

**Submission to the Fingal
Development Plan 2023-2029:
Strategic Issues Paper (Stage
One)**

Dublin Institute for Advanced
Studies Dunsink Observatory





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TABLE OF CONTENTS

TABLE OF CONTENTS.....	1
1. EXECUTIVE SUMMARY	2
2. PREAMBLE	3
3. INTRODUCTION.....	4
3.1 Introduction to the Dublin Institute for Advanced Studies (DIAS)	4
4. CONNECTIVITY AND MOVEMENT	6
5. CULTURAL HERITAGE	9
6. INFRASTRUCTURE AND UTILITIES	10
7. CONCLUSION	12

TABLE OF FIGURES

<i>Figure 1. Indicative location of the Dunsink Observatory (Source: MyPlan. Edited by MKO).....</i>	<i>5</i>
<i>Figure 2. Points of Interest (Source: Bing Maps. Edited by MKO).....</i>	<i>6</i>
<i>Figure 3. Aerial Footage illustrating dark sky surrounding Dunsink Observatory (Source: DIAS/NASA).....</i>	<i>10</i>
<i>Figure 5. Potential Dark Sky Zone (Source: DIAS).....</i>	<i>11</i>

1.

EXECUTIVE SUMMARY

This Submission has been prepared by MKO on behalf of the Dublin Institute for Advanced Studies. Dunsink Observatory is part of the Dublin Institute for Advanced Studies (DIAS). The content of this submission relates to the following Strategic Issues, as outlined in the Issues Paper. The goals of DIAS are focused on these Issues and will be outlined in further detail within this submission. A summary of the content of this submission is as follows:

- **Connectivity and Movement** – Improved connectivity to Dunsink Observatory through the reopening, increased safety, and road improvement of Dunsink Lane, proposed vehicular access from the south, and the opening and recognition of the ‘Hamilton Way’. Improved connectivity and movement are encouraged by DIAS for Dunsink Observatory alongside the surrounding area acknowledging the benefits that it would bring to the overall area.
- **Cultural Heritage** – It is important that the status of the 2 No. Protected Structures on Dunsink Observatory lands is maintained and protected going forward. An appropriate buffer is suggested that will ensure protection is maintained whilst allowing considerable flexibility in policy to allow for DIAS to improve and maintain the function of these buildings with potential development moving forward into the future.
- **Infrastructure and Utilities** – DIAS request that a light pollution policy with an appropriate radius is created for the Dunsink area. This will ensure that light pollution is kept to a minimum, and the Dark Sky Zone is maintained for the function of the Observatory to be effective for the future and for DIAS to be able to continue as a research and educational facility.

Whilst this submission relates to the individual goals of DIAS, importantly these goals are extremely relevant to the wider Fingal area and will assist in ensuring that proper planning and sustainable development is at the forefront of the new *Fingal County Development Plan 2023-2029*.



2.

PREAMBLE

We note that Fingal County Council has commenced a review of the current *Fingal County Development Plan 2017-2023* and preparation of a new development plan for the period 2023-2029. On behalf of our client, the Dublin Institute for Advanced Studies (herein after referred to as DIAS), we wish to make a submission regarding Stage One (Pre-Draft) of the *Fingal County Development Plan 2023-2029* (hereinafter referred to as the Issues Paper) which was published on the 12th of March 2021.

We acknowledge that the development plan for the period 2023-2029 is being prepared in a changed context from that of the current plan 2017-2023. New policy documents have been issued since the adoption of the *Fingal Development Plan 2017-2023*, in which there is a hierarchy of spatial plans that support the strategies of the Development Plan. A more urgent national focus on climate change mitigation and adaptation with implementation of the National Climate Action Plan will be required to guide the drafting of policy. Relevant documents include:

- Project Ireland 2040: National Planning Framework
- Regional Spatial and Economic Strategy for the Eastern and Midland Regional Assembly 2019-2031
- National Climate Action Plan 2019-2024

MKO have been appointed by the Dublin Institute for Advanced Studies (DIAS) to prepare this submission on their behalf. In response to the questions outlined in the Issues Paper, the content of this submission will relate to a number of the 7 No. Strategic Issues which are as follows:

1. *People and Place*
2. *Climate Action*
3. *Connectivity and Movement*
4. *Employment, Economy, and Dublin Airport*
5. *Cultural Heritage*
6. *Green Infrastructure and Natural Heritage*
7. *Infrastructure and Utilities*

3.

INTRODUCTION

3.1

Introduction to the Dublin Institute for Advanced Studies (DIAS)

The Dublin Institute for Advanced Studies (DIAS) is a statutory corporation established for the purpose of fundamental research and education by the Irish government under the Institute for Advanced Studies Act (1940). DIAS is the world's second, and Ireland's only, institute for advanced studies. DIAS is a globally embedded institution that attracts talent from all over the world to conduct fundamental research in three areas with a humanistic and scientific focus: Celtic Studies, Theoretical Physics and Cosmic Physics (encompassing Astronomy, Astrophysics and Geophysics). For 80 years, DIAS has pushed the boundaries of discovery: their research gains insights into Celtic society and its legacy; progresses the understanding of our island, our planet, and the universe; and deciphers the underpinning mathematical principles of nature.

Today from planet, star and universe formation, exoplanets, and solar storms to the transmission of quantum information by computers to the nature of spacetime; from Earth System change and the availability of water on the planet to the development of Celtic languages and the origins of their identity, DIAS is positioning itself to engage with some of the biggest unanswered questions for Ireland and the wider world in the twenty-first century. DIAS also leads Ireland's participation in a number of global research endeavours. DIAS Dunsink Observatory is a designated European site of historical significance for physics and is active in science outreach and public engagement.

DIAS has strategic goals which underpin its status and role in scholarship, both on a national and international level, which are as follows:

- Discovery of new knowledge and understanding through excellence and researcher-led endeavour
- International research collaboration benefitting Ireland and the world
- Attraction and cultivation of research leaders
- Strengthening disciplines and research communities nationally

Dunsink Observatory, which was made part of DIAS under a Government Establishment Order (School of Cosmic Physics 1947), plays a core role in the function of DIAS. There are three further DIAS locations in Dublin City including:

- Merrion Square North, D2 – Geophysics (School of Cosmic Physics)
- Burlington Road, D4 – Central Administration, School of Celtic Studies and School of Theoretical Physics
- Fitzwilliam Place, D4 – Astronomy and Astrophysics (School of Cosmic Physics)

Dunsink Observatory is located approximately 8km north of the city centre, north of Ashtown, the location is illustrated in **Figure 1**, denoted by the red star. Its location is within the boundaries under the jurisdiction of Fingal County Council; hence it forms the content of this submission. There are 2 No. National Monuments and 2 No. Protected Structures on the Dunsink Observatory grounds.

- Observatory House – Detached seven-bay two-storey house, built 1783, with three central projecting bays having domed observatory above.
National Monument: Reg. No. 11354008)
Protected Structure: RPS No. 0687
- South Dome – Specked limestone rotunda housing telescope, built 1868, with copper-roofed dome and projecting entrance porch
National Monument: Reg. No. 11354009
Protected Structure: RPS No. 0688

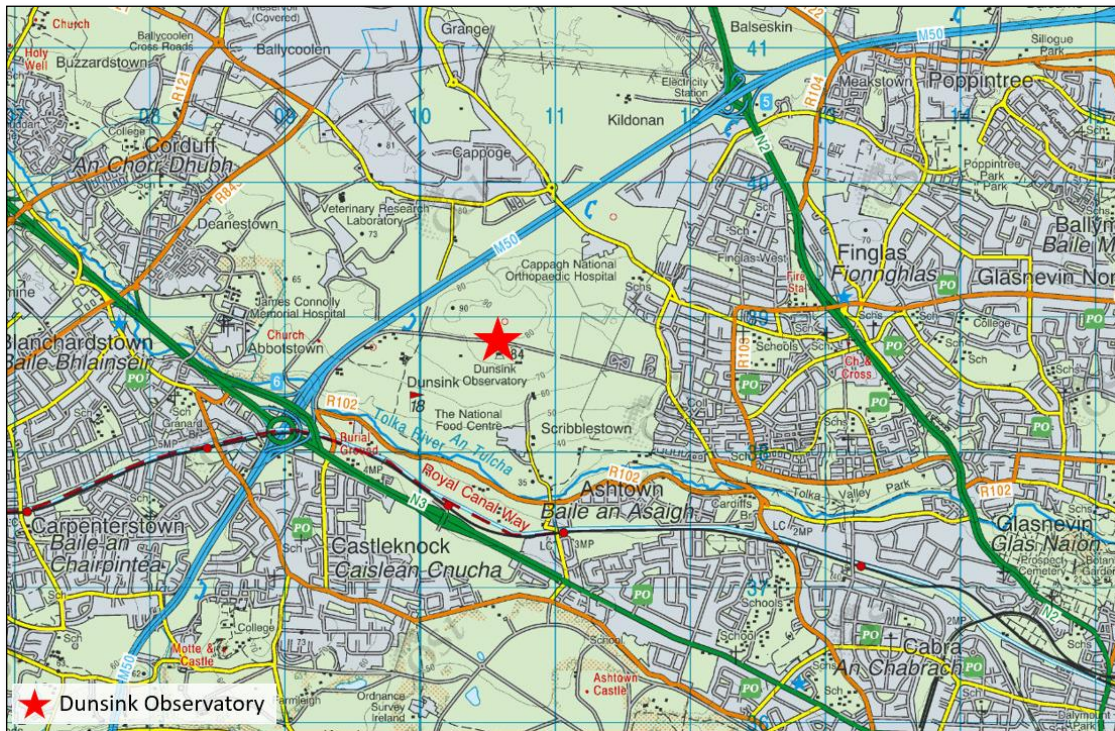


Figure 1. Indicative location of the Dunsink Observatory (Source: MyPlan. Edited by MKO)

In line with its legislation and function, since 1947, DIAS has operated a research and education facility of which the lands are currently zoned as ‘Open Space’ under the extant *Fingal County Development Plan 2017-2023*. The Open Space land-use objective is to

“provide recreational and amenity resources for urban and rural populations subject to strict development controls. Only community facilities and other recreational uses will be considered and encouraged by the Planning Authority”.

Whilst we acknowledge that the Planning Authority do not consider land zoning under Stage One (Pre-Draft) Issues Paper, we do respectfully request that the Land-Use Zoning Matrix gives considerable flexibility to permit education facilities within the Dunsink area. The content of this submission has been categorised under headings which are applicable to three of the 7 No. Strategic Issues, in particular to:

- Connectivity and Movement
- Cultural Heritage
- Infrastructure and Utilities

4.

CONNECTIVITY AND MOVEMENT

DIAS would like to address the topic of Connectivity and Movement by bringing some core issues, concerns, and suggestions to the Planning Authority. At present, Dunsink Observatory and its surrounding areas have poor connectivity within the proximate area, and subsequently this is limiting movement to the area from the rest of Dublin City. Vehicular access to Dunsink Observatory is via Dunsink Lane to the north. Currently, this area is unsafe and unsightly, there is no public lighting or footpaths, and the condition of the road is poor and in need of significant repair since the closure of the Dunsink Landfill over 20 years ago. Dunsink Lane has been closed to the east, and in recent years it has become unsafe and unpleasant due to illegal dumping and anti-social behaviour for both staff, students, and visitors to access Dunsink Observatory via this route.

The reopening of Dunsink Lane to the east, with the sufficient upgrades that it needs would improve connectivity to the north of Dunsink Observatory. DIAS are also proposing that consideration is given to an opening of a vehicular access route to the south of Dunsink Observatory. A vehicular access south of the site will open the entire Dunsink area, which currently is under experience of being cut off from its surroundings. Accessibility would improve linkages from the M50 junction to a number of significant resources and amenities and this would ensure that the area is more easily accessible for the wider population. **Figure 2** below illustrates in high-level the points of interest discussed relating to Connectivity and Movement.



Figure 2. Points of Interest (Source: Bing Maps. Edited by MKO)

Informally, Dunsink Observatory can be accessed via Dunsinea Lane to the south by pedestrians and cyclists. Dunsinea Lane is accessed via a gate located at the entrance of Priorstown House, Scribblestown, of which Dunsink Observatory have had a 'right of way' to as an access route since 1910. Staff of the observatory have been using a path from the Observatory to Dunsinea Lane from the foundation of the observatory in 1785. It is our understanding, though not confirmed, that there was a public right of way that ran from north

of the observatory and crossed the observatory to Dunsinea Lane. In 1910, Trinity College brought a case extinguishing a right of way for people crossing the Observatory but maintaining a right of way from the Observatory to Dunsinea Lane, to stop light pollution from passing cyclists' lights.

This option is preferred by most as it is safer and more convenient to Ashtown and is only 1.4km (a 15-minute walk) from Ashtown Train Station to Dunsink Observatory. In comparison to the 4km (50-minute walk) if people were to take the formal route along River Road and Dunsink Lane. The short route is known as the Hamilton Way, of which an annual Hamilton Walk takes place annually for the past 30 years from Dunsink to Broome Bridge on the Royal Canal. This submission proposes that Fingal County Council prioritise implementing the Hamilton Way as a recognised walkway, which is also supported by Objective UD07 of the *Ashtown-Pelletstown Development Plan 2014* which states that it is an objective of the plan

“To support and promote the development of a pedestrian and cycling connection linking the Phoenix Park and Ashtown Station to Dunsink Observatory through the LAP area as a joint project between Dublin City Council, Fingal County Council, Waterways Ireland, the Office of Public Works & the Dublin Institute of Advanced Studies.”

DIAS fully support the Hamilton Way Project which would improve connectivity and movement within the Dunsink area, and to a number of further resources and amenities. The Hamilton Way would open a significant greenway that would connect the Tolka Valley Greenway, the Royal Canal Greenway, Phoenix Park, Dunsink Observatory, and the parkland that has been proposed for the Dunsink Landfill site. The significance of creating a formal Hamilton Way route that connects to the Royal Canal Greenway would promote the area as a destination, of which Dunsink Observatory is currently cut off from. Opening the Hamilton Way will also improve coordination between land-uses and transportation infrastructure (Ashtown Train Station) which will achieve sustainable development and will easily attract visitors from Dublin City Centre. It will ensure that future settlements are more accessible, safe, and secure access routes to Dunsink Observatory and will create an attractive greenway route that is accessible for all ages and abilities.

The Issues Paper asks Key Questions relating to Connectivity and Movement as follows:

- What are the key connectivity and movement issues affecting workers, residents and visitors within Fingal?
- How can we make it easier to get around Fingal?
- How can we ensure improved co-ordination between land-use and transportation infrastructure to achieve more sustainable development?
- How do we increase walking, cycling and public transport use and reduce car dependency?
- How can the safety of cyclists and pedestrians be improved? What measures could be put in place to make this happen?

The points raised above in relation to improving connectivity and movement in the Dunsink area, and subsequently the surrounding area, have all looked to answer these questions. It is proposed that creating the Hamilton Way, its connection to the wider Royal Canal Greenway and a wider greenway network, the opening and improvement of Dunsink Lane, and the improved connection to Ashtown Train Station and Navan Road Train Station will all significantly improve this area. Key connectivity and movement issues affecting workers,

residents, and visitors within Fingal are identified, these proposals will make it easier to get around Fingal, inclusion of policy objectives within the Draft Plan that allow for the provision of improved vehicular access within the Dunsink area will support this. There will be improved coordination between land-use and transportation infrastructure, walking and cycling will be increased, and this will be encouraged in a safe and secure manner.

5.

CULTURAL HERITAGE

Dunsink Observatory plays a huge role within the wider functions of DIAS, and its cultural heritage is unique and extremely important to maintain. Observatory House and South Dome are both National Monuments and Protected Structures, the details of which are outlined withing the DIAS Introductory section of this submission. The structures are in the Record of Protected Structures under the extant *Fingal Development Plan 2017-2023*, and it is a request of this submission to ensure that these protections are maintained. The South Telescope that is housed in the South Dome was built in 1868 and is the largest refracting telescope in Ireland. Sir William Rowan Hamilton, Irish mathematician and astronomer lived and worked at Dunsink from 1827 to 1865 and his work is renowned in the field of quantum mechanics, optics, dynamics, and algebra. Celebrating and recognising the importance of Dunsink and the role it has played in history is of huge importance to DIAS and its future.

In 1947 DIAS took over Dunsink Observatory and since it has been a base for the School of Astrophysics. The school carries out research on a national and international level that is relevant to a number of high-scale research centres throughout the world such as the Low Frequency Array (LOFAR) headquartered in the Netherlands, the European Southern Observatory in Chile, NASA's James Webb Space Telescope and H.E.S.S in Namibia.

Further to its growing contribution to research within DIAS, Dunsink Observatory as an educational resource has the potential to reach a much wider audience through its visitor open nights, school tours, and culture nights, and it is recognised that these events can only continue to grow if the facilities that the Dunsink Observatory can offer have the ability to grow in tandem. DIAS have preliminary plans for improvement and expansion to the existing facilities at Dunsink Observatory, which would cater to the demand for growth that they are facing. The significance of the history of the buildings is recognised whilst it is also acknowledged that in order for the functions of DIAS to continue to grow in the future there will be a need for development on these lands. Whilst these plans are only preliminary, it is important to DIAS that the protection of the cultural heritage of their buildings is maintained and that preservation of such for the future is secured.

It is requested that the policies and objectives are cognisant to protecting the heritage of Fingal whilst creating a positive balance for new development. Policy should support development of appropriate scale and type, prevent an encroachment on the Protected Structures, whilst being sufficiently flexible to permit future development such as educational facilities. DIAS has a future vision for the area that would maintain the Observatory House and the South Dome as focal points, protect their cultural heritage, and celebrate the significance of these buildings.

The Issues Paper asks Key Questions relating to Cultural Heritage as follows:

- How can we balance the need for new development with the protection and enhancement of Fingal's heritage resource?
- What policies and/or incentives do you think can encourage heritage-led regeneration with the retention and reuse of traditional and historic buildings?

The points raised above outline DIAS' outlook on proposing new development whilst balancing the protection and enhancement of heritage resource. New development of appropriate scale and type would be supported in the area, and it is requested that there is supportive policy to this within the new Draft Plan.

6. INFRASTRUCTURE AND UTILITIES

In relation to Infrastructure and Utilities is outlined in the Issues Paper that

“Fingal will continue to have regard to best practice in public lighting and protect areas from light pollution and light spillage from flood lights”.



Figure 3. Aerial Footage illustrating dark sky surrounding Dunsink Observatory (Source: DIAS/NASA)

The CSO data sheet within the Issues Paper titled ‘Estimating artificial light in Ireland from a satellite imagery’ outlines that the light emissions of County Dublin are nearly seven times higher than the next highest county. Ensuring that these figures do not continue to rise in insensitive locations is of utmost concern to DIAS. The lands of Dunsink Observatory, as well as surrounding lands, all maintain a similar function that do not omit a large amount of light, considerably during night times. To the west is the Elmgreen Golf Club and Driving Range, located on the lands due north is the Dunsink Landfill which is currently in an aftercare phase and undergoing restoration and it is our understanding that there have been proposals for a public park on these lands. It is requested that any future development on these lands, and surrounding lands, is of supportive scale and of a type that supports the existing land uses of the Dunsink area for example recreation and public space.

Dunsink Observatory is a core element of the DIAS and its function is dependent upon the dark sky that surrounds the area (see **Figure 3**). This site was historically chosen for the

observatory and it is integral to maintain this important part of DIAS' history and to protect the area against light pollution. Encroachment of future development too close to Dunsink Observatory will result in a severely negative impact on its function at present, and the potential for future plans of expansion to take place. DIAS are aware of the housing need, on a National and Local level, and it is to our understanding that there is a large number of housing planned for the surrounding area. It is important to note the housing need is recognised and supported by DIAS, however, it is asked that the Planning Authority consider the need for light protection in the Dunsink area, and it is requested that a policy is added to support this. Furthermore, it is requested that within this policy, an appropriate 'dark sky zone' is protected with a set radius that is included within the Draft Plan (see **Figure 4** for a proposed potential dark sky zone).

It is to our understanding that a consideration of light pollution in this area will not only maintain Dunsink Observatory function but will influence improved development in the area. Light pollution can impact our environment, safety, energy consumption and health, limiting light pollution can be of economic benefit and cut down on wasting energy. DIAS welcome the opportunity to further engage with Fingal County Council regarding the extent of the dark sky circle that is being requested, and similarly the points raised throughout this submission. Consultation took place with DIAS and Fingal County Council on Wednesday the 28th of April and it was acknowledged that DIAS would be considered as key stakeholder in the consultation process.



Figure 4. Potential Dark Sky Zone (Source: DIAS)

7.

CONCLUSION

The main goals that DIAS wish to achieve through this consultation with Fingal County Council are summarised below:

- Improve the Connectivity and Accessibility to Dunsink Observatory through the reopening and improvement to Dunsink Lane and the opening of the Hamilton Way, giving consideration to a proposal for vehicular access to the south,
- Maintaining the status of Protected Structures and ensuring that there is an appropriate buffer that will ensure this protection whilst allowing for DIAS to improve the function of these buildings with potential future developments,
- Creating a light pollution policy with an appropriate buffer for the Dunsink area to ensure that Dark Sky Zone is maintained in order for the function of the Observatory to be retained and effective for the future.

The Dublin Institute for Advanced Studies (DIAS) welcomes the opportunity to engage in the statutory review of the current *Fingal County Development Plan 2017-2023* and preparation of a new development plan for the period 2023-2029. The formulation of the new Development Plan provides an opportunity for collaborative partnerships between the DIAS and Fingal County Council, and to work towards enhanced opportunities for improved connection and movement, protecting cultural heritage and building on the potential for innovation and prosperity through infrastructure.

This submission has addressed a number of the Strategic Issues highlighted in the Issues Paper, in addition to highlighting key development proposals that will shape the future of the DIAS, and Dunsink Observatory and its surroundings. We ask that the local authority give due consideration to these matters in the preparation of the forthcoming plan. We wish to make aware that the DIAS will be engaging with Fingal County Council in the next stages of the Fingal Development Plan 2023-2029.

