (WS1), semi-natural grasslands, recolonising bare ground (ED3), bare ground (ED2) and exposed sand (ED1). These habitats are typical of active and disused sand and gravel pits.

Notable species

Blue fleabane (*Erigeron acris),* Salad burnet (*Sanguisorba minor),* Bee orchid (*Ophrys apifera*) and Pyramidal orchids (*Anacamptis pyramidalis*) were recorded on the site. Common calamint (*Clinodpodium ascendens*) was recorded adjacent to the site along the Mass Path.

Invasive Plant Species

There were no invasive plant species listed on Schedule III of the Birds and Habitats Regulations recorded on or adjacent to the site during surveys in 2019 and 2020.

There is a 100m resolution record for the NBDC database dated 2015 for Japanese knotweed on amenity grassland in the north east corner of the GAA pitches. This area is outside the zone of influence of the development being at least 50-60m from the landfill site.

Four plant species with invasive tendencies were recorded on the site.

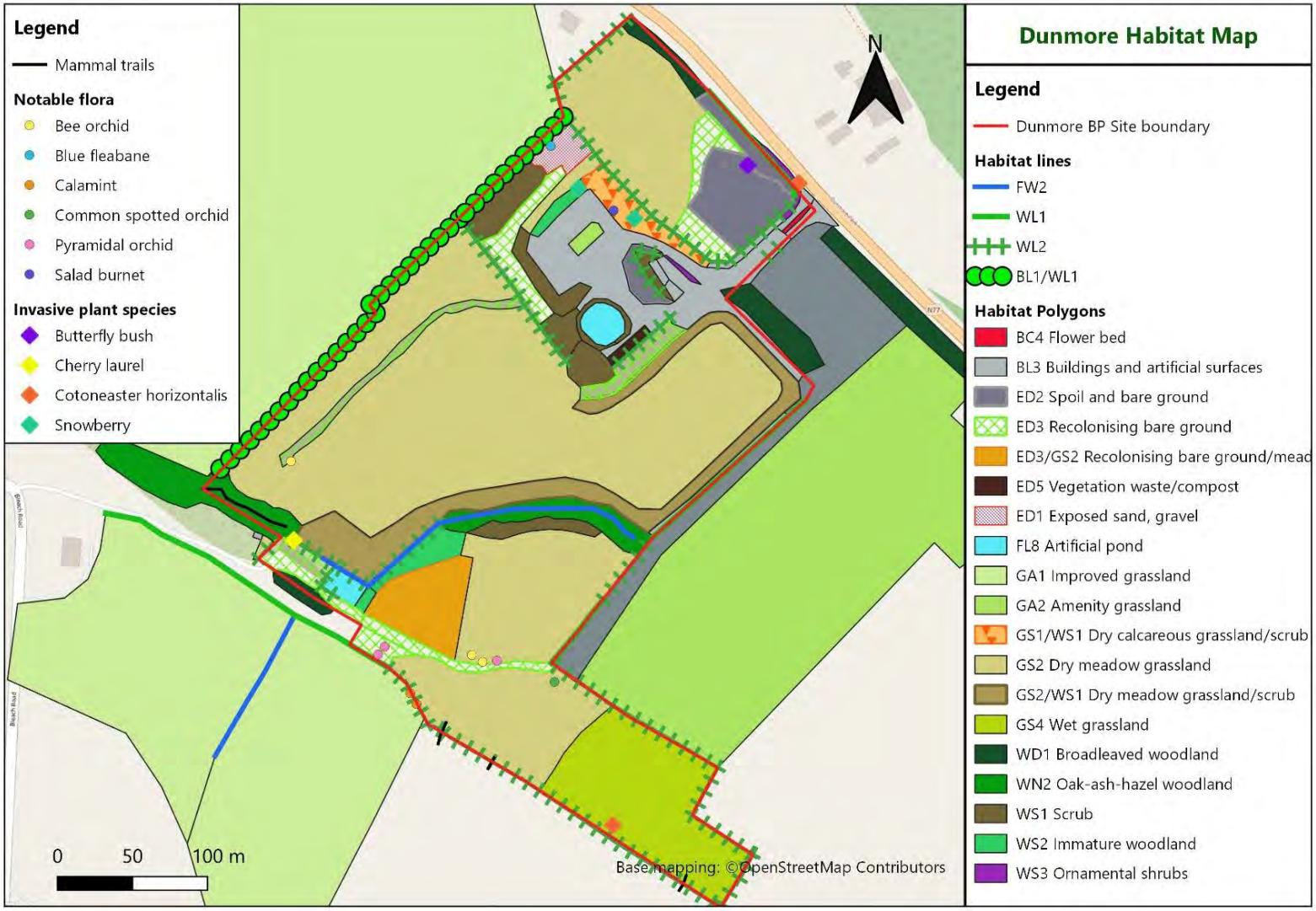
Cherry laurel (*Prunus laurocerasus)* was recorded at the edge of the oak-ash-hazel woodland (WN2). A large shrub was present but this had not spread into the woodland.

Snowberry (*Symphoricarpos albus)* was recorded on the sloped embankment around the Recycling and Waste Disposal Centre where it a component of the dry calcareous and scrub habitat.

Butterfly bush (*Buddleia davidii*) was recorded on the recolonising spoil heaps (ED2) in the GAA overflow carpark.

Cotoneaster horizontalis was recorded as a single small plant adjacent to the treeline along the mass path. It was also planted along the N77 road at the entrance to the Dunmore Recycling facility.

Figure 4 Habitat map of the proposed development site and adjacent land



7.6 Fauna

A detailed account of the faunal of the site is provided in a separate Ecological Impact Assessment report. The results of ecological surveys confirmed that the site is used by bat species, fox and rabbit. Badger may use the site for foraging but no setts were found. The site supports several common and widespread bird species. The habitats on the site are suitable for a wide range of invertebrate species.

The focus in this section of the appropriate assessment screening is to examine the potential of the site to provide ex situ habitat for species that are qualifying interests of The River Barrow and River Nore SAC or the River Nore SPA.

The potential for the site to support faunal species that are qualifying interests of the River Barrow and River Nore SAC or the River Nore SPA is considered in Table 4 below.

Table 4 An assessment of the potential of the Dunmore site to provide ex situ habitat for faunal species of the SAC.

Species	Habitat suitability
River Barrow and Nore SAC	
1016] Desmoulin's Whorl Snail	*Vertigo moulinsiana* lives on living and dead stems and leaves of tall plants in wetland situations where the water-table is at, or slightly above, the ground surface for much of the year and any seasonal flooding is of very low amplitude (Moorkens and Killeen (2011). There is no suitable habitat for this species on the site. The leachate lagoons on site are devoid of wetland vegetation.
1029] Freshwater Pearl Mussel	The Loughmerans stream is a seasonal watercourse and does not present suitable habitat for *Margaritifera* species that are obligate aquatic species.
[1990] Nore Freshwater Pearl Mussel	
[1092] White-clawed crayfish	The Loughmerans stream is a seasonal watercourse being dry between April/May and Septmber/October and does not present suitable habitat for crayfish species that are obligate aquatic species
[1095] Sea Lamprey	The range of sea lamprey includes the lower and middle reaches of the River Nore and does not extend above Bennettsbridge.
[1096] Brook Lamprey	Brook lamprey occur throughout the River Nore and tributaries. Lamprey spawning occurs in spring and early summer. The Loughmerans stream is a seasonal watercourse being dry between April/May and September/October. It is considered unlikely that the stream supports

Species	Habitat suitability
River Barrow and Nore SAC	
	brook lamprey and it would be unsuitable for spawning as it is dry during the spawning season.
[1099] River Lamprey	The range of river lamprey is restricted to Lower River Nore and estuary and does not extend above New Ross in county Wexford.
[1103] Twaite Shad	The range of twaite shad is restricted to the lower reaches of the River Barrow and River Nore and tributaries and does not extend above Thomastown (Article 17 dataset AR1719_1103_CR).
[1106] Atlantic Salmon	Salmon occur throughout the River Nore and tributaries. Salmon spawn between November to January. The Loughmerans stream as it passes through the site is a seasonal watercourse being dry between April/May and September/October. It is considered therefore that it would not likely to be suitable habitat for salmon. No suitable spawning habitat in the form of gravel beds was noted in the dry channel.
[1355] Otter	There is no optimum habitat for otter on the site. The stream is a seasonal watercourse with the stream bed dry between April/May and September/ October. The wooded areas and treelined dry stream channel were surveyed for signs of mammal use. No otter holts were observed and given the hydrological distance of 800m along the stream to the River Nore the only large watercourse in the area it is considered that the site is suboptimal for otter and that it is unlikely that otter occur on the site.
River Nore SPA	
[A229] Kingfisher	Kingfisher are riparian birds foraging and nesting along river banks. It is possible that Kingfisher could occur along the stream during winter months when there is flow in the watercourse but this is considered unlikely given the variable water flow and likely absence of suitable prey. Kingfisher are not anticipated to breed along this watercourse during the summer months due to the absence of water flow along the watercourse.

8 POTENTIAL EFFECTS OF THE PROJECT

The potential for significant effects of both the construction phase and operational phase were assessed. Potential impacts were assessed against the conservation objectives and targets of the Natura site. The potential for significant negative effects on the conservation objectives of the relevant Natura sites as a result of the proposed parkland development were considered through the use of key indicators:

- Habitat loss or alteration;
- Habitat/species fragmentation;
- Disturbance and/or displacement of species;
- Changes in population density;
- Changes in water quality and resource
- The potential for spread of invasive non-native species

8.1 Potential effects on the River Barrow and Nore SAC

8.1.1 Construction phase

The construction phase of this proposed development involves minimal construction activities. Construction activities are limited to the upgrading of the GAA overflow carpark (Car Park 3) surface and drainage, construction of the proposed 13 space car park (Car Park 2) off the Bleach Road, grading and surfacing of paths with tarmacadam and compacted limestone dust. Minor reprofiling of levels in some areas, the creation of raised platform areas, steps, ramps and the installation of play and fitness equipment.

The landscaping works involve minor reprofiling of areas and planting of trees and shrubs.

Habitat loss or alteration

There will be no direct habitat loss or alteration of habitats within the boundary of the SAC. The site is 200m distance from the boundary of the SAC**.**

There will be no loss or alteration of ex situ habitat. The site does not contain any Annex I habitats that are qualifying interests of the River Barrow and River Nore SAC. The site does not contain habitats that are likely to support any of the Annex II qualifying interests of the SAC.

The site does not provide suitable habitat for Desmoulin's whorl snail, *Margaritifera* species, or crayfish and is suboptimal for fish species due to the seasonal nature of the Loughmerans Stream. In any case there are no works required to the stream either on the banks or instream works. The physical structure of the stream channel will not be altered.

Otter

There is no optimum habitat for otter on the site. Given the seasonal nature of the watercourse it is anticipated to offer little food resources for otter. The wooded areas and treelined dry stream channel

were surveyed for signs of mammal use. No otter holts were observed and given the hydrological distance of 750m along the stream to the River Nore the only large watercourse in the area it is considered very unlikely that otter occur on or near the site.

Habitat or species fragmentation

The site does not contain any Annex I habitats and has limited potential to support any Annex II species. The project does not present any risk of barriers to migration or commuting. There is minimal alteration of the habitats on site and therefore there will be no significant alteration of seed resources or stepping stone habitat function as a result of this project.

Disturbance and/or displacement of species

There will be no disturbance or displacement of Annex II species. The site does not present suitable habitat for any Annex II species that are features of interest of the River Barrow and Nore SAC.

Due to the small scale and nature of the works it is considered that there will be minimal noise generated by the construction and landscaping works. Given that the boundary of the SAC is 200 m distant to the SAC it is considered that there is no potential for significant disturbance to species within the SAC such as otter who may be sensitive to noise or human disturbance.

Changes in population density

There will be no change in population density of any Annex II species. The site does not present suitable habitat for any Annex II species that are features of interest of the River Barrow and River Nore SAC and as outlined below there is no significant risk of deterioration in water quality associated with the project and therefore no decrease in aquatic species populations as a result of this project.

Changes in water quality and resource

Surface water: Potential effects of the project include a risk of localized deterioration in water quality if sediment, debris and/or pollutants were transferred to the River Nore as a result of the construction of paths, carparks or landscaping activities. Possible contaminants of the river from these activities include, dust, sediment, as well as the risk of spillage of oil/coolant etc. from machinery working on site.

It was considered that there was no significant risk of pollutants or sediments entering the Rive Nore as a result of the construction of the carparks. Car Park 3 is located at least 100 m from the open course of the Loughmerans Stream. Car Park 3 is surrounded by treelines with undergrowth which provides a buffer to trap any sediments or dust generated from any site works. Car Park 2 near the Bleach Road is located approximately 20 m from the open course of the Loughmerans Stream in the agricultural field to the south. A treeline on an earthbank separates the car park from the road. Therefore, there is no significant risk or direct pathway for runoff to enter the stream.

The landscaping works are limited to the creation of paths and some localised reprofiling. It is considered that due to the minimal area of soils to be exposed that there is no significant risk of runoff of soil emitted from these works. In addition, the Loughmerans Stream is bordered by a treeline on the eastern side and long meadow grass on the sloped west side and this vegetation would act to trap any sediment should runoff occur during heavy rain. Even if sediment entered the stream this is anticipated to be in a small quantity due to the limited earthworks involved and any sediment released would be anticipated to settle and/or be trapped by the instream vegetation downstream before reaching the River Nore.

Dust emissions as a result of the laying of compacted limestone gravel paths are expected to be low due to the small scale and temporary nature of the works. According to studies by the Institute of Air Quality Management (IAQM, 2016) dust is typically deposited within 100 to 200 m of the source. The boundary of the site is 200m from the SAC and 800m from the River Nore. Therefore, there will be no direct or cumulative impacts with other activities generating dust as a result of this project.

In summary the location of the Car Park 2 and 3 situated 20 m and 100m distant from the river respectively and surrounded by vegetation, the limited landscaping activities required and the nature of the local site conditions indicate that there is no significant risk pollution or sedimentation of the River Nore as a result of this project and therefore no significant risk of a decline in water quality. Consequently, there is no significant risk of negative impact to the aquatic habitats and species associated with the River Nore.

It was considered that due to the small scale nature of the works, the absence of any deep excavations that there is no significant risk of groundwater pollution as a result of the construction phase of the project.

The potential risk of release of pollutants from the capped landfill and/or escape of leachate from the lagoons as a result of the construction works was considered.

Given that there are no deep excavations involved over the capped landfill area and the works are limited to the construction of paths, minimal reprofiling and planting it was considered that there was no significant risk of damage to the landfill infrastructure and no significant risk of the release of pollutants from the capped landfill or the lagoons. The lagoons are fenced and no works are required to the lagoons.

Furthermore, the appointed Contractor to the project will be required to submit a Construction Management Plan to Kilkenny County Council prior to commencement of works to ensure the orderly and appropriate management of the construction activities.

There is a legal obligation to avoid pollution of surface waters and groundwaters. It is an offence under Section 3 of the Local Government (Water Pollution) Acts, 1977 and 1990 and the Fisheries Act (1959-2003) to cause or permit any polluting matter to enter waters including groundwaters. A person who permits polluting matter to enter waters shall be guilty of an offence and shall be liable to prosecution by the Local Authority, the Fisheries Board or any other person.

It is concluded therefore that there is no significant risk of pollution or sedimentation of the River Nore or its tributaries as a result of this project and consequently no significant risk of negative impact to the habitats and species dependent on good water quality.

The potential for spread of invasive plant species

There were no plant species listed on Schedule III of the Birds and Habitats Regulations recorded on or adjacent to the site during surveys in 2019 and 2020. Invasive species typically found on old landfill sites and or adjacent to watercourses include Japanese knotweed, Himalayan balsam and less frequently Giant hogweed.

There were records for two Schedule III invasive plant species within the 10km grid square S46. These were Japanese knotweed and Canadian waterweed (*Elodea canadenisis*). Elodea canadensis was not observed on the site. The watercourse is dry for long periods and does not present as suitable habitat for these species. The lagoons appear to be devoid of aquatic vegetation.

There is a 100m resolution record for the NBDC database dated 2015 for Japanese knotweed on amenity grassland in the north east corner of the GAA pitches. This area is outside the zone of influence of the development being at least 50-60m from the landfill site.

There are no records for Himalayan balsam upstream of the site. The nearest record for Himalayan Balsam is for Muckalee Resevoir. Downstream there are records for Himalayan balsam along the Nore at Kilkenny City. No Himalayan balsam was observed on or adjacent to the site during surveys in 2019 or 2020. The nearest record for giant hogweed is at Kilkenny City and no giant hogweed was observed on or adjacent to the site.

It is considered that there is no risk of spread of these legally controlled high impact plant species to the SAC as a result of the project.

Four plant species with invasive tendencies were recorded on the site. These include snowberry, cherry laurel, *Cotoneaster horizontalis* and butterfly bush.

Cherry laurel (*Prunus laurocerasus*) was recorded at the edge of the oak-as-hazel woodland (WN2). A large shrub was present but this had not spread into the woodland. Cherry laurel is a high impact species which can outcompete native species particularly in woodland habitats.

Snowberry (*Symphirocarpos albus*) was recorded on the embankment around the Recylcing and Waste Disposal Centre where it is a component of the dry calcareous and scrub habitat on the embankment. Snowberry can also become invasive in woodland habitats.

Butterfly bush (*Buddleia davidii*) was recorded on the recolonising spoil heaps in the GAA overflow carpark. This species is a very widespread species typical of disturbed or brownfield sites.

Cotoneaster horizontalis was recorded as a small plant adjacent to the species rich treeline along the mass path. It was also planted along the N77 road at the entrance to the Dunmore Recycling facility.

Sycamore is a component of the treelines and woodland habitats throughout the site.

The characteristics of these species and a comment on their local distribution in the wider local area is provided in Table 5 below.

Table 5 Characteristics of the invasive plant species recorded on the site

Species	Current distribution locally	Dispersal and reproductive strategy
Snowberry (*Symphoricarpos albus*)	Widespread. Recorded between Kilkenny City and Durrow including Jenkinstown wood.	Mainly by vegetative spread by suckers and cuttings via garden waste. Produces seed that is eaten by birds.
Cherry laurel (*Prunus lauroceasrus*)	Widespread often planted as garden hedging. Recorded between Kilkenny City and Durrow including Jenkinstown wood.	Seeds and vegetative spread by layering suckering
Cotoneaster horizontalis	Widespread often planted in gardens. Recorded in Jenkinstwon wood.	Seeds are spread over large areas by birds as they feed on the berries
Butterfly bush (*Buddleia davidii*)	Widespread and frequent	Seed and cuttings
Sycamore (*Acer pseudoplatanus*)	Widespread and frequent component of woodlands, treelinws and hedgerows.	Seed

Snowberry, Cherry laurel, Sycamore and Cotoneaster can become invasive in scrub and woodland habitats. Annex I woodland habitats are sensitive to the spread of invasive plant species. The spread of this species to Annex I Old oak woodland (91A0) and Alluvial woodland (91E0) woodland habitats could negatively impact on the conservation targets of those woodland habitats.

However, it is considered that there is no increased risk of the spread of these species as a result of the proposed development. These species are common and widespread species often planted in gardens and parklands and potentially spread by in the locality by birds and mammals.

The landscaping of the site is minimal with the creation of path and some reseeding of areas and tree planting. Any vegetation removed will be disposed off appropriately to composting or landfill facilities.

No significant increased germination of seeds or proliferation of the species is anticipated as a result of the works due to the limited disturbance of soils on site.

It is concluded that there is no increased risk of the spread of invasive plant species as a result of this project.

Conclusion

It is concluded that there will be no significant impact to the habitats or species of the River Barrow and River Nore SAC from the construction phase of this project. The site is suboptimal for the Annex II species that are qualifying interests for the River Barrow and River Nore SAC. The works are of limited to small scale construction works, minimal landscaping works and planting.

There is no significant risk of water pollution or sedimentation as a result of the works due to the nature and scale of the works, the local site conditions and the requirement for a Construction Management Plan to be implemented by the appointed Contractor. Therefore, there is no significant risk of a deterioration of water quality to the River Nore and no significant risk of negative effects to aquatic habitats and species of the River Barrow and River Nore SAC.

There is no significant risk of the spread of invasive plant species from the site as result of the works.

8.1.2 Operational phase

The operation of the Biodiversity and Recreation Park will mean an increase in human activities on the site from the baseline situation. This will include an increase in habitat and grounds maintenance activities and an increase in the level of human presence on the site.

Habitat loss or alteration

The site is 200m distant from the boundary of the SAC and is bounded by private land. The maintenance activities or increased human presence on the site is not likely to cause any habitat loss or significant disturbance to habitats or species within the boundaries of the SAC.

Habitat/species fragmentation

The maintenance activities and public use of the site do not pose any threat to habitat or species fragmentation. The maintenance activities which includes habitat management are compatible with and aim to promote biodiversity on the site and will not interfere with any stepping stone function the site may provide such as a seed resource.

Disturbance and/or displacement of species

The site is suboptimal for Annex II species that are qualifying interests of the SAC, therefore no significant disturbance or displacement of these Annex II species from the site as a result of the operational phase is anticipated.

Changes in population density
The site is suboptimal for Annex II species that are qualifying interests of the SAC, therefore no change in population density of Annex II species as a result of the operational phase is anticipated.

Changes in water quality and resource
The potential for any change in water quality or hydrological regime of the River Nore as a result of the operational phase was considered. There will be no significant change to the current surface water drainage on the site. Run off will continue to be collected in swales and discharge to the Loughmerans stream in the centre of the site. Run off from newly constructed pathways will dissipate locally to ground. This will serve to attenuate the run off.

Runoff from the both the carparks will be discharged to the local surface water drainage network. The rate of runoff will be attenuated to greenfield runoff rates and be discharged through a hydrocarbon interceptor. With reference to the Civil Engineering Report (Malone O'Regan Consulting Engineers)

"A proposed storm sewer caters for run-off from Carparks 2 & 3. Surface runoff will be collected in road gullies and French drains and discharge to a proposed network of water tight manholes and sewers. The proposed storm sewer will connect to an existing sewer which bounds the sites to carparks 2 & 3. The storm water will pass through a petrol interceptor before leaving the site, details of which are included in the Engineers drainage report. In additional to storing oil, fuel oil separators are designed with capacity to remove and store silts".

Surface water run-off for the proposed site layouts will calculated using the Modified Rational Method in accordance with the Greater Dublin Strategic Drainage Study (GDSDS).

An attenuation system for carparks 2 & 3 will be sized to account for a 1 in 30 year event with 10% added for climate change in accordance with the Kilkenny County Council Development plan.

Therefore, there will be no significant change in volume of surface water runoff or significant risk of surface or groundwater pollution as a result of the operational phase of this development. Consequently, there is no significant risk of deterioration of water quality or change to the hydrological regime of the River Nore as a result of the operational phase of this development.

Displacement of species
The site does not provide optimal habitat for any of the qualifying interest species of the SAC including otter. No displacement of species due to the maintenance activities or public use of the park is anticipated as a result of this development. There is no outdoor lighting proposed in the design and therefore there will be no impact from lighting on the SAC.

Spread of invasive plant species

No plants with known invasive tendencies are included in the landscaping plan. The planting schedule includes native tree species, meadow grassland seed mixes, fruit trees in the orchard and shrubbery.
There is no increased risk of the spread of invasive plant species as a result of the maintenance or habitat management activities. There were no leally controlled invasive Schedule III plant species on the site. Any invasive plant species vegetation removed as part of habitat management or maintenance activities will be disposed of appropriately to the adjacent Recycling and Waste Disposal Site in accordance with standard practice.

Table 6 below provides a summary of the Appropriate Assessment screening for each the qualifying interests for the River Barrow and River Nore SAC.

Conclusion

It is concluded that there will be no significant impact to the habitats or species of the River Barrow and River Nore SAC from the operational phase of this project.

Table 6 Summary of the appropriate assessment screening for each qualifying interests of the River Barrow and River Nore SAC

Feature of interest: [1130] Estuaries:		
Conservation Objective: To maintain the favourable conservation condition of Estuaries in the River Barrow and River Nore SAC		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
Permanent habitat area is stable or increasing, subject to natural processes. Sediment communities should be maintained in a natural condition: Maintain the natural extent of the *Sabellaria alveolata* reef, subject to natural process.	Remote hydrological connectivity via the River Nore. Not within the zone of direct influence of this project due to nature and scale of the project. Potentially subject to cumulative impacts on water quality. No significant risk of any pollution or sedimentation of the River Nore due to the nature and scale of the works and the construction management plan. No contribution to cumulative impacts on water quality or sedimentation of the River Nore.	No negative impact anticipated
Feature of interest: [1140] Tidal Mudflats and Sandflats		
Conservation Objective: To maintain the favourable conservation condition of the Mudflats and sandflats not covered by seawater at low tide in the River Barrow and River Nore SAC		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
Permanent habitat area is stable or increasing, subject to natural processes; sediment communities should be maintained in a natural condition	Remote hydrological connectivity via the River Nore. Not within the zone of direct influence of this project due to nature and scale of the project. Potentially subject to cumulative impacts on water quality. No significant risk of any pollution or sedimentation of the River Nore due to the nature and scale of the works and the construction management plan. No contribution to cumulative impacts on water quality or sedimentation of the River Nore.	No negative impact anticipated

Feature of interest: 1310 Salicornia and other annuals colonizing mud and sand **Conservation objective:** To maintain the favourable conservation condition of Salicornia and other annuals colonizing mud and sand in the River Barrow and River Nore SAC		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
Area stable or increasing, subject to natural processes, including erosion and succession. No decline in habitat distribution, subject to natural processes Maintain or where necessary restore natural circulation of sediments and organic matter, without any physical obstructions Maintain natural tidal regime Maintain/restore physical structure, vegetation zonation, height, composition. No significant expansion of *Spartina anglica*	Remote hydrological connectivity via the River Nore. Not within the zone of direct influence of this project due to nature and scale of the project. Potentially subject to cumulative impacts on water quality. No significant risk of any pollution or sedimentation of the River Nore due to the nature and scale of the works and the construction management plan. No contribution to cumulative impacts on water quality or sedimentation of the River Nore.	No negative impact anticipated
Feature of interest: [1330] Atlantic salt meadows		
Conservation Objective: To maintain the favourable conservation condition of **Atlantic salt meadows** in the River Barrow and River Nore SAC, which is defined by the following list of attributes and targets:		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
Area stable or increasing, subject to natural processes including erosion and succession No decline in habitat distribution Maintain/restore natural circulation of sediments and organic matter, without any physical obstructions Maintain natural tidal regime Maintain/restore physical structure, vegetation zonation, height, composition. No significant expansion of *Spartina anglica*	Remote hydrological connectivity via the River Nore. No significant risk of any pollution or sedimentation of the River Nore due to the nature and scale of the works and the construction management plan. No contribution to cumulative impacts on water quality or sedimentation of the River Nore.	No negative impact anticipated

Feature of interest: [1410 Mediterranean salt meadows		
Conservation objective: To restore the favourable conservation condition of Mediterranean salt meadows in the River Barrow and River Nore SAC, which is defined by the following list of attributes and targets:		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
Area stable or increasing, subject to natural processes, including erosion and succession. No decline, subject to natural processes Maintain or where necessary restore natural circulation of sediments and organic matter, without any physical obstructions Maintain natural tidal regime Maintain/restore physical structure, vegetation zonation, height, composition. No significant expansion of *Spartina anglica*	Remote hydrological connectivity via the River Nore. No significant risk of any pollution or sedimentation of the River Nore due to the nature and scale of the works and the construction management plan. No contribution to cumulative impacts on water quality or sedimentation of the River Nore.	No negative impact anticipated
Feature of interest: [3260] **Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation**		
Conservation objective: To maintain the favourable conservation condition of Water courses of plain to montane levels with the *Ranunculion fluitantis* and Callitricho-Batrachion vegetation in the River Barrow and River Nore SAC		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
No decline in habitat distribution and area (subject to natural processes). Maintain appropriate hydrological regimes (river and groundwater flow) Habitat flows required to maintain the habitat The substratum should be dominated by large particles and free from fine sediments The groundwater and surface water should have sufficient concentrations of minerals to allow deposition and persistence of tufa deposits Maintain suitable water quality with respect to low suspended sediment, low nutrients. Maintain typical species in good condition Maintain flood plain connectivity,	No significant risk of any pollution or sedimentation of the River Nore due to the nature and scale of the works and the construction management plan. No contribution to cumulative impacts on water quality or sedimentation of the River Nore. No change to hydrological regime of River Nore or groundwater levels. No risk of spread of invasive aquatic plant species.	No negative impact anticipated

Feature of interest: [4030] European dry heaths		
Conservation objective: To maintain the favourable conservation condition of European dry heaths in the River Barrow and River Nore SAC		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
No decline from current habitat distribution, subject to natural processes Area stable or increasing, subject to natural processes. No significant change in soil nutrient status, subject to natural processes Maintain vegetation structure, vegetation composition including rare species broomrape and clustered clover, control non-native species.	Spatial extent currently unmapped but indicated as occurring on the steep, free-draining, river valley sides especially the Barrow and tributaries in the foothills of the Blackstairs Mountains. Additional habitat may occur at Ballyhack and as coastal heath. This habitat is not considered to be within the within the zone of influence of the project. No pathway for effects to this habitat. No increased risk of invasive plant species spread associated with the project.	No negative impact anticipated
[6430] Hydrophilous tall herb fringe communities		
To maintain the favourable conservation condition of Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels in the River Barrow and River Nore SAC		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
No decline in habitat distribution or area, maintain appropriate hydrological regime (winter inundation) and vegetation structure and typical species composition. Non-native invasive species absent or under control	Distribution of this habitat in this site is currently unknown. Considered to occur in association with some riverside woodlands, unmanaged river islands and in narrow bands along the floodplain of slow-flowing stretches of river. No Annex I hydrophilous tall herb habitat identified on or adjacent to the site. No significant risk of damage to habitat from pollution. No change in hydrological regime of river as a result of the project. No significant risk of the spread of invasive plant species typically associated with the habitat (Himalayan balsam, Japanese knotweed, Giant hogweed) associated with the works. These species were not recorded on the site.	No negative impact anticipated

***[7220] Petrifying springs with tufa formation**		
To maintain the favourable conservation condition of Petrifying springs with tufa formation (Cratoneurion) in the River Barrow and River Nore SAC		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
Area stable or increasing, subject to natural processes. No decline in habitat area Maintain appropriate hydrological regimes Maintain oligotrophic and calcareous conditions Maintain typical species (diagnostic bryophyte species)	Full distribution of this habitat in this site is currently unknown. It has been described in woodlands at Dysart, between Thomastown and Inistioge. Further areas are likely to occur within the site. No springs observed on or adjacent to site. Petrifying springs are groundwater dependent habitats No impact to groundwater quality due to nature and scale of project and requirement for CMP. No deep excavations or groundwater extraction required so no impact on groundwater levels.	No negative impact anticipated.
[91A0] Old sessile oak woods		
To restore the favourable conservation condition of Old oak woodland with Ilex and Blechnum in the River Barrow and Nore SAC		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
Area stable or increasing, subject to natural processes. No decline in distribution. Maitain woodland structure and vegetation composition. Negative indicator species, particularly non-native invasive species, absent or under control The following are the most common invasive species in this woodland type: beech (*Fagus sylvatica*), rhododendron (*Rhododendron ponticum),* cherry laurel (*Prunus laurocerasus*)	Closest mapped 91A0 habitat in the Nore catchment is south of Thomastown 22km from the Dunmore site boundary. Also occurs at Graiguenamanagh in the Barrow catchment with several sites further south of these. Further unmapped areas may occur within the SAC. No Annex I oak woodland habitat present on or adjacent to site so no potential for ex situ habitat loss or alteration. Main potential effect would be any spread of invasive plant species to the habitat. Although beech and cherry laurel occur on the proposed development site there is no increased risk of invasive plant species spread to oak woodland habitat associated with the project.	No negative impact anticipated

[91E0] Alluvial forests		
To restore the favourable conservation condition of Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) in the River Barrow and River Nore SAC		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
No decline in area, distribution of the habitat. Maintain/restore woodland structure, vegetation composition Negative indicator species, particularly non-native invasive species, absent or under control The most common invasive species in this woodland type are sycamore, beech rhododendron, cherry laurel dogwood (*Cornus sericea*), Himalayan honeysuckle and Himalayan balsam Maintain appropriate hydrological regime necessary for maintenance of alluvial vegetation.	16 sites surveyed. Closet mapped occurrence of alluvial woodland is 6km downstream south of Kilkenny City. Hydrologically linked but no significant risk of pollution due to CEMP methodology. No change in storm water volume therefore there will be no change to the hydrological regime of the River Nore. Although sycamore, beech and cherry laurel occur on the proposed development site there is no increased risk of invasive plant species spread to alluvial woodland habitat associated with the project.	No negative impact anticipated
{1770] Reefs		
To maintain the conservation status of Reefs		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
No site specific objectives set for this habitat	The Reef habitat is remote from Dunmore in the River Nore estuary. There is no potential for a project of this nature or scale to negatively impact this habitat. There will be no cumulative impacts to water quality as a result of this development.	No negative impact

[1016] Desmoulin's Whorl Snail (*Vertigo moulinsiana*)		
To maintain the favourable conservation condition of Desmoulin's whorl snail in the River Barrow and River Nore SAC		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
[No decline in occupied sites, population size, area of occupancy, habitat quality with respect to vegetation and moisture levels.	Known populations are upstream of the works site (NPWS CO dataset). Other populations may exist in SAC. *Vertigo moulinsiana* lives on living and dead stems and leaves of tall plants in wetland situations where the water-table is at, or slightly above, the ground surface for much of the year and any seasonal flooding is of very low amplitude (Moorkens and Killeen, 2011). No suitable wetland habitat available on the site. No significant risk of pollution of River Nore due to nature of works. No change in rate of storm water discharge therefore no change to the hydrological regime of the River Nore. No change in groundwater level or quality as a result of this project	No negative impact anticipated
[1029] Freshwater Pearl Mussel		
No site specific conservation objective set.		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
No target set for this species as status unknown and under review in this SAC. The pearl mussel requires stable cobble and gravel substrate with very little fine material below pea-sized gravel. The conservation targets for sustainable mussel populations include high water status, maintenance of free water exchange between the river and the substrate and minimal coverage by algae and weed	Designated population upstream of Dunmore and therefore not within direct zone of influence of project. Site of works is within catchment of previous records of *Margaritifera* but current status unknown. Species is ecologically linked with salmon. No significant risk of pollution or sedimentation due to nature of works and CEMP. No change in storm water discharge rate therefore no change to the hydrological regime of the River Nore. No risk of the spread of invasive plant species (which could lead to increased bank erosion) associated with the works. No negative impact to salmon therefore no indirect impact on freshwater pearl mussel.	No negative impact anticipated

[1092] White-clawed Crayfish		
To maintain the favourable conservation condition of White-clawed crayfish in the River Barrow and River Nore SAC		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
No reduction in baseline, no invasive species and no disease. At least Q3-4 at all sites sampled by EPA. No decline in habitat heterogeneity – Crayfish need stones to hide under, earthern banks for burrowing, vegetation, gravel and debris.	Not anticipated to occur in the stream on the site due to seasonal flow only. No significant risk of pollution or sedimentation due to nature of the works and CEMP. No significant risk of introduction or spread of invasive aquatic species associated with the project as no instream works required.	No negative impact anticipated
[1095] Sea lamprey		
To restore the favourable conservation condition of Sea lamprey in the River Barrow and River Nore SAC		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
Targets related to the maintenance distribution, population structure, juvenile density, extent and distribution of spawning and juvenile habitat. Juveniles burrow in areas of fine sediment in still water. Lampreys spawn in clean gravels.	Species current range distribution does not extend as far upstream as Dunmore. No significant risk of pollution or sedimentation being transferred to River Nore due to nature of the works and CMP. No significant contribution to cumulative impacts on water quality.	No negative impact anticipated
[1096] Brook Lamprey		
To restore the favourable conservation condition of Brook lamprey in the River Barrow and River Nore SAC		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
Targets relate to the maintenance distribution, population structure, juvenile density, extent and distribution of spawning and juvenile habitat. Juveniles burrow in areas of fine sediment in still water. Lampreys spawn in clean gravels.	Not anticipated to occur in the stream on the site due to seasonal flow only. No significant risk of pollution or sedimentation due to nature of the works and CEMP. Artificial barriers to upstream migration not relevant to these proposed works; No instream works associated with the project.	No negative impact anticipated

1099 River lamprey (*Lampetra fluviatilis)*		
To restore the favourable conservation condition of River lamprey in the River Barrow and River Nore SAC		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
Targets relate to the maintenance of distribution, population structure, juvenile density, extent and distribution of spawning and juvenile habitat. Juveniles burrow in areas of fine sediment in still water. Lamprey spawn in clean gravels.	Species current range does not extend as far upstream as Dunmore. No significant risk of pollution or sedimentation transfer to the River Nore due to nature of the works and CEMP. No contribution to cumulative impacts on water quality or habitat condition.	No negative impact anticipated
1103 Twaite shad		
To restore the favourable conservation condition of Twaite shad in the River Barrow and River Nore SAC		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
Targets relate to the distribution, population structure, juvenile density, extent, distribution and condition of spawning and juvenile habitat. Oxygen levels in water no lower than 5 mg/l	Species distribution does not extend as far upstream as Dunmore. No significant risk of pollution or sedimentation due to nature of the works and CEMP. No contribution to cumulative impacts on water quality or habitat condition.	No negative impact anticipated

1106 Atlantic salmon		
To restore the favourable conservation condition of Salmon in the River Barrow and River Nore SAC		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
Targets relate to maintenance of distribution – accessibility of rivers, adult spawning fish (Conservation Limit (CL) consistently exceeded), juvenile abundance. There should be no decline in the number and distribution of spawning redds due to anthropogenic causes. Salmon spawn in clean gravels. Water quality: At least Q4 at all sites sampled by EPA	Not anticipated to occur in the stream on the site due to seasonal flow only. No significant risk of transfer of pollution or sedimentation of River Nore due to nature of works and CEMP. No significant risk of deterioration in water quality. Artificial barriers to upstream migration not relevant to these proposed works; No impact on spawning grounds. No in stream works associated with the project.	No negative impact anticipated
1355 Otter		
To restore the favourable conservation condition of Otter in the River Barrow and River Nore SAC		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
No significant decline in distribution, extent of terrestrial, marine, or freshwater (river, lake, lagoon) habitat, couching sites and holts. No significant decline in fish biomass available.	No holts or signs of otter identified on or near the site. Otter unlikely to occur on or near to site due to seasonal flow of watercourse only and therefore lack of suitable habitat. Fenced leachate lagoons with no aquatic life evident are not suitable for otter. Therefore, no disturbance anticipated. No deterioration in surface water quality anticipated therefore no indirect impact on feeding resources for otter in the River Nore.	No negative impact anticipated

[1421] Killarney Fern		
To maintain the favourable conservation condition of Killarney Fern in the River Barrow and River Nore SAC		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
No decline in number of locations, population size, population structure, extent of suitable habitat. Maintain hydrological conditions of habitat, visible water, humidity, degree of shading. Invasive species absent or under control	Killarney fern is a rare species which occurs in dripping caves, cliffs, crevices and gullies by waterfalls, crevices in woodland, and occasionally on the floor of damp woodland - all deeply shaded humid habitats. There is no habitat with high humidity that this species requires on the Dunmore site. Therefore, no risk of loss or alteration to ex situ habitat. There is only one site known for the species on the River Nore. Site is remote but downstream of site of works. No deterioration in water quality or change in hydrological regime of the River Nore as a result of works. No significant risk of spread of invasive plant species associated with works.	No negative impact anticipated
[1990] Nore Freshwater Pearl Mussel		
To restore the favourable conservation condition of the Nore freshwater pearl mussel in the River Barrow and River Nore SAC		
Summary of conservation targets	**Screening of potential effects**	**Screening result**
Maintain current distribution of species. Restore population size, structure, adult mortality rate Restore suitable habitat for mussel and salmonid spawning. Restore water quality (high ecological quality) Restore substratum quality- -filamentous algae absent or trace)p -stable cobble and gravel substrate with very little fine material; no artificially elevated levels of fine sediment. Restore oxygen availability Restore appropriate hydrological regimes Maintain sufficient juvenile salmonids to host glochidial larvae	Designated population upstream of Dunmore and therefore not within direct zone of influence of project. Site of works is within catchment of previous records of *Margaritifera* but current status unknown. Species is ecologically linked with salmon. No significant risk of pollution or sedimentation due to nature of works and CEMP. No change in storm water discharge rate therefore no change to the hydrological regime of the River Nore. No risk of the spread of invasive plant species (which could lead to increased bank erosion) associated with the works. No negative impact to salmon therefore no indirect impact on freshwater pearl mussel.	No negative impact anticipated

9 POTENTIAL EFFECTS OF THE RIVER NORE SPA

Kingfisher are the only qualifying interest of the River Nore SPA. Kingfisher are a riparian species feeding, commuting and nesting along watercourses. The Loughmerans Stream does not provide optimal habitat for Kingfisher. The stream bed is dry during the summer months and is not anticipated to provide a good feeding resource for kingfisher. The stream bed is dry during the breeding season and is not likely to attract Kingfisher to breed and would not provide feeding resources for Kingfisher during the breeding season. Therefore, the site does not represent important ex situ habitat for Kingfisher. In any case the proposed development does not require any modification to the stream banks.

No significant impact on Kingfisher is anticipated as a result of the proposed development.

The assessment of potential impact on the River Barrow and Nore SAC concluded that there is no significant risk or significant effects on the water quality or hydrological regime of the River Nore as a result of the construction or operational phase of the proposed development. Therefore there will be no indirect impact on prey availability or habitat suitability for Kingfisher in the River Nore.

Conclusion

It is concluded that the proposed development is not likely to have a negative effect on the conservation objective of the River Nore SPA.

Table 7 below summarises this screening assessment of potential effects on each of the qualifying interest of The River Nore SPA.

Table 7 Summary of the appropriate assessment screening of potential effects to the River Nore SPA

River Nore SPA		
Special Conservation Interest	**Assessment of potential effects**	**Screening conclusion**
[A229] Kingfisher	The site at Dunmore is suboptimal for Kingfisher due to the seasonal nature of watercourse and lack of prey resources. Therefore the Dunmore site does not present as important ex situ habitat for Kingfisher. In any case, there are no in stream works or modification of banks required for the proposed works therefore a significant effect on Kingfisher is not likely. No significant risk or deterioration in water quality or hydrological regime of River Nore associated with the project therefore no indirect impact on feeding resources or habitat suitability for Kingfisher along the River Nore.	No negative impact anticipated

10 'IN COMBINATION' EFFECTS

Cumulative effects from development in general can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location (CIEEM, 2018).

Maintenance works are planned to carry out resurfacing works to the link access (Mass Path), this will involve topdressing the existing path with compacted gravel 150mm deep and the incorporation of pedestrian refuges located between the Dunmore Community Carpark access point and the vehicle access dwelling. The pedestrian refuges will involve minor works to the existing hedgerow with 3m long sections removed and replacement hedge whip planting setback from the existing line by 2m to create a passing point.

The mass path is located approximately 75m at its closest point south of an isolated area (3500m^2) of the River Barrow and Nore SAC which includes a portion of a disused quarry. This quarry area is included in the SAC for the protection of a population of basil thyme (*Clinopodium acinos*). Basil thyme is a rare plant species listed on the Flora Protection Order and Protected under the Wildlife Act. There is no risk of incursion or disturbance of the habitat located at least 75m from the works within a separate quarry area. Vegetation can be negatively impacted by deposition of dust. During long dry periods dust can coat plant foliage adversely affecting photosynthesis and other biological functions (IAQM, 2014).

Review of satellite imagery indicates this quarry area is surrounded by trees and scrub. It is separated from the mass path by an agricultural field. According to studies by the Institute of Air Quality Management (IAQM, 2016) dust is typically deposited within 100 to 200 m of the source. A small amount dust is anticipated to be emitted when laying the mass path and laying of the path is anticipated to be completed over no more than week. In view of the small scale of the works, the short duration and the vegetation buffer around the habitat which is anticipated to intercept any dust emitted the dust, no negative effect as a result of dust on the population of deposition is anticipated. IAQM (2106) advise that the level of dust deposition likely to lead to a change in vegetation is very high (over 1 g/m2/day) and the likelihood of a significant effect is therefore very low except on the sites with the highest dust release close to sensitive habitats.

The mass path is located approximately 540 m from the River Nore. There are no drainage ditches along the verge of the mas path. There is no significant risk of transfer of significant quantities of pollutants or sediment to the River Barrow and Nore SAC from these small scale works and therefore no in combination effect on the River Barrow and Nore SAC or the River Nore SPA is anticipated.

Therefore, it is concluded that there will be no significant in combination effects of the development of the Biodiversity Park with the Mass Path maintenance works.

The following approved and planned projects were also considered for any in combination effects as they are located within the vicinity of Dunmore.

P.16/801 Upgrade of the Troyswood water supply scheme

This development was approved but has not yet commenced.

The development will consist of: *the upgrade of and extension to the Troyswood Water Treatment Plant (WTP). Works will include development of a new raw water intake from the River Nore upstream of Troyswood Weir and an adjacent new raw water pumping station, new chemical storage and treated water pumps building, new residuals treatment building, relocated DWIRP building, extension to the existing treatment building, new treated water storage tank, new process tanks, internal access roads and paving, process and surface water pipework, fencing, attenuation basin, new on-site waste water treatment system, landscaping and decommissioning of the existing raw water intake. The construction of a new treated water rising main of approximately 2.8km between Troyswood WTP and Radestown WTP, across fields, under the River Nore and in roadway*

A Natura Impact Statement (NIS) was submitted to the planning authority. The NIS concluded that *"there are potential pathways for impacts to the conservation objectives of both Natura 2000 sites, in the absence of avoidance and mitigation measures, by direct impact and via the release of suspended solids or hydrocarbons that may enter the River Nore and have a negative impact on qualifying habitats and species. There is also potential for impacts due to disturbance during construction or loss of habitat within or adjoining the River. Potential for impact may also arise as a result of changes to intake and outflow of water from the project in the absence of mitigation measures."*

"When the avoidance and mitigation measures outlined in Section 9 are implemented in full, it is envisaged that there will be no significant adverse effects on the integrity of the River Barrow and River Nore SAC or the River Nore SPA in view of the sites conservation objectives and that the conservation status of the Annex I habitats, Annex II species and Annex I bird species will not be compromised by the site investigation, construction or operational stage either directly, indirectly or cumulatively."

"It is therefore concluded that the Kilkenny Water Supply Scheme, alone or in-combination with other plans and/ or projects will not give rise to significant negative effects on the integrity of the River Barrow and River Nore SAC or River Nore SPA, as long as the avoidance and mitigation measures as listed above are implemented in full."

The proposed development of the Dunmore Biodiversity and Recreational Park has been assessed with regard to the potential for significant negative effects on the conservation objectives of the River Barrow and Nore SAC and the River Nore SPA. It is concluded that there is no potential for the proposed development to directly negatively effect the conservation objectives of the SAC as a result of for example habitat loss, alteration or disturbance due to the location of the Dunmore site 200 m from the SAC boundary and 800m hydrological distance to the River Nore. The Dunmore site does not contain any ex situ habitat for any of the habitats or species of the River Barrow and River Nore SAC or the River Nore SPA.

It is therefore very unlikely that the project would have an in combination effect with regard to habitat or species loss or alteration or disturbance.

Due to the nature and scale of the works limited to the upgrade of the carpark area, surfacing of paths and landscaping works it is considered that there is no significant risk of pollution or sedimentation of surface watercourses or groundwater and therefore no significant risk of transfer of pollution or sediment to the River Nore. In the unforeseen event of a worse case scenario if sediment was to enter the Loughmerans stream due to the limited scale of the works and due to the hydrological distance to the River Nore it is anticipated that any sediment would be trapped by instream vegetation present in the stream downstream of the site and/or have settled out before reaching the River Nore.

It is therefore very unlikely that the there would be an in combination effect on water quality with the Troys wood scheme.

Pl20/2 Extension of Existing Sand and Gravel Pit at Loughmerans, Dunmore, County Kilkenny

The NIS identified potential risk to the River Barrow an Nore SAC and River Nore SAC via groundwater pathways only.

As there is no significant risk of pollution of groundwater and no potential for negative impact to groundwater levels associated with Dunmore Biodiversity and Recreational Park, there is no potential for in combination effects on groundwater.

Emissions of dust from construction of the limestone paths at Dunmore Park are anticipated to be low and of short term temporary duration. Assessment of this potential impact from the Dunmore Park Project found that there was no potential for dust emissions to negatively impact on the water quality or habitats within the River Nore due to the distance of 200 m to the boundary of the SAC and 800 metres to the River Nore. Cumulative impacts with the Extension of Existing Sand and Gravel Pit at Loughmerans project are therefore not likely.

It is concluded that there is no potential for the development or operation of the Dunmore Biodiversity and Recreation Park to have an in combination effect with these projects.

11 CONCLUSION AND SCREENING STATEMENT

The proposed project has been assessed taking into account

- the nature, size and location of the proposed development and the associated works and possible impacts arising from same.
- the qualifying interests, conservation objectives of the Natura sites within the zone of influence of the development - the River Barrow and River Nore SAC and the River Nore SPA.
- the potential for cumulative impacts arising from other planned or approved projects in the area. in the area.

It is determined that the proposed development of the Dunmore Biodiversity and Recreation Park is not likely to result in significant direct, indirect or in combination effects on the integrity of the River Barrow and River Nore SAC or The River Nore SPA and therefore a Stage 2 appropriate assessment and Natura Impact Statement is not required.

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13 APPENDIX A: LANDSCAPE DESIGN


KEY
MITCHELL + ASSOCIATES
scale 1:1000

Appendix 8

Appendix 8 – Update Ecological Impact Assessment for modified proposal – Feb 21

ECOLOGICAL IMPACT ASSESSMENT

KILKENNY BIODIVERSITY AND RECREATION PARK

DUNMORE

Deborah D'Arcy Ecologist ACIEEM

Date of report: February 2021

Deborah D'Arcy Ecologist ACIEEM
Email: darcyecology@gmail.com

1 CONTENTS

2 INTRODUCTION

Deborah D'Arcy was commissioned by Mitchell & Associates on behalf of Kilkenny County Council to prepare an Ecological Impact Assessment (EcIA) for the proposed development of the Kilkenny Biodiversity and Recreation Countryside Park on lands at Dunmore Recycling and Waste Disposal Centre at Dunmore, Kilkenny for the purposes of a Part VIII planning application.

The objective of this EcIA is to assess the potential direct, indirect and cumulative impacts on flora and fauna (biodiversity) as a result of the proposed development. The potential effects on the River Barrow and River Nore Special Area of Conservation (SAC) and the River Nore Special Protection Area (SPA) have been addressed in a separate Appropriate Assessment (AA) screening report produced for this development.

The purpose of this EcIA report is:

- To describe the existing ecology of the proposed development site
- To identify and describe all potentially significant ecological effects associated with the proposed development
- To set out the mitigation measures required to ensure compliance with the Wildlife Acts and to address any potentially significant ecological effects
- To identify mitigation measures that may be required
- To provide an assessment of the significance of any residual effects
- To identify appropriate enhancement measures

2.1 ABOUT THE AUTHOR

Deborah D'Arcy is an Ecologist with an MSc in Ecological Assessment and 8 years' experience of carrying out Appropriate Assessments and ecological assessments for a range of development types including residential, quarry and farm developments.

This report has been produced using all reasonable skill and care. As a member of CIEEM, the chief professional body for Ecologists in Ireland, Deborah D'Arcy is bound by their professional code of conduct.

2.2 PLANNING POLICY AND LEGISLATION

This report has been compiled having regard for relevant national legislation and planning guidance including:

- EU Habitats Directive 92/43/EEC (as amended)
- The Wildlife Act (1976-2012) as amended
- The EC Birds and Natural Habitats Regulations, 2011
- Kilkenny County Council Development Plan 2014-2020
- National Biodiversity Plan 2017-2021

3 METHODOLOGY

This Ecological Impact Assessment (EcIA) has been prepared having regard for best practice guidance including:

- CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine.* Chartered Institute of Ecology and Environmental Management, Winchester.
- NRA (2009) *Guidelines for Assessment of Ecological Impacts of National Road Schemes* (National Roads Authority.

3.1 SCOPE OF ASSESSMENT

An Appropriate Assessment (AA) Screening Report has been provided for this development in view of the sites location and hydrological connectivity to the River Nore. Potential impacts on the River Barrow and River Nore SAC and the River Nore SPA have been addressed in the AA Screening Report. Therefore an assessment of the potential effects on habitats and species which are features of interest of the River Barrow and Nore SAC and the River Nore SPA are not repeated here.

The AA screening concluded that there will be no direct, indirect or cumulative significant negative impacts on the conservation objectives and site integrity of the River Barrow and River Nore SAC or the River Nore SPA.

The scope of this Ecological Impact Assessment (EcIA) is to identify any potential significant ecological effects on the local ecology of the Dunmore former landfill site and adjacent areas.

3.2 PROJECT DESIGN CONSULTATIONS

The project design and management strategy has been informed in part by the report *The Dunmore Civic Amenity Recycling Centre Habitat Survey and Management for Pollinators* (D. D'Arcy, 2019) commissioned by Kilkenny County Council. The management of the habitats in the park will be in line with the guidelines outlined in All Ireland Pollinator Plan (Actions for Councils).

Consultations took place with the Landscape Design Architects Mitchell Associates with regard to the ecological constraints and considerations on the development site in order to minimise any potential ecological impacts.

Final design layouts and reports pertaining to the proposed development were reviewed including:

- Landscape Design Report: Kilkenny Biodiversity and Recreation Countryside Park
- Landscape Plan and Planting Schedule prepared by Mitchell+Associates
- Site Drainage description prepared by Malone O. Regan

3.3 CONSULTATIONS

Alan Rhatigan Site manager was consulted with regard to the layout and management of the former Dunmore Landfill site and it current management. Alan was also consulted to take account of his observations of wildlife on the site.

3.4 DESKTOP RESEARCH

A desk study was carried out to gather information on the ecology of the site and surrounding areas. References reviewed are named where appropriate. The location and boundaries of all nature conservation designated sites SACs, SPAs, National Heritage Areas (NHAs) and proposed National Heritage areas pNHAs) were identified. The current boundary shapefiles (SAC 2019/06; SPA 2019/06, NHA 2019/06; pNHA 11/2015) were downloaded from the NPWS website and incorporated into a QGIS mapping project (QGIS3.4) for the proposed development. Other map data reviewed included the National Survey of Native Woodlands, Irish Semi-natural Grasslands Survey, EPA river routes, OSI maps, aerial photography Geohive (https://geohive.ie/)and EPA maps (https://gis.epa.ie/EPAMaps/).

Biological records from the National Biodiversity Data Centre (NBDC) for the site and surrounding area (10km grid square S46, tetrad S46V and monad S4660) were extracted on 14/10/2020 and reviewed. Account was taken of notable species including any rare, protected, threatened and invasive species. Subsequently the NBDC database was searched for notable species in order to retrieve more detailed information of the record.

Ecological reports reviewed included the River Nore Heritage Audit Vol. 3 (Mullyaert and Jennings, 2009) and the EPA Water Quality in Ireland 2013-2018).

3.5 HABITAT AND FLORA SURVEY METHODOLOGY

A habitat and flora survey was carried out in July and August 2019 by Deborah D'Arcy for the purposes of compiling the report *The Dunmore Civic Amenity Recycling Centre Habitat Survey and Management for Pollinators*. During the course of the survey other ecological features including birds, mammals and invertebrates in particular pollinating insects were noted during those surveys. Habitats were classified according to the Heritage Council scheme (Fossitt, 2000) and mapped having regard for the methodologies in *Best Practice Guidance for Habitat Survey and Mapping* (Smith *et al.* 2011).

A further habitat survey were undertaken on 15th October 2020 to update the habitat mapping. This survey focussed on the treelines, hedgerows and woodlands on and adjacent to the site as these were given less attention in 2019. A habitat and flora survey of the adjacent Mass Path was carried out. In addition, account was taken of adjacent habitats of lands in the vicinity of the Dunmore Landfill Site.

3.6 FAUNA SURVEY METHODOLOGY

3.6.1 Non volant mammal survey methodology

An ecological walkover survey was carried on 15th October 2020 with a focus on the hedgerows, scrub, treelines and woodland habitats for signs of mammal use of the site. The survey involved looking for

mammal trails, setts, holts, prints, or droppings. During the course of the ecological field surveys, plant and animal species and other ecological features of interest were recorded.

3.6.2 Bat Survey Methodology

A preliminary ground level roost assessment of the trees along the treeline to the north east of the Recycling and Waste Disposal Centre was undertaken to look for features that bats could use for roosting (PRFs). This treeline was assessed for potential bat roost as it may be necessary to remove/ prune a small number of trees to facilitate pedestrian access to the park from the car park area or to widen the car park access.

The assessment of trees for PRFs methodology had regard for Bat Surveys: Good Practice Guidelines, 3rd edition, Bat Conservation Trust (Collins, 2016) and the *Bat Tree Habitat Guide* (BTHG 2018). The aim of this type of survey is determine the potential presence of bats and the need for further survey and/or mitigation. All aspects of the tree were viewed from the ground to assess the trees for features such as cracks, crevices, fissures, rot holes etc. that could be used as bat roosts. The trees were categorised with regard to PRFs referring to Table 4.1 in *Bat Surveys for Ecologists Good Practice Guidelines* 3rd Edition (Collins J., 2016).

Dusk bat activity survey

A bat survey of the lands at the Dunmore Civic Amenity Site, Co. Kilkenny, was undertaken by ecologist Seán Meehan ACIEEM, on behalf of Deborah D'Arcy ACIEEM, on the 6th September 2020. The primary objectives of this walkover survey were to establish the levels of bat activity on the site and the range of bats species present.

3.6.3 Bird Survey

Bird species observed during the course of all field survey visits in July and August 2019 and September and October 2020 were recorded. This amounts to two site visits during the breeding season in 2019 and two site visits during the non-breeding season in September/ October 2020.

3.7 IMPACT ASSESSMENT METHODOLOGY

Ecological features (habitats and species) were evaluated for their conservation importance having regard for the National Roads Authority's scheme (NRA, 2009). Potential impacts from both the construction and operational phase of the proposed development were assessed. The assessment took into account how the baseline conditions (the existing environment) will change. The potential for cumulative impacts of the development and those arising from other developments were also assessed.

Significance of effects was assessed with reference to the habitat and species conservation status, abundance and distribution. The term 'significant effect' as used in this report follows CIEEM guidance (CIEEM, 2018) and is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general.

A significant effect is therefore interpreted as one that would result in a noticeable change in the conservation status of a habitat or species at the stated geographical scale.

The significance of impacts on habitats was determined with reference to the value of the feature being affected and the magnitude of the impact. Impacts are considered ecologically significant at a stated geographic scale or are considered not significant. Where impacts are deemed not significant an estimation of the magnitude of the effect has been given as ranging from negligible to minor effects from which a habitat or species is anticipated to recover over the short-term.

4 DESCRIPTION OF THE PROJECT

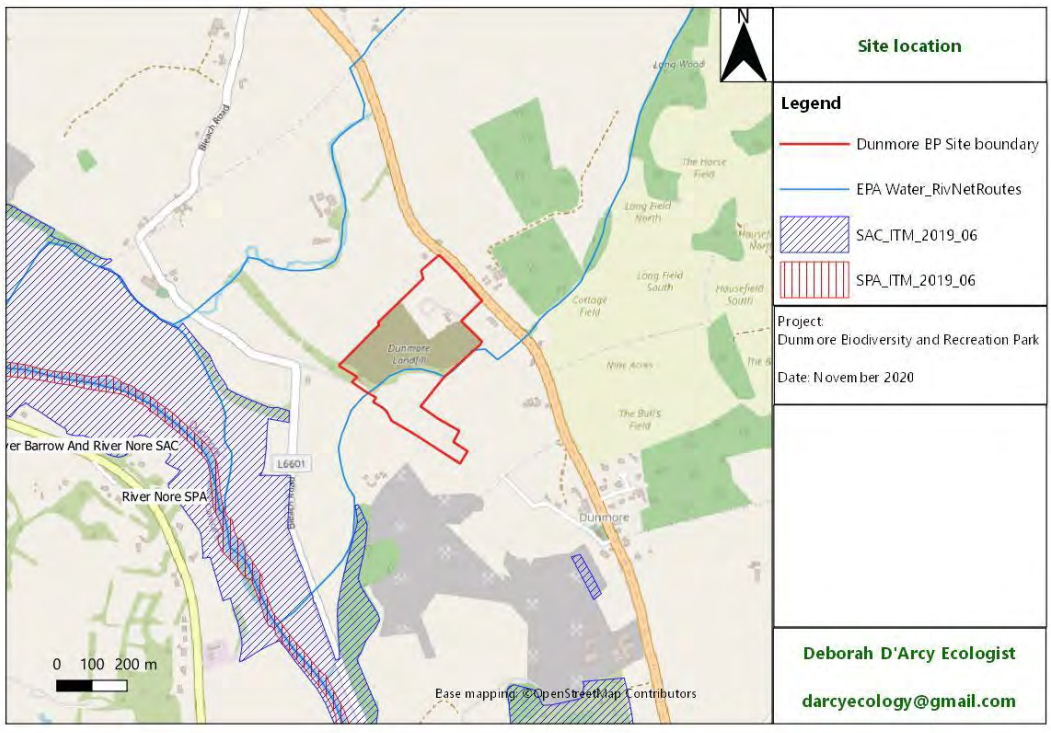
4.1 SITE LOCATION

The proposed Biodiversity and Recreational Countryside Park development is located in the townland of Dunmore on the now closed Dunmore municipal landfill site in Kilkenny (ITM 649621, 660632). The closed landfill site is approximately 11 ha (17 acres) in area. The Dunmore Recycling & Waste Disposal Centre adjoins the site. The site is accessed from the Castlecomer Road (N77) to the east and a local road, the Bleach Road, to the west. The boundary of the proposed development site also includes land to the north of the Dunmore Recycling and Waste Disposal Centre part of which is used as an overflow car park by Kilkenny GAA training facility. Kilkenny County Council entered a longterm lease in 2012 for a section of the former landfill site to Kilkenny GAA for training pitches and accommodations.

The site is bounded by the Kilkenny GAA Club to the east, agricultural land and residential property to the west and south. There is also a sand/gravel extraction pit located to the south.

The site is located approximately 200 m from the boundary of the River Barrow and River Nore SAC and 440 m from the boundary of the River Nore SPA. The location of the site is shown in Figure 1.

Figure 1 Site location



4.2 PROJECT DESCRIPTION

Kilkenny County Council proposes to develop a recreational and biodiversity park on the site of the now closed municipal landfill at Dunmore, County Kilkenny. The closed landfill site occupies an area of circa. 17 acres and is located 5km north of Kilkenny city centre. The proposed countryside park will develop trails for uses such as walking, running, cycling, and orienteering, along with educational opportunities related to natural heritage, biodiversity enhancement and management. The park will be attractive to the general public, schools and recreation groups, and those with specific environmental interests such as photography and birdwatching in the context of an amenity which is close to nature. The landscape plan is provided in the Appendix A.

The park will be accessed, with carparking provided, from three separate access points, namely:-

Carpark 1 at Dunmore village from the existing Dunmore Community Hall carpark and Mass Path in the townlands of Loughmerans and Dunmore, the southern part of the mass path is adjacent to The Church of The Most Holy Trinity, A Protected Structure.

Carpark 2 Proposed small car and bicycle parking off the local Bleach Road

Carpark 3 Off the National Road route N77 (Castlecomer Road) utilising the existing entrance to the Dunmore Recycling and Refuse Disposal Centre and Kilkenny County GAA grounds. Accessible parking spaces only under caretaker management.

The location of the access and carparks are shown Figure 2 below.

Figure 2 Access and carparks for the Dunmore Recreational & Biodiversity Park (provided by Malone O'Regan)

Background and Concept

The project description below is based on the Kilkenny Biodiversity and Recreation Countryside Park Landscape Design Report (2020) provided by Mitchell +Associates.

Dunmore Landfill commenced operation in 1989 under EPA Licence (W0030-02) and operated until March 2010. The Contracting Authority continues to discharge its functions with regard to the aftercare of the former landfill site. This includes dust, water and gas monitoring, leachate management along with services, gas wells/gas manifold maintenance, haul road and perimeter fencing maintenance.

The key element of the concept for the project is to create a new country park on the former Dunmore landfill site to support the objectives of "Countryside Recreation" with the provision of trails and facilities for health, fitness and play, with an ecological/biodiversity focus.

The waste infrastructure function of the site is now part of its history. With the remedial works completed, a mosaic of habitats exist and are developing on the site. These habitats were mapped and classified in a report commissioned by Kilkenny County Council in 2019 *Dunmore Civic Amenity Recycling Centre and Surrounding Lands, Habitat Survey and Management for Pollinators* (D'Arcy D., 2019).

The aim is through management of these habitats to maintain and increase their biodiversity value in addition to new planting and recreational infrastructure that the park will continue to contribute to develop positive environmental change along with societal benefit.

The transformative nature of the project from a symbol of waste to a beacon of biodiversity creates a landmark destination anchored by the green infrastructure connections out to the immediate locality and wider Kilkenny environs.

The park will incorporate interpretive educational information with the aim to promote a greater awareness and understanding of the importance of biodiversity. Because of its proximity to Kilkenny City it has great potential as an area for teaching field biology, environmental studies and Reduce Reuse Recycle curriculum.

Park Circulation and Activities

Themed integrated walkway loops form the main circulation routes for pedestrians and cyclists. They weave around and through the mapped habitats on the site. The trails will incorporate play elements, educational and art opportunities for nature interpretation and enable outdoor recreation activities such as a trim trail, orienteering, running and athletics training. A dog park is included as a designated fenced and gated area for exercising and socialising dogs.

The upper walkways can exploit views across the wider environment, locate amenity spaces and seating and enable local group activities such as photography or wildlife viewing.
Play provision across the site will seek to utilise existing features of the site to create a natural "free" playground across the site.

An arrival viewing terrace provides a gathering space for events/education opportunities, a focal point with an "attractor" such as a feature for play/sculpture/information, an outdoor classroom.

Three themed routes are proposed:

1. **The Biodiversity Trail:** Grass mown paths provide a trail up close through meadow grasslands, alongside hedgerows and tree lines and an education seating area at the stream edge. Education stations along the route highlight species diversity found in the park.
2. **The Landfill Infrastructure interpretative trail:** A compacted limestone dust path network which connects visible remnant landfill infrastructure, a legible expression of the landfill history and its transformation. Interpretative elements to be incorporated into the design to describe the site history as a Landfill site and express remaining infrastructure of 56 gas wells, leachate management and maintaining access for landfill aftercare. The aim is to acknowledge the landfill history and demonstrate the positive transformation of the site for a biodiversity and recreational resource.
3. **The Fitness Trail**: A varied surface path, tarmacadam, compacted gravel, mown lawn, network of paths with fitness stations incorporated. The path takes in level changes across the park with flights of steps and ramped paths up the sloped sides of the landfill for increased aerobic activity.

Planting Structure and Management

1. The planted structure is designed to create different experiences of containment/protected microclimates provided by woodland copse planting, woodland scrub planting to bank area, hedgerow and treeline planting and open grass areas and varying meadow types for active recreation and biodiverse habitats.
2. Implementation of the Habitat Management for Pollinators recommendations for varied cutting regimes for diversity in meadow areas, mown paths, additional selected seeding to create high value habitats for pollinating insects and implementing management practices to maximise this benefit.
3. Planting and management of the park shall be undertaken in accordance with the pollinator friendly management objectives as outlined in the “All Ireland Pollinator Plan 2015-2020 (Councils Actions to Help Pollinators), National Biodiversity Data Centre.

Planting Strategy

The overarching aim for the establishment of vegetation communities at the site is to create and maintain through habitat management practices and new planting a mosaic of native habitats. A number of specimen trees will be planted around the site individually and in small groups. The species have been chosen to complement the landscape character or to be native species in the area. An orchard will be planted with fruit trees.

Construction materials and design

- Carpark with permeable surfacing and reinforced grass carparking surface
- Tarmacadam path (3 m side), compacted limestone paths.
- Gabion retaining wall
- Recycled plastic sleeper step and ramps
- Seating, play structures and fitness Equipment

Wastewater

There will be no additional discharge of wastewater from the site as a result of the proposed development. There is no proposal to provide public toilet facilities on the site.

Storm water

Surface water from the parklands will continue to drain to the existing surface water drainage system on site. The existing infrastructure includes swales which carry surface water off the capped landfill to the Loughmerans Stream at three points along the site.

There is quarterly water quality monitoring of surface water on site. This is monitored at a point called 'Upstream A' on the opposite side of the N77 before the watercourse meets the facility and at 'Downstream A' at the south or the landfill where it leaves the facility.

The majority of the proposed path network is mown lawn paths and compacted gravel with one tarmacadam path to bring park users from the carpark off the N77 to the primary viewing point on the top of the landfill. The surface water runoff from the proposed pathways will run off the surface to permeate to ground locally. Throughout the park all existing manhole covers with have a stone mulch surround 1m in diameter and 200mmm deep.

The storm water drainage design has been designed by Malone O'Regan Consulting Engineers. The proposed storm sewer servicing car parking areas will connect to an existing sewer which bounds the site. The storm water will pass through a petrol interceptor before leaving the site, details of which are included in the Engineers drainage report. In additional to storing oil, fuel oil separators are designed with capacity to remove and store silts.

Surface water run-off for the proposed site layouts will calculated using the Modified Rational Method in accordance with the Greater Dublin Strategic Drainage Study (GDSDS) and attenuated for a 1 in 30 year event with 10% added for climate change in accordance with the Kilkenny County Council Development plan.

Construction Management

The appointed contractor for the proposed park will be required to submit a Construction Management Plan to be approved by Kilkenny County Council.

5 BASELINE ENVIRONMENT

5.1 DESIGNATED SITES

Designated sites for nature conservation include Special Areas of Conservation (SAC), Special Protection Areas (SPAs), Natural Heritage Areas and proposed Natural Heritage Areas (pNHA).

Natura 2000 is a network of sites of European conservation importance designated by EU Member States. In Ireland, these include Special Areas of Conservation (SACs), designated under the Habitats Directive (92/43/EEC) and Special Protection Areas (SPAs) for birds, designated under the Birds Directive (79/49/EEC and amendments as codified in 2009/147/EC).

National Heritage Areas (NHAs) are designations under the Wildlife Acts 1976 and 2000 in order to protect habitats, species or geology of national importance.

Proposed NHAs (pNHAs) are sites are of significance for wildlife and habitats which were published on a non-statutory basis in 1995, but have not since been statutorily proposed or designated. Prior to statutory designation, pNHAs are subject to limited protection, with their ecological value recognised by Planning and Licencing Authorities.

The location of the proposed park in relation to nature conservation sites within 10 km of the site is presented in Table 1 below. There are two Natura 2000 sites and eight proposed NHA within 10km of the proposed park. Four pNHAs are included within the River Barrow and River Nore SAC boundary. There are no NHAs within 10 km of the site.

Table 1 Sites designated for nature conservation within 15km of the proposed park

Designated site	Site code	Location and distance
River Barrow and Nore SAC	002162	200m to the west
River Nore SPA	004233	440 m to the west
Dunmore Park pNHA	001859	Several habitat areas located to the west and south. 200m to west at closest point. pNHA site included in SAC
Newpark Marsh pNHA	000845	3km to south east
Lough Macask pNHA	001914	3.2 km to south
Archersgrove pNHA	002051	5.9 to south east pNHA site included in SAC
Ardaloo Fen pNHA	000821	3 km to northwest pNHA site included in SAC
Inchbeg pNHA	000836	5.4 km to north west pNHA site included in SAC
Dunmore Cave pNHA	000401	4.2km to the north
Esker pits pNHA	000832	5.5 km to north

5.2 River Barrow and Nore SAC

This site consists of the freshwater stretches of the Barrow and Nore river catchments as far upstream as the Slieve Bloom Mountains, and it also includes the tidal elements and estuary as far downstream as Creadun Head in Waterford. Both rivers rise in the Slieve Bloom mountains and the confluence of the two rivers is located near New Ross, Co. Wexford ((DAHG, 2016).

The site is a Special Area of Conservation (SAC) selected for the following habitats and species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes):

Qualifying Habitats	Qualifying Species
[1130] Estuaries	[1016] Desmoulin's Whorl Snail
[1140] Tidal Mudflats and Sandflats	[1029] Freshwater Pearl Mussel
[1170] Reefs	[1092] White-clawed
[1310] *Salicornia* Mud	[1095] Sea Lamprey
[1330] Atlantic Salt Meadows	[1096] Brook Lamprey
[1410] Mediterranean Salt Meadows	[1099] River Lamprey
[3260] Floating River Vegetation	[1103] Twaite Shad
[4030] Dry Heath	[1106] Atlantic Salmon
[6430] Hydrophilous Tall Herb Communities	[1355] Otter
[7220] Petrifying Springs*	[1421] Killarney Fern
[91A0] Old Oak Woodlands	[1990] Nore Freshwater Pearl Mussel
[91E0] Alluvial Forests*	

5.3 The River Nore SPA

The site is a Special Protection Area (SPA) under the E.U. Birds Directive of special conservation interest for Kingfisher.

A survey in 2010 recorded 22 pairs of Kingfisher (based on 16 probable and 6 possible territories) within the SPA. Other species which occur within the site include Mute Swan (35), Mallard (267), Cormorant (14), Grey Heron (45), Moorhen (14), Snipe (17) and Sand Martin (1,029) – all figures are peak counts recorded during the 2010 survey.

The River Nore SPA is of high ornithological importance as it supports a nationally important population of Kingfisher, a species that is listed on Annex I of the E.U. Birds Directive (NPWS, 2011).

5.4 Proposed NHAs

NEWPARK MARSH SITE CODE: 000845

Newpark Marsh is a small marsh on the outskirts of Kilkenny town, and although the water level seems to be falling at the moment, it still supports semi-natural fen vegetation dominated by Tufted-sedge (*Carex elata*) and including the notable Water Dock (*Rumex hydrolapathum*) amongst a suite of more typical species. The area is used as a feeding site by three protected bat species, namely Leisler's Bat (*Nyctalus leisleri*), Brown Long-eared Bat (*Plecotus auritus*) and Common Pipistrelle (*Pipistrellus pipistrellus*). Despite the location of this site, being so close to an urban population, it is very natural. This is unusual and increases the importance of this site (NPWS, 2009).

ESKER PITS SITE CODE: 000832

Esker Pits proposed Natural Heritage Area, near Gragara, County Kilkenny, is a lightly worked gravel quarry supporting a range of vegetation types, most notably areas of species-rich calcareous grassland. Of particular significance is the presence of a large population of a rare Red Data Book plant species.

The site comprises a mosaic of different habitats including patches of species-rich calcareous grassland, dry gravel banks, small ponds, scrub woodland and marsh areas which are flooded in the winter.

The grassland areas contain an excellent diversity of species including a substantial population of the rare, Red Data Book species, Blue Fleabane (*Erigeron acer*). Other characteristic calcareous grassland species which occur here include Oxeye Daisy (*Leucanthemum vulgare*), Black Medick (*Medicago lupulina*), Common Knapweed (*Centaurea nigra*), Greater Knapweed (*Centaurea scabiosa*), Carline Thistle (*Carlina vulgaris*), Common Centaury (*Centaurum erythraea*), Wild Carrot (*Daucus carota*), Fairy Flax (*Linum catharticum*), Field Scabious (*Knautia arvensis*) and Lady's Bedstraw (*Galium verum*), amongst others. The site supports a good range of ruderal plant species of interest (NPWS, 2009).

DUNMORE CAVE SITE CODE: 000401

Dunmore Cave is a tourist cave owned by the Office of Public Works which is used by at least 50 Natterer's Bats (*Myotis nattereri*) during the summer months. It is a fossil cave located in an isolated limestone outcrop on the Castlecomer plateau, overlooking the Dinin River Valley, approximately seven miles north of Kilkenny City. The Natterer's Bat is an uncommon bat in Ireland, only several thousand are known from throughout the island. Few nursery colonies are known and these are in a variety of buildings, including church and house roofs, stone barns and caves. Single bats or small numbers are found under bridges during the summer. During winter, a few Natterer's Bats have been found in underground sites. This species forages in woodland where it catches insects in the air, or off foliage or the ground.As only a few thousand Natterer's Bats have been recorded throughout Ireland in the past ten years, this site is definitely of national importance and possibly of international importance.(NPWS, 2009).

LOUGH MACASK SITE CODE: 001914

Lough Macask is a small pond north-west of Kilkenny that fluctuates in size over the year. It is isolated from the underlying limestone by glacial till with a shale content from the Slieve Ardagh Hills. The substrate is generally mineral without much content of peat, except, perhaps in the centre.

The permanently flooded part contains plant species such as Broad-leaved Pondweed (*Potamogeton natans*), Water-plantain (*Alisma plantago-aquatica*) and Common Water-crowfoot (*Ranunculus aquatilis*) with the floating duckweeds, *Lemna minor*, *L. trisulca* and *Spirodela polyrhiza*. Towards the edge, Branched Bur-reed (*Sparganium erectum*) is important, leading into a zone of Floating Sweet-grass (*Glyceria fluitans*), Lesser Spearwort (*Ranunculus flammula*), Pink Water-speedwell (*Veronica catenata*), mints (*Mentha aquatica* and *M. arvensis*) and forget-me-nots (*Myostis scorpioides* and *M. laxa*). The surroundings of the pond are grazed and poached when the water levels are high. Silverweed (*Potentilla anserina*), Amphibious Bistort (*Persicaria amphibia*), Marsh Foxtail (*Alopecurus geniculatus*) and Marsh Ragwort (*Senecio aquaticus*) characterise this area. The vegetation shows that the site is similar in some ways to a turlough. It therefore differs from most other wetlands around Kilkenny and has a certain interest for this reason. In addition it contains Greater Duckweed (*Spirodela polyrhiza*) which is not found elsewhere in the county (NPWS, 2009).

5.5 GEOLOGY AND SOILS

Review of Geological Survey Ireland (GSI) Spatial Resources mapping (https://dcenr.maps.arcgis.com) indicates that the bedrock geology for the Dunmore area belongs to the Killeshin Siltstone formation of muddy siltstone and silty mudstone.

Soils for the area (https://gis.epa.ie/EPAMaps/) are characterised by the Irish Soils Information System (SIS) as the Elton Association of Fine loamy drift with limestones.

The sand and gravel pit to the south of the site is a sand and gravel pit in a limestone gravel deposit.

5.6 RIVER WATER QUALITY

Rivers are assessed under the European Union Water Framework Directive (WFD). Rivers are classified into five quality classes (status) under the WFD as high, good, moderate, poor or bad.

The site lies within the River Nore Catchment. The EPA water quality maps (https://gis.epa.ie/EPAMaps/) indicate that the latest water quality results in 2019 for the River Nore upstream of the Dunmore site is good (Q4) monitored at Three Castles Bridge (RS15N011700). This good status is maintained downstream at Green's Bridge (RS15N011800).

The WFD status for River Nore segment Nore_160 which includes the stretch of the River Nore directly west of the Dunmore site is not at risk. Downstream the WFD status for River Nore segment Nore_170 is under review (https://gis.epa.ie/EPAMaps/). EPA data indicates the ecological status of this section of the river has been good since 2012 and improvement on the moderate score recorded for the 2007-2009 reporting period.

Pressures on water quality

Water quality in Ireland is improving in some areas and getting worse in others, but that overall there has been a net decline in water quality since 2013 (EPA ,2018). The continuing decline in the ecological health of rivers is associated with a rise in the concentration of nutrients in rivers and lakes, as well as impacts from chemicals, and changes to the physical habitat conditions. The main significant pressures impacting water quality in Ireland include agriculture, wastewater discharges, physical impacts on habitats including excess fine sediment, and pressures from forestry activities

The ecological status change across river catchments between 2010–2015 and 2013- 2018 indicates that 19 water bodies in the Nore River catchment declined in status. River sites with increasing nitrogen concentration are mostly located in the more intensively farmed areas in the south, south-east and east of the country, where the soils are more freely draining and vulnerable to nitrate leaching. The River Nore is included in the river catchments with highest number of river sites with increasing nitrogen and phosphorus concentration.

Significant pressures have been identified for waterbodies that are At Risk of not meeting their water quality objectives under the Water Framework Directive. While there are a multitude of pressures in every waterbody, the significant pressures are those pressures which need to be addressed in order to improve water quality (https://gis.epa.ie/EPAMaps/Water).

River extractive industry, agriculture and abstraction pressures, have been identified for the River Dinin a tributary of the Nore upstream of Dunmore. Agriculture pressures have been identified for Nuenna a tributary of the River Nore upstream of Dunmore. River industry , hydromorphology and abstraction pressures are identified for the Breagagh downstream of Dunmore. Agriculture pressures effect the Kilderry and Rathgarvan or Clifden riverbodies downstream of Kilkenny. No significant pressures were identified or mapped for the River Nore segment west of the site or for the Loughmerans stream.

5.7 GROUNDWATER

The site is situated on a Regionally important gravel aquifer. Groundwater vulnerability is high.

The WFD Groundwater status for the Kilkenny-Ballynakill Gravels is Good. There are no significant pressures identified by the EPA for the Kilkenny-Ballynakill gravels aquifer. Anthropogenic pressures are identified as a significant on the adjacent Ballingarry groundwater body. Anthropogenic pressures may include nutrient, chemical, microbiological etc.

5.8 BIOLOGICAL RECORDS

Records from the National Biodiversity Centre were reviewed and account was taken of notable records of rare, protected or vulnerable species and invasive plant species within the 10km grid S46. Table 2 contains records of notable plants species.

Table 2 Records notable rare, threatened or invasive plant species for the 10km grid square S46

Flora	Grid reference	Date of last record	Datasource	Status
Blue Fleabane (*Erigeron acer*)	S46V	02/08/2012	Online Atlas of Vascular Plants 2012-2020	Least concern
Japanese Knotweed (*Fallopia japonica*)	S4999605 (Dunmore GG pitch)	26/06/2015	National Invasive Species Database	Invasive Species: Regulation S.I. 477
Canadian Waterweed (*Elodea canadensis*)	S46V	31/12/1999	BSBI tetrad data for Ireland	Invasive Species: Regulation S.I. 477 (Ireland)
Blunt-fruited Pottia (*Tortula modica*)	S46	19/02/2010	Bryophytes of Ireland	Threatened Species: Vulnerable
Round-fruited Grimmia (*Grimmia orbicularis*)	S46	19/02/2010	Bryophytes of Ireland	Threatened Species: Vulnerable

5.9 HABITATS AND FLORA ON SITE

The habitats and flora recorded on the site are described below followed by a Habitat Map in Figure 3.

Dry meadow grassland (GS2)

There is 5 hectares of dry meadow grassland (GS2) across the landfill restoration area with an additional area of 7732 m^2 of dry meadow grassland adjacent to the GAA overflow carpark to the north of the recycling centre. For the most part the meadow grassland is quite rank (an abundance of course grass species) as the grassland has not been cut or grazed. The dry meadow grassland is comprised of abundant false oat grass with frequent creeping bent grass and occasional cock's-foot, Yorkshire fog, red fescue and sweet vernal grass. Timothy occurred rarely. Rushes also occurred rarely including hard rush and compact rush. Herbs species included occasional creeping thistle, creeping cinquefoil, bush vetch, lesser trefoil, smooth hawksbeard (*Crepis capillaris*), lesser stitchwort, meadow buttercup, meadow vetchling and meadowsweet. Great willowherb, wild carrot and ribwort plantain occurred rarely.

Meadow vetchling visible in the sward of meadow grassland

In areas where the sward was shorter and less dense, meadow vetchling, bush vetch, tufted vetch and creeping cinquefoil were frequent. Rough hawksbeard (*Crepis biennis*) occurred occasionally along with red clover and oxeye daisy.

At the edge of the grassland with the path (recolonising bare ground) two species of orchids were recorded. Bee orchid (*Ophrys apifera*) and pyramidal orchid (*Anacamptis pyramidalis*). The In addition, common spotted orchid (*Dactyltohiza fuchsia*) was recorded in the wet grassland area at the southern end of the site. These orchid species occurred rarely with between 10-20 stems recorded across the site.

Bee orchid recorded at Dunmore

On the sloped sides of the capped landfill the habitat was classified as meadow grassland transitional to scrub (GS2/WS1). Ash saplings and bramble were frequent. It was noted that the ash sapling leaves were yellowing suggesting nutrient deficiency.

There is a small area of shaded meadow grassland verge (GS2) on the embankment near the disused portacabin adjacent to the woodland. This was diverse with burnet saxifrage (*Pimpinella saxifraga*), common knapweed, rough hawkbit and St John's wort occur with red fescue.

To the east of the Recycling and Waste Disposal Centre (in the GAA overflow carpark field) a dry meadow grassland occurs which had just been cut at the time of survey. Grass species included Yorkshire fog, red fescue, cock's-foot and false oat. Herbs species recorded included ribwort plantain, primrose, red clover, meadow vetchling, creeping buttercup and creeping cinquefoil. Field speedwell, bindweed, dandelion occurred occasionally while field scabious and common knapweed occurred rarely.

Wet grassland (GS4)

An area of wet grassland at th wouthern end of the site was over overgrown with a deep thatch of grass beneath the sward and great willowherb locally abundant in large patches. Frequent hard rush and silver weed suggest wetter conditions here. Where the sward was shorter silverweed was abundant and bee orchids were noted in this area. Common spotted orchid was recorded on the margin of the grassland. Encroaching blackthorn and bramble scrub had recently been cleared from the treeline boundaries to this area in October 2020.

Rank wet grassland with abundant great willowherb in the background and creeping cinquefoil in the foreground

Recolonising bare ground (ED3) Recolonising bare ground occurs on the path through the meadow grassland and south of the woodland.

These areas are species rich being dominated by herbs species. South of the woodland in selfheal, common knapweed, ragwort, colt's foot, smooth hawksbeard, black medick, St John's wort, weld, wild carrot, scentless mayweed, pineapple weed, red clover, common centaury and rough hawkbit all occur.

Recolonising bare ground with frequent St John's wort and oxeye daisy

South of the woodland there is an unusual area of recolonising bare ground transitional to meadow grassland (ED3/GS2) which is dominated by rough hawksbeard *(Crepis biennis*). This is a non-native species in the Asteraceae family. It was perhaps seeded into the site when restored. It is however of benefit to pollinators. Other species which occurred in this area included creeping cinquefoil, red clover, white clover, selfheal, creeping buttercup and common vetch. Grass species were represented by frequent Yorkshire fog and creeping bent grass. Glaucous sedge also occurred.

The GAA overflow carpark is surfaced with a gravel and the margins are colonised by ruderal plant species including willowherbs, selfheal, scentless mayweed, spear thistle, colt's foot, curled dock, ragwort, ribwort

Becolonising bare ground in the GAA overflow carpark

plantain, creeping cinquefoil, oxeye daisy. In 2019 there were spoil mounds at the eastern edge of the carpark were colonised with rosebay willowherb, butterfly bush, sow thistle, fumitory and great mullein.

Dry calcareous and neutral grassland/scrub (GS1/WS1)

On the embankment next to the Recycling Centre there is a species rich area of dry neutral grassland with species indicative of a dry calcareous grassland (GS1). Herbs species including common knapweed, yarrow, oxeye daisy, field scabious, perforate St John's wort, salad burnet, smooth hawksbeard (*Crepis capillaris*), wild carrot and common bird's-foot trefoil all occur occasionally amongst a sparse sward of red fescue, false oat, cock's foot and sweet vernal grass. Kidney vetch (*Anthyllis vulneraria*) the food plant of the rare and threatened small blue butterfly occurred rarely but not in enough abundance to attract the butterfly.

The area has also been planted with young trees of silver birch, field maple, and rowan. Hawthorn, willow, ash, hawthorn and blackthorn have seeded in naturally. The non-native snowberry also occurred rarely in this area. This area is transitional to scrub (WS1).

Salad burnet (Sanquisorba minor) on the dry calcareous grassland embankment

ED1 Exposed sand and gravel (ED1) To the north of the recycling and waste disposal centre behind the embankment there is a small area of approximately 932m^2 of exposed sand and gravel. This area has a population of the relatively rare blue fleabane (*Erigeron aris)* formerly known as *Erigeron acer* which occurs in dry pastures, eskers and old quarry pits. Other species growing on the exposed gravel include cat's ear, glaucous sedge, wild carrot, yarrow, St John's wort and lesser trefoil with the moss *Calliergonella cuspidata* occurring frequently.

Blue fleabane

Spoil and bare ground (ED2)

There is a sparsely vegetated spoil heap/embankment of sandy gravelly substrate located to the rear of the recycling centre. This was colonised by just one species common ragwort which although listed as a noxious weed due to its toxicity to grazing animals it does have biodiversity value. It is a food plant for pollinating insects in particular the caterpillar of the cinnabar moth.

Ornamental shrubbery (WS3) and Beds and borders (BC4)

Ornamental shrubbery occurred along the main road at the entrance to the site and in a raised stone wall bed along the access road. There is a central island of annual bedding plants at the entrance road.

Stone walls and other stonework (BL1)

There is an old stone wall (BL1) along the northern boundary of the property. This stone wall is a protected structure associated with the Dunmore Cottage property. On the southern side, the wall is mostly concealed and shaded by scrub or hedgerow. On the northern side there is lichen cover on the wall but little moss or fern growth.

Lowland watercourse (FW2)

The Loughmerans Stream enters the site through the GAA pitches adjacent to the N77. The stream is culverted under the first pitch and along the landfill site boundary with the GAA facility. The stream opens up inside the landfill site and runs along the treeline in the centre of the site. The stream bed was dry at the time of survey in October 2020 and in July/ August 2019 and there was no wetland vegetation observed in the stream bed. From this treeline the stream is culverted again under a haul road and laneway on the southern part of the site where it then opens up in agricultural lands to the south of the landfill site. Here the watercourse runs along a hedgerow and is filled with vegetation including nettle and great willowherb.

Stone wall viewed from southern side

The watercourse runs from higher ground in the Johnswell area but runs dry from April/May to October/November depending on weather conditions (Alan Rhatigan, Site Manager personal communication).

Artificial pond (FL8)

There are two fenced lagoons on site which contain the leachate from the landfill. These are clear of vegetation. Scrub growing around the pond in 2019 had been cleared in 2020. The pond in the southern half of the site is surrounded by a willow treeline.

Treelines (WL2)

There is a mature treeline dominated by ash with occasional sycamore around the southern and western boundary of the GAA overflow car park area. There is an understorey of hawthorn and blackthorn with blackthorn scrub extending out at the base of the treeline. Many of the ash trees within the treeline are multi-stemmed and may have been coppiced in the past. The boundary is present on historic 6 inch maps although not mapped as a treeline.

Diverse treeline along the mass path

There is another treeline between the recycling facility and the meadow grasslands. Poplar is dominant in this treeline with occasional ash, sycamore, wild cherry and elm with an understorey of hawthorn, elder, ivy and wild rose (*Rosa* sp.).

There is a double treeline (WL2) along the stream (FW2). This is composed of ash, grey willow, sycamore and elm with scots pine occurring adjacent to the GAA pitches.

There is a mature treeline along the boundary of the property with the Mass Path to the south. This treeline is diverse with oak, ash, crab apple, sycamore, horse chestnut, hazel and spindle all occurring. Blackthorn and dog rose occurred in the understorey. There was some recent clearance of scrub from the base of the treeline. A woodland ground flora occurred along the base of the treeline including ground ivy, wood avens and hedge woundwort.

Hedgerows (WL1)

The hedgerow along the northwest stone wall boundary is dominated by hawthorn with occasional blackthorn, elder and mature ivy. There is one mature sycamore tree.

There is a tall overgrown hedgerow along the northern boundary of the wet meadow (GS4). This is composed of hawthorn, gorse, ash, bramble, dog rose, horse chestnut and blackthorn. Blackthorn scrub had been recently cleared from the base of this hedgerow.

A young hawthorn hedgerow occurs along the boundary with the GAA pitches.

Hedgerow along the stone wall

A hedgerow of Leyland's cypress occurs along the northern edge of the GAA overflow carpark area.

Scrub (WS1) and immature woodland (WS2)

Scrub and immature woodland occurred along the central treeline with blackthorn and bramble dominating.

Oak-ash hazel woodland (WN2)

This woodland occurs along a bank and ditch at the eastern boundary of the meadow grassland. It is composed of three treelines forming a woodland canopy. The canopy is composed of ash with frequent beech and sycamore also occurring. Although a significant portion of the canopy is non native beech, the ground flora is typical of oak-ash-hazel woodland (WN2). The understorey is composed of hawthorn. Blackthorn and elder. The ground flora has frequent ivy, with occasional bramble, herb robert, wood avens, cow parsley and false brome. Ferns are frequent along the dry ditch including soft shield fern, Hart's tongue fern. False brome occurs rarely.

Oak-as-hazel woodland

Review of the OSi historic 6 inch maps (1837-1842) shows a mixed coniferous/broadleaved woodland on the landfill site which includes this area of woodland. It is possible that this small area of woodland along the dry ditch is a remnant area of long established woodland. There was also another area of

woodland mixed coniferous/broadleaved woodland indicated for the area that is now a wet grassland on the landfill site.

Broadleaved woodland (WD1)

There are two small areas of broadleaved woodland (WD1) planted along the main road. Silver birch, ash, rowan, scot's pine, alder and aspen with an understorey of hawthorn, blackthorn and holly. Two more areas of broadleaved woodland were mapped along the entrance road and along the rear access track. Although composed of native species the planting density was high and the woodlands had not fully matured and were best described as mixed broadleaved woodland (WD1).

5.10 ADJACENT HABITATS

Immediately adjacent and east of the landfill site the GAA pitches are composed of amenity grassland (GA2). Improved agricultural grassland (GA1) occurs to the west. This was grazed by sheep at the time of survey in October 2020. To the south of the landfill site is the mass path bordered by treelines and a species rich grassy verge (GS2). This is described below.

To the south of the mass path, scrub (WS1) and seminatural grasslands occur over the previously worked portions of a sand and gravel pit (ED4) to the south. Along the western boundary of this sand and gravel pit is a woodland within the boundary of the River Barrow and Nore SAC. This woodland was part surveyed in the River Nore Heritage Audit (Mullyaert & Jennings, 2009) and described as a broadleaved woodland dominated by beech. It is noted that the rare plant nettle-leaved bellflower has been recorded from this woodland in the past. Other species recorded included bluebell, bramble, ivy, bugle and dog violet.

The Loughmerans stream (FW2) runs along a hedgerow across agricultural land to the south of the landfill. dense vegetation was evident in the stream including frequent nettle and great willowherb.

The Mass Path

The mass path provides a walkway link to the Dunmore Landfill site to Dunmore Church and the N77. This is an historic walkway present on the OSi 6 inch maps (1837-1842) leading to the Dunmore Church and graveyard. The mass path is relatively untouched and is bordered by treelines of ash, sycamore, beech, horse chestnut, crab apple, spindle and oak at the western end transitioning to and old stone wall (BL1) on the northern side and a hedgerow (WL1) on the southern side. There is a grassy verge bordering the path. In places this grassy verge is species rich with ground ivy, barren strawberry, burnet saxifrage, wood avens, cow parsley, dandelion, cleavers, primrose, bush vetch, wild carrot, figwort. Woodland calamint (*Clinopodium ascendens*) a rare plant occurred at the western end.

Where shaded ferns dominate the verge including hart's tongue fern and soft shield fern.The stone wall (BL1) is moss covered with occasional to frequent rustyback fern.

5.11 NOTABLE FLORA

Blue fleabane (*Erigeron acris)* is an annual or biennial plant and occurs in exposed gravel habitat to the west of the recycling centre. There is a strong population estimated as approximately 30 stems/ m^2 along the hedgerow to the west and scattered elsewhere throughout the exposed gravel habitat which amount to approximately $932m^{2.}$.

Blue fleabane occurs on dry pastures, eskers and sandy gravelly substrates. It occurs mainly in centre and south east Ireland (Parnell & Curtis, 2012). Parnell & Curtis (2012) describe the species a rare and local. Blue fleabane was previously listed as vulnerable according to IUCN criteria in the Irish Red Data Book (Curtis & McGough, 1988.). It is currently listed as Least Concern according to IUCN criteria in Ireland Red List No. 10 Vascular Plants (Wyse Jackson et al., 2016).

Salad burnet *Sanguisorba minor* occurs on the dry calcareous grassland/scrub habitat on the embankment to the east of the recycling centre. The species occurs in dry grassland and gravelly banks. It is described by Parnell & Curtis and locally frequent on limestone in the south and very rare in the north (of Ireland). It is listed as least concern on the Ireland Red List ((Wyse Jackson et al., 2016).

Bee orchid (*Ophrys apifera*) Bee orchids were recorded rarely along the existing gravel path though the meadow grasslands. Bee orchids occur on limestone grasslands, sand dunes and dry banks. They have a widespread but local occurrence in Ireland (Parnell & Curtis, 2012). They were listed as Near Threatened according to IUCN criteria in the Irish Red Data Book (Curtis & McGough, 1988.). Bee orchids are listed as Least Concern according to IUCN criteria on the Ireland Red List ((Wyse Jackson et al., 2016). There are other recent records on the NBDC database for bee orchids in the area - for the sand and gravel quarry to the south and for Baun along the N77.

Pyramidal orchids (*Anacamptis pyramidalis*) occurred rarely on the edge of the meadow grasslands with the gravel path. Theses orchid are relatively common in Ireland but absent from parts of the north and southwest (Parnell & Curtis (20212) occurring on pastures, banks, roadsides and sandhills. There are other records for pyramidal orchid in the adjacent S55 square at Baun and at Kilkenny College.

Common calamint (*Clinodpodium ascendens*) This species was recorded on the Mass Path. Calamint A rhizomatous perennial of hedge banks, road verges, rough scrubby grassland and rocky outcrops, usually on dry calcareous soils (https://www.brc.ac.uk/plantatlas/plant/clinopodium-ascendens) There is a record for the species on the BSBI distribution maps (https://bsbi.org/maps) for the same tetrad and this is the only record for the species in the hectad. It is also recorded in 4 other hectads in County Kilkenny. The distribution of this species is restricted mostly to the southern half of Ireland. It is listed as Least Concern according to IUCN criteria on the Ireland Red List ((Wyse Jackson et al., 2016).

5.12 Invasive Plant Species

There were no invasive plant species listed on Schedule III of the Birds and Habitats Regulations 2011 recorded on or adjacent to the site during surveys in 2019 and 2020.

There were records for two Schedule III invasive plant species within the 10km grid square S46. These were Japanese knotweed (*Fallopia japonica*) and Canadian waterweed (*Elodea canadenisis*). *Elodea canadensis* was not observed on the site. The watercourse is dry for long periods and does not present as suitable habitat for these species. The lagoons appear to be devoid of aquatic vegetation.

There is a 100m resolution record for the NBDC database dated 2015 for Japanese knotweed on amenity grassland in the north east corner of the GAA pitches. This area is outside the zone of influence of the development being at least 50-60m from the former landfill site.

Four plant species with invasive tendencies were recorded on the site:

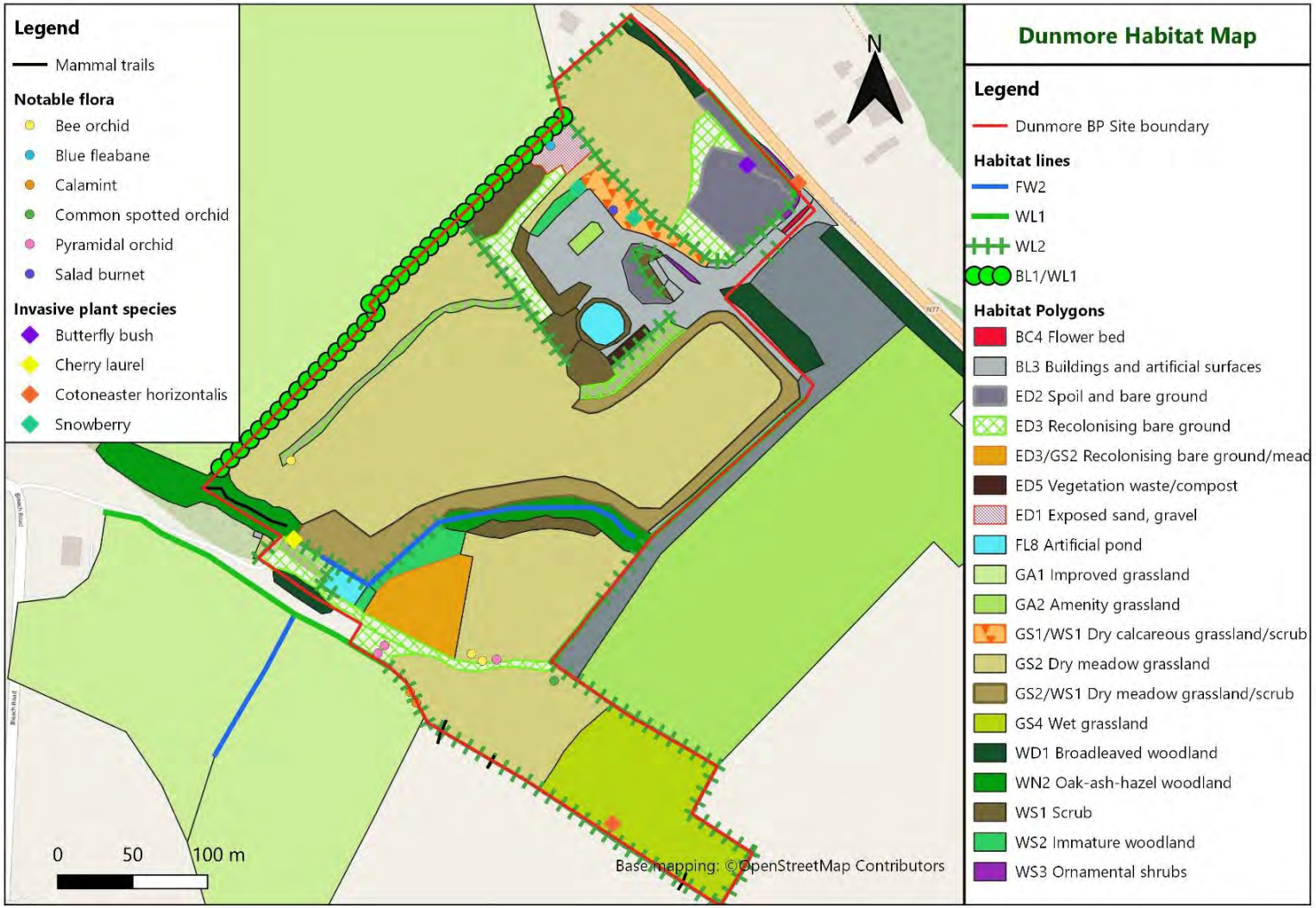
Cherry laurel (*Prunus laurocerasus*) was recorded at the edge of the oak-as-hazel woodland (WN2). One large shrub was present but this had not spread into the woodland.

Snowberry (*Symphirocarpos albus*) was recorded on the embankment around the Recycling and Waste Disposal Centre where it is a component of the GS1/Scrub habitat. It has not spread widely

Butterfly bush (*Buddleia davidii*) was recorded on the recolonising spoil heaps in the GAA overflow carpark.

Cotoneaster horizontalis was recorded as a small plant adjacent to the species rich treeline along the mass path. It was also planted along the N77 road at the entrance to the Dunmore Recycling facility.

Figure 3 Habitat Map of the proposed development site and adjacent land



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Dunmore Biodiversity and Recreation Park

5.13 FAUNA

5.13.1 Non-volant mammals

Desk study

Biological records for the 10 km square (S46) in which the development site is located were extracted from the National Biodiversity Data Centre (NBDC) database and reviewed. Account was taken of pertinent records relevant to this assessment.

Table 3 Records of rare, threatened, protected mammal species in the locality of the proposed development site

Species	Grid/Location	Site	Date	Source	
Otter	S46		1986	Badger and Habitats Survey of Ireland	Protected Species: EU Habitats Directive Annex II, Annex IV Protected Species: Wildlife Acts
Otter	S458628	Three castles bridge	2013	Atlas of Mammals in Ireland 2010-2015	
Otter	S458627	Three castles bridge	2005	Otter survey of Ireland 2004 & 2005	
Otter	S441665	Inchbeg, Freshford	2013	Atlas of Mammals in Ireland 2010-2015	
Badger (*Meles meles*)	S4960		31/12/2007	Badger Setts of Ireland Database	Protected Species: Wildlife Acts
Hedgehog (*Erinaceus europaeus*)	S4960		06/06/2016	Mammals of Ireland 2016-2025	Protected Species: Wildlife Acts
Irish Hare *(Lepus timidus hibernicus)*	S46		**22/11/2015**	Atlas of Mammals in Ireland 2010-2015	Protected Species: EU Annex V Wildlife Acts Protected Species: EU Annex V Wildlife Acts
Irish Hare *(Lepus timidus hibernicus)*	S5060	Dunmore Park	**27/04/1990**	Badger and Habitats Survey of Ireland	

Species	Grid/Location	Site	Date	Source	
Red Squirrel (*Sciurus vulgaris*)	S46		25/07/2018	Mammals of Ireland 2016-2025	Protected Species: Wildlife Acts
Pine marten	S46		21/07/2018	Mammals of Ireland 2016-2025	Protected Species: EU Habitats Directive Annex V; Species: Wildlife Acts
Pygmy Shrew (*Sorex minutus*)	S46		02/08/2012	Atlas of Mammals in Ireland 2010-2015	Protected Species: Wildlife Acts
Sika Deer (*Cervus nippon*)	S46		15/10/2014	Atlas of Mammals in Ireland 2010-2015	High Impact Invasive Species Regulation S.I. 477 (Ireland) || Protected Species: Wildlife Acts

Otter

Otter are a qualifying interest of the River Barrow and Nore SAC. There are records for otter along the River Nore at Three Castles Bridge north of the site. Otter are expected to occur all along the River Nore and its tributaries where suitable habitat exists.

Otter are not anticipated to occur on the proposed development site. The Loughmerans Stream is a seasonal watercourse and is dry between April/May and October/Novembr. While there is suitable cover for holts on the site, otter are not anticipated to occur due to the distance from prime foraging habitat along the River Nore. No holts or signs of otter were noted in the woodland/ scrub habitats during the ecological surveys.

Badger

There are several records for badger within the tetrad S4960 dated 2007. There is a 100m resolution (dated 1990) record for located approximately 300m south east of the Landfill site in the townland of Dunmore Park. There is a recent road kill record for badger for the N77 500m south of the Landfill site. Badger are clearly active in the general area. However, there were no badger setts or definitive signs of badger (droppings, prints) using the site. There was signs of some possible forging activity but this was difficult to distinguish between that of rabbit. There is high rabbit activity on the site with burrows

noted along the treeline north of the recycling centre and in scrub/hedgerow habitat along the stone wall along the north west boundary. Rabbit were also seen on site during the ecological surveys.

There is definite mammal trail through the oak-ash-hazel (WN2) woodland at the eastern boundary and also across the treeline and Mass Path to the sand and gravel pit however again these could not be confirmed to be used by badger and may be fox trails.

It was concluded that badger may use the site for foraging but no setts are present on the site.

There are records for red squirrel (latest record 2018), pine marten (latest record 2018), Irish Hare hedgehog (latest record 201) and pygmy shrew on the NBDC database for the 10 km grid square. While no signs of these species were observed on or in the vicinity of the site there is suitable habitat particularly for some of these species on and adjacent to the proposed development site. There is limited habitat for red squirrel and pine on the site due to the small area of woodland habitats.

There is suitable habitat for Irish hare, hedgehog and pygmy shrew on the site composed of meadow grasslands and wooded habitats and these species are anticipated to occur on the site. There is a record for Irish Hare for the townland Dunmore Park form 1990. There is a more recent record for Irish Hare (2015) at Oldtown Ballyragget to the north of Dunmore.

Other mammals

There were several signs of rabbit burrows and droppings on and adjacent to the site. Fox are also known to occur on the site. These species are not protected species in Ireland.

5.13.2 Bats

Desk Study

No bat records as per the NBDC portal were returned for tetrad S46V. Table 4 provides records that were returned for one of the adjacent tetrads, S45Z, which is located to the south of the site. All record locations are at 100 metres resolution.

Table 4. Records of bats from within tetrad S45Z

Grid Reference	Date	Survey /Dataset	Surveyor	Species
S495594	29/05/2009	BATLAS 2010	R. Carden	Daubenton's bat *Myotis daubentonii*
S495594	29/05/2005	BATLAS 2010	R. Carden	Soprano pipistrelle *Pipistrellus pygmaeus*
S495594	29/05/2005	BATLAS 2010	R. Carden	Pipistrelle species *Pipistrellus sensu lato*

Bat Conservation Ireland's habitat suitability index (Lundy et al., 2011) available to view on the NBDC online mapping portal, classifies the landscape, within which the site is located, as having a high

habitat suitability for bats, with a score of 34.78 for all bat species. This high habitat suitability score for this tetrad is due to the presence of a mosaic of habitats, including well connected hedgerows, the River Nore and associated riparian habitats and mature treelines. The three species of bat most likely to be associated with the habitats within this tetrad, as per the habitat suitability index, are brown long-eared bat *Plecotus auritus* (score of 51), common pipistrelle *Pipistrellus pipistrellus* (score of 51) and Leisler's bat *Nyctalus leisleri* (score of 48).

Dusk bat survey

Four species of bat were detected during the walkover survey; Leisler's bat, soprano pipistrelle, common pipistrelle and a myotis species, strongly suspected as being Natterer's bat *Myotis nattereri.* Bat activity was notably higher along hedgerows and treelines compared to the more open grassland areas of the site, which is generally typical behaviour for most bat species. No bats were observed or detected hunting over the leachate lagoons. The coordinates of the locations of all bats detected were recorded and this information is provided in Table 5.

Table 5. Bat activity detected during the dusk survey

Time	Location (ITM)	Species	Comments
20.09	649487, 660647	Leisler's bat	Flying at a height over open grassland
20.21	649610, 660718	Soprano pipistrelle	Flying along hedgerow. Feeding.
20.33	649584, 660779	Soprano pipistrelle	Flying along hedgerow. Feeding.
20.41	649749, 660748	Soprano pipistrelle	Flying along hedgerow. Commuting.
20.44	649813, 660655	Leisler's bat	Flying along treeline by depot yard. Feeding.
20.58	649541, 660570	Soprano pipistrelle	One flyover detected.
21.11	649453, 660559	Soprano pipistrelle	Distant call detected.
21.20	649502, 660648	Leisler's bat	Distant calls detected. Possibly over open grassland in the centre of the site.
21.31	649649, 660714	Common pipistrelle	Flying along hedgerow. Feeding
21.45	649746, 660590	Soprano pipistrelle	Observed hunting insects that were attracted to a streetlight by the football pitch.
21.53	649626, 660466	Common pipistrelle	Flying along treeline at the southern end of the football field.
22.03	649754, 660327	Myotis species, strongly suspected to be Natterer's bat	Detected flying along a hedgerow. Detected twice in short succession.

Time	Location (ITM)	Species	Comments
22.10	649794, 660271	Soprano pipistrelle	Feeding along the old laneway
22.14	649558, 660430	Common pipistrelle	Flying around shrubs at circa 5 metres in height. Feeding.

3.3 Bat roosts

There are a number of mature treelines on the site, most notably around the depot yard area and along the mass path and these may contain trees that could offer potential roost features (PRFs). Such features include rot and decay holes, splits and cracks in the trunks and branches leading into suitable cavities, lifting bark and old dense ivy growth.

The Mass Path has dense treelines on both sides, creating an enclosed canopy that offers optimum commuting and feeding opportunities for bats, particularly species such as brown long-eared bat that are generally intolerant of minimal levels of brightness such as in more open areas that may be more prone to artificial light pollution and natural brightness, such as moonshine.

The natural stone building in the depot yard is well maintained. No obvious access points into roof spaces or damaged soffit and fascia boards were noted. The area around the depot yard (including this building) and along the north-western side of the football field are illuminated by outdoor lighting columns, reducing bat activity in these areas, although a bat was observed hunting insects that were attracted to a light column by the football field.

A small number of bat droppings and discarded insect wings, indicating brown long-eared bat, were noted in a derelict portacabin structure beside the site entrance at Bleach Road. It is likely that this structure is being used as a feeding perch or night roost.

5.13.3 Birds

<u>Desk study</u>

The 1km and 2km records (tetrad S46V) for birds species were reviewed and account taken of notable species (i.e. bird species that are amber or red listed species) and these are listed in Table 5.

Table 6 NBDC records for tetrad S4960 for birds species which are red or amber-listed species

Birds	Grid square	Date of last record	Data source	BOCCI
Common Swift (*Apus apus*)	S4960	04/06/2012	Birds of Ireland	Amber List
Sand Martin (*Riparia riparia*)	S4960	04/06/2012	Birds of Ireland	Amber List
Yellowhammer (*Emberiza citrinella*)	S4960	04/06/2012	Birds of Ireland	Red List
Barn Swallow (*Hirundo rustica*)	S46V	31/07/1991	The Second Atlas of Breeding Birds in Britain and Ireland: 1988-1991	Wildlife Acts Amber List

Yellowhammer is a declining resident mainly in the east and south of Ireland. It is strongly tied to cereal cultivation. It is generally associated with arable fields and their surrounding hedgerows (https://birdwatchireland.ie/).

It is possible that yellow hammer could feed on the meadow grasslands but the species was not observed during the ecological surveys in 2019 or 2020 and would favour arable and stubble fields.

Common swift is a common summer visitor throughout Ireland. It breeds throughout Ireland, usually in small recesses in buildings, both occupied and derelict. Less frequently in holes in trees or caves in uplands or coastal areas. ((https://birdwatchireland.ie/). It was not observed on the site during the ecological survey in 2019.

Sand martin is widespread summer visitor throughout Ireland from mid-March to September Sand martins breed in burrows dug into river banks or quarries. Feeding birds disperse widely, favouring wetlands and rural areas. (https://birdwatchireland.ie/). There is no suitable nesting habitat on the site for sand martins.

Bird Survey results

Bird species recorded on the site during the ecological surveys in 2019 (breeding season) and 2020 (non breeding) are listed in Table 7. Meadow pipit were recorded in the meadow grassland habitat during the breeding season in 2019. Meadow pipits are red listed on the list of Birds of Conservation Concern in Ireland (BOCCI) (Colhoun & Cummins, 2014).

Snipe and pheasant have also been recorded in the meadow grassland (Alan Rhatigan personal communication).

Table 7 Bird species recorded on the site in 2019 (breeding season and 2020 (nonbreeding season) and their conservation status according to Birds of Conservation in Ireland (BOCCI) (Colnoun and Cummins (2013).

Common name	Date recorded	BOCCI status	Habitat
Swallow	July August 2019	Amber	Feeding over treelines
Meadow pipit	July 2019	Red	Meadow grassland
Snipe	Not known	Amber	Meadow grassland
Pheasant	Not known	_	Meadow grassland
Buzzard	2019/2020	Green	Circling over adjacent land.
Wood pigeon	2019/2020	Green	Treelines/woodland
Thrush	July/August 2019	Green	Treelines
Gold finch	July/August 2019	Green	Meadow grasslands (feeding)
Wren	2020	Green	Hedgerows/scrub
Rook	2019/2020	Green	Woodland
Robin	2019/2020	Amber	Hedgerow/ scrub
Blackbird	2019/2020	Green	Treelines
Chaffinch	2019/2020	Green	Hedgerow
Long tailed tit	2020	Green	Hedgerow
Blue tit	2019/2020	Green	Treelines/hedgerows

5.13.4 Reptiles and amphibians

Desk study

There are records for both common frog and smooth newt within the 2km S4690. There are no records for common lizard but this is likely to reflect a lack of records rather than an absence of the species.

Table 8 Records of amphibians with the 2km grid square (S4960)

Species	Grid Square	Date of last record	Data source	Status
Common Frog (*Rana temporaria*)	S4960	19/04/2014	Amphibians and reptiles of Ireland	Protected Species: EU Habitats Directive Annex V ; Wildlife Acts

Species	Grid Square	Date of last record	Data source	Status
Smooth Newt (*Lissotriton vulgaris*)	S4960	19/04/2014	Amphibians and reptiles of Ireland	Protected Species: Wildlife Acts

The meadow grasslands, hedgerows and woodland of the site provide suitable shelter for amphibians but the availability of breeding habitat is limited. The seasonal watercourse may provide breeding habitat for common frog depending on the rate of flow and creation of still pools for spawning. The leachate lagoons are devoid of vegetation and fenced. There is no suitable breeding habitat for smooth newts which have a preference for vegetated water bodies (King et al., 2011).

There is suitable habitat for common lizard on the site. The varied habitats and structural diversity across the site would provide good foraging and basking habitat. The old stone wall provides crevices for shelter. It is anticipated that common lizard occurs on the site.

5.13.5 Invertebrates

The habitats on site in particular the meadow grasslands, scrub, hedgerows and stone all provide good habitat for a range of invertebrate species. The meadow grassland and hedgerows are important for a range of invertebrate species including pollinating insects. The habitat and floral diversity of the site provides forage for a good diversity of pollinating insects.

Desk study revealed the following notable records of invertebrate species from the tetrad S46V.

Table 9 Records for notable invertebrate species on the NBDC database for the 2km grid square S46V

Invertebrates	Grid square	Date of las record	Data Source	Status
Dingy Skipper (Erynnis tages)	S4960	26/04/2015	Butterflies of Ireland	Threatened Species: Near threatened
Scarce Emerald Damselfly (Lestes dryas)	S4960	14/07/2013	Dragonfly Records	Threatened Species: Near threatened
Scarce Blue-tailed Damselfly (Ischnura pumilio)	S4960	18/06/2013	Dragonfly Records	Threatened Species: Vulnerable
Large Red Tailed Bumble Bee (Bombus (Melanobombus) lapidarius)	S46V	01/08/2012	Bees of Ireland	Threatened Species: Near threatened

Account was taken of pollinating insects observed during surveys in July/August 2019 and October 2020. These are casual observations recorded over 2/3 days and do not account or purported to be representative of the complete range of pollinating insects occurring on the site.

The species identified on or within the vicinity of the site are listed in Table 10.

Table 10 Pollinating insects observed on the site in 2019 and 2020

Invertebrates	Scientific name	Date	Status
Ringlet	*Aphantopus hyperantus*	July/August 2019	Least concern
Meadow brown	*Maniola jurtina*	July/august 2019	Least concern
Peacock	*Inachis io*	July/August 2019	Least concern
Painted lady	*Vanessa cardui*	July/August 2019	Least concern
Tortoiseshell	*Aglais urticae*	July/August2019	Least concern
Red admiral	*Vanessa atalanta*	July2019/October 2020	Least concern
Large Red Tailed Bumble Bee (Bombus	*Melanobombus lapidarius*	July/August 2019	Threatened species: Near threatened
White tailed bumble bee	Bombus lucorum	July 2019	Least concern
Early bumblebee	Bombus pratorum	July 2019	Least concern
Six-spot Burnet	*Zygaena filipendulae*	July 2019	Least concern
Honey bee	Apis mellifera	October 2020	Not evaluated

6 CONSERVATION EVALUATION

Ecological features (habitats and species) present on or adjacent to the proposed development site were evaluated for their conservation importance having regard for the National Roads Authority's scheme (NRA, 2009). Habitats and species are evaluated based on their conservation status, distribution and the estimated population size or importance.

Overall the site at Dunmore is evaluated as high local importance due to the diversity of habitats found on the site including moderately species rich meadow grasslands and mature woodland treelines and hedgerows. The site contains several uncommon flora species although they are listed as least concern on the red list.

The site is known or expected to support a diversity of protected faunal species including badger (foraging only) and small mammals including hedgehog, pygmy shrew and perhaps Irish hare. Fox frequents the site and rabbits which are a non-native species are abundant on the site.

The site is of high local importance for bird species providing foraging and nesting habitat for several passerine species including the red listed meadow pipit.

Table 11 provides an overview of the ecological evaluation of the habitats and species of the proposed development site and adjacent land.

Table 11 Ecological evaluation of important ecological features

ECOLOGICAL FEATURE	EVALUATION[a]	RATIONALE
Habitats on site		
Treelines	Local (higher value)	Mature treelines with undergrowth around site provide shelter, forage and connectivity in the landscape for wildlife
Hedgerows (WL1)	Local (higher value)	Mature hedgerows on site provide shelter, forage and connectivity in the landscape for wildlife
Lowland stream (FW2)	Local (lower value)	Seasonal watercourse of some but limited value to wildlife
Stone wall	Local	Long standing stone wall provides niche habitat for flora and fauna.
Oak-as-hazel woodland (WN2)	Local (Higher value)	Small area narrow linear woodland made up of treelines. The canopy contains both native and on-native species. Provide connectivity in the landscape.
Dry meadow grassland	Local (higher value)	Moderate species rich meadow grasslands
Dry calcareous grassland/scrub	Local (lower value)	Very small area of dry calcareous grassland/scrub containing a diverse flora including the uncommon species salad burnet.
Mixed broadleaved woodland (WD1)	Local	Area of young densely planted mixed broadleaved woodland of native trees species. Provides a buffer to the N77 roadway
Scrub	Local	Small area of scrub on site of value to wildlife. Suitable nesting and foraging habitat for bird species. Some foraging value for pollinating interests. Refuge for small mammals.
Adjacent habitats and flora		
Mass Path grassy verge	High local	Diverse grassy verge to path with a small population of Calamint a rare species in the locality.
Flora	High local	Uncommon plant species found on the site.
Fauna		
Birds		
Passerine bird population	High local	Several common and widespread bird species present on the site.
Protected mammals		
Badger	Local	The proposed development site provides foraging habitat for badger but badger are not resident on the site.

ECOLOGICAL FEATURE	EVALUATION[a]	RATIONALE
Bat population	High local	Semi-natural habitats on site provide good habitat for bat species. Four species recorded on the site.
Hedgehog, pygmy shrew	Local	Semi-natural habitats on site provide suitable habitat for this species.
Common frog	Local	Suitable shelter and foraging on site but limited breeding habitat available
Invertebrates	High local	Semi-natural habitats provide good habitat for a range of common and widespread invertebrates. Good habitat for pollinating insects.

[a] Ecological evaluation has regard for NRA guidelines (NRA, 2009). Local in this context is taken to approximate the 10 km grid square.

7 ECOLOGICAL IMPACT ASSESSMENT

7.1 POTENTIAL EFFECTS PNHAS

There will be no negative impacts on pNHAs. Due to the nature and scale of the development there is no pathways of effects to these sites proposed for nature conservation in Kilkenny. Retention of the habitats on site and appropriate habitat management will overall maintain the stepping stone function of the site and retain the ecological resources on the site. There is no risk to groundwater levels or pollution a project of this nature and scale. There are no pathways for effects to these proposed sites for nature conservation.

7.2 POTENTIAL IMPACTS OF THE PROPOSED DEVELOPMENT

The potential impacts of the construction phase and operational phase of the development are assessed below.

Habitat loss

There will be minimal direct loss of these habitats as a result of this proposed development.

Hedgerows and treelines

The hedgerows and treelines will be retained and enhanced where appropriate with native planting.

There may be a requirement for removal or pruning of a low number of trees to accommodate the entrance to the carpark and the pedestrian entrance over the raised boardwalk into the park. The removal or pruning of these low number of trees (if required) will have a negligible effect on the habitat overall due to the minimal number of trees to be removed/pruned.

Meadow grasslands

There is approximately 5.4 hectares of moderately species rich dry meadow grassland (GS2) across the site and approximately 0.9 ha of wet grassland of low species (GS4) on the site.

The existing dry meadow grassland area (0.7Ha) the north of the recycling centre will be lost to as this area will planted up and managed to accommodate an amenity grassland (GA2), dog park and orchard. The remaining meadow grasslands will be retained except for the areas used to create/extend the limestone paths and mown paths through the grassland.

The area of meadow grassland lost is estimated to be at most 1ha altogether equating to approximately 16% of the meadow grassland area.

However, currently the meadow grasslands are unmanaged and would benefit from appropriate cut and mow regimes to promote greater species richness in the sward. The creation of mown paths and compacted limestone paths with a medium height verge through the meadows also facilitates the creation of structural diversity in the grassland with short, medium and tall sward heights which will promote species richness and is of benefit to pollinators and to plant species such as orchids.

Overall the loss of the meadow grassland for the car park /entrance area to the park is likely to be compensated for by the improvement in the management regime of the grassland and no negative impact is anticipated. With an appropriate management regime which will promote species richness in the meadow grassland a **net positive impact** is likely.

Potential impacts of the watercourse

The potential for pollution or sedimentation of the watercourse on site has been addressed in the AA screening document in detail. It was concluded that due to the nature of the works and the vegetation buffer to the stream there is no significant risk of pollution or sedimentation of the watercourse on site during construction works.

Potential impacts on notable flora

No impact to the rare plant species Blue fleabane is anticipated from this proposed development. The landscape design has taken the occurrence of this plant into account. A railed raised board walk is designed to accommodate pedestrians across the area to prevent trampling and disturbance of the habitat.

Creation of the limestone paths could result in disturbance or removal of individual orchid plants as both pyramidal and bee orchids were found on the edges of existing gravel paths on the site and in some of the recolonizing bare ground habitat.

The dry calcareous grassland/scrub habitat will be retained on the embankment next to the Recycling and Waste Disposal Centre. Some scrub management may be undertaken in the area. No impact to the uncommon plant salad burnet is anticipated.

There is a risk of disturbance during works to the habitat of Calamint which occurs on the grassy verge next to the Mass Path. This grassy verge could be disturbed when creating the link between the Park and the Mass path.

Mitigation measures are prosed to avoid negative impact to notable flora species on the site.

Potential effect on mammals

Records indicate that badgers are active in the wider area. No definitive signs of badger using the site were recorded. There were some possible signs of badger foraging and definite mammal trails from the site crossing the mass path to the sand /and gravel pit to the south. No badger setts were recorded on or adjacent to the site.

Given the low impact nature of the construction works no significant disturbance or displacement impact to badger is anticipated. No significant impact to badger or small mammals is anticipated as a result of the operational phase. Increased human activity of the site is not anticipated to significantly disturb badger as a nocturnal species. The retention of habitats on the site will retain foraging resources for badger. Hedgehog are also a nocturnal species and are not anticipated to be displaced from the site. It is possible they could be disturbed or suffer harm from people or dogs walking "off trail".

Potential effects on bird species.

There will be no significant direct loss of habitats for birds with the retention of habitats on site. However, there is potential for disturbance impacts during both the construction and operational phase of the development.

There is a risk of disturbance to bird species should vegetation clearance take place during the breeding season for birds (March 1st August 31st). It is an offence under the Wildlife Act (1976 (as amended) to intentionally disturb birds, their nests or eggs during the breeding season. Mitigation measures are proposed below to avoid disturbance of nesting birds.

The proposed development will alter the land use increasing the level of human presence and disturbance on the site. Disturbance to birds may result when people come too close to wildlife, enter the animal's field of view, or cause noise in close proximity to the animal. Immediate responses to recreational disturbance include increased flight and vigilance, interrupted foraging, avoidance of otherwise suitable habitat, declines in abundance, occupancy, or density. Energetic losses from flight, decreased foraging time, or increased stress levels put pressure on energy resources needed survival, growth, and reproduction.

Soulard (2017) cite several studies that indicated that birds that forage or nest on the ground as well as more conspicuous species have been reported to have the greatest response to the presence of recreationists, when compared to birds foraging or nesting higher in the canopy. Three species of ground nesting birds were recorded on the site. Meadow pipit were recorded on the site during the breeding season and assumed to be nesting. Pheasant are also likely to breed on the site. It is considered unlikely that snipe would breed on the site due to the suboptimal habitat for snipe who would favour wetlands.

In a worse case scenario it is possible that ground nesting and ground feeding birds, meadow pipit, pheasant and snipe may be displaced from the site or suffer reduced breeding success due to the disturbance impacts.

Meadow pits are a very widespread breeding species in Ireland, with around 500,000 to 1,000,000 pairs. They are found in bogs, uplands and areas of scrub and pasture as a breeding species (https://birdwatchireland.ie/birds/meadow-pipit/). The surrounding land use is predominantly farmland. D.P. Vanhinsberg & D.E. Chamberlain (2001) found farmland supported low densities of meadow pits <30 individuals per km^2. Given the area of meadow grassland habitat at the Dunmore Park is 5ha (0.05 km^2) it is estimated that only 1 pair breed on the site. The potential loss of the breeding habitat for 1 pair is less than 1% of the estimated local population (local=10km^2) and is not considered significant but is considered to represent a minor negative impact on meadow pipit.

Meadow pipit were listed on the red list of birds of Conservation Concern due to a significant drop in population following the severe winters in 2010/2011. The loss of breeding habitat for meadow pipits is not anticipated to have a significant negative impact on the conservation status of the local population of meadow pipits. Population numbers of meadow pipits have recovered in recent years since a severe decline in severe winters in 2010/11. The Countryside Bird Survey (CBS) trend results have shown that meadow pipit numbers have recovered at least to baseline levels in 1998 (Crowe et al., 2017).

Snipe are amber listed on the BOCCI list. Snipe have a highly dispersed distribution in winter. They forage across a variety of wetland and damp habitats. A study in Northern Ireland (Henderson et al., (2002) took account of habitat associations of breeding snipe and 100% of occupied tetrads contained some wetland habitat comprising standing water, marshland or flooded grassland. In that study it is reported that snipe preferred fens and marshes, with very few birds being recorded in other habitats, and with a notable avoidance of improved grassland, arable land and upland rough grassland. It is considered unlikely therefore that snipe breed on the site due to the dry nature of the habitats. The displacement of snipe is anticipated to be a slight negative impact and is not anticipated to have a significant effect on their local conservation status.

Pheasant may breed on the site. The Pheasant is widespread across Ireland and was recorded in 91% of Irish 10 km squares during the breeding season for the Bird Atlas (2007-2011). Numbers have increased by nearly 33% over the lifetime of Countryside Bird Survey (1998-2016). Increases are generally attributed to a rise in the number of captive-reared birds released for shooting (Balmer et al., 2013 cited in Lewis et al, 2019). Displacement of pheasant from the site is anticipated to have a slight negative impact at the local scale.

However, the landscape design incorporating trails and localised “activity” spots means that human presence and activity will be directed to those areas leaving other areas relatively undisturbed. The trails direct people around the meadow grassland and along the boundaries reducing the direct approach of humans towards the more vulnerable meadow nesting habitat. This may reduce the disturbance impact and birds may habituate to the increased human presence on site particularly if educational and guidance information at the park directs people to “keep to the trails”.

Souldard (2017) in a study on the impacts of recreational trails on wildlife species states that it is common that birds habituate to routine sounds (i.e., traffic on roads, recreationists on designated trails), while unexpected sounds (e.g., gun shots) cause them to flee. Consequently, humans who leave

official roads and trails are perceived as spatially unpredictable and as higher risk than recreationists who tend to make more predictable movements on official trail networks".

Informational and educational programs can be used to educate the public on the potential negative impacts of recreational activities on wildlife. With an adequate understanding of the potential negative impacts of recreational activities both on and off recreational trails, visitors are more likely to comply with policies and regulations designed to protect species and their habitat (Taylor & Knight, 2003 cited in Soulard (2017).

Bearing these considerations in mind mitigation measures are proposed aiming to reduce the disturbance impact on birds and other wildlife. However, as disturbance impacts are strongly species specific, it is uncertain as to the success of such mitigation and the residual effect remains a slight negative impact on ground nesting birds.

Potential effects to bat species

There may be a requirement to remove and or prune mature trees to allow widen the car park entrance and to create the pedestrian pathway link to the park.

A preliminary assessment of the treeline around the carpark area for their potential to support bat roosts was completed during the ecological surveys. All trees were assessed as having low potential to support bat roosts as they are predominantly multi-stemmed specimens with small diameter trunks reducing their potential to provide roost features. The main potential bat roost feature in the trees was bushy ivy growth which offers temporary or occasional roosting opportunities but would not be expected to support high numbers of bats or permanent roost sites of high conservation significance.

The removal/pruning of these trees is not anticipated to have a significant negative impact on the local bat population. There is a risk of injury to bat species during the tree felling/pruning works. Mitigation measures are proposed to avoid this.

There is no additional outdoor lighting proposed a part of the development and therefore there will be no cumulative impacts to bat species as a result of lighting.

Potential impact to amphibian and reptiles

Due to the limited habitat suitability for amphibians no significant impact to amphibians is anticipated as result of the construction or operational phase of this development. There is no potential to disturb breeding habitat as a result of the construction works.

Lizard are not anticipated to significantly impacted by the construction or management of the park. Lizard are expected to escape injury from grassland mowing. Lizard would be expected to benefit from increased insect prey resulting from increased floral diversity of the site as a result of appropriate grassland management regime.

Potential impacts to invertebrates

There will be no significant impact to invertebrates due to the minimal loss of semi-natural habitats and the proposed habitat management regime in accordance with guidelines provided by the All Ireland Pollinator Plan.

Any removal of meadow grassland will be compensated for by additional planting of native meadow seed mixes, and orchard tree planting. The proposed management regime over the long term is likely to have a net positive impact on invertebrates.

8 MITIGATION MEASURES

8.1 ECOLOGICAL CLERK OF WORKS

It is recommended that a suitably qualified Ecologist should be appointed to carry out the role of Ecological Clerk of Works for the construction phase of the project and to implement the preconstruction surveys outlined below. The Ecologist should co-ordinate and supervise where necessary the implementation of proposed mitigation works for the protection of flora and fauna on the site in conjunction with appointed contractors.

8.2 PROTECTION OF NOTABLE FLORA

Prior to the commencement of development and /or site clearance the habitat area containing blue fleabane should be protected with temporary fencing to avoid incursion by machinery or stockpiling in that area. Works to construct the board walk across the area should be undertaken with care and minimal disturbance to the habitat bearing in mind that as an annual species blue fleabane will tolerate and even proliferate with some minor disturbance to the substrate.

Prior to vegetation clearance a botanical survey of the meadow grassland should be carried out to between May and August to record and mark all occurrences of orchid species on the site. Any orchid plants that are located within the footprint of the limestone path or likely to be removed/damaged as part of the works should be translocated locally to a suitable adjacent area with a short/medium height sward. The translocation should aim to translocate a $1m^2$ sod containing the plant(s) to maintain the fungal association that orchid species rely on. As there were only approximately 10-20 stems of orchids recorded on the site this is anticipated to involve minimal works.

The link with the mass path should be conducted with care. Prior to vegetation clearance to construct the path through to the Mass Path a botanical survey should be carried during the flowering season May to September along the grassy verge of the mass path to check for the presence of Calamint or any other rare of uncommon species. If the species or any other rare plant is found to be within the footprint of the works, the plants should be translocated locally to an adjacent suitable area of habitat.

Soils excavated from the grassy verge/mass path should be reused on site and left to regenerate naturally.

Mass Path Verge Maintenance and Management

Any maintenance or upgrade works to the mass path should be conducted sensitively. No herbicides should be used on the mass path at any time. A botanical survey should be carried out during the flowering season between May and September to check and record the presence of rare and or uncommon plant species prior to any upgrade or maintenance works so that these can be protected during the works.

Any vegetation management on of the grassy verge of the Mass Path should be implemented sensitively and in accordance with the All Ireland Pollinator Plan Guidelines in consultation with the Kilkenny Heritage Officer.

8.3 PROTECTION OF OTHER SMALL MAMMALS

Vegetation clearance should be undertaken in a precautionary manner. Any scrub clearance should be cleared maintaining a clear sweep of 1 foot off the ground with the digger bucket to prevent direct harm to small mammals and to give them an opportunity to escape

The construction site should be made safe for mammals with hazards such as open holes/excavations covered over or fitted with ramps to allow for escape.

8.4 PROTECTION OF BIRD SPECIES

Vegetation clearance on site should take place during the months of September to February (inclusive) to avoid the bird breeding season and to avoid the possibility of committing an offence under the Wildlife Act.

If this construction schedule cannot be accommodated then an ecologist will be required to check the vegetation (including grassland, scrub, hedgerows to ensure there are no nests present). If nests are found then the vegetation will need to remain in place until the young have fledged. Given the suitability of the habitats on site for nesting birds including the meadow grasslands, scrub, the hedgerows and treelines it is likely that nesting bird will be found within the zone of influence of the works and could lead to construction schedule delays. It is strongly recommended that vegetation is cleared outside the bird breeding season during the months of September to February inclusive.

Control of dogs

It is recommended that dogs should be kept on a lead when walking the trails in the park to prevent disturbance to wildlife. Signage should be erected to that effect to encourage public cooperation. This may help to reduce disturbance impacts to bird species.

Visitor education

Signs should direct people to keep to the trails and include educational signage encouraging people to be sensitive to wildlife disturbance impacts.

8.5 PROTECTION OF BATS

Mature trees due for removal should be felled during the months of September or October when bats are not hibernating and still capable of flight.

Prior to the removal or pruning works to mature trees, an ecologist will be required to assess the subject trees for their potential to support bat roosts and make recommendations for appropriate precautionary felling working methods to avoid direct harm to bats.

The loss of roosts sites should be compensated for by the providing three bat boxes erected in mature trees around the site for each tree removed.

9 BIODIVERSITY ENHANCEMENT

The landscape plan provides for additional hedgerow, woodland and tree planting and infill/gap native planting of existing hedgerows on site. This will increase the availability of habitats particularly for bird and bat species.

The landscape plan provides for the planting of a meadow orchard which will increase the habitat diversity of the site.

10 RESIDUAL IMPACTS

The residual impact is the likely displacement of ground nesting meadow pipit on site. The residual impact is a potential minor negative impact at the local scale on meadow pipit. While control of dogs and visitor education is anticipated to benefit most bird species and also small mammals in mitigating disturbance impacts due to the vulnerability of ground nesting birds it is uncertain whether these mitigation measures will be sufficient to allow meadow pipit will continue to breed on the site.

The management regime implemented according to the guidelines outlined in the All Ireland Pollinator Plan and the Management Recommendations contained in the Dunmore Centre Habitat Survey and Management for Pollinators (D'Arcy D., 2019) is anticipated to have a net positive impact on plant species diversity of the meadow grasslands on the site. This is anticipated to also have a positive effect on invertebrates in particular pollinating insects and for biodiversity overall on the site.

The educational and experiential opportunities that the development of the Biodiversity and Recreational Park offers will contribute to greater awareness of biodiversity in County Kilkenny.

Table 12 Summary of ecological impacts, mitigation and residual effects of the proposed development

ECOLOGICAL FEATURE	EVALUATION	Impact	Mitigation /Biodiversity Enhancement	Residual effect
Habitats on site				
Treelines/ Hedgerows	High local	No negative impact	Planting of native trees, woodland and shrubs	Positive effect
Meadow grasslands	High local	Slight negative impact	Grassland management Habitat creation/planting schedule	Positive effect
Notable flora	High local	Potential minor - significant impact at high local level should it be eradicated	Preconstruction botanical survey of site and mass path Translocation of notable flora out of footprint of works Protection of blue fleabane habitat during works.	Positive effect
Fauna				
Meadow pipit	High local	No significant impact to local conservation status. Minor negative impact	Control of dogs with – walking on the lead through trails. Visitor education in wildlife sensitivities and biodiversity	Minor negative effect
Other birds species	High local	Slight negative impact	Control of dogs with – walking on the lead through trails. Visitor education in wildlife sensitivities and biodiversity	Negligible
Bat population	High local	No significant impact to conservation status. Potential slight negative impact of removal of roost sites.	Precautionary tree removal methodology Installation of bat boxes in retained trees	Neutral

ECOLOGICAL FEATURE	EVALUATION	Impact	Mitigation /Biodiversity Enhancement	Residual effect
Hedgehog, pygmy shrew	Local	No significant impact. Potential slight negative impact	Precautionary working methodology to avoid direct harm. Control of dogs with – walking on the lead through trails.	Neutral

11 CUMULATIVE EFFECTS

Cumulative effects from a development in general can result from individually insignificant but collectively significant actions taking place over a period of time or concentrated in a location (CIEEM, 2018).
There is a minor negative impact anticipated to ground nesting birds including meadow pipit, pheasant and snipe. This is not anticipated to have a significant effect on the conservation status of the local populations of these bird species to due to the likely availability of suitable habitat in the wider area.
The following projects/activities were identified in the vicinity of the proposed project.

Maintenance works are planned to carry out resurfacing works to the link access (Mass Path), this will involve topdressing the existing path with compacted gravel 150mm deep and the incorporation of pedestrian refuges located between the Dunmore Community Carpark access point and the vehicle access dwelling. The pedestrian refuges will involve minor works to the existing hedgerow with 3m long sections removed and replacement hedge whip planting setback from the existing line by 2m to create a passing point.

The removal of short sections of hedgerow with replacement planting is not anticipated to have significant in combination effect due to the short length involved and the replacement panting proposed.

Mitigation measures have been incorporated in Section 8 above to protect the flora and grassy verge habitat during these maintenance works. With the implementation of these mitigation measures no significant cumulative impacts are anticipated from this works.

The following approved and planned projects were also considered for any in combination effects as they are located within the vicinity of Dunmore.

<u>Maintenance of the Mass Path</u>

Maintenance works are planned to carry out resurfacing works to the link access (Mass Path), this will involve topdressing the existing path with compacted gravel 150mm deep and the incorporation of pedestrian refuges located between the Dunmore Community Carpark access point and the vehicle access dwelling. The pedestrian refuges will involve minor works to the existing hedgerow with 3m long sections removed and replacement hedge whip planting setback from the existing line by 2m to create a passing point.

The mass path is located approximately 75m at its closest point south of an isolated area (3500m^2) of the River Barrow and Nore SAC which includes a portion of a disused quarry. This quarry area is included in the SAC for the protection of a population of basil thyme (*Clinopodium acinos*). Basil thyme is a rare plant species listed on the Flora Protection Order and Protected under the Wildlife Act. There is no risk of incursion or disturbance of the habitat located at least 75m from the works within a separate quarry area. Vegetation can be negatively impacted by deposition of dust. During long dry periods dust can coat plant foliage adversely affecting photosynthesis and other biological functions (IAQM, 2014).

Review of satellite imagery indicates this quarry area is surrounded by trees and scrub. It is separated from the mass path by an agricultural field. According to studies by the Institute of Air Quality

Management (IAQM, 2016) dust is typically deposited within 100 to 200 m of the source. A small amount dust is anticipated to be emitted when laying the mass path and laying of the path is anticipated to be completed over no more than week. In view of the small scale of the works, the short duration and the vegetation buffer around the habitat which is anticipated to intercept any dust emitted the dust, no negative effect as a result of dust on the population of deposition is anticipated. IAQM (2106) advise that the level of dust deposition likely to lead to a change in vegetation is very high (over 1 g/m2/day) and the likelihood of a significant effect is therefore very low except on the sites with the highest dust release close to sensitive habitats.

The mass path is located approximately 540 m from the River Nore. There are no drainage ditches along the verge of the mas path. There is no significant risk of transfer of significant quantities of pollutants or sediment to the River Barrow and Nore SAC from these small scale works and therefore no in combination effect on the River Barrow and Nore SAC or the River Nore SPA is anticipated.

Therefore, it is concluded that there will be no significant in combination effects of the development of the Biodiversity Park with the Mass Path maintenance works.

P.16/801 Upgrade of the Troyswood water supply scheme

No in combination effects with this scheme are anticipated due to the reinstatment of habitats once the pipeline has been laid. No large land take involved that is likely to reduce habitat for ground nesting birds.

P.20.2 Extension of Existing Sand and Gravel Pit at Loughmerans, Dunmore, County Kilkenny

The proposed project involves continued extraction of gravel as previously authorised under planning reference 07/2226 (2.25 hectares).

- Continued processing of extracted gravel (0.5 hectares)
- Restoration of newly extracted areas to agricultural use on completion 2.25 hectares
- Importation of soils and restoration of lands using the imported soils (3.94) hectares.

It is not known whether the above project results in any disturbance to ground nesting birds and no information is given in the NIS on the current habitats on the site. However the area of land take (2.25 ha) is very small and the restored land may depending on the intensity of agricultural use offer nesting habitat for ground nesting birds. An in combination effect with a resulting significant effect on the local conservation status of meadow pipit, snipe or pheasant is not likely.

12 CONCLUSION

There will be a residual minor negative impact on meadow pipit and pheasant due to displacement from a breeding site. This is not anticipated to have a significant negative effect on the local conservation status of any of these species due to the likely availability of alternative suitable habitat in the wider local area. Overall an overall positive effect on biodiversity is anticipated due to the management regime proposed for the meadow grasslands and the additional habitat created by the landscape design.

13 RECOMMENDATIONS

Invasive species management

It is recommended that the invasive plant species snowberry, cherry laurel, butterfly bush and are controlled or eradicated on site to prevent their spread locally on the site.

Monitoring

It is proposed to manage the habitats on site having regard for the guidelines outlined in the All Ireland Pollinator Plan. It is recommended that the plant species diversity of the meadow grassland is monitored in year 1, 3 and 5 and 10 to assess the success of the management regime on the site and to make recommendations for any adjustment in the management regime if necessary.

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APPENDIX A SITE LAYOUT AND LANDSCAPE PLAN


1 ENTRANCE SLOPED ACCESS
2 PARKING - GRAVEL
3 ORCHARDS
4 OUTDOOR CLASSROOM
5 GATHERING AND VIEWING POINT
6 MAIN PATH - 3M WIDE COMPACTED LIMESTONE DUST
7 MOWN GRASS PATHS
8 INFORMATION POINTS
9 HAMMOCKS
10 PLAY ELEMENTS - NESTS
11 VIEWING POINT WITH GRASS EMBANKMENT
12 SHRUB PLANTING TO FRAME VIEWS AND PLACES
13 NATURAL PLAY ELEMENTS
14 SENSORY PATH
15 FITNESS - BALANCE EQUIPMENT
16 FITNESS - POWER EQUIPMENT
17 FITNESS - ENDURANCE EQUIPMENT
KILKENNY BIODIVERSITY AND RECREATION PARK
CONCEPT PLAN
MITCHELL + ASSOCIATES

Appendix 9

Additional Traffic Assessment on Modified Proposal – Feb 21

MALONE O'REGAN
CONSULTING ENGINEERS

Kilkenny County Council

Kilkenny Biodiversity & Recreational Park

REVISED PART 8 TRANSPORT DESIGN PROPOSALS

Job No. W20057
February 2021

Contents Amendment Records

Document:	Revised Part 8 Transport Design Proposals	
Project:	Kilkenny Biodiversity & Recreational Park	
Client:	Kilkenny County Council	
Job Number:	W20057	
Prepared By:	Pat Rohan	Signed: 
Checked By:	Eimear Sharkey	Signed: 
Approved By:	Pat Rohan	Signed: 

Revision Record

Revision	Date	Description	Prepared By	Checked By	Approved By
00	25/021/2021	Assessment	PR	ES	PR

Table of Contents

Introduction

Kilkenny County Council (KCC) requested that the Design Team for the Kilkenny Biodiversity & Recreational Park review the submissions to KCC with relation to the Scheme Design and Transport Assessment Report included in the Part 8 documentation.

Submission were made on the Part 8 Proposal by TII on 19th January 2021. Refer to the correspondence in Appendix 1.

Based on this submission the design changes the following design changes have been incorporated in the revised Biodiversity & Recreational Park Proposal to address the issues raised

Response to TII Concerns

Issue
TII raised concerns include:

"*direct access to/from the N77, national road, in combination with the existing Civic Amenity Site and the Kilkenny GAA County Board Training Facility (planning application reference11/561) has the potential to increase turning movements onto and off the national road at this location is contrary to the provisions of official Government policy*"

" measures to segregate vulnerable road users from high speed traffic on the national road" and "road safety concerns"

"intensification of use of direct access to the N77"

Response
The primary vehicular access strategy to the Park for the majority of the Users is located at Entrance 1 & 2. The proposed Park will encourage cycling and walking as the primary means of transport to the Park. Increased directional signage and information signage will be installed to encourage the Bleach Road Access point and Mass Path access as the primary access points to the Park. The provision for a general carparking area adjacent to the Civic Amenity Centre & GAA Facility is now omitted from the proposed scheme. We can expand on the basis of the design changes as follows;

Entrance No. 1
To the south west of the park at the **Dunmore Community Hall** in Dunmore Village (60km per hour section of the N77 Castlecomer Road) there is existing carparking provision for 46 carpark spaces. A laneway (mass path) connects this carpark to the Kilkenny Recreational & Biodiversity Park.

Entrance No. 2
To the east, the site can be accessed via a local tertiary road (LT 66012) off local secondary road (L6601), known as **Bleach Road**. This road has low traffic volumes and will offer access to all users in the local area. This offers vehicles, pedestrians and cyclist a rural access route from the City and River Nore Linear Park to the Kilkenny Recreational & Biodiversity Park. It also connects to the laneway (mass path) to the Community Hall in Dunmore Village.

A carpark with 17 carparking spaces and 60 bicycle parking spaces will be provided at this existing gated entrance access off the connecting laneway to Bleach Road.

Bleach Road is part of the North Kilkenny Cycle Loop. It is hoped to provide connectivity from the Park back into the City along the established River Nore Linear Park and further south along the Nore Valley, providing a walking/cycling trail of c20km from Dunmore, through Kilkenny City Centre and onwards to Bennettsbridge.

Entrance No. 3
Existing Access to the Dunmore Recycling & Waste Disposal Centre off the N77 no longer offers general carparking to the public users of the facility however the design must retain 3 no. Accessible Parking Spaces for this site. These spaces must be provided at this location due to the topographical constraints of the site at Carpark locations 1 & 2. This is the only access point which can comply with Part M.

Based on this revised access strategy the following revised design considerations are to be implemented as part of the scheme;

- All parking is removed from Carpark 3 with the exception of the 3 Accessible Carparking Space. The revised parking quantities have reduced from 79 to 62 spaces and are are summarised as follows;

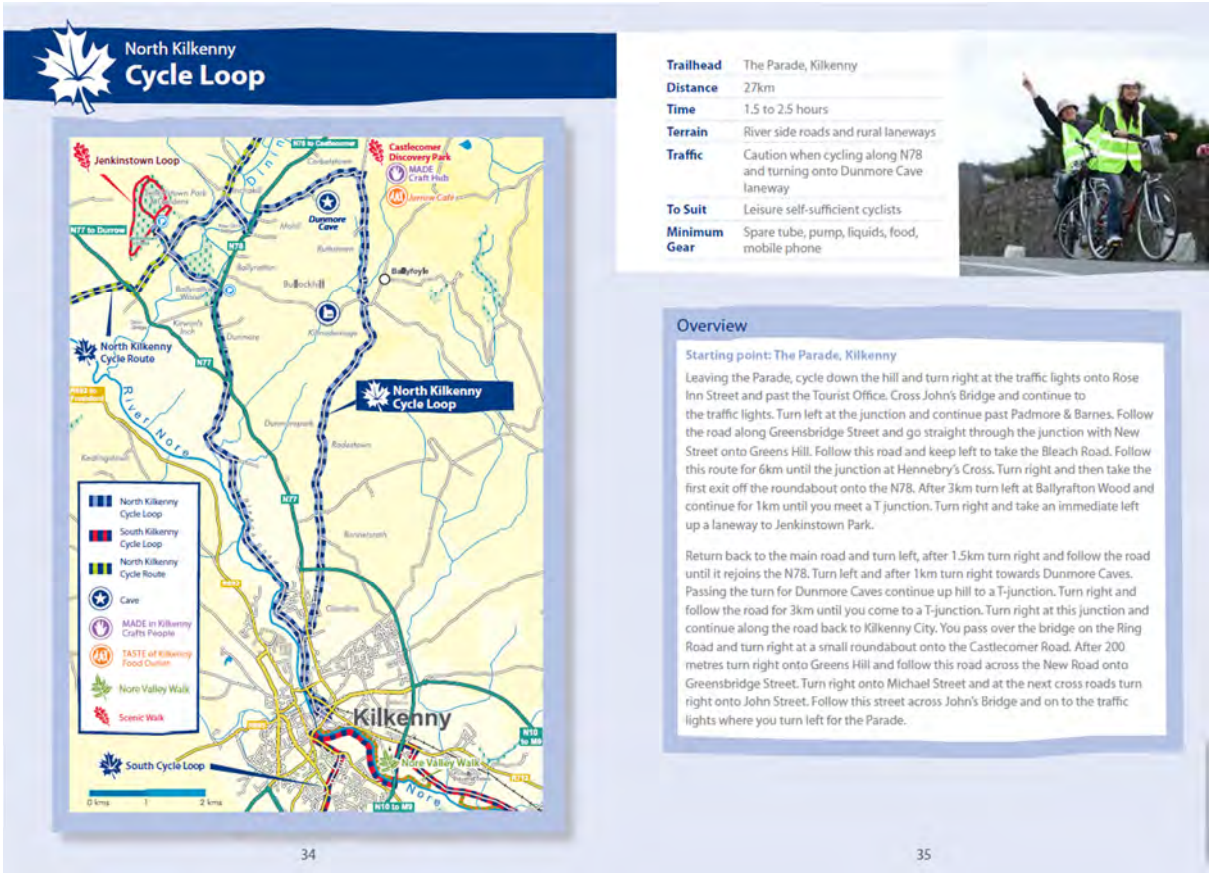
  Original Planning Submission.
  Entrance 1- 46 Bays + 10 Cycle Stands
  Entrance 2 - 13 Bays + 40 Cycle Stands
  Entrance 3 - 20 Bays + 1 coach + 10 Cycle Stands

  Proposed revised Planning Submission.
  Entrance 1 - 46 Bays + 0 Cycle Stands
  Entrance 2 - 17 + Bays + 60 Cycle Stands
  Entrance 3 - 3 Disable Bays + 0 coach + 0 Cycle Stands

- Bleach Road is the designated primary access route for cyclists, pedestrians and local vehicles to the Biodiversity Park. This requires the installation of “Shared Space” signage at 500m centres along Bleach Road.
- Directional signage will be provided from the Kilkenny Ring Road, Castlecomer Road/ Green’s Hill Road Junction at Glendine, Greens Hill Road\ New Street as indicated on Accessibility Overview Plan provided in Appendix 2. Directional Signage locations 1, 2, 3 & 4 are indicated on this Accessibility Overview Plan to encourage the public to use Bleach Road as the primary connection route for cyclists and pedestrians.
- Signage details as recommended from the Department of Transport Sign Manual are identified below:

Figure 4.12.1:
Cycle Route Direction Sign

- The directional signage will compliment the current North Kilkenny Cycle Loop which follows Bleach Road as indicated in the extract below.



- The Mass Path pedestrian connection from Carpark 1 at Dunmore Community Hall Carpark will be upgraded with the provision of a compacted surface stone and pedestrian passing bays along the route and shared space signage will be provided.

- Kilkenny Co Council will employ a dedicated Park Warden for the facility. Part of the duties will be to supervise the GAA overflow carpark to ensure that carparking arrangements are observed. Visitors will be advised that clamping will be in operation for unauthorised parking.

- The carparking spaces in Carpark 2 have increased by 4 spaces and the secure bicycle parking spaces in Carpark 2 has increased to 60 spaces.

- All bicycle parking spaces have been removed from the Dunmore Community Facility Carpark No 1 and the Dunmore Recycling & Waste Disposal Centre / GAA Training Facility Carpark 3, to discourage cyclists using the N77 to access the Facility.

We confirm that the revised design strategy is developed to segregate the vulnerable road users from high speed traffic on the national road and reduce the safety risk associated with vulnerable road users on the N77.

Traffic intensification consideration associated with 3no Accessibility Spaces in the GAA Overflow Carpark

We wish to demonstrate that the revised design proposals have negligible potential for intensification of use of the direct access to the N77, national road. We have based our revised strategy on specific traffic generation figures and statistics associated with the adjacent land uses and the experiences from other similar parks operated by Kilkenny Co Council.

The peak time for usage of Biodiversity Park does not coincide with the peak usage of adjacent facilities. Based on experience from afternoon onwards is the predominant peak usage time for biodiversity parks of this nature on a Saturday or Sunday.

Based on communication with the Manager of the Dunmore Civic Amenity Site (CAS) and Kilkenny GAA Chairman the following current statistics were collated:

- The number of Vehicles entering CAS is 200 vehicles per day Mon-Fri. The opening hours is 8:00am to 4:30pm.
- Vehicles entering CAS is 250 per day on a Saturdays. The CAS opening times on a Saturday is 8am to 12pm. Peak hour usage is estimated to be approx. 63 vehicles for CAS.
- The CAS is closed on Sundays.
- The GAA overflow car park has limited use all year round but it is used approximately 18 to 20 times per year during the year, mainly at weekends and occasionally on mid-week evenings during the hurling season.
- Peak usage occurs when both playing fields are in use for juvenile training \ matches. The no. of vehicles associated with this based on 80 personnel (40 from each squad) and 10 management team. Peak hour usage is estimated to be approx. 90 vehicles assuming 1 person per car which is a conservative view.
- As the peak usage of this junction by GAA & CAS is a Saturday morning, the estimated peak vehicles usage is estimated to be 90 + 63 = 153 vehicles per hour
- Based on this information we equate the additional 3 Accessible Carparking spaces to be less than 1.5% in the peak scenario from 8:00 am to 12pm on a Saturday morning.
- As the CAS is closed on Saturday afternoon and Sundays we believe that the 3 additional accessible carparking spaces accessing the existing overflow carpark in Entrance 3 has no greater impact that the peak traffic generated on any Saturday morning traffic currently. In our opinion it is not considered unreasonable to state that the impact is not considered a source of intensification in use.

2.0 Rationale of carparking space reduction from 79 no spaces to 62 no spaces

An assessment of the carparking requirements for the proposed Biodiversity Park was revaluated based in our design review by making a comparison to the traffic assessment for a similar facility at Woodstock Gardens located near Inisioge, Co Kilkenny.

Woodstock Gardens is a 50 acre site with approx. 1000 acres of Coillte forested lands and associated trails. It consists particular attractions such as walled gardens, arboretum, Tea rooms, playground, winter garden and Campion trees etc. The Woodstock Gardens Amenity Facility has 40,000 visitors per year.

- Based on an average of 2.5 persons per vehicle this equates to 16,000 vehicles per annum or 43 vehicles per day with even annual distribution of visitors.

The revised Kilkenny Recreational & Biodiversity Park has 62 parking spaces which would indicate that the number of carparking spaces are appropriate for a park of this nature.

Permission has been given by the Dunmore Community Centre Committee for use of the car park to access the Dunmore Biodiversity Park which has 46 carparking spaces.

This car park is also used by parishioners of the Dunmore Catholic Church also located close by. There is only one mass held weekly at the Church on Sundays at 11.00am. As there are no weekday masses held other than funerals, Christmas Day and St Patrick's Day we do not envisage that the proposed dual usage of this carpark should result in any conflict required carparking spaces.

We believe that this demonstrates that any potential conflict in the use of the car park by visitors to the Dunmore Biodiversity Park and the Community Users for mass is highly unlikely.

3.0 Conclusion

We confirm that we have revised the design, reassessed the traffic generation, expanded on the access strategy for the users to promote and encourage the use of Bleach Road. The intention of these design changes is to address the concerns raised by TII submission to KCC on this Part 8 Planning Application.

Appendix 1

Transport Infrastructure Ireland (TII) Part 8 Proposal - Kilkenny Biodiversity and Recreational Countryside Park

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

Planning Section
Kilkenny County Council
County Hall
John Street
Kilkenny

by e.mail; kkbiodunmorepart8@kilkennycoco.ie

Dáta|Date	Ár dTag|Our Ref.
19 January, 2021	TII20-112047

Re: Part 8 Proposal – Kilkenny Biodiversity and Recreational Countryside Park

Dear Sir/Madam,

The Authority acknowledges receipt of the referral in relation to the above Part VIII proposal and supports the development of the proposed countryside recreational park subject to national road policy and road safety issues being considered, and where relevant, resolved by the Council. It would be expected that the Part VIII proposal will promote and encourage active travel (cycling and walking).

It is noted that an existing access to the N77, national secondary road, is proposed to be utilised as one of three access points to the proposed countryside park. The Authority's records indicate that the existing direct access to the N77 is located were an 80kph speed limit applies. This access also serves the existing Civic Amenity Site and the Kilkenny GAA County Board Training Facility (planning application ref. 11/561).

Two other access points are also indicated, one on local road l-66012 Bleach Road to the west and one via the Mass Path from Dunmore Village within the 60kph speed limit zone on the national road.

The Council will be aware that official Government policy in relation to development impacting national roads is set out in the Section 28 Ministerial Guidelines 'Spatial Planning and National Roads Guidelines for Planning Authorities' (DoECLG, 2012). In relation to lands adjoining national roads at locations outside the 50-60kph urban speed limit, as in the case of the subject proposal access to the N77, national road, the DoECLG Guidelines state;

> Section 2.5; *The policy of the planning authority will be to avoid the creation of any additional access point from new development or the generation of increased traffic from existing accesses to national roads to which speed limits greater than 60 kmh apply. This provision applies to all categories of development, including individual houses in rural areas, regardless of the housing circumstances of the applicant.*

The provision of a countryside recreational park with direct access to/from the N77, national road, in combination with the existing Civic Amenity Site and the Kilkenny GAA County Board Training Facility (planning application ref. 11/561) has the potential to increase turning movements onto and off the national road at this location contrary to the provisions of official Government policy. The Part VIII details provided do not appear to have addressed this aspect of the proposal.

It is also noted that the existing direct access to/from the N77, national road, will provide access to a car and coach park with a 20 space bicycle park. The nature of the development proposed and the access provided from the N77, national road, has the potential to encourage vulnerable road users onto the national road without, it appears, any appraisal, access strategy or mitigation measures provided to segregate vulnerable road users from high speed traffic on the national road or to address potential road safety issues that may arise.

The proposal as outlined has the potential to conflict directly with the provisions of official policy concerning access to national roads arising from the potential for intensification of use of the direct access to the N77, national road, contrary to the provisions of the Section 28 Ministerial Guidelines 'Spatial Planning and National Roads Guidelines for Planning Authorities' (DoECLG, 2012).

In addition, the absence of a safety appraisal with measures to address the potential for increased vulnerable road user activity along the section of N77, national road, raises road safety concerns.

TII recommends that the proposed Part VIII should be reviewed prior to adoption to address the policy conflict and road safety issues identified in the foregoing. TII would in particular recommend that the Council explore and utilise to the fullest extent possible the available access to local road L-66012 Bleach Road to the west and via the Mass path from Dunmore Village within the 60kph speed limit zone on the national road.

The Authority requests that the foregoing observations are taken into account in the consideration of the proposed Part VIII development in the interests of adhering to the provisions of official policy and safeguarding road user safety, particularly, the safety of vulnerable road users.

Any costs associated with upgrades to the national road to facilitate the proposed development are a matter for the Council and, where applicable, shall be subject to Road Safety Audit in accordance with TII Publications GE-STY-01024.

Yours sincerely,

Michael McCormack
Senior Land Use Planner

Appendix 2

Location Plan Fig01_P1

LEGEND

INDICATES CYCLISTS ROUTE FROM KILKENNY CITY VIA BLEACH ROAD

DIRECTIONAL SIGNAGE (Arrow shows orientation of sign)

SHARE SPACE SIGNAGE

Henebry's Cross

N77

CAR PARK (3)
GAA OVERFLOW & CIVIC AMENITY FACILITY
3no. ACCESSIBLE PARKING SPACES

CAR PARK (1)
Dunmore
46no. SPACES

CAR PARK (2)
Bleach Road
17no. SPACES

KILKENNY Co. COUNCIL TO PROVIDE ADDITIONAL SIGNAGE AND SHARED SPACE SIGNAGE @ 500m CENTERS

Bleach Road

L66012 Public Road

River Nore

Kilkenny Ring Road

DUNMOREPARK

RADESTOWN NORTH

BAUN

RADESTOWN SOUTH

BONNETSRATH

TALBOTSINCH

GLENDINE

KILKENNY

0m 100m 200m 500m 1000m 1500m

THIS DRAWING TO BE USED FOR PLANNING PURPOSES ONLY

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Client: MITCHELL & ASSOCIATES

Job: DUNMORE RECREATIONAL AND BIODIVERSITY PARK

Drawing: ACCESSIBILITY OVERVIEW PLAN

Job No	Drg No	Stage	Revision	Scale
W20057	Figure 01	PL	P1	A3 NTS

R:\2020\W20057\07. Design and Drawings\1 MOR\PL - Planning\P1\Traffic Figures\Fig 01 ACCESSIBILITY OVERVIEW PLAN.dwg

Appendix 10

Drainage Design for Modified Proposal – Feb 21

Job No: W20057
Date: Feb 2021

MITCHELL & ASSOCIATES

DUNMORE RECREATIONAL AND BIODIVERSITY PARK

DRAINAGE REPORT

MALONE O'REGAN
CONSULTING ENGINEERS

Contents Amendment Record

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MALONE O'REGAN
CONSULTING ENGINEERS

Title: Dunmore Recreational and Biodiversity Park

Job Number: W20057

Prepared By: Tom Nolan **Signed:** Tom Nolan

Checked By: Pat Rohan **Signed:**

Approved By: Pat Rohan **Signed:**

Revision Record

Issue No.	Date	Description	Prepared	Checked	Approved
00	Dec 2020	Drainage Report	TN	PR	PR
01	Feb 2021	Carparks 3 drainage revision	BC	TN	PR

CONTENTS

1 INTRODUCTION

Kilkenny County Council proposes to develop a recreational and biodiversity park on the site of the now closed municipal landfill at Dunmore, County Kilkenny. The closed landfill site occupies an area of circa. 17 acres and is located 5km north of Kilkenny city centre.

2 PROPOSED DEVELOPMENT

2.1 The Site

The proposed countryside park will develop trails for uses such as walking, running, cycling, and orienteering, along with educational opportunities related to natural heritage and biodiversity enhancement and management. The park will be attractive to the general public, schools and recreation groups, and those with specific environmental interests such as photography and bird-watching in the context of an amenity which is close to nature.

The park will be accessed, with carparking provided, from three separate access points, namely:-

1. Dunmore village from the existing Dunmore Community Hall carpark and mass path in the townland of Loughmerans and Dunmore, the southern part of the mass path is adjacent to The Church of The Most Holy Trinity, a Protected Structure.
2. Proposed new small car and bicycle parking from the Bleach Road.
3. From the National Road route N77 (Castlecomer Road) utilising the existing entrance to the Dunmore Recycling and Refuse Disposal Centre and Kilkenny County GAA grounds, with proposed works to to the overflow carpark area.

Carpark 1 is existing and doesn't require a drainage design for this planning application. This drainage report addresses the storm water design and drainage networks for Carparks 2 & 3.

3 STORM WATER DRAINAGE

The proposed storm water drainage network design has been carried out in line with:

- BS EN 752: 2008 for Drain and Sewer Systems outside buildings,
- Greater Dublin Strategic Drainage Study (GDSDS) – Volume 2, New Development, 2005,
- Environment Agency Pollution Prevention Guideline 03 (PPG 3) 'Use and design of oil separators in surface water drainage systems', 2006.
- Part H Building Regulations.

Storm water run-off within the proposed site must be collected and treated prior to discharge to watercourses. As part of the preliminary surface water drainage network design the following steps were taken:

- Calculation of total hardstanding areas within the proposed carparks,
- Calculation of total landscape areas with the proposed carparks,
- Preliminary design of preferred surface water drainage network,
- Estimation of peak run-off from proposed hardstanding areas within the carparks.

3.1 Proposed Site

The proposed surface of Carparks 2 will consist of a combination of asphalt concrete and hardcore. The proposed surface Carpark 3 will consist of mainly permeable hardcore surface and 68 m^2 of asphalt concrete surface for disabled parking spaces. See proposed drawings in Appendix A.

Surface runoff will be collected in a combination of french drains and road gullies and discharged to a proposed network of water tight manholes and sewers. The proposed storm sewers connect to existing storm water sewers which run under carparks 2 and disable parking area for carparks 3. The permeable hardcore surface of carparks 3 will allow surface water to be discharged through the permeable surface into the ground.

A calculation sheet for the surface water sewer systems is detailed in Appendix B. This should be read in conjunction with the drainage drawing for the development, see drawings W20057/P700 & P701. The pipes were designed for a rainfall intensity of 50 mm/hour in accordance with Part H of the Building Regulations, allowing 10% for climate change in accordance with the Kilkenny County Council Development Plan.

Carpark 2:

A Class 1 Klargester Separator type NSBP003 will be installed on the drainage line before storm water enters the existing sewer. In additional to storing oil, fuel oil separators are designed with capacity to remove and store silts. The Class 1 type separator can store 45 litres of oil. Silt is also removed and stored by the separator. The separator has a capacity to store 300 litres of silt. The data sheet for the proposed separator is included in Appendix D of this document.

Storm water will be attenuated to green field run off rates. Calculations are provided in Appendix B that show that 11.2m^3 of storage capacity is required to cater for the 100 year return period storm with the 6 hour event being the critical storm duration. A hydrobrake will be installed after the attenuation tank to restrict flow to 0.3 L/sec. This is calculated from the GDSGS and in line with best practice.

Carpark 3:

A Class 1 Klargester Separator type NSBP003 will be installed on the drainage line before storm water enters the existing sewer. In additional to storing oil, fuel oil separators are designed with capacity to remove and store silts. The Class 1 type separator can store 45 litres of oil. Silt is also removed and stored by the separator. The separator has a capacity to store 300 litres of silt. The data sheet for the proposed separator is included in Appendix D of this document.

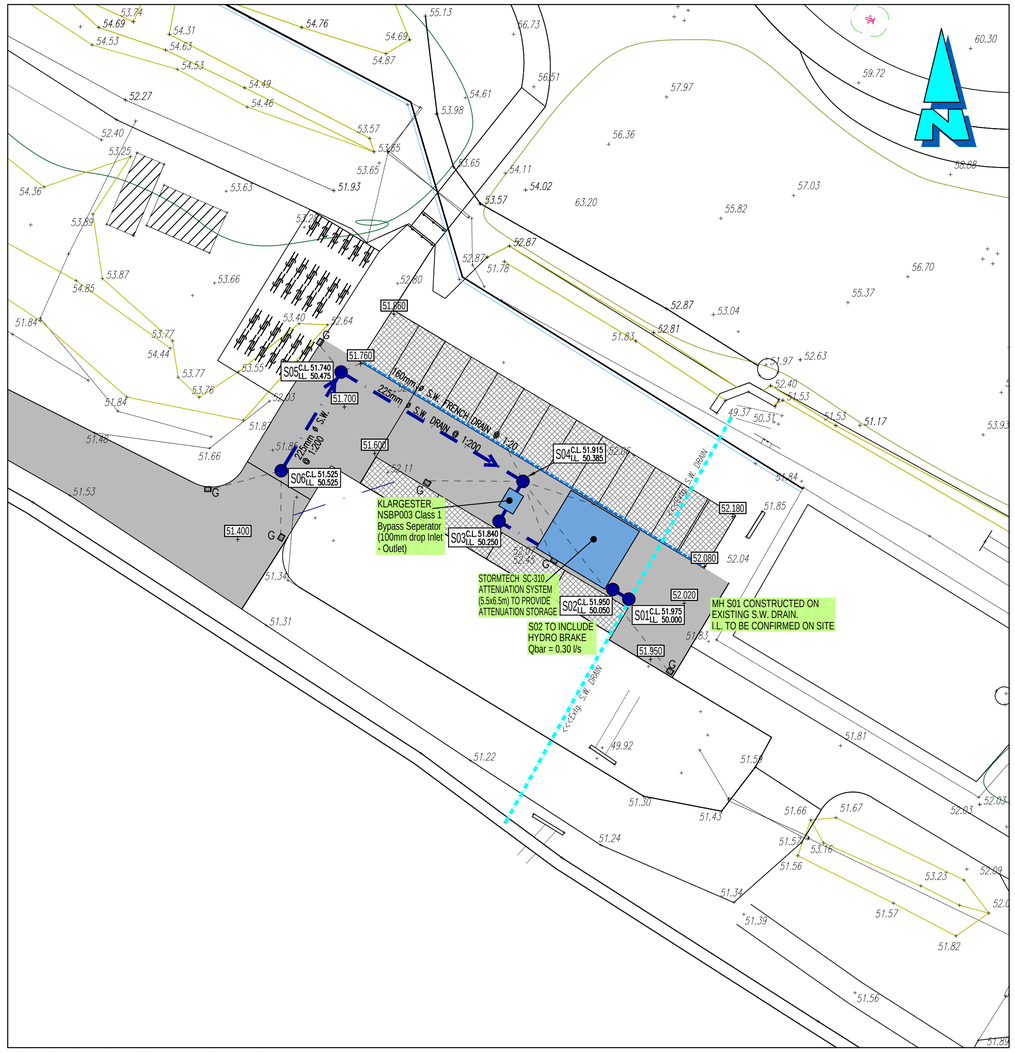
For the hardcore area as shown on drawing P700 in Appendix A, storm water will be permeate through the hardcore surface into the ground below. No attenuation required for this area. There is a small area of asphalt surface for 3 carpark spaces, the surface water runoff from this area will be discharged into the existing storm water sewer.

The pre-developed site has a larger hardcore surface compared to the combined surface area of asphalt surface and hardcore surface of the proposed development. The overall increased volume of surface water runoff from the asphalt area into the existing storm water sewers is so small as to be negligible, therefore no attenuation required for the asphalt area.

Appendix A

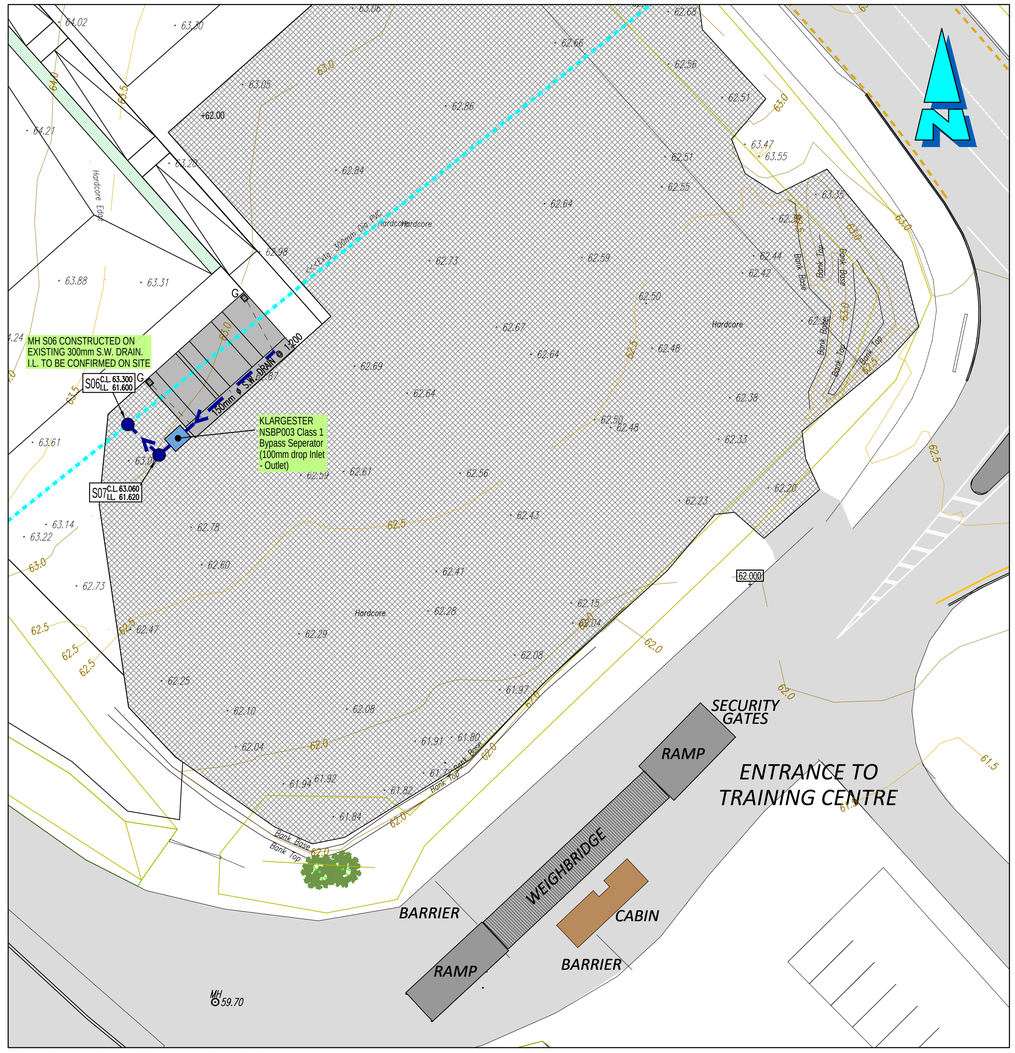
Drainage Drawings

DON'T SCALE DIMENSIONS



CAR PARK (2) LAYOUT PLAN

SCALE 1:250 (A1); 1:500 (A3)



CAR PARK (3) LAYOUT PLAN

SCALE 1:250 (A1); 1:500 (A3)

LEGEND

- 62.69 — EXISTING GROUND LEVEL
- 00.000 — PROPOSED SURFACE LEVEL
- DENOTES EXISTING S.W. DRAIN
- DENOTES NEW S.W. DRAIN
- G — DENOTES NEW ROAD GULLY
- DENOTES NEW FRENCH DRAIN

ALL WATER SUPPLY, DRAINAGE & WATERMAIN DETAILS TO BE IN STRICT COMPLIANCE WITH *'IRISH WATER – CODE OF PRACTICE FOR WATER INFRASTRUCTURE' & 'IRISH WATER – STANDARD DETAILS FOR WATER AND WASTEWATER NETWORKS*

SURFACING DETAILS -

- DENOTES TARMACADAM FINISH
- DENOTES PERMEABLE GRAVEL / HARDCORE

KEY PLAN

SCALE 1:2,500 (A1); 1:5,000 (A3)

Health and Safety:

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS, THE SPECIFICATION AND THE SAFETY AND HEALTH PLAN.

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10. SEWERS UNDER ROADS HAVING COVER LESS THAN 1200mm TO BE SURROUNDED IN 150mm CONCRETE.
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12. GULLIES TO BE PRECAST CONCRETE CHAMBER OR PLASTERED BLOCKWORK WITH LOCKABLE CAST IRON GRATING AND FRAME.
13. MANHOLE COVERS LOCATED IN ROADS, ENTRANCES OR PATHS TO BE LOCKABLE HEAVY DUTY. REMAINING MANHOLES COVERS TO BE LOCKABLE MEDIUM DUTY.

Rev.	Description	Date	Drawn	Chkd	Appr
P1	PLANNING ISSUE	25.02.'21	SF	BC	PR
P	PLANNING ISSUE	02.12.'20	GL	TN	PR

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Client: MITCHELL AND ASSOCIATES

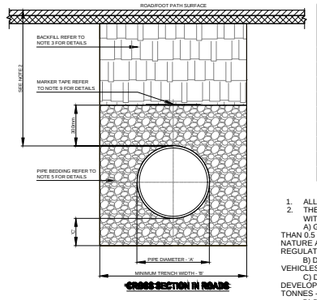
Job: DUNMORE RECREATIONAL AND BIODIVERSITY PARK

Drawing: PROPOSED CAR PARKS – LEVEL & DRAINAGE LAYOUT

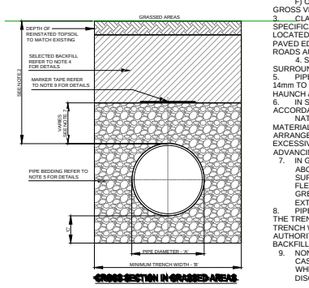
Job No	Drg No	Stage	Revision	Scale
W20057	P700	PL	P1	A1 As shown A3 As shown

R:\2020\W20057\07. Design and Drawings\1 MOR\PL - Planning\P1\P700_P1pp - Site Layout (Drainage & Levels).dwg

DON'T SCALE DIMENSIONS



CROSS SECTION IN ROADS

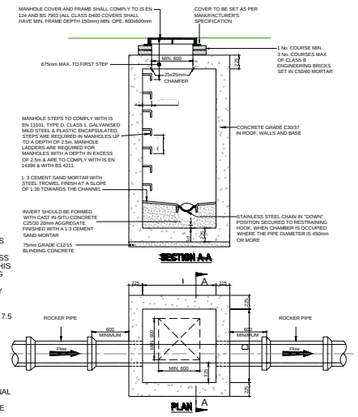


CROSS SECTION IN GRASSED AREAS

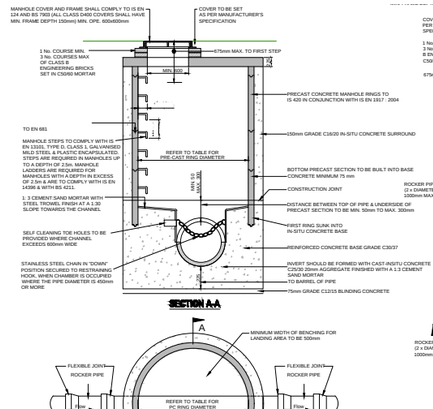
PIPE DIAMETER 'A' (mm)	TRENCH WIDTH 'B' (mm)	DEPTH OF BEDDING 'C' (mm)
≤ 80 RISING MAIN	SEE NOTE 10.	100
100	500	100
150	600	200
200	600	200
250	750	200
300	750	200
350	750	200
400	900	200
450	900	200

1. ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
2. THE MINIMUM DEPTH OF COVER FROM THE FINISHED SURFACE TO THE CROWN OF GRAVITY PIPES WITHOUT PROTECTION SHOULD BE AS FOLLOWS:
   A) GARDENS AND PATHWAYS WITHOUT ANY POSSIBILITY OF VEHICULAR ACCESS - DEPTH NOT LESS THAN 0.5 M. (THIS WOULD NORMALLY RELATE TO DRAINS IN PRIVATE PROPERTY. SHALLOW PIPES OF THIS NATURE ARE UNDESIRABLE AND SHOULD BE INSTALLED IN ACCORDANCE WITH THE CURRENT BUILDING REGULATIONS).
   B) DRIVEWAYS, PARKING AREAS AND YARDS WITH HEIGHT RESTRICTIONS TO PREVENT ENTRY BY VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES - DEPTH NOT LESS THAN 0.75 M.
   C) DRIVEWAYS, PARKING AREAS AND NARROW STREETS WITHOUT FOOTWAYS (E.G. MEWS DEVELOPMENTS) WITH LIMITED ACCESS FOR VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES - DEPTH NOT LESS THAN 0.9 M.
   D) DEPTHS OF SEWERS IN GATED ESTATES SHALL BE SIMILAR TO THAT OUTLINED ABOVE.
   E) AGRICULTURAL LAND AND PUBLIC OPEN SPACE - DEPTH NOT LESS THAN 0.9 M.
   F) OTHER HIGHWAYS AND PARKING AREAS WITH UNRESTRICTED ACCESS TO VEHICLES WITH A GROSS VEHICLE WEIGHT IN EXCESS OF 7.5 TONNES - DEPTH NOT LESS THAN 1.2m.
3. CLAUSE 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS IS TO BE USED AS BACKFILL MATERIAL WHERE THE SEWER MAIN IS LOCATED IN ROADS, FOOTPATHS OR WHEN THE NEAREST PART OF THE TRENCH IS WITHIN 1m OF THE PAVED EDGE OF THE ROADWAY. CLAUSE 808 IS TO BE COMPACTED AS PER CLAUSE 802 OF THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS.
4. SELECTED EXCAVATED MATERIAL MAY BE USED IN GREEN-FIELD AREAS ABOVE GRANULAR PIPE SURROUND MATERIAL SUBJECT TO THE APPROVAL OF IRISH WATER.
5. PIPE BEDDING SHALL COMPLY WITH WIS 4-08-02 AND IGN 4-08-01 GRANULAR MATERIAL SHALL BE 14mm TO 5mm GRADED AGGREGATE OR 10mm SINGLE SIZED AGGREGATE IS EN 13242. CONCRETE BED, HAUNCH & SURROUND, WHERE REQUIRED, SHALL BE TO STD-WW-08.
6. IN SOFT GROUND CONDITIONS (CBR < 5) THE MATERIAL SHOULD BE EXCAVATED AND DISPOSED OF IN ACCORDANCE WITH THE WASTE MANAGEMENT ACT AND CLAUSE 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS SHALL REPLACE THE EXCAVATED MATERIAL, WRAPPED IN GEO-TEXTILE WRAPPING. ALTERNATIVELY, SPECIAL PIPE SUPPORT ARRANGEMENTS, INCLUDING PILING ETC. MAY BE REQUIRED WHERE THE DEPTH OF SOFT MATERIAL IS EXCESSIVE. SUCH ARRANGEMENTS SHALL BE SUBJECT TO ASSESSMENT BY IRISH WATER BEFORE ADVANCING WITH THE WORK.
7. IN GREEN FIELD AREAS, TYPE B BACKFILL (SELECTED EXCAVATED MATERIAL) WILL BE ALLOWED ABOVE THE SIDE HAUNCH GRANULAR MATERIAL IN THE CASE OF RIGID PIPES. A GRANULAR SURROUND OF A MINIMUM DEPTH OF 150mm ABOVE THE CROWN OF THE PIPE IS REQUIRED FOR FLEXIBLE PIPES AND TYPE B MATERIAL MAY BE USED AS BACKFILL ABOVE THIS. ALL RISING MAINS IN GREENFIELD AREAS SHALL HAVE A MINIMUM COVER OF 300mm OF GRANULAR MATERIAL ABOVE THE EXTERNAL CROWN OF THE PIPE.
8. PIPES SHALL NOT BE SUPPORTED ON STONES, ROCKS OR ANY HARD OBJECTS AT ANY POINT ALONG THE TRENCH. ROCK SHALL BE EXCAVATED TO A DEPTH OF 150mm BELOW THE ACTUAL DEPTH OF THE TRENCH WITH THE VOID FILLED WITH CLAUSE 808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS. THE GRANULAR MATERIAL SHALL BE LAID ABOVE THIS VOID BACKFILL MATERIAL.
9. NON DEGRADABLE MARKER TAPE SHOULD BE INSTALLED AT TOP OF PIPE BEDDING LAYER. IN THE CASE OF NON METAL PIPE MATERIAL, THE MARKER TAPE SHOULD INCORPORATE A TRACE WIRE WHICH IS LINKED TO FITTINGS AND TERMINATED AT THE WASTE WATER PUMPING STATION AND THE DISCHARGE MANHOLE.

TRENCH BACKFILL AND BEDDING

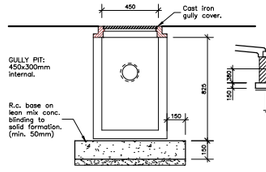


IN-SITU CONCRETE MANHOLE

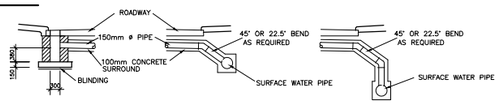


PRE-CAST CONCRETE MANHOLE

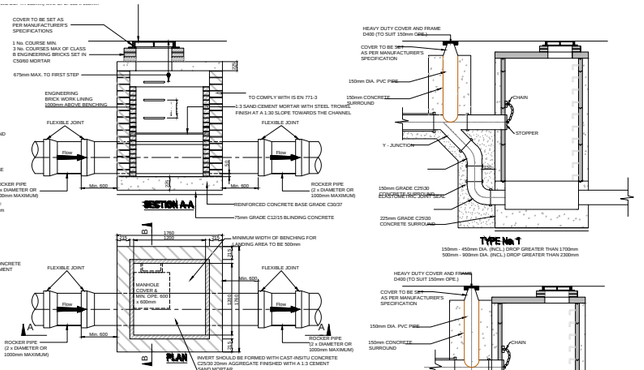
MINIMUM MANHOLE DIMENSION "D"	
DIAMETER OF LARGEST PIPE IN MANHOLE (mm)	INTERNAL DIMENSION OF MANHOLE (mm)
LESS THAN 375	1200
375 TO 450	1350
500 TO 750	1500



P.C. CONC. GULLY DETAIL



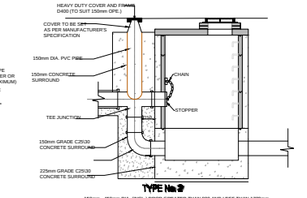
GULLY CONNECTION TO S.W. SEWER ACROSS ROADWAY



BLOCKWORK MANHOLE (< 450mm DIA.)

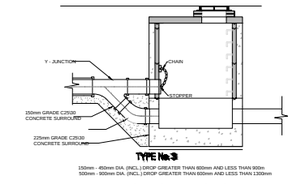
TYPE No.1

150mm - 450mm DIA. (INCL.) DROP GREATER THAN 1700mm
500mm - 900mm DIA. (INCL.) DROP GREATER THAN 2300mm



TYPE No.2

150mm - 450mm DIA. (INCL.) DROP GREATER THAN 800 AND LESS THAN 1700mm
500mm - 900mm DIA. (INCL.) DROP GREATER THAN 1300mm AND LESS THAN 2300mm

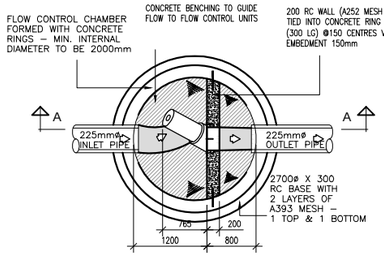


TYPE No.3

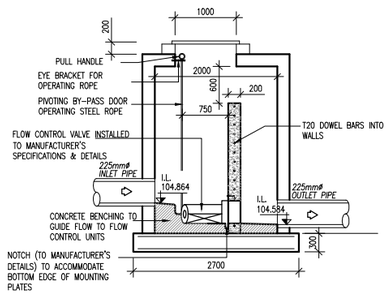
150mm - 450mm DIA. (INCL.) DROP GREATER THAN 600mm AND LESS THAN 900m
500mm - 900mm DIA. (INCL.) DROP GREATER THAN 800mm AND LESS THAN 1300mm

BACKDROP MANHOLES

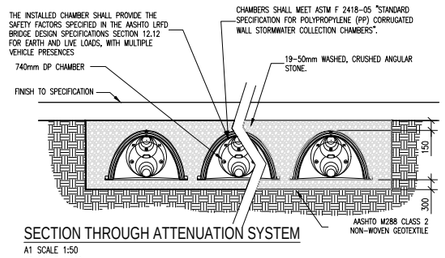
ALL SERVICES INSTALLATIONS TO BE IN STRICT COMPLIANCE WITH IRISH WATER DETAILS & SPECIFICATIONS FOR WASTEWATER & WATER INFRASTRUCTURE



PLAN ON FLOW CONTROL CHAMBER (HYDRO-BRAKE)
Scale 1:50



SECTION A–A
Scale 1:50



SECTION THROUGH ATTENUATION SYSTEM
A1 SCALE 1:50
A3 SCALE 1:100

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Rev.	Description	Date	Drawn	Chkd	Appr
P	PLANNING ISSUE	–	GL	TN	PR

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Client: MITCHELL AND ASSOCIATES

Job: DUNMORE RECREATIONAL AND BIODIVERSITY PARK

Drawing: SITE DEVELOPMENT DETAILS

Job No	Drg No	Stage	Revision	Scale
W20057	P701	PL	P	A1 As shown A3 As shown

R:\2020\W20057\07 Design and Drawings\11 MOR\PL - Planning\P701_Pgp - Site Development Details.dwg

Appendix B

Attenuation Calculations & Met Eireann Rainfall Data

INPUT SHEET FOR ATTENUATION CALCULATIONS **Page: 1 of 3**

Job No. W20057 **Job Name: Dumore Biodiversity Park Carpark 2** **Date: 02-12-20**

Percolation Factors

Roofs	=	1.00	
Concreted / Paved Areas		1.00	
Roads / Car Parks	=	0.85	
Grass / Hardcore	=	0.10	
Total Development Area		500	(m^2)
		0.05	Ha

Division of Areas

Roof

Roof		
Total		(m^2)

Concreted Areas

Concrete Paths		
Total		

Roads

Roads	337	
Total Road & Car Park	**337**	(m^2)

Hardcore Area

Hardcore	163	
Total Hardcore	**163**	(m^2)

Average Percolation factor

$$= \frac{\text{Roof Area} \times 1.00 + \text{Conc. \& Paved} \times 1.00 + \text{Blacktop} \times 0.85 + \text{Landscaped Area} \times 0.10}{\text{Total Area for Development}}$$

$$= \frac{- \times 1.00 + 0 \times 1.00 + 337 \times 0.85 + 163 \times 0.10}{500}$$

$$= \frac{303}{500}$$

= **0.606**

Effective Area

= Total Area for Development x Percolation factor

= 500 x 0.6055

= **303** m^2

Typical calculation of Permissible Discharge based on 30min storm, 30 year return period
Allowed Discharge from Site

$$QBAR = 0.00108 \times (AREA)^{0.89} \times (SAAR)^{1.17} \times (SOIL)^{2.17}$$

QBAR = **0.296** l/s

Obtained from Mett Eireann
Average Annual Rainfall Data = **20.5** mm

Average Percolation Factor
from previous calculations = **0.606** mm

Volume of Stormwater = Site Area (m2) x Rainfall (m) x Average Percolation factor

= 500 x 0.02050 x 0.606 = 6.206375 m^3

Volume of Discharge = Permissible Discharge x time

= 0.30 l/s x 60 sec x 30 min = 533.51658 l
= 0.534 m^3

Storage Required = 6.206 - 0.534 = 5.673 m^3

INPUT SHEET FOR ATTENUATION CALCULATIONS **Page: 3 of 3**

Job No. **W20057** **Job Name:** **Dumore Biodiversity Park Carpark 2** **Date: 02-12-20**

30 **year return period**

Storm Duration (hrs)	Rainfall (mm)	Volume X Perc Factor (m^3)	Discharge (m^3)	Storage Required (m^3)
0.25	20	6.055	0.267	5.788
0.5	23.9	7.236	0.534	6.702
1	28.4	8.598	1.067	7.531
2	33.9	10.263	2.134	**8.129**
4	40.9	12.382	4.268	8.114
6	44.7	13.533	6.402	7.131
12	53.2	16.106	12.804	3.302
24	63.4	19.194	25.609	-6.414
48	72.2	21.859	51.218	-29.359

Standard Average Annual Rainfall = 1002 mm (met eireann)

Soil Index = 0.3

100 **year return period**

Storm Duration (hrs)	Rainfall (mm)	Volume X Perc Factor (m^3)	Discharge (m^3)	Storage Required (m^3)
0.25	28.5	8.628	0.267	8.362
0.5	33.3	10.082	0.534	9.548
1	38.9	11.777	1.067	10.710
2	45.4	13.745	2.134	11.611
4	53.1	16.076	4.268	11.808
6	58.1	17.590	6.402	**11.188**
12	67.9	20.557	12.804	7.752
24	79.3	24.008	25.609	-1.601
48	88.4	26.763	51.218	-24.454

Job No. W20057 **Job Name: Dumore Biodiversity Park Carpark 3** **Date: 19-02-21**

Attenuation calculations for Pre-developed site

Percolation Factors

Roofs	=	1.00	
Concreted / Paved Areas		1.00	
Roads / Car Parks	=	0.85	
Grass / Hardcore	=	0.10	
Total Development Area		3,504	(m^2)
		0.35	Ha

Division of Areas

Roof

Total	-	(m^2)

Concreted Areas

Total	-	

Roads

Total Road & Car Park	-	(m^2)

Hardcore Area

Hardcore	3504	
Total Hardcore	**3,504**	(m^2)

Average Percolation factor

$$= \frac{\text{Roof Area} \times 1.00 + \text{Conc. \& Paved} \times 1.00 + \text{Blacktop} \times 0.85 + \text{Landscaped Area} \times 0.10}{\text{Total Area for Development}}$$

$$= \frac{- \times 1.00 + 0 \times 1.00 + - \times 0.85 + 3{,}504 \times 0.10}{3{,}504}$$

$$= \frac{350}{3{,}504}$$

= **0.100**

Effective Area

= Total Area for Development x Percolation factor

= 3,504 x 0.1000

= **350** m^2

Typical calculation of Permissible Discharge based on 30min storm, 30 year return period
Allowed Discharge from Site

$$QBAR = 0.00108 \times (AREA)^{0.89} \times (SAAR)^{1.17} \times (SOIL)^{2.17}$$

QBAR = **1.677** l/s

Obtained from Mett Eireann
Average Annual Rainfall Data = **20.5** mm

Average Percolation Factor
from previous calculations = **0.100** mm

Volume of Stormwater = Site Area (m2) x Rainfall (m) x Average Percolation factor

= 3,504 x 0.02050 x 0.100 = 7.1832 m^3

Volume of Discharge = Permissible Discharge x time

= 1.68 l/s x 60 sec x 30 min = 3018.0516 l
= 3.018 m^3

Storage Required = 7.183 - 3.018 = 4.165 m^3

Job No. W20057 Job Name: Dumore Biodiversity Park Carpark 3 Date: 19-02-21

30 **year return period**

Storm Duration (hrs)	Rainfall (mm)	Volume X Perc Factor (m^3)	Discharge (m^3)	Storage Required (m^3)
0.25	20	7.008	1.509	**5.499**
0.5	23.9	8.375	3.018	5.357
1	28.4	9.951	6.036	3.915
2	33.9	11.879	12.072	-0.194
4	40.9	14.331	24.144	-9.813
6	44.7	15.663	36.217	-20.554
12	53.2	18.641	72.433	-53.792
24	63.4	22.215	144.866	-122.651
48	72.2	25.299	289.733	-264.434

Standard Average Annual Rainfall = 1002 mm (met eireann)

Soil Index = 0.3

100 **year return period**

Storm Duration (hrs)	Rainfall (mm)	Volume X Perc Factor (m^3)	Discharge (m^3)	Storage Required (m^3)
0.25	28.5	9.986	1.509	8.477
0.5	33.3	11.668	3.018	**8.650**
1	38.9	13.631	6.036	7.594
2	45.4	15.908	12.072	3.836
4	53.1	18.606	24.144	-5.538
6	58.1	20.358	36.217	-15.858
12	67.9	23.792	72.433	-48.641
24	79.3	27.787	144.866	-117.080
48	88.4	30.975	289.733	-258.758

Conclusion: No attenuation is required for the asphalt area in Carparks 3 due to insignificant area of surface water runoff

Job No. W20057 **Job Name: Dumore Biodiversity Park Carpark 3** **Date: 19-02-21**

Attenuation Calculations for Proposed Development

Percolation Factors

Roofs	=	1.00	
Concreted / Paved Areas		1.00	
Roads / Car Parks	=	0.85	
Grass / Hardcore	=	0.10	
Total Development Area		3,504	(m^2)
		0.35	Ha

Division of Areas

Roof

Total		(m^2)

Concreted Areas

Disabled parking area	68	
Total	**68**	

Roads

Total Road & Car Park	-	(m^2)

Hardcore Area

Permeable gravel/hardcore area	3113	
Green field	323	
Total Hardcore	**3,436**	(m^2)

Average Percolation factor

$$= \frac{\text{Roof Area} \times 1.00 + \text{Conc. \& Paved} \times 1.00 + \text{Blacktop} \times 0.85 + \text{Landscaped Area} \times 0.10}{\text{Total Area for Development}}$$

$$= \frac{- \times 1.00 + 68 \times 1.00 + - \times 0.85 + 3{,}436 \times 0.10}{3{,}504}$$

$$= \frac{412}{3{,}504}$$

= **0.117**

Effective Area

= Total Area for Development x Percolation factor

= 3,504 x 0.1175

= **412** m^2

Typical calculation of Permissible Discharge based on 30min storm, 30 year return period
Allowed Discharge from Site

$$QBAR = 0.00108 \times (AREA)^{0.89} \times (SAAR)^{1.17} \times (SOIL)^{2.17}$$

QBAR = **1.677** l/s

Obtained from Mett Eireann
Average Annual Rainfall Data = **20.5** mm

Average Percolation Factor
from previous calculations = **0.117** mm

Volume of Stormwater = Site Area (m2) x Rainfall (m) x Average Percolation factor

= 3,504 x 0.02050 x 0.117 = 8.4378 m^3

Volume of Discharge = Permissible Discharge x time

= 1.68 l/s x 60 sec x 30 min = 3018.0516 l
= 3.018 m^3

Storage Required = 8.438 - 3.018 = 5.420 m^3

INPUT SHEET FOR ATTENUATION CALCULATIONS **Page: 3 of 3**

Job No. **W20057** **Job Name:** **Dumore Biodiversity Park Carpark 3** **Date: 19-02-21**

30 **year return period**

Storm Duration (hrs)	Rainfall (mm)	Volume X Perc Factor (m^3)	Discharge (m^3)	Storage Required (m^3)
0.25	20	8.232	1.509	6.723
0.5	23.9	9.837	3.018	**6.819**
1	28.4	11.689	6.036	5.653
2	33.9	13.953	12.072	1.881
4	40.9	16.834	24.144	-7.310
6	44.7	18.399	36.217	-17.818
12	53.2	21.897	72.433	-50.536
24	63.4	26.095	144.866	-118.771
48	72.2	29.718	289.733	-260.015

Standard Average Annual Rainfall = 1002 mm (met eireann)

Soil Index = 0.3

100 **year return period**

Storm Duration (hrs)	Rainfall (mm)	Volume X Perc Factor (m^3)	Discharge (m^3)	Storage Required (m^3)
0.25	28.5	11.731	1.509	10.222
0.5	33.3	13.706	3.018	**10.688**
1	38.9	16.011	6.036	9.975
2	45.4	18.687	12.072	6.614
4	53.1	21.856	24.144	-2.288
6	58.1	23.914	36.217	-12.303
12	67.9	27.948	72.433	-44.486
24	79.3	32.640	144.866	-112.227
48	88.4	36.385	289.733	-253.348

Conclusion: No attenuation is required for the asphalt area in Carparks 3 due to insignificant area of surface water runoff

Appendix C

Stormwater Pipe Design

Calculations for Surface Water Drainage

Calculations for Surface Water Drainage
Calculation Sheet No. 1

MALONE O'REGAN
CONSULTING ENGINEERS
3/4 Canada Street
WATERFORD
Tel: 051 876 855

JOB: Dunmore Recreational and Biodiversity Park

JOB NO: W20057	**DATE: Nov 2020**
SHEET NO: 1	**REF. TO DRG. NO: W20057-P700-P1**
PREPARED BY: TN	**CHECKED BY: PR**
CLIENT: Mitchell & Associates	

DRAINAGE CRITERIA

SURFACE WATER:

RAINFALL INTENSITY BASED ON 100 YEAR RETURN

I = 50 mm per Hour (factor of 1.1 included for climate change)

A = Site Area in Hectares

RATE OF FLOW / RUNOFF = Q = 2.78 x A x I

Percolation factors

Concrete areas:	1.00
Paved areas including roads:	0.85
Landscaped/Hardcore areas:	0.10

Appendix D

Fuel/Oil Separator Data Sheet

Bypass NSB RANGE

APPLICATION

Bypass separators are used when it is considered an acceptable risk not to provide full treatment, for very high flows, and are used, for example, where the risk of a large spillage and heavy rainfall occurring at the same time is small, e.g.

- Surface car parks.
- Roadways.
- Lightly contaminated commercial areas.

PERFORMANCE

Klargester were one of the first UK manufacturers to have separators tested to EN 858-1. Klargester have now added the NSB bypass range to their portfolio of certified and tested models. The NSB number denotes the maximum flow at which the separator treats liquids. The British Standards Institute (BSI) tested the required range of Kingspan Klargester Bypass separators and certified their performance in relation to their flow and process performance assessing the effluent qualities to the requirements of EN 858-1. Klargester bypass separator designs follow the parameters determined during the testing of the required range of bypass separators.

Each bypass separator design includes the necessary volume requirements for:

- Oil separation capacity.
- Silt storage capacity.
- Oil storage volume.
- Coalescer.

The unit is designed to treat 10% of peak flow. The calculated drainage areas served by each separator are indicated according to the formula given by PPG3 NSB = 0.0018A(m2). Flows generated by higher rainfall rates will pass through part of the separator and bypass the main separation chamber.

Class I separators are designed to achieve a concentration of 5mg/litre of oil under standard test conditions.

FEATURES

- Light and easy to install.
- Inclusive of silt storage volume.
- Fitted inlet/outlet connectors.
- Vent points within necks.
- Oil alarm system available (required by EN 858-1 and PPG3).
- Extension access shafts for deep inverts.
- Maintenance from ground level.
- GRP or rotomoulded construction (subject to model).

To specify a nominal size bypass separator, the following information is needed:-

- The calculated flow rate for the drainage area served. Our designs are based on the assumption that any interconnecting pipework fitted elsewhere on site does not impede flow into or out of the separator and that the flow is not pumped.
- The drain invert inlet depth.
- Pipework type, size and orientation.

SIZES AND SPECIFICATIONS

UNIT NOMINAL SIZE	FLOW (l/s)	PEAK FLOW RATE (l/s)	DRAINAGE AREA (m²)	STORAGE CAPACITY (litres) SILT	OIL	UNIT LENGTH (mm)	UNIT DIA. (mm)	ACCESS SHAFT DIA. (mm)	BASE TO INLET INVERT (mm)	BASE TO OUTLET INVERT	STANDARD FALL ACROSS (mm)	MIN. INLET INVERT (mm)	STANDARD PIPEWORK DIA.
NSBP003	3	30	1670	300	45	1700	1350	600	1420	1320	100	500	160
NSBP004	4.5	45	2500	450	60	1700	1350	600	1420	1320	100	500	160
NSBP006	6	60	3335	600	90	1700	1350	600	1420	1320	100	500	160
NSBE010	10	100	5560	1000	150	2069	1220	750	1450	1350	100	700	315
NSBE015	15	150	8335	1500	225	2947	1220	750	1450	1350	100	700	315
NSBE020	20	200	11111	2000	300	3893	1220	750	1450	1350	100	700	375
NSBE025	25	250	13890	2500	375	3575	1420	750	1680	1580	100	700	375
NSBE030	30	300	16670	3000	450	4265	1420	750	1680	1580	100	700	450
NSBE040	40	400	22222	4000	600	3230	1920	600	2185	2035	150	1000	500
NSBE050	50	500	27778	5000	750	3960	1920	600	2185	2035	150	1000	600
NSBE075	75	750	41667	7500	1125	5841	1920	600	2235	2035	200	950	675
NSBE100	100	1000	55556	10000	1500	7661	1920	600	2235	2035	200	950	750
NSBE125	125	1250	69444	12500	1875	9548	1920	600	2235	2035	200	950	750

Rotomoulded chamber construction GRP chamber construction * Some units have more than one access shaft – diameter of largest shown.