



Draft Wicklow Town – Rathnew LAP Submission - Report

Who are you:	Agent
Name:	The Delahunt Family
Reference:	DWTRLAP-133706
Submission Made	November 20, 2024 5:29 PM

Topic

Residential Development

Submission

Please see attached submission.

Topic

Community Development (inc. sports facilities & schools, etc)

Submission

Please see attached submission.

Topic

Social Infrastructure Audit

Submission

Please see attached submission.

Topic

Land Use Zoning Map

Submission

Please see attached submission.

Topic

Proposed Variation No. 2 to the CDP

Submission

Please see attached submission.

Map



Site Description:

Fernhill House, Dublin Road, Wicklow

File

Wicklow-Rathnew Draft LAP Submission_Fernhill House_Planning Report.pdf, 3.76MB

Wicklow-Rathnew Draft LAP Submission_Fernhill House_Architectural Report.pdf, 9.99MB

Wicklow-Rathnew Draft LAP Submission_Fernhill House_Architectural Plan.pdf, 0.99MB

Wicklow-Rathnew Draft LAP Submission_Fernhill House_Engineering Report.pdf, 2.35MB

Wicklow-Rathnew Draft LAP Submission_Fernhill House_Traffic _ Transport Report.pdf,
1.65MB

Wicklow-Rathnew Draft LAP Submission_Fernhill House_Arboricultural Report and Plan.pdf,
1.6MB

Submission to Wicklow Town – Rathnew LAP and Variation No.2 of the CDP

For Lands at Fernhill House, Dublin Road, Wicklow
on behalf of The Delahunt Family

November 2024



McCutcheon Halley
CHARTERED PLANNING CONSULTANTS

Document Control Sheet

Client	The Delahunt Family	
Project Title	Fernhill House	
Document Title	Submission to Wicklow Town – Rathnew LAP and Variation No.2 of the CDP	
Document Comprises	Volumes	1
	Pages (Including Cover)	35
	Appendices	-
Prepared by	Cian Murphy	
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Office of Issue	Dublin	
Document Information	Revision	A
	Status	Submitted
	Issue Date	November 2024

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1. Introduction

This submission has been prepared by McCutcheon Halley Chartered Planning Consultants to the Draft **Wicklow Town - Rathnew LAP 2025**.

The submission is made on behalf of **The Delahunt Family**, [REDACTED] in response to public notices inviting submissions from third parties and interested parties on the Draft Wicklow Town – Rathnew Local Area Plan 2025, pursuant to Section 20 of the Planning and Development Act 2000, As Amended.

This submission is also being made to the Proposed **Variation No. 2** of the Wicklow County Development Plan (CCDP) 2022-2028, pursuant to Section 13 of the Planning and Development Act 2000, As Amended.

The submission relates to lands (c. 3.17 Ha) at Fernhill, Dublin Road, Wicklow, the former Girl Guides Site, in their ownership.

The purpose of this submission is to request a change from the proposed *CE Community & Education* zoning to *RN1: New residential Priority 1 for c. 1.6 Ha of lands*, with Fernhill House to remain in community use on *CE Community & Education* zoned lands, comprising c. 0.2ha.

We note the remainder of our clients' lands (c. 1.4Ha) are proposed as *OS2 Natural Areas* i.e. the 'wooded area', in the Draft LAP and no change is sought to this zoning as the proposed zoning objective, description and uses generally acceptable listed in the Draft LAP generally accord to the vision for this space.

This is detailed further in section 4 of this submission with the rationale for the requested zoning set out in Section 5.

Our clients welcome the opportunity to participate in the plan making process which will inform the future development of the town, for the lifetime of the plan and beyond.

1.1 History of the Site

The property, the subject of this submission, is known as Fernhill. It is a strategically located property opposite Lidl on the Dublin Road. It comprises c.3.17 ha of land and a derelict house thereon.

The current owners (Sylvester Delahunt, Cliona Fox, Sarah Maguire, Bairbre Fox-Mills and Geraldine Deighan) are trustees of the property on behalf of the extended Delahunt family. Their grandfather, Sylvester Delahunt, bought Fernhill in 1915 and the property has been in their family in excess of 100 years.

Sylvester Delahunt farmed the land for many years but in 1948 he became unwell and granted a long lease to The Dublin Diocesan Trust. They made Fernhill available to the Girl Guides to be used as a hostel. In recent

years there has been a devastating fire and the house has remained derelict ever since.

The family consider it a matter of huge importance that the potential of this strategic property is fully realised.

1.2 Supporting Information

The landowners have engaged the services of Red Workshop Architecture to prepare a feasibility scheme for the site. A core objective of the brief was to consider how Fernhill House could be brought back into use by the community and how the wooded area could be integrated with the future land uses, accessible to the public in general.

The architect's design was developed with input from McCutcheon Halley Planning Consultants, Pierce McGann & Company Consulting Civil | Structural Engineers, Traffic Wise and Charles McCorkrell Arboricultural Consultancy.

The proposed scheme is described in Section 4.5 of this Submission Request.

This submission is accompanied the following and should be read in conjunction with same :-

- Feasibility Scheme and Design Note prepared by Red Workshop Architecture
- *Traffic Report - Traffic & Transport Appraisal* prepared by Traffic Wise
- *Engineering Services Report* prepared by Pierce McGann & Company Consulting Civil | Structural Engineers
- *Arboricultural Report – Feasibility Assessment* prepared by Charles McCorkrell Arboricultural Consultancy.

2. Site Description

2.1 Site Location

The subject lands comprise Fernhill House and its grounds. The site is located in Wicklow, northwest of the town, in the townland of Glebe. The site is accessed from the Dublin Road (R750).

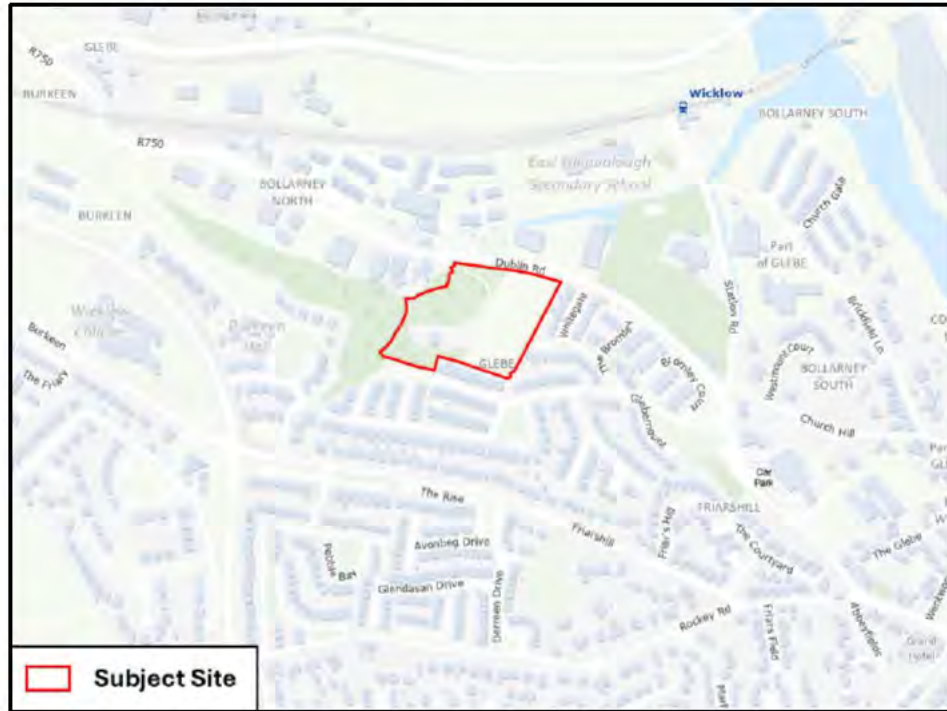


Figure 1: Site Location (Source: MyPlan)

The subject lands are a 10 min (c. 750m) walk from Wicklow Train Station, a 15 min (c. 1km) walk from Wicklow Town Centre (Fitzwilliam Square), and a 30 min (c. 2km) walk from Rathnew Village Centre.

Land uses to the north of the subject lands are predominantly a mix of retail and community use (including a supermarket, a leisure centre, a post-primary school, and the Wicklow County Council offices) with a small degree of residential development. To the south of the site, development is overwhelmingly residential in nature, with the “Glebemount” development adjoining the site at its southern and eastern boundaries.



Figure 2: Site Context Map (Source: MHP GIS Team)

2.2 Description of Site

The subject lands, which measures c. 3.17 Ha, comprises of Fernhill House and its grounds. It is roughly split between two character areas.



Figure 3: Subject Lands Map (Source: MHP GIS Team)

The eastern portion of the lands comprises a garden / open field which is largely overgrown.



Figure 4: Views across eastern extent of Subject lands

The western part of the site comprises of a mature woodland area, with Fernhill House located at the southern end.

Fernhill House, a period house, and grounds were utilised by a local branch of the Catholic Girl Guides since the 1950s. This was their meeting place / hub. Other girl guide branches also used Fernhill House as a retreat / hostel location. The house was vandalised and set on fire in 2004 and has remained vacant since.

Fernhill House is not included on the Record of Protected Structures or listed on the NIAH Record.



Figure 5: Western Portion of Subject Lands

The wooded area to the north of Fernhill House and a sliver of lands to the south of the house (Refer to Figure 3) are covered by a Tree Preservation Order (TPO 49) under the County Development Plan and comprise of:-

“TPO 49 - Large mature woodland consisting of mature oak, ash, sweet chestnut, beech and sycamore.”

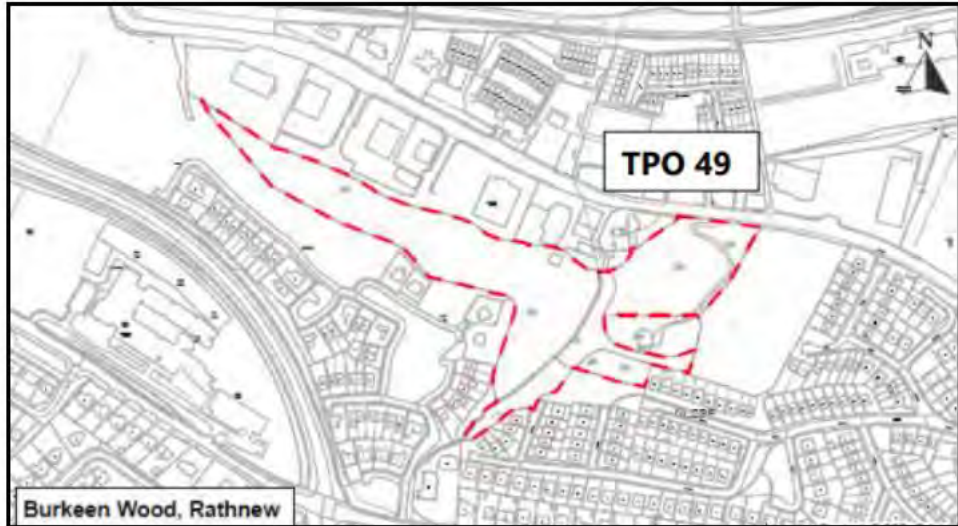


Figure 6: Extent of Tree Preservation Order (Source: Wicklow CDP)

There is a steep gradient across the site, with ground levels rising by over 20m from north to south. This gradient is most extreme in the northwest of the site, adjacent to the boundary with the Dublin Road. The level of the site also drops sharply to the west, adjacent to the stream which marks the western boundary of the site.



Figure 7: Topographical Map (Source: MHP GIS Team)

There are no sites or monuments recorded within the grounds.

A planning history search revealed no recent planning applications on the Subject Lands.

3. Feasibility Scheme

3.1 Introduction

A feasibility scheme has been developed for the site. This has been developed by Red Workshop Architecture with input from McCutcheon Halley Planning Consultants, Pierce McGann & Company Consulting Civil | Structural Engineers, Traffic Wise and Charles McCorkrell Arboricultural Consultancy.

Fernhill House and options for bringing this back into use by the community was a core objective of the study. The feasibility scheme was also to consider ways to integrate the wooded areas with the future landuses and make them accessible to the public in general.

The following description should be read in conjunction with the reports submitted with this submission to the Draft LAP and Variation No. 2 of the CDP:-

- Feasibility Scheme and Design Note prepared by Red Workshop Architecture
- Traffic Note prepared by Traffic Wise
- Engineering Service Report prepared by Pierce McGann & Company Consulting Civil | Structural Engineers
- Arboricultural Report – Feasibility Assessment prepared by Charles McCorkrell Arboricultural Consultancy.

The Architect describes the proposed scheme as a *‘development that is both respectful of the site’s heritage and forward-thinking in its design.’* The following factors were considered in arriving at the preferred design:-

- Preservation of the Woodland;
- Integration with the landscape;
- Sustainable Design; and
- Community engagement.

Refer to the enclosed submission from Red Workshop for further information.

3.2 Land Use and Site Layout

A residential and community development has been identified for the site.

The scheme designed by Red Workshop Architecture, as per Figure below, includes residential on the greenfield eastern side of the site.

The lands around Fernhill House are proposed for community and education uses (described in further detail in sections below), with the grounds east of the house and including 2 no. trees to be retained including a playground for use by both Fernhill House and the future residents.



Figure 8: Feasibility Study - Proposed Site Layout (Extract from Proposed Site Plan prepared by Red Workshop).

Residential

The residential development incorporates a mix of housing types, with duplex and apartment living proposed adjacent to the Dublin Road, and terraced housing as you progress into the site.

Building heights have been designed with consideration to site levels and adjoining properties, to avoid overlooking and overshadowing and ensure a comfortable living environment for new residents.

The design of the terraced houses proposes narrow plots with vehicular access on the lower northern side of the block. Bicycle storage and direct access to living spaces and private outdoor spaces are located at the higher-level southern side of the block.

The terraces are broken up by a series of courtyards stepping down the slope. This creates a network of interconnected spaces and enhances pedestrian connectivity through the public realm.



Figure 9: 3D Render of feasibility scheme, looking south (Source: Red Workshop Architecture)

Refer to the *Design Note and Proposed Site Plan* prepared by Red Workshop for further details, including the reference images below.



Figure 10: Reference Project – Goldsmith Street, Norwich, England. This project emphasizes the importance of community and public space, fostering social interaction and creating a sense of neighbourhood.



Figure 11: Reference Project – Halen Estate, Bern, Switzerland. This project demonstrates how to effectively integrate a dense residential development into a sloping site.

Community / Educational

Fernhill House is to be renovated and brought back into use as a community / educational facility. The landowners have identified a potential use for Fernhill House as an education centre and / or 'Forest School'. This was identified through engagement locally and discussions with similar operators. Further details on the 'Forest School' concept and suitability of this site for the proposed use are provided in Section 3.4 below.

No change is sought to the wooded area along the western extent of the site, and south of Fernhill House. This is zoned *OS2 Natural Areas* in the Draft LAP - it is proposed to utilise this as a natural amenity area for the future residents and local community.

As noted previously in this submission, the lands have been considered by Charles McCorkrell Arboricultural Consultancy and an *Arboricultural Report – Feasibility Assessment* accompanies this submission.

3.3 Housing Mix and Density

A total of 61 no. units is included in the feasibility scheme prepared for the site. This includes a mix of housing typologies and sizes is proposed with duplex and apartments adjoining the Dublin Road (14 no. duplex and 8 no. apartments) and 33 no. terraced houses as you step up the site. The terraced

houses are a mix of 2 and 3 bed units. 6 no. 4 bed houses / villas are also included.



Figure 12: Feasibility Study - Proposed Residential Layout (Extract from Proposed Site Plan prepared by Red Workshop).



Figure 13: Massing of feasibility scheme, looking south (Source: Red Workshop Architecture).

A density of 40 units per hectare is proposed in the scheme. This figure is based on the net density of the residential lands and does not include the wooded / natural space areas.

This density accords with the mid range density applicable to the site, defined as a “Suburban/Urban Extension” location in the *Sustainable Residential Development and Compact Settlements Guidelines 2024* where a density of 30-50 dwellings per hectare is recommended.

It is noted that the site is also c.800 metres from Wicklow Railway station where planned high-capacity services include the extension of DART services to Wicklow. This is set out in the *Greater Dublin Area Transport Strategy 2022-2042, Measure RAIL3*. Under Table 3.8 of the Compact Settlement Guidelines, these sites are identified as the locations for the highest densities.

The proposed density is also reflective of character of the site and the rise in levels into the site from the Dublin Road.

3.4 Community / Educational Use

Fernhill House is to be renovated and brought back into use as a community / educational facility. The landowners have identified a potential use for Fernhill House as a ‘Forest School’. This was identified through engagement locally and discussions with similar operators.

The development of Forest School learning in Ireland has grown in popularity in recent years, with services ranging from after school clubs, weekend sessions, school tours and camps to daily childcare services.

A Forest School is defined by the Irish Forest School Association¹ as:-

“Forest School is a learner-centred or child-led process with close links to regular curriculum objectives.

The success of Forest School is to a large degree dependent upon the skills of the Forest School leaders who can identify and capitalise on the varied opportunities for learning that emerge from the children’s interaction with the setting.

The philosophy of Forest Schools is to encourage and inspire individuals of any age through positive outdoor experiences.

By participating in engaging, motivating and achievable tasks and activities in a woodland environment each participant has an opportunity to develop intrinsic motivation, sound emotional and social skills. These, through self-awareness can be developed to reach personal potential.”

One of the key principles of a forest school is that it *‘takes place in a woodland or natural environment to support the development of a relationship between the learner and the natural world.’*

¹ www.irishforestschoollassociation.ie



Figure 14: Forest School - children (Source: Wexford Forest School)

It is also envisaged that Fernhill House and the woodland / Natural Area, including the riparian zone, could be used as an educational space. As part of the junior and leaving certificate curriculum for science students, ecology fieldtrips are required to a grassland, wetland or woodland site. This can be provided on site and will be attractive not just to the schools in the immediate vicinity of the site but a wider area.

Finally, our clients would like to see the wooded area open to the public, with walking routes included and the potential for connections to the surrounding established residential areas and Burkeen Woods.

3.5 Access and Roads

The following description should be read in conjunction with the *Traffic Report - Traffic & Transport Appraisal* prepared by TrafficWise and accompanying with this Submission.

The site is currently accessed via an entrance off the R750 Dublin Road. This is the historical access to Fernhill House through the woodland area.

A new access is proposed for the site, approximately 100m east of the exiting access. This has been designed by Traffic Wise and details are included in the accompanying *Traffic Report - Traffic & Transport Appraisal* by TrafficWise.

A new pedestrian crossing is proposed between the site and the Lidl / Sports Direct entrance. There are currently no pedestrian crossings on R750 Dublin Road locally.

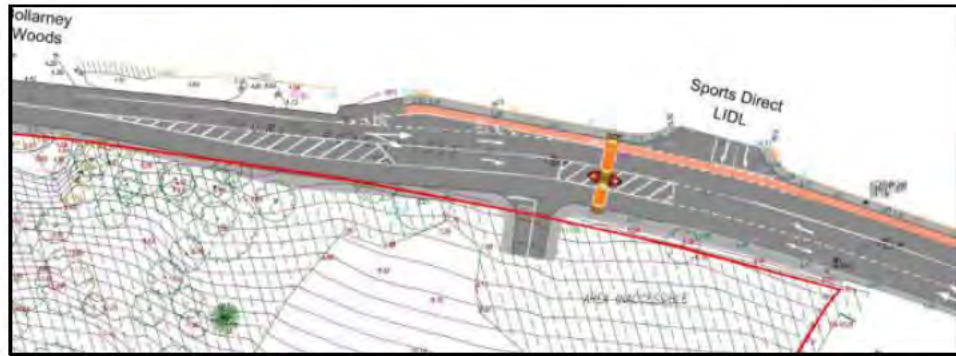


Figure 15: Proposed Access (extract from Figure 3.2 of *Traffic Report - Traffic & Transport Appraisal* by TrafficWise).

This design has taken into account the recommendations of the Local Transport Assessment with respect to R750 Dublin Road (Segment 2) and allows potential set back to achieve the desired cross sections, including footpaths and cycleways. Refer to Section 3.2 of the *Traffic Report - Traffic & Transport Appraisal* submitted.

The site topography necessitates the internal spine road to follow a winding ascent from R750 Wicklow Road. This heavily influenced the design and siting of the proposed housing units.

The internal road links respect the DMURS principles and standards through a carefully aligned 5.5m circulating carriageway width for the main spine road, connected to R750 Dublin Road. A mix of shared streets with adjoining footways or segregated pedestrian areas links housing units to the main spine road and potentially to the exiting footway network of Glebemount to the east.

See Figure below.



Figure 16: Internal access routes (Extract from Figure 5.1 of the *Traffic Report - Traffic & Transport Appraisal* by TrafficWise).

The roads and site layout demonstrated in the feasibility study, designed collaboratively by the architects, engineers and traffic consultants, show how the site aligns with DMURS, creates a sustainable community with safe and pleasant walking and public transport networks, reducing the reliance on private cars, especially for local movement, and overall creates a pleasant living environment.

Refer to Section 5.2 of the *Traffic Report - Traffic & Transport Appraisal* submitted for further details.

3.6 Engineering Services

Pierce McGann & Company Consulting Civil |Structural Engineers have advised on the suitability of the site to be developed and serviced. They have provided input into the proposed site plan described above and also prepared *Engineering Services Report* to accompany this submission to the Draft LAP and Variation No. 2 of the CDP.

3.6.1 Surface Water

The report proposes a number of Sustainable urban Drainage System (SuDS) measures to treat surface water through evaporation, infiltration, and attenuation. These measures include rainwater harvesting, permeable paving, bioretention areas, tree pits and swales. Suds integrated reed beds are proposed in the woodland area and offer a natural and effective management option for the site.

The use of the woodland area for natural attenuation has been discussed with the arborist and is considered an appropriate solution which can add to the biodiversity value of the habitat. It is proposed that these works would be undertaken without the need to remove any trees of value.

All stormwater generated on the developed site will be attenuated such that the quantity of surface water discharged is restricted to that which can be expected from an “undeveloped” site for a 1 in 100 storm event.² The proposed SuDS measures will also ensure that discharged water will be of a high quality. The surface water sewer network provided for the proposed development will be entirely separated / independent from the foul water sewer network.

In summary, the Engineering Services Report concludes that a fully compliant development can be designed for the subject lands and constructed wholly in compliance with the Wicklow County Development Plan 2022-2028 and the Greater Dublin Strategic Drainage Study.



Figure 17: Potential Surface Water Drainage Design

3.6.2 Foul Sewers

The proposed development will connect to the existing foul sewer line on the Dublin Road, directly adjacent to the subject lands. Capacity is available in Wicklow Town to service this development, according to the UÉ Wastewater Treatment Capacity Register.

² Including an additional 30% allowance for climate change and a 10% allowance for urban creep.

The surface water sewer network provided for the proposed development will be entirely separated / independent from the foul water sewer network.

3.6.3 Water Mains

is the proposed development will connect to the existing water main on the Dublin Road, directly adjacent to the subject lands. The UÉ Water Supply Capacity Register confirms capacity is available to service this development.

3.6.4 Flood Risk

Map no. 4 of the Flood Risk Assessment accompanying the Draft LAP demonstrates that there is no risk of flooding on the subject lands.

3.6.5 Conclusion

The *Engineering Services Report* concludes that residential development on this site can be carried out in compliance with the Wicklow County Development Plan 2022 – 2028 and taking full cognisance of the Draft Wicklow Town – Rathnew Local Area Plan 2025

4. Rezoning Request

4.1 Purpose of this Submission

Under the Draft Wicklow Town - Rathnew LAP 2025, the subject lands are zoned *Community & Education (CE)* and *Natural Areas (OS2)*, as shown in the Figure below.

This submission requests a change in zoning for c.1.6 Ha of these lands from *Community & Education (CE)* to *New Residential Priority 1 (RN1)*.

The lands which are the subject of this request are outlined in yellow on Figure below).

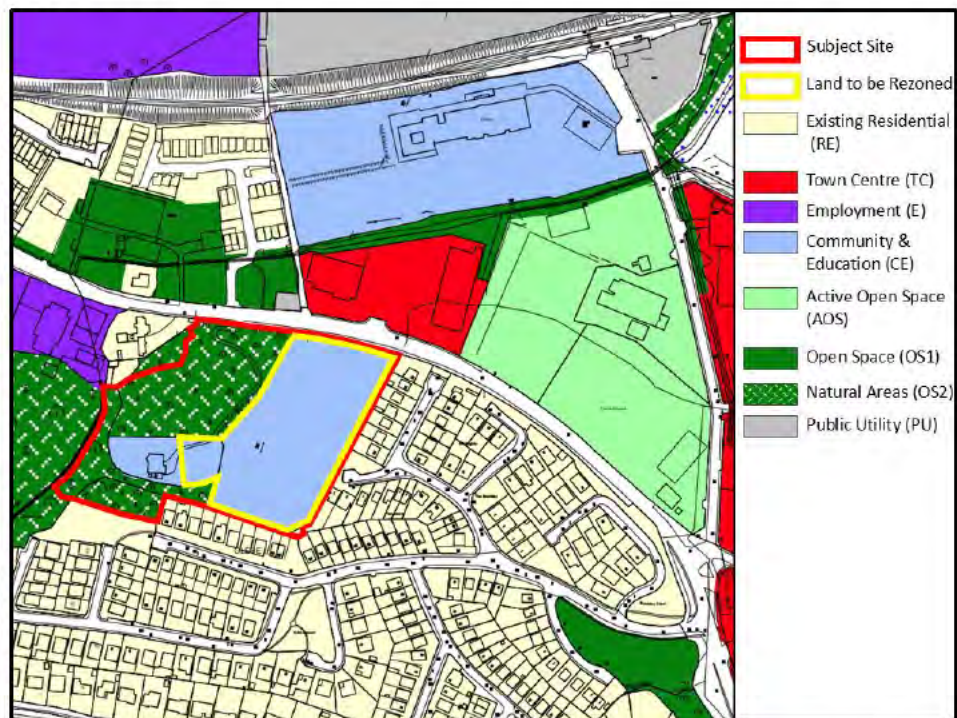


Figure 18: Residential Zoning change sought for c. 1.6 ha, outlined yellow, to the Draft LAP (Source: Draft LAP)

No change is sought for the lands immediately surrounding Fernhill House, which would remain in community use on *Community & Education (CE)* zoned lands, c. 0.2ha.

The wooded area to the south of Fernhill House and along the western extent of the site is zoned *Natural Areas (OS2)* under the Draft LAP. No change is sought to this zoning; it is proposed to utilise this as an amenity area in conjunction with the future use of Fernhill House, the future residents and the general public.

This submission is also seeking the removal of the subject lands from the list of Sites Initially Identified for the Delivery of Schools (LAP Page 49 and Appendix 2, Table 2.10).

Proposed Additional Lands Zoned Community & Education (CE)	
School name	Area (Ha)
Marlton Road (designated school site)	3.5ha
Ballybeg (designated secondary school site)	5ha
Rosanna Lower (designated school site)	2ha
Girl Guides Site, Dublin Road	1.7ha
Merrymeeting (east of Rathnew Graveyard)	2.5ha
Dominican Convent	21ha
Bollarney	1.1ha

Zoned Undeveloped Land for a School		
Location	Zoning	Area (ha)
Marlton Road, Ballynerrin Lower	Community & Education	3.5
Ballybeg, Rathnew	Community & Education	5
Rosanna Lower	Community & Education	2
Other CE zoned lands		
Location	Zoning	Area (ha)
East of Rathnew Graveyard	Community & Education	2.7
Fernhill House	Community & Education	1.7
Drumkay Road	Community & Education	1.1
Dominican Convent	Community & Education	23

Table 2.10 Zoned Undeveloped Land for Schools

5. Rationale for Submission Request

The justification for the requested residential zoning change is outlined in the material below.

5.1 Policy Context

The National Planning Framework – Project Ireland 2040 (2018) was prepared and published by the Department of Housing and Local Government on behalf of the Government. The National Planning Framework, most commonly known as the NPF, was established in tandem with Project Ireland 2040 in order to establish a policy and planning framework for the development of Ireland socially, economically and culturally.

One of the ultimate objectives of the NPF is to guide the future development of Ireland, considering a projected 1 million increase in the Country's population, the need to create 660,000 additional jobs to achieve full employment and a need for 550,000 more homes by 2040.

The NPF is currently under review, with the *Draft First Revision to the National Planning Framework* published in July 2024 for public comment. The *Updated Draft Revised National Planning Framework*, incorporating the draft schedule of amendments arising from this public consultation, was published in November 2024. This document remains subject to finalisation following environmental assessment. A *Draft Schedule of Proposed Amendments to the Draft Revised National Planning Framework published on 10th July* was also published.

5.2 Population and National Housing Targets

It is noted that the Draft Wicklow Town – Rathnew LAP is framed in the context of the population and housing targets established in the existing Core Strategy of the Wicklow County Development Plan.

The 2022 Core Strategy considered there was an oversupply of residential zoned lands relative to the housing targets in the Wicklow Rathnew Area and proposed that the 'remaining surplus' would be addressed in next LAP.

Since the adoption of the Plan, it is widely agreed that the population projections and housing targets nationally and locally are at odds with the Census data and housing needs.

Arising from this, the ESRI published revised population projections, utilising the results of Census 2022 and new housing targets were set by the Government.

5.2.1 ESRI Population Projections

As shown in the table below, the revised annual housing demand projections for Wicklow under the 2024 ESRI Report are c.37% increase on previous projections under the Baseline Scenario, and c.45% increase on previous projections under a High Migration Scenario.

Table 1: Household Projections to 2040 under ESRI's 2020 and 2024 reports ('000 per annum)

	Baseline Scenario			High Migration Scenario		
	2020	2024	Change	2020	2024	Change
Wicklow	830	1,135	+37%	980	1,420	+45%
EMRA	14,297	22,935	+60%	16,279	28,829	+77%
State	27,590	41,850	+52%	31,624	52,870	+67%

5.2.2 Housing Targets

Following agreement by the Government, new housing targets were published last week in the *Updated Draft Revised National Planning Framework*.

A baseline population growth target of an additional 950,000 people by 2040, over the 2022 Census baseline is estimated. This is an uplift of c.250,000 over the population targets in the original NPF and will bring the State population to c. 6.1million people by 2040.

To support this population target, the Draft Revised NPF includes a National Policy Objective (NPO) to deliver an average of 50,000 homes per year up to 2040.

NPO42 - To target the delivery of housing to accommodate approximately 50,000 additional homes per annum to 2040.

The cabinet recently agreed targets for the next 6 years of 305,000 homes by 2030, with incremental growth from 2025 of 41,000 homes, increasing to 43,000 in 2026, 48,000 in 2027, 53,000 in 2028, 58,000 in 2029 and 60,000 in 2030. These are noted as minimum targets and not ceilings.

The current Core strategy upon which the population projections, housing targets and extent of residential zoned lands in the Draft Wicklow Rathnew LAP is based upon a previous target of 33,000 homes per year.

Conclusion

This LAP needs to align with the revised population projections and new housing targets to ensure that the unmet demand is catered for and future demand is provided for.

Recent trends show that population growth is set to continue to have regard to the young demographic profile and a return to net inward migration.

We consider this projection to be the minimum level of housing required to serve Wicklow during this timeframe given the location of the County, the availability of public transport and the proximity to Dublin. We further consider that the growth in remote working will also result in an increase in the population of Counties in close proximity to Dublin.

5.3 Housing Delivery Rates

In September 2024, *Residential Land Availability: An Assessment of Residential Land Provision in Ireland* was released. This Report, prepared by Goodbody, analysed the relationship between theoretical potential housing delivery on residential zoned lands, and actual housing delivered. This analysis suggests that the quantity of residentially zoned land may not be sufficient to meet housing demand in Ireland.

The total possible number of housing units which could be delivered on residentially zoned lands (the “Housing Yield of Zoned Lands”) was calculated through the published number of permitted units from the relevant planning application documents or, where no permission existed, the location and size of each land parcel zoned for residential development, and a densities range based on the Sustainable Residential Development and Compact Settlements Guidelines for Planning Authorities (2024) and recent planning applications.

The authors of the Goodbody Report found that the Housing Yield of Zoned Lands in Wicklow fell from 27,882 units under the 2016-2022 CDP to 23,623 units under the current (2022-2028) CDP (see Figure below). This implies that less land is available for the development of housing in Wicklow under the current development plan.

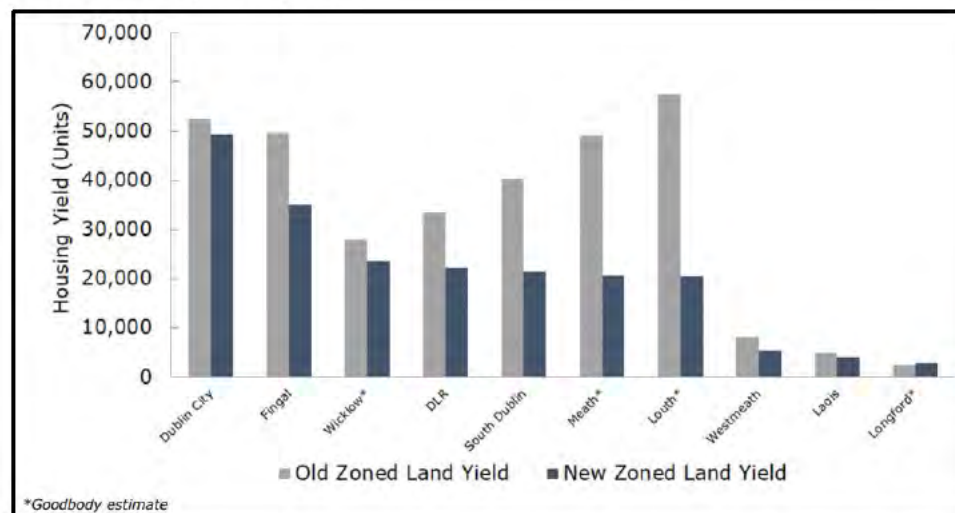


Figure 19: Comparison of Housing Yield of Residentially Zoned Lands in EMRA Under Current and Previous CDPs (Adapted from pp.41, Residential Land Availability, Goodbody, 2024)

Critically, using the number of housing units delivered over the lifetime of the previous CDP, we can compare the proportion of the Housing Yield of Zoned Lands which was actually delivered under the previous CDP and the proportion of Housing Yield of Zoned Lands required to be delivered under the current CDP to meet Housing Supply Target for 2022-2028.

The authors found that 20.3% of the Housing Yield of Zoned Lands were delivered in Wicklow under the previous 2016-2022 CDP; this was referred to as the “Historical Zoned Completion Rate”. In contrast, 35.8% of the Housing Yield of Zoned Lands are required to be delivered in Wicklow under the

current 2022-2028 CDP to meet Housing Supply Targets; this was referred to as the “Implied Zoned Completion Rate”. The below table shows this calculation.

Table 2: Comparison of Historic and Required Housing Delivery on Residential Zoned Lands (Adapted from pp.48-49, Residential Land Availability, Goodbody, 2024)

		Wicklow	State
Historic Delivery on Residential Zoned Lands	Housing Yield of Zoned Lands (Previous CDPs)	27,882	398,365
	Completions Over CDP Lifetime	5,664	70,952
	Historical Zoned Completion Rate	20.3%	17.8%
Required Delivery on Current Residential Zoned Lands	Housing Yield of Zoned Lands (Current CDPs)	23,623	286,904
	CDP Housing Supply Target	8,467	184,973
	Implied Zoned Completion Rate	35.8%	64.5%

The gap between the national Historical Zoned Completion Rate and the Implied Zoned Completion Rate (17.8% vs. 64.5%) is significantly more severe than that of Wicklow (20.3% vs. 35.8%). Nonetheless, the increase suggests that housing delivery in Wicklow is unlikely to meet the current Housing Supply Target without an increase in the rate of housing completion.

Further, it important to note that these calculations utilise current HST figures and therefore do not reflect the anticipated increase in housing demand under ESRI 2024 data. The authors of the Goodbody Report therefore recommend that the quantity of serviced, residentially zoned land available for development under CDPs and LAPs should be increased in the Eastern and Midlands Region to meet both housing demand projections from the 2024 ESRI Report, and the higher housing demand projections recommended by the authors.

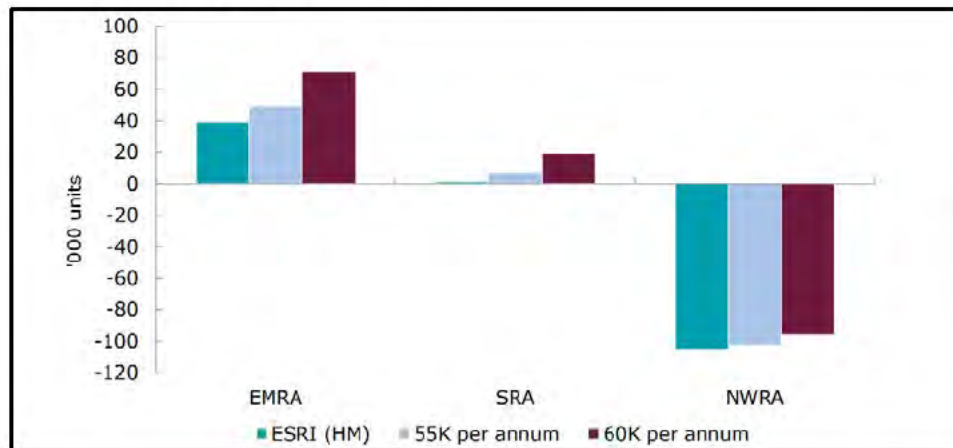


Figure 20: Estimated additional land requirements by region to meet housing delivery targets (Source: p.10, Residential Land Availability, Goodbody, 2024)

Finally, the authors of the Goodbody Report also recommend that a buffer of at least 40% of the total serviced, residentially zoned land required should be provided, to account for stalled delivery of residential units due to planning, servicing and viability issues.

Conclusion

Promoting the zoning of additional residential lands is a critical step in meeting housing supply targets, supporting compact urban growth, and addressing the housing crisis in a proactive and practical manner.

5.4 Sustainable and Compact Growth

The delivery of housing within and close to the existing ‘footprint’ of built-up areas is the concept of sustainable and compact growth.

This concept is set out in the NPF, the Updated Draft Revised NPF and in the *Sustainable Residential Development and Compact Settlements Guidelines 2024*.

As with the original NPF, the Updated Draft Revised NPF prioritises compact growth. For settlements outside of the five Cities, including Wicklow-Rathnew, it is a National Policy Objective to deliver a minimum of 30% of total housing allocation within the existing built-up footprint:

NPO 9: *Deliver at least 30% of all new homes that are targeted in settlements other than the five Cities and their suburbs, within their existing built-up footprints and ensure compact and sequential patterns of growth.*

In tandem with this, it is a National Policy Objective to increase the residential density of existing settlements through forms of compact development, such as infill development and regeneration:

NPO 45: *Increase residential density in settlements, through a range of measures including reductions in vacancy, re-use of existing buildings, infill development schemes, area or site-based regeneration, increased building height and more compact forms of development.*

Under National Policy Objective 15 of the Updated Draft Revised NPF, population growth is encouraged within strong employment and service centre, such as Key Towns. Wicklow-Rathnew is classified as a Key Town under the Eastern and Midlands Regional Spatial & Economic Strategy.³

Conclusion

The site at Dublin Road is located within the existing built up footprint of Wicklow and is a natural extension of the residential uses on the lands to the east and south. The Wooded area will be maintain and this will act as a green belt / natural break between the residential area and the commercial units on Dublin Road to the west.

³ Eastern and Midland Regional Assembly Regional Spatial & Economic Strategy (RSES)

This is also a prime infill site, with c.1.6ha of lands suitable for residential use. The site is also proximate to the town centre, with local shopping services and educational facilities within walking distance.

The site is also located c.800metres from Wicklow Railway station where planned high capacity services include the extension of DART services. Under Table 3.8 of the Compact Settlement Guidelines, these sites are identified as the locations for the highest densities.

5.5 Transport Oriented Development

5.5.1 Definition and Principles of TOD

Transport Orientated Development (TOD) is a concept that has been introduced within the Draft NPF. It is defined as follows:-

“Transport orientated development is a form of urban development that seeks to maximise the provision of housing, employment, public services and leisure space in close proximity to frequent, high quality transport services.”

(Source: Updated Draft Revised NPF, p.19)

It is a National Policy Objective of the Updated Draft Revised NPF to deliver TOD within the five cities and metropolitan towns:

National Policy Objective 10: Deliver Transport Orientated Development (TOD) at scale at suitable locations, served by high capacity public transport and located within or adjacent to the built up footprint of the five cities or a metropolitan town and ensure compact and sequential patterns of growth.

The Updated Draft Revised NPF supports the ***“delivery of new sustainable communities at brownfield and greenfield locations along existing or planned high capacity public transport corridors within the metropolitan area, with a particular focus on TOD opportunities along high-capacity rail corridors”*** (Source: Updated Draft Revised NPF, p.152).

The Updated Draft Revised NPF acknowledges that while locations outside of metropolitan areas, such as Wicklow-Rathnew, may not be suitable for large-scale TOD, ***“the principles of TOD should be applied at local level to support compact development, sustainable mobility and climate targets”*** (Source: Updated Draft Revised NPF, p.153).

5.5.2 Climate Action Plan

The delivery of TOD is critical in combatting climate change through the “Avoid-Shift-Improve” (ASI) framework for transport sustainability, introduced in the Climate Action Plan 2023. The ASI framework prioritises, in order,

1. Avoiding or reducing the need for travel,
2. Shifting to more environmentally friendly modes, and
3. Improving the energy efficiency of vehicle technologies.

TOD contributes to both the principle of “Avoid” (through increased densities and the co-location of housing, services, and employment, reducing the length of commutes and other trips), and of “Shift” (through the delivery of housing, services, and employment within the catchment of public transportation, providing an alternative to private vehicles).

5.5.3 Local Policy Context

The Wicklow CDP contains a number of policy objectives promoting the principles of TOD:

CPO 4.5 *To ensure that all settlements, as far as is practicable, develop in a self sufficient manner with population growth occurring in tandem with physical and social infrastructure and economic development. Development should support a compact urban form and the integration of land use and transport.*

CPO 12.1 *Through coordinated land-use and transport planning, to reduce the demand for vehicular travel and journey lengths by facilitating initiatives like carpooling and park and ride.*

To support these objectives, the Wicklow CDP Settlement Strategy allocates over 75% of projected population growth for the county to settlements along the Dublin-Rosslare rail line, such as Wicklow-Rathnew.

The draft Wicklow-Rathnew LAP also supports the principles of TOD. The accompanying Transport Assessment states the following:

“Integrating land use planning with transportation is key to addressing climate change, supporting economic prosperity and improving quality of life. Reducing the need to travel, especially long distances, by private car, and increasing the use of sustainable and healthy travel alternatives, can bring multiple benefits to our climate, local environment and communities.”

(Draft LAP Appendix 1, p.3)

5.5.4 Proposed Dart Extension to Wicklow

As noted above, the site is located c.800metres from Wicklow Railway station.

Under the *Greater Dublin Area (GDA) Transport Strategy 2022-2042*, it is proposed to extend the existing electrified DART service south from its current terminus at Greystones to serve Wicklow:

Measure RAIL3 – DART Extension: *The NTA and Irish Rail will, over the lifetime of the Strategy, extend the DART to deliver electrified rail services to the following towns:*

- Sallins / Naas;
- Kilcock; and
- Wicklow

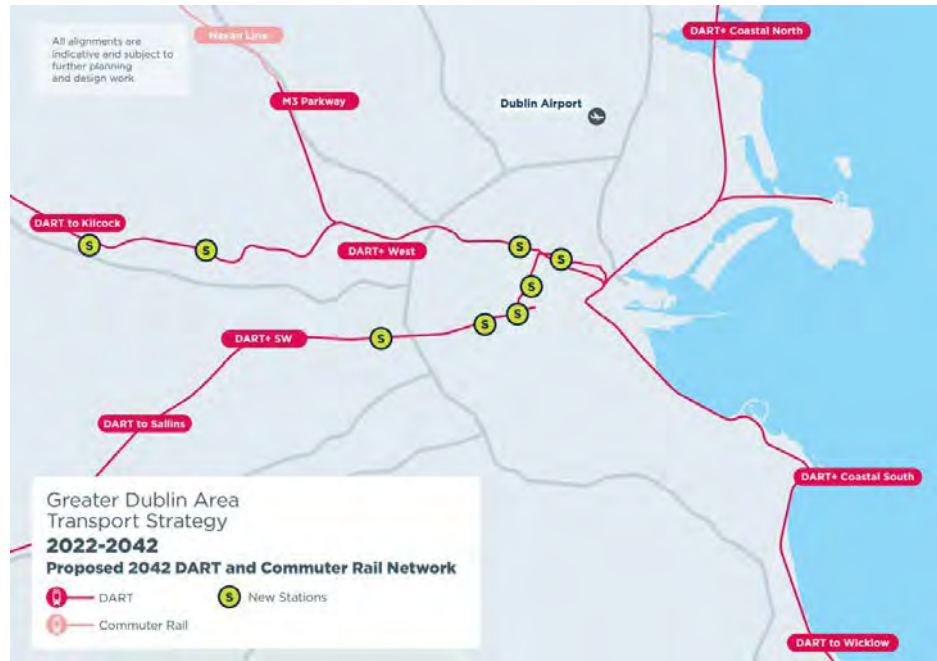


Figure 21: Proposed 2042 DART and Commuter Rail Network (Source: GDATS Figure 12.8)

The *All-Island Strategic Rail Review (AISRR)* (ARUP, 2024) was prepared on behalf of the Minister of Transport for the Irish Government and the Minister for Infrastructure for the Northern Ireland Executive. The AISRR aims to inform policy and provide a future strategic vision for the railways in both jurisdictions on the island of Ireland. While the scope of the AISRR does not include detailed proposals for commuter and urban rail services, existing and planned services are considered where necessary.

In this regard, the AISRR incorporates the future expansion of the DART to Wicklow in its development proposals to improve services in the Southeast of Ireland:

“It appears that the best way forward for boosting connectivity in the South East of Ireland in the shorter term is to introduce an hourly shuttle service between Wexford and Greystones, with DART services to be extended to Wicklow.”

(AISRR, p.66)

It is also a policy objective of the current Wicklow CDP to support the proposed expansion of DART services to Wicklow Town:

WCDP CPO 12.22: *To continue to work with Iarnród Éireann and the NTA on the improvement of mainline train and DART services into Wicklow and in particular:*

- *To facilitate all options available to increase capacity through Bray Head;*
- *To support the delivery of the DART+ programme; and*
- *To support electrification of the rail line south of Greystones and the provision of high speed and high frequency services*

on the existing underutilised south east rail line to south Wicklow.

This policy objective is mirrored by the following policy objective within the draft LAP:

WTR78 *To continue to work with Iarnród Éireann and the NTA on the improvement of mainline train services to Wicklow Town station and to extend the DART services to Wicklow Town station and to provide for the significant enhancement of facilities and infrastructure at Wicklow train station, including but not limited to enhanced pedestrian and cycling connectivity and enhanced car / bike / bus parking.*

The draft LAP also includes an associated objective to reserve lands for the development of additional stations within Wicklow-Rathnew following the extension of the DART:

WTR79 *To 'future proof' the development of rail services to reserve land at (a) Rathnew (in the area west of the former Rathnew station) and (b) Merrymeeting for possible future halts / stations.*

As part of the current DART+ Programme of improvements (due to be completed in advance of the extension of the DART to Wicklow Town), it is proposed to extend services northwards from Malahide to Drogheda. A number of new battery-electric DART trainsets have been commissioned by Iarnród Éireann to permit the operation of this route in advance of the completion of the necessary overhead line equipment (OHLE) works.⁴

In April 2024 the National Transport Authority (NTA) confirmed that initial planning and design work was ongoing in order to establish the feasibility of a similar extension of DART services to Wicklow Town. Under this arrangement, one battery-electric DART per hour would continue further south beyond Greystones and terminate at Wicklow town train station. (Parliamentary Question No. 145, 18th April 2024).⁵

In a subsequent presentation to Wicklow County Council in October 2024, the NTA confirmed that planning and design work for such an extension is currently ongoing, with a detailed options report due to be published early in 2025, and services anticipated to commence within the lifetime of the draft LAP (four to five years).⁶

⁴ See <https://www.dartplus.ie/en-ie/faqs/fleet>

⁵ <https://www.nationaltransport.ie/wp-content/uploads/2024/08/NTA-Responses-to-Parliamentary-Questions-Bulletin-1-Q1-Q2-of-2024.pdf>

⁶ <https://www.wicklow.ie/Living/Your-Council/Council-Meetings/Minutes-Agendas>

Conclusion

The proposed DART Extension to Wicklow will transform the existing railway line between Greystones and Wicklow into a high-capacity public transport service. Therefore, land surrounding the stations is ideally placed to deliver Transport Orientated Development (TOD).

Given the chronic shortfall in housing supply and the National Planning Policy to focus residential, or employment, zoning on lands which adjoin high-capacity public transport services, it is submitted that the subject lands should be rezoned to permit the delivery of housing.

The subject lands are a greenfield site located c.800m walk from Wicklow Train Station and is ideally located to meet the requirements of TOD, providing for compact growth within the existing built up footprint, and meeting the definition of TOD provided in the Draft Revised NPF:-

“a form of urban development that seeks to maximise the provision of housing, in close proximity to frequent, high quality transport services.”

(Emphasis Added, Source: Updated Draft Revised NPF, p.19)

5.6 Schools Provision

The subject lands are identified in the Draft LAP as one of 7 possible sites for the potential future provision of a school.

We submit that the subject lands are unlikely to be appropriate for the delivery of such a facility, with the topography of the site rising steeply from the Dublin Road. The rising contours make a development with a large footprint difficult and expensive to build, and may necessitate extensive engineering solutions. The lands also do not lend themselves to large outdoor play areas without again applying excessive engineering solutions.

The subject lands are located less than 100m from an existing post-primary school (East Glendalough School); as such, its development as a post-primary school would represent a significant opportunity cost in terms of failing to increase the geographic spread of educational facilities. The site is also located c.650m from an existing primary school (Glebe National School) which, while a further distance, would still result in a significant overlap in their 500m walking catchment. As such, the development of this site for a school would represent an inefficient use of resources.

We have reviewed the Social Infrastructure Audit (SIA) included with the Draft LAP and note the need for additional facilities based on the capacity of the existing primary and post primary schools in Wicklow-Rathnew

Of the 7 sites identified in the Draft LAP, 3 sites excluding our clients lands on Dublin Road, have been selected for the delivery of new schools through the

spatial analysis of existing schools and existing and future residential development, and a detailed Transport Assessment.

Table 3: Community and Education (CE) Sites Initially Identified for the Delivery of Schools (Adapted from CDP, p.49 and draft LAP Appendix 2, Table 2.10)

School name	Area (Ha)	Note
Marlton Road, Ballynerrin Lower	3.5	Designated primary & post-primary school site
Ballybeg, Rathnew	5.0	Designated post-primary school site
Rosanna Lower	2.0	Designated primary & post-primary school site
Fernhill House / Girl Guides Site, Dublin Road	1.7	Other CE zoned lands
Merrymeeting (East of Rathnew Graveyard)	2.5	Other CE zoned lands
Dominican Convent	21.0	Other CE zoned lands
Drumkay Road, Bollarney	1.1	Other CE zoned lands

Across the three designated school sites alone, it is proposed to deliver three post-primary schools, and two primary schools. The identified shortfall in capacity by 2031 in the SIA is estimated to be 234 primary school places, and 38 secondary school places and, as such, this shortfall is likely to be easily absorbed by the delivery of schools on the 3 designated school sites.

Conclusion

The subject lands are unsuitable for the development of a school due to its challenging topography, high construction costs, and limited potential for outdoor play areas. Furthermore, its proximity to existing schools reduces its value in diversifying the geographic spread of educational facilities, making it an inefficient use of resources. With three alternative sites already designated for school development that collectively address the projected shortfall in educational capacity, the subject lands are unlikely to be necessary or practical for future school provision.

It is therefore requested that references to the Girl Guides Site, Dublin Road as a potential school site is removed from page 49 of the draft LAP, and from Table 2.10 of Appendix 2 of the draft LAP.

6. Conclusion

There is an urgent need to expand residentially zoned land to address Ireland's growing housing demand; to close the gap on existing shortfalls and provide for future projected housing supply targets.

The subject lands at Fernhill House offer an infill opportunity to add to the residential zoned lands provision for the town. Its location within the existing built-up footprint of Wicklow Town, proximity to key transport infrastructure make it ideally suited for residential development, in keeping with sustainable development and compact growth

This submission supports the reimagining of Fernhill House as a vibrant, sustainable community asset and we request that the proposals outlined in this submission are accepted and included in the Wicklow- Rathnew Local Area Plan.



red workshop

A22_FERNHILL WICKLOW

November 2024



PLANNING 24

00 INTRODUCTION

Document Purpose

03 PROPOSED LAYOUT SCALE, FORM AND MASSING

01 CONTEXT / SITE ANALYSIS

04 REFERENCE PROJECT+ SUSTAINABILITY

02 SITE STRATEGY

05 DEVELOPMENT SUMMARY

Development Summary

00 Introduction

DOCUMENT PURPOSE

This document presents an initial sketch design proposal for the Fernhill site in Wicklow Town. The proposal outlines the detailed design and proposed operation of the development, and sets out the massing, architectural, and landscape proposals.

The Fernhill site, situated on the northern edge of Wicklow Town, offers a unique opportunity to transform a currently underutilized site into a vibrant and sustainable development. The design approach aims to respond to the site's specific constraints and opportunities, including its historical significance, natural features, and proximity to the town center.

The proposed scheme seeks to create a development that is both respectful of the site's heritage and forward-thinking in its design. The design process has taken into account feedback from internal consultations with the design team to balance the various factors and optimize the potential of the site.

By carefully considering the site's context and the needs of the local community, the proposed development aims to create a positive impact on Wicklow Town.

Red workshop's design approach aims to be inclusive and responsive to the local context and the rare opportunity that the site presents for providing quality housing in such close proximity to the train station.

DESIGN 01

Example of a mesh screen
Image of elevation from the Dublin road
shopping stepping of site.



The Team
Applicant
Architect
Planning Consultant
Engineer (Civil, Transport)
Engineer (Civil & Structure)
Arborist

Delahunt Family
Red Workshop Architecture
McCutcheon Halley – Chartered Planning Consultants
Trafficwise
Pierce McGann & Company
Charles McCorkell

01 Context / Site Analysis

SITE LOCATION AND CONTEXT
THE EXISTING SITE AND TOPOGRAPHY
BUILDING HEIGHTS AND EXISTING SECTIONS
MOVEMENT AND SITE ACCESS
HERITAGE CONTEXT
MATERIALS, COLOURS AND TEXTURES
CONSTRAINTS AND OPPORTUNITIES

Context - How does the development respond to its surroundings?

"Any new development should improve on the existing situation, and at the same time be sensitive to its context." DEHLG - Urban Design Manual

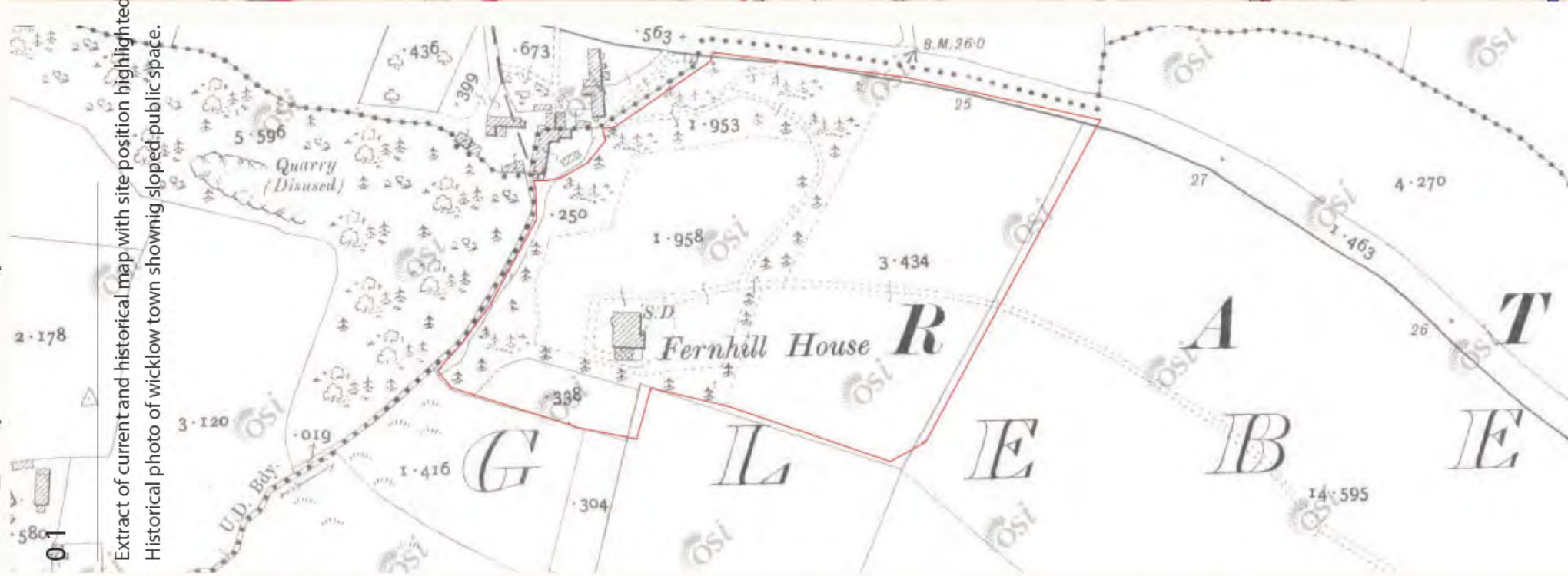
Context - Positive Indicators noted by DEHLG:

- A development should seem to have evolved naturally as part of its surroundings
- Appropriate increases in density respect the form of buildings and landscape around the site's edges and the amenity enjoyed by neighbouring users
- Form, architecture and landscaping have been informed by the development's place and time
- The development positively contributes to the character and identity of the neighbourhood
- Appropriate responses are made to the nature of specific boundary conditions.

Site Location

The Fernhill site is situated on the northern edge of Wicklow Town, a growing urban center in County Wicklow, Ireland. The site is bounded by the Dublin Road to the north, a major arterial route connecting Wicklow Town to Dublin. A shopping development is located directly across the road, highlighting the site's proximity to local amenities and services.

Approximately half of the site is covered by a protected woodland that extends to the western boundary, where the site slopes steeply and is bordered by an existing forest that has been present since at least 1837. Existing housing estates are located on the eastern and southern edges of the site, built on higher ground. The site slopes steeply from the Dublin Road to the southern edge.





“Successful neighbourhoods tend to be well connected to places, facilities and amenities that help to support a good quality of life. Such places include high quality open space and landscapes, leisure opportunities, shops – both for convenience and comparison goods, schools, places of worship, health centres and places of employment. When choosing which area to live in, most people will choose a neighbourhood that permits easy or close access to the places that they need or like to visit on a regular basis. So the quality and sustain ability of a neighbourhood can be measured by both how well it is connected to important amenities, and how pleasant, convenient and safe those links are to use.”

DEHLG - Urban Design Manual

Connections - Positive Indicators:

- There is potential for multiple routes in and out for pedestrians and cyclists
- The development is located opposite a mixed-use centre
- The development's is a short distance to bus and train services
- The layout links to existing movement routes and the places people will want to get to
- Appropriate density, dependent on location, helps support efficient public transport

SITE CONSTRAINTS AND OPPORTUNITIES

Topographical Constraints: The site is steeply sloping from north to south, presenting challenges in terms of development potential and infrastructure.

Environmental Constraints: The protected woodland on the western boundary imposes limitations on development intensity and requires careful consideration of ecological impact.

Historical Significance: The presence of the ruined Georgian house and the mature woodland adds historical and ecological value to the site.

Development Opportunities: The elevated position of part of the site offers potential for panoramic views and a high-quality residential development.

Connectivity: The proximity to the Dublin Road provides good access to the town center and surrounding areas.

Local Context

Wicklow Town is a growing town with a rich history and a strong sense of community. The proposed development should consider the town's character and contribute positively to its ongoing development.

DESIGN CONSIDERATIONS

The design of the development should be sensitive to the following factors:

Preservation of the Woodland: The existing woodland should be protected and enhanced as a valuable ecological asset.

Integration with the Landscape: The development should be carefully integrated into the surrounding landscape, minimising its visual impact.

Sustainable Design: The project should incorporate sustainable design principles, such as energy efficiency, water conservation, and the use of renewable energy.

Community Engagement: The local community should be involved in the design process to ensure that the development meets their needs and aspirations.

By carefully considering these factors, the Fernhill site can be transformed into a high-quality development that enhances the character of Wicklow Town.



01 SITE LOCATION AND CONTEXT

Context

The site is strategically located within walking distance of Wicklow Town Centre, offering easy access to a variety of shops and amenities. Additionally, the nearby Wicklow Educate Together Secondary School is within convenient reach. The surrounding area provides ample recreational opportunities, including Wicklow Harbour, Black Castle, Wicklow Golf Club, Coral Leisure Centre, and Wicklow Tennis Club.

The site's proximity to the M11 motorway and the Dublin Road enhances its accessibility. Public transportation options are readily available, with TFI 133 and Wexford Bus stops located nearby, as well as Wicklow Train Station





03 PROPOSED LAYOUT SCALE, FORM AND MASSING

DESIGN STRATEGY

Context - How does the development respond to its surroundings?

“Any new development should improve on the existing situation, and at the same time be sensitive to its context.”

DEHLG - Urban Design Manual

Context - Positive Indicators noted by DEHLG:

- A development should seem to have evolved naturally as part of its surroundings
- Appropriate increases in density respect the form of buildings and landscape around the site's edges and the amenity enjoyed by neighbouring users
- Form, architecture and landscaping have been informed by the development's place and time
- The development positively contributes to the character and identity of the neighbourhood
- Appropriate responses are made to the nature of specific boundary conditions.

03

A view from the north. The site slopes upwards 25m from the Dublin road.
View from North - Potential links to surrounding estates and potential routes through to the Dublin road

DESIGN STRATEGY

Due to the steeply sloping site, a road design was required to allow access to the ruined Georgian house with the intention of preserving it as a community space. Fernhill intends to repurpose this historic building into a community center, potentially serving as a base for a Forest School or education center focused on woodland sustainability.

Inspired by reference projects like Halen Estate and Rijnvliet Edible Neighborhood, the design proposes narrow plots with vehicular access on the lower northern side of the block. Bicycle storage and direct access to living spaces and private outdoor space are located at a higher level on the southern side of the block. The terraced houses are a mix of 2-bed and 3-bed homes, with each terrace bookended by houses designed with windows that allow passive surveillance and views of the Wicklow woodland.

A series of courtyards, stepping down the slope, breaks up the length of the terraces and creates a network of interconnected spaces. These courtyards are linked by a series of stepped “laneways,” enhancing pedestrian connectivity and creating a dynamic and engaging public realm.



Key Design Principles and Strategies

1. High-Density, Low-Rise Development:
 - o Demonstrates the potential for achieving high-density housing through low-rise, terraced housing.
 - o Minimizes the visual impact of the development and maximizes the use of the sloping site.
2. Car-Free Living:
 - o Prioritises pedestrian and cyclist access and incorporates in-curtilage parking.
 - o Reduces the need for extensive parking areas, freeing up space for green areas and community amenities.
3. Community-Oriented Design:
 - o The development of shared spaces, such as courtyards and gardens, fosters a strong sense of community among residents.
 - o The terraced layout of the houses encourages social interaction and creates a unique sense of place.

4. Sustainable Design:
 - o The integration of passive solar design principles contributes to the sustainability of the development.
 - o The use of sustainable materials and energy-efficient technologies can further reduce the environmental impact.
5. Architectural Expression:
 - o The integration of balconies and terraces provides opportunities for outdoor living and enhances the connection to the surrounding landscape.
 - o A modern aesthetic with a focus on natural and low carbon materials.
6. Community Facilities:
 - o The inclusion of shared facilities, such as community centres or playgrounds, can foster a strong sense of community.
 - o The repurposed Georgian house can serve as a focal point for community activities and events.



HEIGHT STRATEGY - CONTEXT

VIEW 01



03 PROPOSED BUILDING HEIGHTS

NEIGHBOURING PROPERTIES

The impact on neighbouring properties was a key consideration throughout the design process. Particular attention was paid to the properties on the eastern and southern boundaries.

The two-storey dwellings on the southern boundary are situated on higher ground, significantly reducing the potential for overshadowing and overlooking. The substantial elevation difference, approximately 25 meters, between the rear of the site and the Dublin Road further mitigates these concerns.

Similarly, the housing on the eastern boundary is also built on higher ground, minimizing any potential negative impacts on neighbouring properties.

To further ensure minimal impact, the proposed apartment building's roof level is set at 18.3 meters, and set back from the existing house's ridge level of 16 meters. This design choice aims to maintain a harmonious relationship with the existing context and avoid any undue impact on neighbouring properties.

DESIGN 03

Diagram
This shows the massing

VIEW 01

PROPOSED LAYOUT



DUBLIN ROAD

0m 50m



SuDS integrated
reed beds, offer a
natural and
effective
alternative to
traditional
attenuation tanks
for managing
stormwater
runoff.

Nature inspired
playgrounds with
tree pits and rain
gardens

Intensive Green
roof Community
garden and
carpark below

Intensive Green
roof Community
garden and
carpark below

Shared
community space
with lush
landscaping and
urban furnishings

Rain gardens
combined with
street trees pits
to create a SuDS
corridor

Rain gardens
combined with
street trees pits
to create a SuDS
corridor

Shared
community space
with lush
landscaping and
urban furnishings

Rain gardens
combined with
street trees pits
to create a SuDS
corridor

Rain gardens
combined with
street trees pits
to create a SuDS
corridor

All visitor parking
grass crete or
similar

Rain gardens
combined with
street trees pits
to create a SuDS
corridor

Nature-inspired
playgrounds with
tree pits and rain
gardens

Rain gardens
combined with
street trees pits
to create a SuDS
corridor

Shared
community space
with lush
landscaping and
urban furnishings

Ground Floor - Option 2

PROPOSED LAYOUT



A22_Fernhill Wicklow



Policy Submission 2024

PROPOSED LAYOUT 03- ROUTES + VIEWS



A series of courtyards, shown here in rust step down the slope, linked by a series of stepped "laneways," create a network of interconnected spaces.

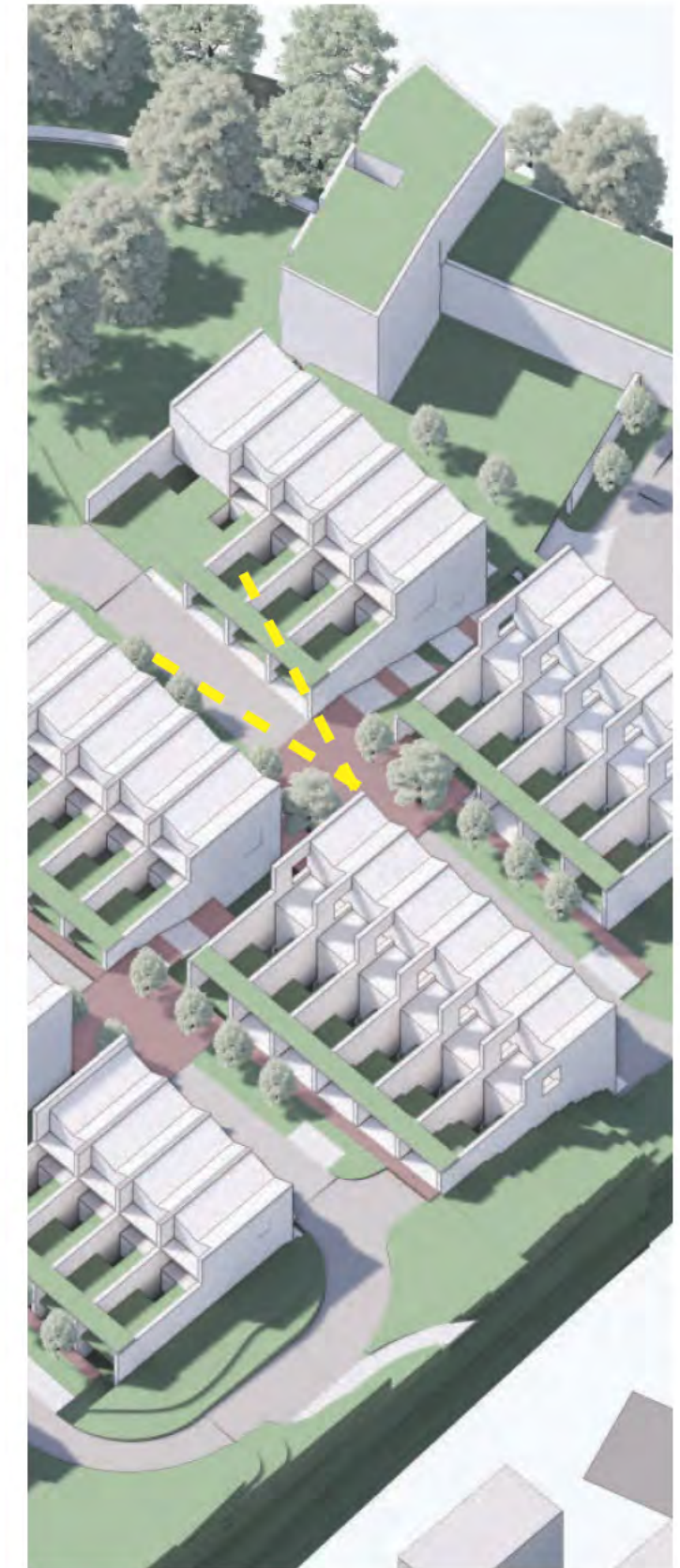


PROPOSED LAYOUT 03- VIEWS



vehicular access and in-curtilage parking.
on the lower northern edge of the block.

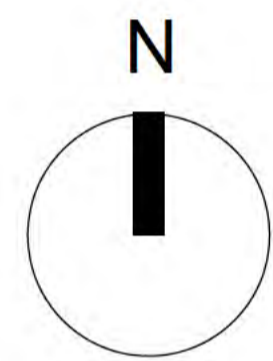
Bicycle storage and direct entrance to living spaces



The terraces houses are split level with south facing terraces, courtyards and terraces. The design proposes narrow plots with vehicular access on the lower northern side of the block. Bicycle storage and direct access to living spaces and private outdoor space are located at a higher level on the southern side of the block



0m 50m



Ground Floor - Option 2
1 : 500

Housing Type Units	
4 bed Villas	6
Terrace houses	33
Duplex	14
Apartments	8
Total	61

Notes:
 - Do not scale from this drawing. Use figured dimensions in all cases.
 - Verify dimensions on site and report any discrepancies to the Architect immediately.
 - This drawing to be read in conjunction with the Architect's Specification.
 - © This drawing is copyright and may only be reproduced with the Architect's permission.

Drawing Notes:

Issues & Revisions			
Rev	Date	Drawn	Details of Issue / Revision

red workshop
 E: info@redworkshop.ie

Client Details:
Delahunt Family

Project Details:			Drawing Title:	
Fernhill Wicklow			Proposed Site Plan,	
Job No. A249	Sheet Size A1_	Scale @A1: 1 : 500	Status	Purpose of Issue
Issue Date: 14/11/24	Drawn By: cr	Reviewed By: cr		Revision

A REFERENCE PROJECT GOLDSMITH STREET - MIKHAIL RICHES HAWLEY

Goldsmith Street, a multi-award-winning social housing scheme in Norwich, England, offers a compelling reference point for the Fernhill project. Designed by Mikhail Riches Hawley, this development provides a model for affordable, high-density housing that prioritizes sustainability, community, and architectural quality.

A key design principle of Goldsmith Street is its orientation towards passive solar gain. Each dwelling faces south, maximizing solar energy absorption and reducing the need for artificial heating. The scheme's compact, terraced form, coupled with careful detailing, has enabled it to achieve Passivhaus certification, a rigorous standard of energy efficiency.

Beyond energy performance, Goldsmith Street emphasizes the importance of community and public space. A central alleyway serves as a shared communal garden and play area, fostering social interaction and creating a sense of neighborhood. Additional landscaped play areas provide outdoor spaces for residents of all ages.

By demonstrating that high-density housing can be both sustainable and desirable, Goldsmith Street offers valuable insights for the Fernhill project. The scheme's focus on passive solar design, energy efficiency, and community-oriented planning can inform the development of a similarly successful and sustainable project.

Key design features of Goldsmith Street that make it relevant to this project include:

Passive Solar Design: Each home faces south to maximize solar gain and is designed with meticulous detailing to achieve Passivhaus Certification, making it the first project of its kind in the UK.

Human-Centric Design: The development prioritizes community and well-being through the inclusion of shared outdoor spaces, such as an open alleyway and landscaped play areas.

Urban Density: The scheme demonstrates how high-density housing can be achieved while maintaining a strong sense of community and quality of life.

Sustainable Design: The project incorporates sustainable design principles to minimize its environmental impact.

By drawing inspiration from Goldsmith Street, we can strive to create a development that is both sustainable and socially responsible.



REFERENCE PROJECT: WILKINSONS BROOK, DUBLIN - PROCTOR AND MATTHEWS

Wilkinsons Brook, a residential development located on the northern edge of Tyrrelstown, Dublin, serves as a relevant reference project for the Fernhill site. This development, designed by Proctor and Matthews, offers valuable insights into creating high-density, sustainable, and community-oriented residential environments.

Key Design Principles and Strategies

Car-Free Neighborhoods:The project emphasizes car-free living by designing dwellings around shared spaces, reducing reliance on private vehicles.

The concept of “clachans,” traditional clusters arranged around focal landscapes, inspired the design of clustered dwellings, minimizing the visual dominance of cars.

In-Curtilage Parking: By incorporating dual-aspect courtyard homes with in-curtilage parking, the development achieves a defined edge to adjacent green spaces.

This approach creates a more pedestrian-friendly environment and enhances the overall aesthetic appeal of the neighborhood.

Shared Spaces and Streets:The design prioritizes shared spaces and streets, fostering a sense of community and promoting social interaction. The reduction of street widths and the incorporation of shared surfaces contribute to a more human-scaled and pedestrian-friendly environment.

Sustainable Design:The project incorporates sustainable design principles, including highly insulated ICF construction, rooftop PV panels, and air-source heat pumps.

These measures contribute to the development’s environmental performance and energy efficiency.

Architectural Character:The use of a consistent material palette, including grey or white brickwork and red brickwork accents, creates a strong architectural identity for the development.

The design of the dwellings, with hooded windows and varied rooflines, adds visual interest and character to the streetscape.

Relevance to the Fernhill Project

The Wilkinsons Brook project offers valuable lessons for the Fernhill development, particularly in terms of creating a sustainable, community-oriented, and aesthetically pleasing residential environment. By incorporating similar design principles, such as car-free living, shared spaces, and sustainable building practices, the Fernhill project can achieve a high-quality outcome that aligns with contemporary urban design standards.



A REFERENCE PROJECT HALEN ESTATE BERN, SWITZERLAND, - ATELIER 5

Halen Estate, a renowned residential development in Bern, Switzerland, offers valuable insights for the Fernhill project. Designed in the 1950s, Halen exemplifies a pioneering approach to high-density, low-rise housing that prioritizes community, sustainability, and architectural innovation.

Key Design Principles and Strategies

Site Integration and Topography:

Halen demonstrates how to effectively integrate a dense residential development into a sloping site.

The terraced layout of the housing units maximizes views, solar orientation, and privacy.

The project's careful integration with the surrounding landscape, including the woodland and river views, sets a high standard for site sensitivity.

Community-Oriented Design:

Halen emphasizes community and shared spaces, with courtyards, gardens, and communal facilities.

The design encourages social interaction and fosters a strong sense of community among residents.

Architectural Innovation:

The innovative design of the terraced housing units, with their double-height spaces, balconies, and roof gardens, maximizes space and light. The use of a restrained material palette creates a timeless aesthetic.

Relevance to the Fernhill Project

The Fernhill project shares similarities with Halen in terms of its site context, with a sloping site and opportunities for panoramic views. By drawing inspiration from Halen's innovative design principles, the Fernhill project can:

Optimize Site Potential: The terraced layout can maximize the use of the sloping site, creating a dynamic and visually interesting development.

Prioritize Community: The design can incorporate shared spaces and community facilities to foster social interaction and a strong sense of belonging.

Embrace Sustainable Design: The use of high-quality materials, innovative design, and a strong connection to the natural environment can create a unique and memorable development.

By learning from the successes of Halen, the Fernhill project can become a landmark development that sets a new standard for sustainable, community-oriented, and architecturally significant housing.



RIJNVLIET EDIBLE NEIGHBORHOOD,
UTRECHT, NETHERLANDS - LANDSCAPE
ARCHITECTURE: FELIXX, DE ZWARTE HOND,
XAVIER SAN GIORGI - AE FOOD FORESTRY
DEVELOPMENT

Rijnvliet Edible Neighborhood (REN) is a new residential community near Utrecht – the fastest growing city in the Netherlands. It is part of the Leidsche Rijn expansion project, designed to deliver 1000 new dwellings and demonstrate Utrecht's 'Healthy Urban Living' strategy created to provide more and better green public spaces to facilitate climate adaptation, increase social equity and inclusivity.

The urban food forest forms the core of the neighbourhood. In contrast to a natural forest, it predominantly comprises food-producing species. The food forest is composed of multiple layers of trees, shrubs and plants, forming an integrated and resilient ecosystem. The different vegetation types and species attract insects and organisms, reinforcing each other. In the central part of Rijnvliet, all these layers come together.

Key Design Principles and Strategies

Food-Focused Urban Design:

The project integrates a large-scale urban food forest into the heart of the neighborhood, providing residents with access to fresh, locally grown food.

The food forest serves as a multifunctional space, offering recreational opportunities, ecosystem services, and educational experiences.

Participatory Design and Community Engagement:

Residents were actively involved in the design process, contributing ideas and shaping the development of the neighborhood.

This participatory approach fosters a sense of ownership and community pride.

Sustainable Urban Development:

The project prioritizes sustainable development principles, including energy efficiency, water conservation, and the use of renewable energy. The urban food forest contributes to climate resilience by improving air quality, reducing heat island effects, and managing stormwater.

Biodiversity and Ecosystem Services:

The food forest promotes biodiversity by creating a habitat for various plant and animal species.

The diverse ecosystem provides a range of ecosystem services, such as pollination, pest control, and carbon sequestration.



Relevance to the Fernhill Project

Rijnvliet offers valuable lessons for the Fernhill project, particularly in terms of integrating urban agriculture into a residential development. By incorporating a smaller-scale food forest or community garden, the Fernhill project can draw inspiration from Rijnvliet's innovative approach to urban development:

Community-Centered Design: By involving the local community in the design and management of the Fernhill site, the project can foster a sense of ownership and pride.

Ecological Restoration and Enhancement: The integration of the existing woodland into the development can create a vibrant and biodiverse environment.

Educational Opportunities: The forest school or education center can provide opportunities for learning about nature, sustainability, and local history.

Sustainable Living: The project can incorporate sustainable design principles, such as energy efficiency, water conservation, and the use of renewable energy.

By adopting Rijnvliet's innovative approach, the Fernhill project can become a model for sustainable, community-oriented development that enhances the quality of life for residents and surrounding communities.



05 Development Summary

DEVELOPMENT SUMMARY

Site: Fernhill, Dublin Road, Wicklow,
Client: Delahunt Family

	m2	hectare	m2	hectare	m2	hectare		
OS2 -Natural Areas	14177	1.4177						
Developable Land = Greenfield , existing house	17562	1.7562	Proposed - RN1 -New Residential	15580	1.558	Proposed - CE -Community & Education	1982	0.1982
Site area	31739	3.1739						

05

schedule

Calculation of Developable Land (excluding existing house site and protected wooded area) = 1.5 Ha. Assuming the protected wooded area can be used as the area of Public open space a percentage of 0% has been used in the tables below.

Option 02-40dph			
	DPH	POS %	Site Area - POS
Density	40	0	
Size (Ha)	1.5	0	1.5
Total Units	60		

Design Proposal			
	DPH	POS %	Site Area - POS
Density	40	0	
Size (Ha)	1.5	0	1.5
Total Units	60		

Potential Mix	sqm	Units	%
1 Bedroom	45	12	20
2 Bedroom	70	18	30
	80	6	10
3 Bedroom	83	12	20
	92	6	10
4 Bedroom	110	6	10
		60	100

	Potential Mix	sqm	Units	%
Apartments/Duplex	1 Bedroom	45	12	20
Duplex/ Terrace	2 Bedroom	70	18	30
Terrace houses		80	6	10
Terrace houses	3 Bedroom	83	12	20
		92	7	10
4 bed Villas	4 Bedroom	110	6	10
			61	



Ground Floor - Option 2
1:500

Housing Type Units	
4 bed Villas	6
Terrace houses	33
Duplex	14
Apartments	8
Total	61

Notes:
 - Do not scale from this drawing. Use figured dimensions in all cases.
 - Verify dimensions on site and report any discrepancies to the Architect immediately.
 - This drawing to be read in conjunction with the Architect's Specification.
 - © This drawing is copyright and may only be reproduced with the Architect's permission.

Drawing Notes:

Issues & Revisions			
Rev.	Date	Drawn	Details of Issue / Revision

red workshop
 E: info@redworkshop.ie

Client Details:
 Delahunt Family

Project Details:		Drawing Title:	
Ferhill Wicklow		Proposed Site Plan,	
Job No: A249	Sheet Size: A3	Scale @A1: 1:500	Status: Purpose of Issue
Issue Date: 14/11/24	Drawn By: cr	Reviewed By: cr	Revision

Wicklow County Development Plan 2022 – 2028
Draft "Wicklow Town – Rathnew Local Area Plan 2025"

This submission is being made to the Draft Wicklow Town – Rathnew Local Area Plan 2025 on behalf of the Delahunt Family and in relation to their lands (c.3.17ha) at Fernhill, Dublin Road, Wicklow, the former Girl Guides Site. The purpose of this submission is to request a change from the proposed CE Community & Education zoning to RN1: New residential Priority 1, with Fernhill House to remain in community use. No change is sought to the wooded area along the western extent of the site - Zoned OS2 Natural Areas in the Draft LAP, it is proposed to utilise this as a natural amenity area for the future residents and local community.

The rationale for the requested zoning is set out in the Submission to the Draft Wicklow Town – Rathnew Local Area Plan 2025 prepared by McCutcheon Halley Planning Consultants. The purpose of this Civil Engineering Submission is to demonstrate that these lands can be suitably developed and serviced to support a housing / residential development.

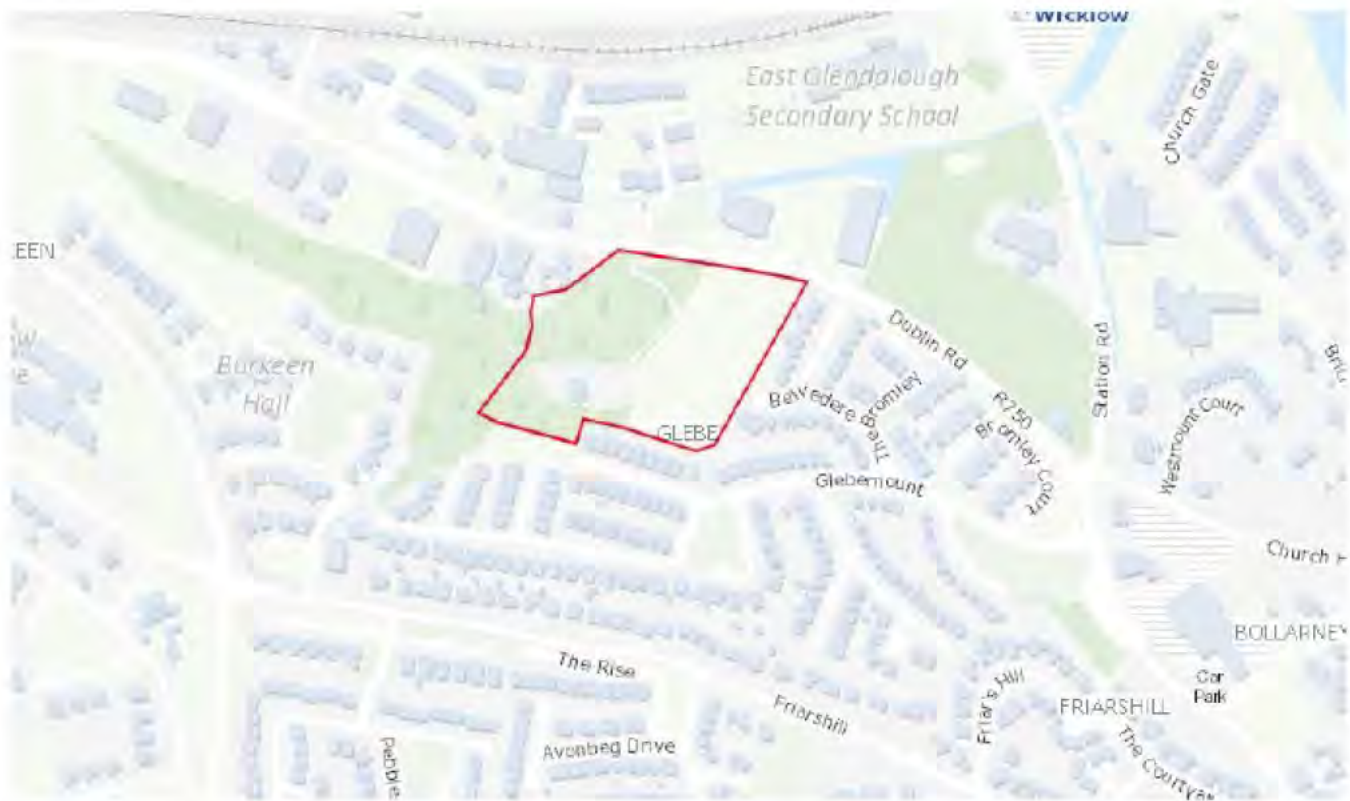


Figure 1 – Site Location Map

Engineering Services Report

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4. Foul Sewers.
5. Watermains (servicing the development site).
6. Flood Risks.
7. Summary.

1. Introduction.

This report has been prepared by Pierce McGann & Company Consulting Engineers as part of a submission to Wicklow County Council relating to the Draft Wicklow Town – Rathnew Local Area Plan 2025, on behalf of the Delahunt Family, and in relation to their lands (c.3.17ha) at Fernhill, Dublin Road, Wicklow, the former Girl Guides Site. The purpose of this technical document is to support the submission to Wicklow County Council to request a change from the proposed CE Community & Education zoning to RN1: New residential Priority 1, with Fernhill House to remain in community use. No change is sought to the wooded area along the western extent of the site - Zoned OS2 Natural Areas in the Draft LAP, it is proposed to utilise this as a natural amenity area for the future residents and local community.

The site location is shown in Figure 1.1 below. This report illustrates how such a rezoned site to residential can be adequately serviced by foul / stormwater drainage and watermains systems. These site supporting inground services can be connected to the adjoining public services infrastructure.

This submission demonstrates how a residential development on this site can be carried out in compliance with the Wicklow County Development Plan 2022 – 2028 and taking full cognisance of the Draft Wicklow Town – Rathnew Local Area Plan 2025 .



Figure 1.1: Site Location – Fernhill House, Dublin Road, Wicklow Town.
The site is located at ITM co-ordinates X 730513 / Y 694546. It is bounded by the Dublin Road, (R750), Glebemount Housing Estate to the south and east, and Trinity Volkswagen / Burkeen Hall to the west.

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This submission demonstrates the suitability of the site to be developed as a residential estate and in a manner that is compliant with Wicklow County Development Plan 2022 – 2028 (WCDDP 22-28), and also incorporating SuDS design and the Greater Dublin Strategic Drainage Study" (GDSDS). This submission covers all aspects of the design requirements and considerations required in the design and development of such residential developments. Included in this submission are the critical design issues relating to;

- o Flooding Risks,
- o Surface water disposal & the capacity of the environment to facilitate such a development,
- o Foul Sewerage disposal & the available spare capacity within the sewer network to accommodate the development,
- o Watermains servicing the development & the available spare capacity within the sewer network to accommodate the development,

In summary, this submission demonstrates that a fully compliant development can be designed and constructed wholly in compliance with the WCDDP 22-28 & the GDSDS.

2. Surface Water Management Plan.

The surface water management plan has been developed from the following documents / available public information;

2.1 Site Specific Information (referenced in this submission).

- o CFRAM Study for Wicklow Town.
- o Wicklow Town – Rathnew Local Area Plan 2025, Map No.4 Indicative Flood Zones.
- o Site specific characteristics & Site geophysical survey.
- o Information relating to the council's / Uisce Eireann drainage system adjacent to the development site.
- o Draft Architectural layout.
- o Objectives for the disposal and management of stormwater from sites as detailed in the Wicklow County Council Development Plan 2022 - 2028.
- o Wicklow Town - Rathnew Development Plan (WRDP) 2013-2019.
- o Department of Environment and Local Government's guidance document "Recommendations for Site Development Works for Housing Areas.
- o Greater Dublin Strategic Drainage Study" (GDSDS).
- o The SuDS Manual (C753) – Sustainable Drainage Systems.

2.2 SuDS - Sustainable urban Drainage Systems.

The site-specific design considerations for the stormwater management and disposal from this site includes the following SuDS surface water treatment measures.

- Rainwater harvesting – Provision of Rainwater Butts for all dwellings. In addition, the apartment roofs at the front of the development will be constructed as "Roof Gardens". The rainwater from these apartment roofs can be reused for toilets, as a source of water for washing cars etc. The roof gardens will also be utilised to control the flow of the rainwater and slow the flow and discharge of the rainwater.
- Permeable Paving - The house driveways & visitor parking spaces can be constructed as permeable pavements, as per CIRIA C753 (The SuDS Manual). Roof run-off from the roof areas of residential housing units will be able to be discharged directly into the subbase below each permeable paving area allowing for the reduced runoff from all these roof areas. Any design of rainwater flow through permeable paving will allow for rainwater attenuation, infiltration and a considerable reduction of the peak stormwater flow rates and improved water quality.

- Permeable Asphalt – road finish: The high void content of Porous asphalt facilitates the rapid surface drainage through the pavement where the rainwater is then released in a controlled manner by the SuDS design.
- Rain Gardens / Bioretention Areas – The flow of the stormwater within the site and through the site gradients can be controlled, slowed and reduced (via filtration) by channelling the stormwater through various *Rain Gardens / Bioretention areas*, strategically positioned throughout the development site. This control of the stormwater flows will also facilitate the filtration of the stormwater through the ground and reducing the quantity of the stormwater flowing into the stormwater attenuation tanks, positioned below the *Rain Gardens / Bioretention Areas*.
- Rain gardens will provide treatment to roof runoff through infiltration and evapo-transpiration within the filter media of the rain garden structure. Proposed surface water along the development's landscaped paved areas will also discharge to these bio-retention areas. The rain gardens will comprise of a landscape area with high permeability soil and a perforated surface water drain is to be provided at a low level to drain any excess surface water to the drainage network. High level over-flow to also be incorporated.
- Tree Pits – The surface water along the development's landscaped paved areas where possible will discharge to a SuDS element such as tree root systems for interception and treatment prior to entering the drainage network. The tree root systems will incorporate drainage stone/subsoil and will provide a level of additional attenuation within the tree root system. A high-level overflow pipe to the drainage network within the build-up will accommodate removal of water.
- Swales – The surface water along the development's landscaped paved areas where possible will discharge to a SuDS element for interception and treatment prior to entering the drainage network. The swales will incorporate an infiltration trench and will provide a level of attenuation within the swale. A high-level overflow to the drainage network within the build-up will accommodate removal of water.
- Infiltration Trenches - Infiltration trenches will provide a level of attenuation storage within the voids in the stone within the trench. CIRIA C753 (The SuDS Manual) Table 24.6 notes that regarding interception design of infiltration trenches, pavements drained by infiltration trenches can be considered to provide Interception, i.e. it can be assumed that there will be zero runoff from the first 5 mm rainfall for 80% of events during the summer and 50% in winter.
- Attenuation Tank – All the stormwater generated on the developed site will be attenuated. The attenuation tank(s) will be designed to reduce the peak runoff from the site. The attenuation tank(s) can be sized to cater for a 1 in 100 storm event with a 30% allowance for climate change in addition to 10% for urban creep. In addition, the discharge from the attenuation tank(s) can be designed such that the discharge quantity is restricted to that which can be expected from an “undeveloped” site.
- Reed Beds / Ponds – The integration of Reed Beds / Ponds into the stormwater management system allows for a greater integration of natural methods for the control management of the stormwater from the site. These Reed Beds / Ponds allows for the ground infiltration and evaporation characteristics to be further incorporated into the stormwater management.

2.3 SuDS Measures - SuDS Management Train - Summary:

The management train can commence with a source control through the provision of water efficient fittings within all the residential dwellings and apartments. This will reduce the water consumption required for each housing / apartment unit.

The second stage of the management train, site control, is provided by the introduction, of permeable pavements, tree pits, rain gardens, swales to provide a degree of treatment before discharging to the proposed surface water network and attenuation system. The rate of runoff is controlled through the provision of a flow control device(s) installed in the outfall manhole of the surface water catchment.

The underground attenuation offers the third stage of treatment/regional control, by slowing the storm water discharge down and removes any additional silt which can remain within the storm water.

In conclusion the water quality from this catchment should be of a high quality due to the above-mentioned measures, which are applied in a treatment train to treat the water before discharge at a restricted rate to the local network. The above measures ensure a suitable management train is provided.

2.4 SuDS Maintenance.

The surface water management would always include a SuDS maintenance plan to ensure the effective working of all the SuDS site features. These maintenance proposals form part of the SuDS design.

2.5 Pollution Hazard – Prevention

The storm water management plan would also incorporate measures to assess and minimise the effects of pollution within the development site. The methods used are guided by the land use and the SuDS performance evidence. The design criteria for the Simple Index approach are for the Total SuDS mitigation index (for each contaminant type) \geq pollution hazard index (for each contaminant type). As demonstrated further below, in all cases the mitigation index is greater than the pollution index for each contaminant type.

2.6 The Greater Dublin Strategic Drainage Study, (GSDSDS).

The storm water management plan for this site can incorporate the issue of sustainability by requiring the stormwater design to comply with a set of drainage criteria which aim to minimize the impact of urbanisation, by replicating the run-off characteristics of the greenfield site.

- Criterion 1 GSDSDS – River Water Quality Protection.

The requirements of the GSDSDS where all surface water run-off will go through a two-stage treatment train via permeable paving, rain gardens, tree pits, and swales before discharging at a controlled rate into the receiving systems can be incorporated within the stormwater management for the proposed housing development.

- Criterion 2 GSDSDS – River Regime Protection

In accordance with the GSDSDS the stormwater from this developed site through traditional pipe networks will not discharge into receiving waters at rates that are an order of magnitude greater than that prior to development. Attenuation storage will be provided to prevent this occurring by limiting the rate of run-off to that which took place from the pre-development greenfield site.

- Criterion 3 GSDSDS – Level of Service For the Site.

The surface water management plan can incorporate the design criteria within the GSDSDS relating to the prevention of flooding within the site in the event of a 1 in 30-year storm event. The pipe network and the attenuation storage volumes can therefore be designed for such storms to ensure that no site flooding occurs. In relation to a 1 in 100 rainfall event, the stormwater management plan and design will ensure that for the 1 in 100-year event, the pipe network can fully accommodate such a storm event without any potential flooding of the estate, and / or dwellings.

- Criterion 4 GSDSDS – River Flood Protection.

The stormwater management / design plan can incorporate Criterion 4, which is intended to prevent flooding of the receiving system / watercourse by either limiting the volume of run-off to the pre-development greenfield volume using 'long-term storage' (Option 1) or by limiting the rate of run-off for the 1 in 100-year storm to QBAR or 2.0l/s/ha without applying growth factors using 'extended attenuation storage' (Option 2).

2. Surface Water Drainage Design.



Surface Water flow through the site.

Figure 3.1

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3.1 General

The detailed surface water drainage system for the proposed development will require to be designed using surface water computer software, such as "Microstrain" / "Causeway Hydraulic Design" design software. The stormwater design for the proposed development site can be completed in accordance with the Department of Environment and Local Government's guidance document "Recommendations for Site Development Works for Housing Areas" and incorporating the design guidance within the "Greater Dublin Strategic Drainage Study" (GSDSDS) and the Wicklow Town - Rathnew County Development Plan including Wicklow County Development Plan 2022 – 2028.

The surface water sewer network provided for the proposed development will be entirely separated / independent from the foul water sewer network. All surface water run-off from roof areas and hardstanding areas are designed to be collected by a gravity pipe network.

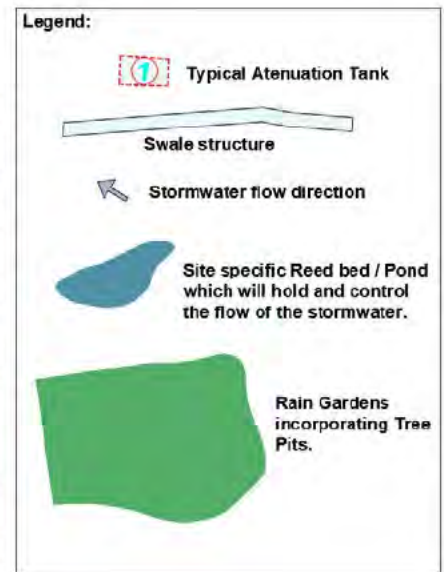
A preliminary stormwater discharge design for the proposed development site has the development site divided into 3# separate sub-catchments. Each catchment area will contain its own attenuation tank and associated flow control restriction components. The restricted outflow from each catchment will flow by gravity into the adjoining woodland section of the site via swales and discharge into specifically designed reed beds / ponds. Refer to Figure 3.1 which illustrates the development site catchment area plan and the surface water flow path through the site to the discharge node where it is proposed to connect into the existing stream on the northern end of the site.

All surface water run-off from roof areas and hardstanding areas can be designed to be collected by a gravity pipe network. In conjunction with the Wicklow County Development Plan and utilising the Greater Dublin Strategic Drainage Study (GSDSDS) guidelines the site discharge can be limited to 2 l/s/Ha. With a site development area of approximately 1.7ha, the stormwater discharge from the site can be limited to 3.4 l/s/Ha. This discharge rate is less than the calculated discharge rate for the existing undeveloped site of 1.7Ha in area. The runoff is to be reduced for the 1% AEP (1:100-year storm return period), with an additional 30% to be added to rainfall to allow for climate change and 10% for urban creep. Five attenuation tanks will be installed on site to attenuate flows up to a 1 in 100-year storm event with a 30% allowance for climate change & 10% for urban creep. A series of Hydrobrake devices will be fitted at the outflow ends of each attenuation tank, where the stormwater flows will be restricted in accordance with the hydraulic design and limiting the discharge from the site to 3.4 l/s.

3.2 Hydraulic design – Computer Software.

The surface water drainage system can be designed using specialised computer software and in accordance with the Department of Environment and Local Government's guidance document "Recommendations for Site Development Works for Housing Areas", with guidance taken from the "Greater Dublin Strategic Drainage Study" (GSDSDS) and the Wicklow County Development Plan. The design software will also allow for the infiltration effects of the stormwater into the ground. Rainwater evaporation effects will also be included in the design assessment and analysis.

3.3 Attenuation Tanks.



The hydraulic network is modelled with attenuation tanks and hydrobrake flow control devices included. A preliminary hydraulic design includes six attenuation tanks incorporated into the site layout. These attenuation tanks are modelled within the hydraulic design software.

3.4 Surcharging and Flood Risk.

Depths of water in the network model (including pipework, manholes, the attenuation tanks and hydrobrakes) are assessed for surcharging and flood risk within the hydraulic model. The hydraulic modelling demonstrates that the design can prevent flooding, demonstrate the capacity of the stormwater pipes, manholes and attenuation tanks for the various rainfall events, 1/30 years, 1/100 year event. The design will also allow for "Urban Creep", Climate change, summer and winter indices etc.

3.5 Additional Storage.

The hydraulic modelling will include for the effects of additional storage available. This is incorporated within the design to account for the storage volume in the network provided by secondary drainage including access junctions, inspection chambers, service connections etc. This provides additional storage in the network above the storage provided within the attenuation tank and primary drainage network. This additional storage capacity can be significant.

3.6 Estimation of Greenfield Runoff Rate.

Refer to attached report from uksuds.com which calculates the greenfield runoff rate (Qbar) for the development site (1.8Ha) is shown to be 14.19 l/s for a 1/100 year event.

The Qbar rate of 14.19 l/s is higher than the 2 l/s/Ha limit as set out in GSDSDS.

2 l/s/ha (1.8ha Site Area) x 2 l/s = 3.6 l/s) Qbar rate.

3.7 Site Infiltration Rate.

BRE soakaway tests will calculate the allowable rate of infiltration of the surface water into the sub-surface. The hydraulic design and permeable surfacing features will include the effects of soil infiltration within the design.

SuDS elements also within the design ensure that the developed site can exhibit the same characteristics as its pre-developed self, by enabling infiltration, evapotranspiration, attenuation, etc.

3.8 Surface Water Drainage Summary.

Description	Value
Total Positively Drained Area	1.8 Ha Developed Site Area
Return Period Target	Pipe Design: 1 in 5 year. Network Design: 1 in 30 year + CC. Flooding Check: 1 in 100 year + CC.
Contributing Areas	Impervious Areas: 100% Green Areas: 20%
Climate Change (CC)	30%

Urban Creep	10%
Rainfall (mm/hr)	60 mm/hr
M5-60	17.9 (from Met Éireann)
Ratio R	0.32
SOIL type	3 (refer to infiltration test results)
Soil Value	0.37
SAAR	972
Qbar	14.19 l/s (Refer to Appendix)
Flow Reduction Parameter	Qbar
Controlled Outflow From Development	3.6 l/s
Flow Restriction Method	Hydrobrake (Refer To Appendix)

3.9 Proposed Surface Water Treatment SuDS Measures.

This proposed development site has been assessed in relation to Sustainable Urban Drainage Systems (SuDS). SuDS measures are to be implemented with reference to the UK Suds Manual drainage requirements.

Relatively small volumes of rainwater collected on the respective SuDS devices will enter the sewer network during typical low intensity storms. This is because the proposed SuDS measures will retain rainwater until it is used via infiltration, evapotranspiration or other methods. The SuDS processes decrease the impact of the development on the receiving environment by providing amenity and biodiversity in many cases.

Rain Butts:

Provide source control of stormwater runoff. By dealing with runoff at source the volume of water and the potential amount of contamination is less, which requires smaller SuDS components further downstream. The demand on mains water supply is also reduced. Rain butts will intercept runoff from rear roofs with an overflow connected back to the main drainage network.

Permeable Paving:

The house driveways & visitor parking spaces will be constructed as permeable pavements, as per CIRIA C753 (The SuDS Manual). Roof run-off from roof area of residential housing units will discharge directly into the sub-base below each permeable paving area allowing for reduced runoff from these roof areas. The permeable paving will allow for attenuation, infiltration, reduction of peak flow rates and improved water quality.

Rain Gardens / Bio-retention Areas:

The draft development plan allows for a high provision of rain gardens / bio-retention areas. They will provide treatment to roof runoff, roads, driveways etc through infiltration and evapotranspiration within the filter media of the rain garden structure. Proposed surface water along the development's landscaped paved areas will also discharge to these bioretention areas. The rain gardens will comprise of a landscape area with high permeability soil and a perforated surface water drain is to be provided at a low level to drain any excess surface water to the drainage network. High level over-flow to also be incorporated.

These rain gardens, bio-retention areas will be shaped and stepped to reflect the topography of the site. The designs will also be carried out in cognisance of CIRIA C753 (The SuDS Manual)

Tree Pits:

Surface water along the development's landscaped paved areas can be discharged to a SuDS element such as tree root systems for interception and treatment prior to entering the drainage network. The tree root systems will incorporate drainage stone/subsoil and will provide a level of additional attenuation within the tree root system. A high-level overflow pipe to the drainage network within the build-up will accommodate removal of water.

Swales:

Surface water from the development's areas where possible will discharge to a SuDS element for interception and treatment prior to discharging from the site. Swales will incorporate an infiltration trench and will provide a level of attenuation within the swale. A high-level overflow to the drainage network within the build-up will accommodate removal of water. CIRIA C753 (The SuDS Manual) Table 24.6 notes that regarding interception design of swales, pavements drained by swales can be considered to provide Interception, i.e. it can be assumed that there will be zero runoff from the first 5 mm rainfall for 80% of events during the summer and 50% in winter. The swales can be profiled to reflect the topography of the site and the development layout etc.

Infiltration Trenches

The proposed infiltration trenches will provide a level of attenuation storage within the voids in the stone within the trench. CIRIA C753 (The SuDS Manual) Table 24.6 notes that regarding interception design of infiltration trenches, pavements drained by infiltration trenches can be considered to provide Interception, i.e. it can be assumed that there will be zero runoff from the first 5 mm rainfall for 80% of events during the summer and 50% in winter.

Bypass Separator:

The surface water from the developed site will be fed through a Class 1 Klargestor bypass separator or approved equivalent prior to discharging to the existing surface water network.

Attenuation Tank:

The surface water from the development will be attenuated prior to discharge into the existing stream. The attenuation tanks will be sized to cater for a 1 in 100 storm event with a 30% allowance for climate change and 10% for urban creep.

Reed Bed / Ponds:

Two purpose built reed beds / ponds will store and contribute to the management of the stormwater discharge from the site. The reed beds / ponds will both control the flow of water from the development site and much of the stormwater will be discharged also via ground infiltration and evaporation.

SuDS Management Train:

The management train commences with source control through the provision of water efficient fittings within the residential dwellings. This will also reduce the water consumption required for each housing unit.

The second stage of the management train, site control, is provided by the introduction, of permeable pavements, tree pits, rain gardens, swales to provide a degree of treatment before discharging to the

proposed surface water network and attenuation system. The rate of runoff is controlled through the provision of a flow control device installed in the outfall manhole of the surface water catchment.

The underground attenuation offers the third stage of treatment/regional control, by slowing the storm water discharge down and removes any additional silt which may remain in the storm water.

In conclusion the water quality from this catchment should be of a high quality due to the above-mentioned measures, which are applied in a treatment train to treat the water before discharge at a restricted rate to the local network.

The above measures ensure a suitable management train is provided.

3.10 Pollution Hazard Indices.

The method used is guided by the land use and SuDS performance evidence. The design criteria for the Simple Index approach are for the Total SuDS mitigation index (for each contaminant type) \geq pollution hazard index (for each contaminant type). As shown below, in all cases the mitigation index is greater than the pollution index for each contaminant type.

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TABLE 26.2 Pollution hazard indices for different land use classifications

Land use	Pollution hazard level	Total suspended solids (TSS)	Metals	Hydrocarbons
Residential roofs	Very low	0.2	0.2	0.05
Other roofs (typically commercial/ industrial roofs)	Low	0.3	0.2 (up to 0.8 where there is potential for metals to leach from the roof)	0.05
Individual property driveways, residential car parks, low traffic roads (eg cul de sacs, homezones and general access roads) and non-residential car parking with infrequent change (eg schools, offices) ie < 300 traffic movements/day	Low	0.5	0.4	0.4
Commercial yard and delivery areas, non-residential car parking with frequent change (eg hospitals, retail), all roads except low traffic roads and trunk roads/motorways ¹	Medium	0.7	0.6	0.7
Sites with heavy pollution (eg haulage yards, lorry parks, highly frequented lorry approaches to industrial estates, waste sites), sites where chemicals and fuels (other than domestic fuel oil) are to be delivered, handled, stored, used or manufactured; industrial sites; trunk roads and motorways ¹	High	0.8 ¹	0.8 ²	0.9 ²

Notes

- 1 Motorways and trunk roads should follow the guidance and risk assessment process set out in Highways Agency (2009)
- 2 These should only be used if considered appropriate as part of a detailed risk assessment – required for all these land use types (Table 4.3). When dealing with high hazard sites, the environmental regulator should first be consulted for pre-permitting advice. This will help determine the most appropriate approach to the development of a design solution.

Where a site land use falls outside the defined categories, the indices should be adapted (and agreed with the drainage approving body) or else the more detailed risk assessment method should be adopted.

Where nutrient or bacteria and pathogen removal is important for a particular receiving water, equivalent indices should be developed for these pollutants (if acceptable to the drainage approving body) or the risk assessment method adopted.

Figure 3-10.1: CIRIA SuDS Manual - Pollution hazard indices for different land use classifications

The proposed site consists of the following land uses:

- Residential roofs.
- Individual property driveways, residential car parks and low traffic roads.

Indicative SuDS mitigation indices are presented in Table 26.3 of the CIRIA SuDS manual (reproduced in Figure 3-10.2 below). These specify the mitigation index for each contaminant type for different types of SuDS measures.



TABLE 26.3 Indicative SuDS mitigation indices for discharges to surface waters			
Type of SuDS component	Mitigation indices ¹		
	TSS	Metals	Hydrocarbons
Filter strip	0.4	0.4	0.5
Filter drain	0.4 ²	0.4	0.4
Swale	0.5	0.6	0.6
Bioretention system	0.8	0.8	0.8
Permeable pavement	0.7	0.6	0.7
Detention basin	0.5	0.5	0.6
Pond ³	0.7 ²	0.7	0.5
Wetland	0.8 ³	0.8	0.8
Proprietary treatment systems ^{5,6}	These must demonstrate that they can address each of the contaminant types to acceptable levels for frequent events up to approximately the 1 in 1 year return period event, for inflow concentrations relevant to the contributing drainage area.		

Figure 3-10.2: Indicative SuDS mitigation indices for discharges to surface waters

The proposed SuDS measures for the development consist of permeable paving, tree pits, rain gardens, infiltration trenches, swales, reed beds / ponds and a class 1 bypass interceptor. Both tree pits, rain gardens and are considered bioretention systems and the infiltration trenches, reed beds / ponds are classed as filter drains.

Each different land use risk case and associated mitigation measure has been assessed individually as per Tables contained in Figures 3-10.1 & 3-10.2 below summarises the risk indices for the development.

Residential Roofs.

Index	Type	TSS	Metals	Hydrocarbons
Hazard Index	Residential Roofs	0.2	0.2	0.05
Mitigation Index	Permeable Paving	0.7	0.6	0.7
	Rain Garden	0.8	0.8	0.8
	Proprietary Treatment System – Class 1 Bypass Interceptor	Designed to address each of the contaminant types to acceptable levels for frequent events up to approximately the 1 in 1 year return period event, for inflow concentrations relevant to the contributing drainage area		

Table 3-10.1: Comparison of Hazard and Mitigation indices for Residential Roofs

Driveways/Parking/Roads.

Index	Type	TSS	Metals	Hydrocarbons
Hazard Index	Individual property driveways, residential car parks and low traffic roads	0.5	0.4	0.4

Mitigation Index	Permeable/Porous Paving/Asphalt	0.7	0.6	0.7
	Rain Garden (Bioretention System)	0.8	0.8	0.8
	Tree Pit (Bioretention System)	0.8	0.8	0.8
	Swale, Reed Beds / Ponds	0.5	0.6	0.6
	Filter Drain	0.4	0.4	0.4
	Proprietary Treatment System – Class 1 Bypass Interceptor	Designed to address each of the contaminant types to acceptable levels for frequent events up to approximately the 1 in 1 year return period event, for inflow concentrations relevant to the contributing drainage area		

Table 3-10.2: Comparison of Hazard and Mitigation indices Driveways/Parking/Roads

The design criteria for the Simple Index approach are for the Total SuDS mitigation index (for each contaminant type) \geq pollution hazard index (for each contaminant type). As shown above in all cases the mitigation index is greater than the pollution index for each contaminant type. As such the range of SuDS measures proposed satisfies the Simple index Approach and provides adequate mitigation for the site.

3.11 The Greater Dublin Strategic Drainage Study

The Greater Dublin Strategic Drainage Study (GSDSDS) addresses the issue of sustainability by requiring designs to comply with a set of drainage criteria which aim to minimize the impact of urbanisation, by replicating the run-off characteristics of the greenfield site. The criteria provide a consistent approach to addressing the increase in both rate and volume of run-off, as well as ensuring the environment is protected from any pollution from roads and buildings. These drainage design criteria are as set out in Table 3.11.1:

Table 3.11.1 GSDSDS Drainage Criteria

GSDSDS Criteria		Aims
Criterion 1	River Water Quality Protection	To prevent pollution To maintain base flows in streams To recharge groundwater
Criterion 2	River Regime Protection	<ul style="list-style-type: none"> To prevent river scour due to flash flooding
Criterion 3	Flood Risk Assessment	<ul style="list-style-type: none"> To prevent site flooding for the 30yr storm and manage overland flows if site flooding occurs for the 100yr storm
Criterion 4	River Flood Protection	<ul style="list-style-type: none"> To prevent river flooding

The overarching principle of SuDS design is that surface water runoff should be managed for maximum benefit. The types of benefits that can be achieved by SuDS will be dependent on the site, but fit broadly into four categories – The Four Pillars of SuDS – as described in the CIRIA SuDS Manual C753 and set out in Table 3.11.2;

Table 3.11.2 The Four Pillars of SuDS

SuDS Category	Aims
Water Quantity	<ul style="list-style-type: none"> • Maintain and protect the natural water cycle To maintain base flows in streams • Support the management of flood risk
Water Quality	<ul style="list-style-type: none"> • Manage the quality of run-off to prevent pollution
Biodiversity	<ul style="list-style-type: none"> • To create and sustain better places for nature
Amenity	<ul style="list-style-type: none"> • To create and sustain better places for people

Compliance with four GDSDS criteria and the four pillars of SuDS as described in the CIRIA SuDS Manual C753, requires a robust strategy that employs at source and site wide SuDS control measures. The SuDS strategy for the development has been developed in conjunction with the Landscape Architects and strives to achieves the aims and benefits outlined above, despite being somewhat restricted by the available green space, and in particular the necessity to retain existing mature trees on the subject site.

3.11.1 Criterion 1 GDSDS – River Water Quality Protection

Run-off from natural greenfield areas contributes very little pollution and sediment to rivers and for most rainfall events direct run-off from greenfield sites to rivers does not take place as rainfall percolates into the ground. By contrast, urban run-off, when drained by pipe systems, results in run-off from virtually every rainfall event with high levels of pollution, particularly in the first phase of run-off, with little rainfall percolating to the ground. To prevent this happening, Criterion 1 requires that interception storage and/or treatment storage is provided, thereby replicating the run-off characteristics of the pre-development greenfield site.

In the context of the proposed development, it is proposed that all surface water run-off will go through a two-stage treatment train via permeable paving, rain gardens, tree pits, and swales before discharging at a controlled rate into the receiving systems.

Interception Storage

The GDSDS requires that Interception storage, where provided, should ensure that at a minimum the first 5mm and preferably the first 10mm of rainfall is intercepted on site and does not directly pass to the receiving watercourse.

In order to satisfy the above requirements, interception storage for the new development will be provided on a catchment basis. Catchment will incorporate permeable/porous paving, tree pits, rain gardens.

3.11.2 Criterion 2 GDSDS – River Regime Protection

Regardless of the rainfall event, unchecked run-off from a developed site through traditional pipe networks will discharge into receiving waters at rates that are an order of magnitude greater than that prior to development. Attenuation storage is provided to prevent this occurring by limiting the rate of run-off to that which took place from the pre-development greenfield site.

Therefore, GSDS Criterion 2 can be complied with.

3.11.3 Criterion 3 GSDS – Level of Service For the Site

The GSDS requires that no flooding should occur on site for storms up to and including the 1 in 30 year event. The pipe network and the attenuation storage volumes should, therefore, be checked for such storms to ensure that no site flooding occurs although partial surcharging of the system is allowed as long as it does not threaten to flood.

For the 1 in 100-year event, the pipe network can fully surcharge and cause site flooding, but the top water level due to any such flooding must be at least 500mm below any vulnerable internal floor levels, and the flood waters should be contained within the site. In addition, the top water level in any attenuation device during the 100 year storm must be at least 500mm below any vulnerable internal floor levels. The design of the storm water system can accommodate this criteria.

Therefore, GSDS Criterion 3 can be complied with.

3.11.4 Criterion 4 GSDS – River Flood Protection

Criterion 4 is intended to prevent flooding of the receiving system / watercourse by either limiting the volume of run-off to the pre-development greenfield volume using 'long-term storage' (Option 1) or by limiting the rate of run-off for the 1 in 100 year storm to 2.0l/s/ha.

Therefore Criteria 4 can be complied with.

4.0 Foul Sewers.

4.1 Design Criteria

The foul water drainage can be designed using hydraulic computer software and in accordance with the "Recommendations for site development works for Housing Areas" design guide and Irish Water "Code of Practice for Wastewater Infrastructure".

4.2 Irish Water Consultation

A pre-connection application enquiry to Irish Water seeking confirmation of the feasibility to connect to the existing water supply network must be lodged for all developments. However, based on the Uisce Eireann website there is available wastewater capacity in Wicklow Town to service this development.

Wicklow

Settlements with Waste Water Discharge Authorisations - Wastewater Treatment Capacity Register

Home / Connections / Developer Services / Capacity Registers / Wastewater treatment capacity register / Wicklow

Published June 2023

Region	County	Settlement	Census pop. (2016)	Wastewater Treatment Plant (WWTP)	Reg #	Indication of Available Capacity	WWTP Project Planned/Underway
EM	Wicklow	Bray	32,600	Shanganagh WWTP	D0038	- Green	
EM	Wicklow	Greystones	18,140	Greystones WWTP	D0010	- Green	
EM	Wicklow	Wicklow	13,954	Wicklow WWTP	D0012	- Green	
EM	Wicklow	Arklow	13,163	-	D0006	- Green*	Yes
EM	Wicklow	Blessington	5,520	Blessington WWTP	D0063	- Green	
EM	Wicklow	Kilcoole	4,239	Kilcoole WWTP	D0087	- Green	
EM	Wicklow	Baltinglass	2,137	Baltinglass WWTP	D0089	- Green	
EM	Wicklow	Enniskerry	1,889	Enniskerry and Environs WWTP	D0088	- Green	
EM	Wicklow	Rathdrum	1,663	Rathdrum WWTP	D0086	- Green	

In addition to the available wastewater treatment capacity in Wicklow Town, there is also available freshwater capacity in Wicklow town.

4.3 Connections to Uisce Eireann Services, (UE).

There are both a foul sewer and watermains on the public roadway fronting the development site, which will allow for connections of the site services to the UE owned utilities.

5.0 Watermains (servicing the Development Site).

5.1 Existing Watermain Infrastructure

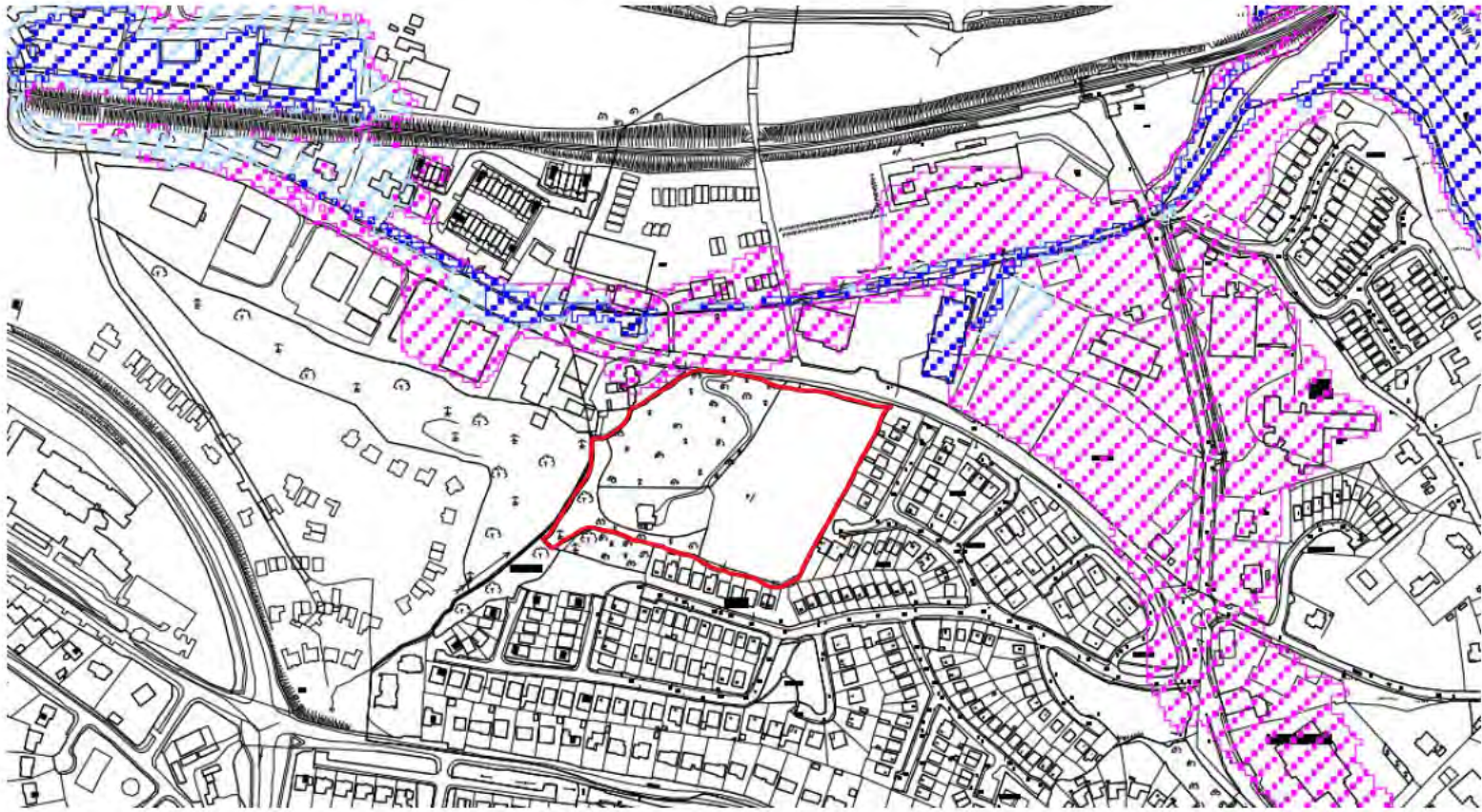
Based on existing record drawings, it was established that an existing Irish Water watermain passes the site along the existing R750 roadway adjacent to the front boundary of the site. It is proposed that a connection to this existing watermain at the planned development entrance is proposed to service the site.

In addition, based on published information from Uisce Eireann, there is an adequate supply of fresh potable water in Wicklow Town to service the development.

Region	County	Settlement Name	Water Resource Zone Name (WRZ)	WRZ ID	Indication of available capacity to support 2052 population targets
EM	Wicklow	Bray	Greater Dublin Area	GDA	Capacity Available - LoS improvement required
EM	Wicklow	Greystones-Delegany	Greater Dublin Area	GDA	Capacity Available - LoS improvement required
EM	Wicklow	Wicklow	Greater Dublin Area	GDA	Capacity Available - LoS improvement required
EM	Wicklow	Arklow	Arklow Public Supply	3400SC0001	Capacity Available
EM	Wicklow	Blessington	Greater Dublin Area	GDA	Capacity Available - LoS improvement required
EM	Wicklow	Kilcoole	Greater Dublin Area	GDA	Capacity Available - LoS improvement required
EM	Wicklow	Rathnew	Greater Dublin Area	GDA	Capacity Available - LoS improvement required
EM	Wicklow	Newtownmountkennedy	Greater Dublin Area	GDA	Capacity Available - LoS improvement required
EM	Wicklow	Baltinglass	Baltinglass Public Supply	3400SC0003	Potential Capacity Available - LoS improvement required
EM	Wicklow	Enniskerry	Greater Dublin Area	GDA	Capacity Available - LoS improvement required
EM	Wicklow	Rathdrum	Rathdrum Public Supply	3400SC0046	Potential Capacity Available - LoS improvement required

6.0 Flood Risks.

In referencing the Draft Wicklow Town – Rathnew Local Area Plan 2025 Map No.4 Flood Risk Assessment it is clear that this site is not in any risk of flooding, under the terms and criteria used in assessing the vulnerability of development sites to flooding.



Extract from Map 4 Indicative Flood Zones – Wicklow Town – Rathnew Local Area Plan 2025.

7.0 Summary.

These lands at Fernhill, Dublin Road, Wicklow, (the former Girl Guides Site) can be developed for residential accommodation. This submission demonstrates that the design development can align with the objectives of the Wicklow County Development 2022 to 2028, particularly chapter 13, wastewater services, chapter 15, waste, chapter 14 flood and Wicklow County Development Plan Appendix 8 – Strategic Risk Assessment. Compliance with The Greater Dublin Strategic Drainage Study (GSDSDS) has also been demonstrated. This will ensure that any residential development on this site can be carried out in full compliance with the Wicklow County Development Plan 2002 – 2028 including the Draft Wicklow Town – Rathnew Local Area Plan 2025.

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Traffic Report

TRAFFIC & TRANSPORT APPRAISAL
LANDS AT FERNHILL, WICKLOW
SUBMISSION TO DRAFT WICKLOW RATHNEW LAP

November 2024
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DOCUMENT INFORMATION

Job Title: Fernhill, Wicklow.
Job Number: 03214
Report Title: Traffic & Transport Appraisal
Report Ref: 03214/01
Author: Julian Keenan
Start Date: September 2023
Distribution: Wicklow County Council
Clients Design Team
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Document Status: LAP Re-zoning Submission

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1 INTRODUCTION

1.1 General

1.1.1 Trafficwise Ltd. has been retained by **McCutcheon Halley Chartered Planning Consultants** to carry out a Traffic and Transport Appraisal in relation to lands at Fernhill, Dublin Road, Wicklow, the former Girl Guides Site and in support of a submission which is being made to the Draft Wicklow Town – Rathnew Local Area Plan 2025 on behalf of the **Delahunt Family**.

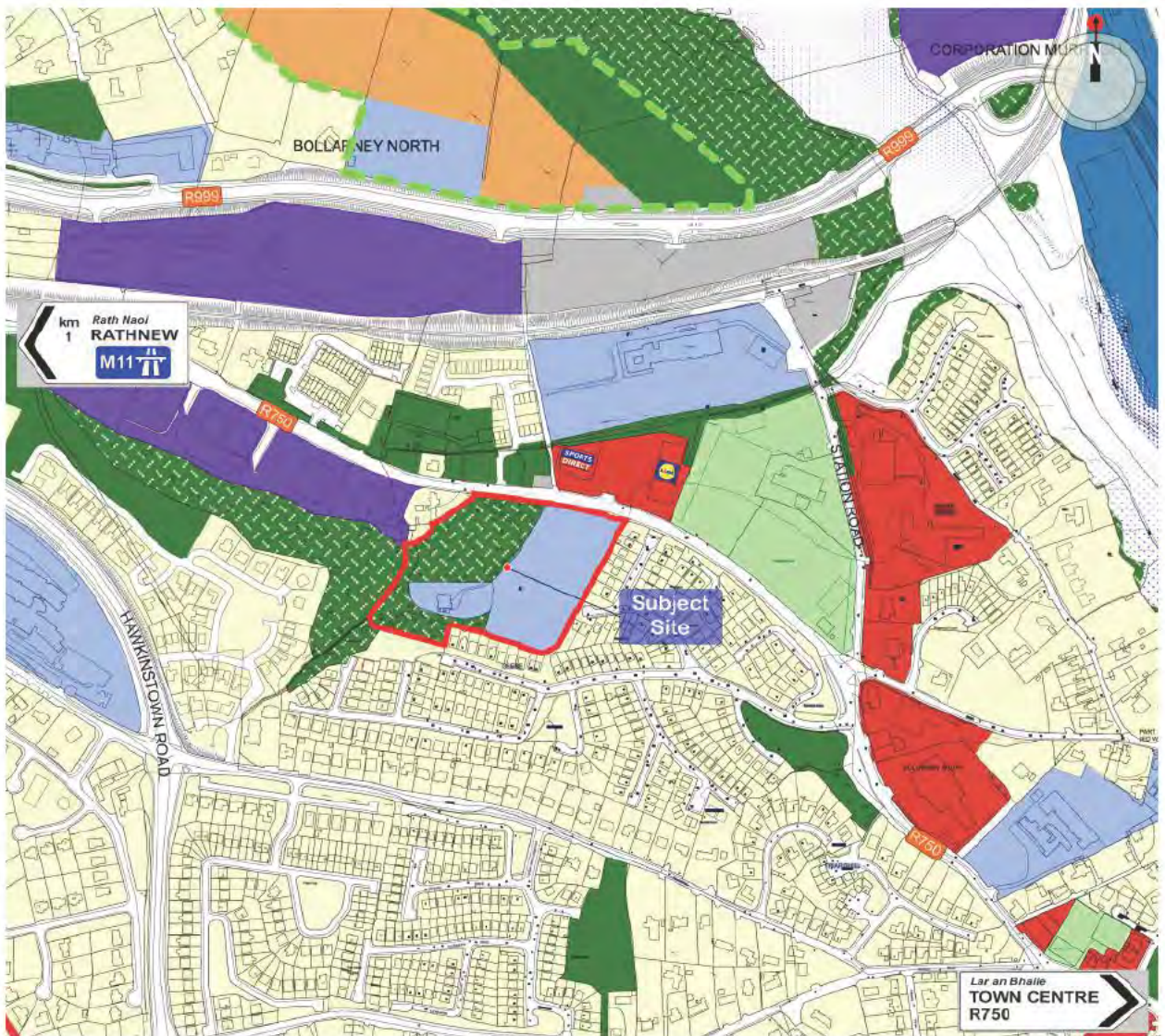


Figure 1.1 Location of Subject Site (Source: LAP, Map 1, Land Use Zoning Objectives, annotation by TWL Ltd.)

1.1.2 The site is outlined in red in **Figure 1.1**, which is an excerpt of the Draft Wicklow Town-Rathnew Local Area Plan 2025 (Draft LAP), Map 1 'Land Use Zoning Objectives'. The subject lands are shaded light blue to the east and are currently proposed to be

zoned 'CE – Community & Education'. The western part of the site is shaded green and is a wooded area zoned 'OS2 – Natural Areas'. The development site is an irregular quadrilateral measuring 3.17 ha and occupies a central location within the Draft LAP boundary. To the north, it is bounded by Regional Road R750 'Dublin Road'. To the east and south, it is bounded by existing residential development.

1.1.3 The submission requests a change from the current Draft LAP proposed 'CE - Community & Education' zoning to 'RN1 - New residential Priority 1', with Fernhill House remaining in community use. The wooded area comprising the western site of the site, zoned 'OS2 – Natural Areas', will remain unchanged and used as a natural amenity area for future residents and the local community. Feasibility studies and preliminary roads and site infrastructure designs suggest that the rezoned lands could potentially accommodate around 61 no. residential units, including a mix of houses, duplex units and apartments.

1.1.4 This appraisal aims to describe the existing receiving road network and to evaluate transport issues related to site access, pedestrian, cyclist, and public transport accessibility. It demonstrates that the current and emerging network can suitably cater for traffic generation and travel demand arising from a potential rezoning. The appraisal emphasizes permeability, movement of vulnerable users, and accessibility to public transport modes. It also examines potential vehicular access arrangements for long-term access to R750 Dublin Road compatible with urban development principles and also examines an interim access arrangement consistent with the existing Regional Road R750 along the site frontage.

2.1 Location and Transportation Network

2.1.1 The site is outlined and shaded red in **Figure 2.1 'Site Location'**, which highlights the receiving roads and local landmarks. The subject lands are zoned 'CE - Community & Education' as defined in the Draft LAP. The development site is irregularly shaped and located centrally within the Draft LAP boundary. Access is currently via R750 Dublin Road. It is proposed to access the re-zoned residential lands via a new access on R750 Dublin Road located approximately 100m east of the existing site access. To the south and east, the site is bounded by residential lands at Glebemount, the western side of the development is woodlands, and to the north the site fronts onto R750 Dublin Road.



Figure 2.1 Site Location

2.1.2 Wicklow enjoys excellent national road network connectivity, located at the core of an arterial network of regional and national roads. Wicklow Town has strong north-south connections via the M11/N11 and regional routes to neighbouring towns and rural areas. The M11/N11 motorway runs along the coast, connecting Wicklow to Dublin and Wexford. The R750 Dublin Road directly connects Wicklow Town to the M11, while Regional Roads R751, R761, and R752 provide local connectivity to coastal

towns and inland towns like Rathdrum. Local roads and the Wicklow Town internal road network create a compact and accessible urban layout with pedestrian-friendly roads, especially along the main street and near the waterfront.

2.2 Local Transport Assessment

2.2.1 Draft Wicklow Town-Rathnew Local Area Plan 2025, Appendix 1, '*Local Transport Assessment*' states that Chapter 12 of the Wicklow County Development Plan 2022 addresses Sustainable Transportation. The Draft LAP is intended as subsidiary to the County Development Plan. The Local Transport Assessment applies the County Development Plan objectives at the local level and considers transportation in shaping land-use objectives. It also identifies local transportation actions and objectives to support the sustainable development of Rathnew and Wicklow Town.

2.3 Car/Bike Sharing

2.3.1 GoCar has a car sharing location in Lidl Wicklow directly opposite the subject site. The GoCar website shows that there are two cars available. We can find no evidence of a bicycle schemes operating in Wicklow.

2.4 Receiving Pedestrian and Cycling Environment

2.4.1 The Local Transport Assessment lacked detailed survey data on pedestrian and cycling infrastructure in Wicklow Town and Rathnew. However, in formulating the Assessment, Ordnance Survey Ireland data was used to identify some of the footpath and cycle network in the settlement. The relevant footway network is shown on Local Transport Assessment Map 7B.

2.4.2 All main routes connecting the subject site to Wicklow Town and Rathnew have street lighting and segregated footways. There are several local uncontrolled crossings at key access junctions to commercial and residential developments. Only the more recently constructed crossings have tactile paving.

2.4.3 **Figure 2.2** is an excerpt from Draft LAP, Appendix 1, Map 7B, showing the principal routes to the development site, serving the town centre, and the train station. The traffic signal junction of Station Road with R750 Dublin Road is the closest controlled pedestrian crossing to the subject site.

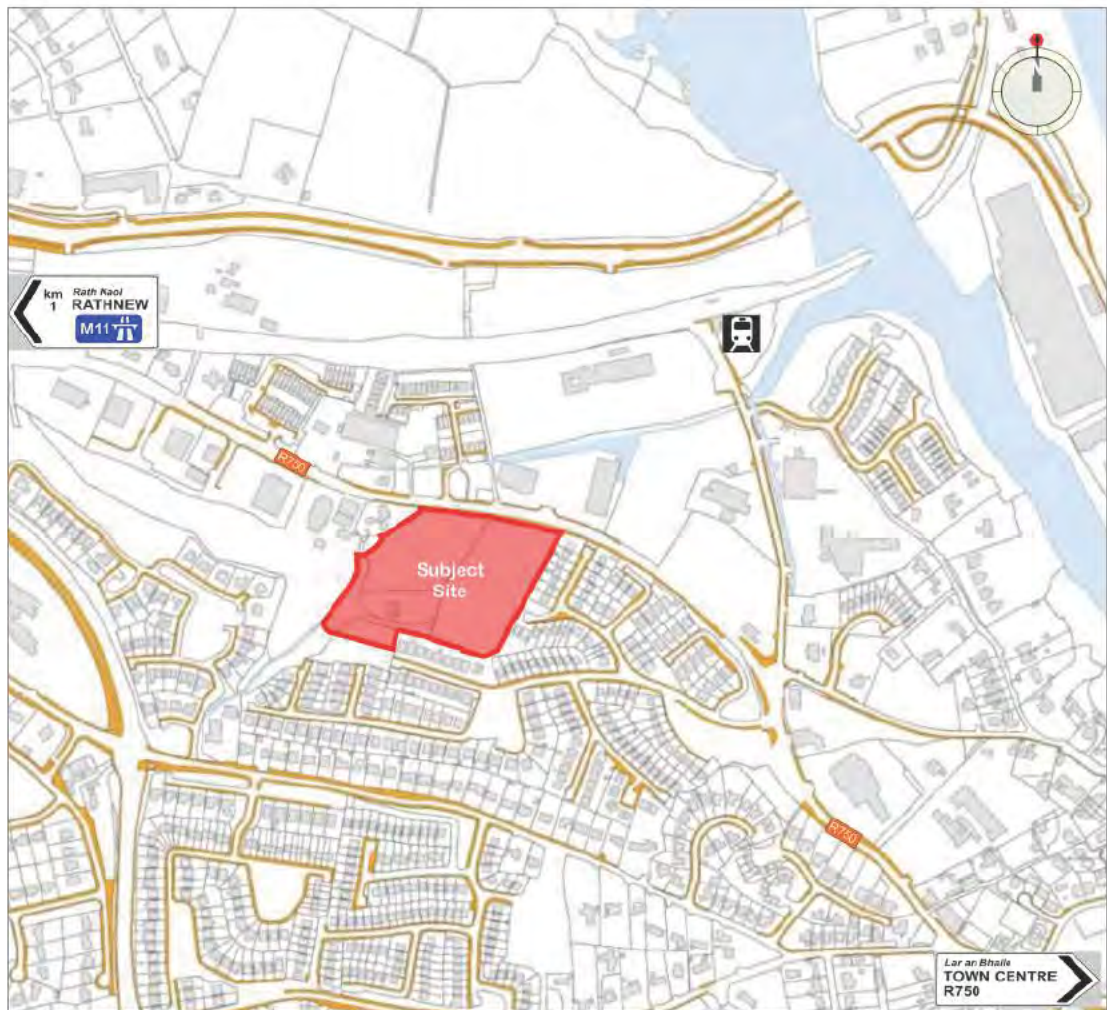


Figure 2.2 Existing Footway Provision (Source DLAP, App. 1, Map 7B annotation by TWL)

2.4.4 **Figure 2.2** shows those routes provided with footways highlighted on the relevant side of the carriageway. There is a footway on both sides of R750 Dublin Road that continue into Wicklow Town. To the east of the site the connection to Rathnew reduces to one footway on the southern side until the road underpasses the railway whereafter footways are provided on both side of the road.

2.4.5 The cycle network in the vicinity of the subject site are shown on Local Transport Assessment. Map 8B 'Cycleways Network'. Map 8B is reproduced in part and annotated in **Figure 2.3**.

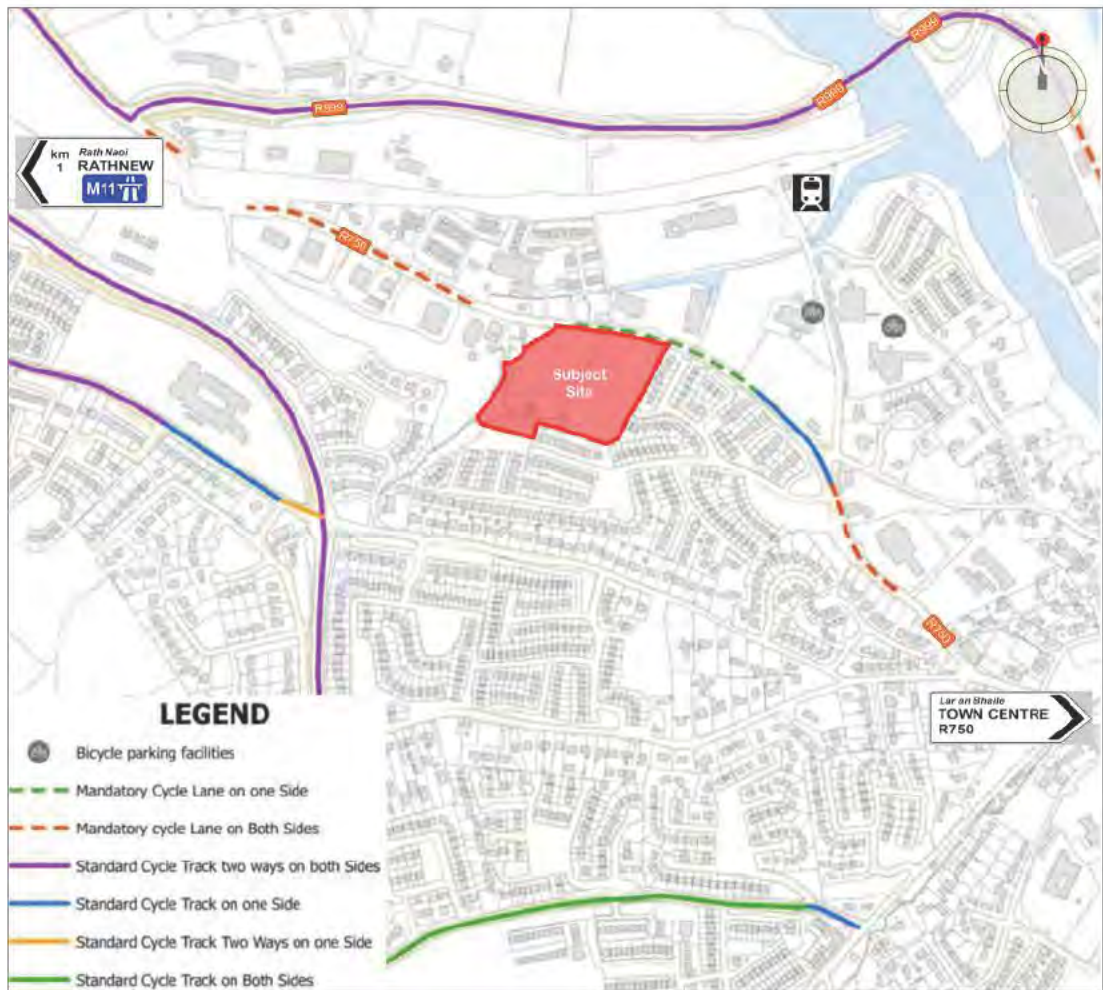


Figure 2.3 Existing Cycleways Network (Source DLAP, App. 1, Map 8B annotation by TWL)

2.4.6 Regarding footway and cycleway provision the Local Transport Plan concludes that:

“Whilst the vast majority of public roads have footpaths, the pedestrian environment does not appear to be of sufficient quality or convenience to induce an increased percentage in residents using walking as a means to travel to school or work (as detailed in statistics previously presented). This is notwithstanding the fact that a significant proportion of residents live within a 10-minute walk of a primary school or a 15 minute walk of a secondary school.” (Source DLAP, App. 1, §22)

2.4.7 The Local Transport Assessment shows isochrones for 15-minute walk distances to primary schools within the LAP area. Draft LAP, APP 1, Map 9 shows the subject site centrally located within 15 minutes of 3 no. primary schools, including ‘Glebe National School’, ‘St. Patricks National School’, and ‘Wicklow Educate Together’ on Hawkinstown Road. Draft LAP, APP 1, Map 10 shows the development site within 15 minutes of 3-4 no. post-primary schools, with ‘East Glendalough School’ closest to Wicklow Train Station. ‘Wicklow College’ is west of the site on Hawkinstown Road,

while 'Educate Together Secondary School' is east near the Tesco Superstore on R750 Dublin Road.

2.4.8 The Local Transport Assessment lists schemes and initiatives to improve pedestrian and cycle infrastructure, such as the Wicklow Town Pathfinder Scheme between Wicklow Train Station and Abbey Street via R750 Dublin Road. It recommends new development focus on locations with high-quality existing pedestrian and cycle infrastructure, especially built-up urban centres.

2.4.9 The centre of the R750 Dublin Road site frontage of the subject site is approximately 300m west from the Pathfinder Scheme alignment.

2.5 Public Transport

2.5.1 Train Service

2.5.1.1 The centre of the subject site is about 800m from the train station; a 10-minute walk. Wicklow Town is served by the Dublin to Rosslare mainline, with single track from Rosslare to Bray and double track northwards to Dublin. There are six weekday services in both directions, with reduced services on weekends. The NTA currently funds planning and design work to improve the rail offer at Wicklow Train Station. Monday to Friday, Dublin Connolly to Rosslare Europort stops at Wicklow Station at 10:49, 14:45, 17:45, 18:45, 19:46, and 21:21 (only the first four continue past Wexford). On Saturdays and Sundays, there are three services.

2.5.2 Bus Services

2.5.2.1 Wicklow Town has several bus routes listed in the Local Transport Assessment:

- 131: Wicklow - Rathnew - Ashford - N'kenedy -Kilmacanogue - Bray
- 133: Wicklow - Rathnew - Ashford - Newtownmountkennedy - Dublin
- 740a: Arklow - Wicklow Town - Rathnew - Kilmacanogue - Dublin
- 183: Local Link.

2.5.2.2 Bus stop ID 102421 (Wicklow Lidl) on R750 Dublin Road serves eastbound services of 131 and 133. Wicklow Lidl is located directly opposite the subject site. Bus stop ID 106081 (Tesco Wicklow) on R750 Dublin Road serves westbound services of 131 and 133 and TFI Local Link 183. The Tesco Wicklow stop is approximately 500m from the

site centre whether using the R750. Were a cycle/footway permeability connection achieved to the neighbouring Glebemount, the distance would be similar but would be mostly along quieter streets with footways.

2.5.2.3

Bus Éireann operates Route 131 on behalf of Transport for Ireland (TFI). It runs between Bray and Wicklow, with a weekday service stopping at Wicklow Lidl at 08:16 hrs and every hour thereafter until 23:14 hrs. A similar service operates on weekends. The westbound service stops at Tesco Wicklow at 07:29 hrs and every hour thereafter until 22:40 hrs. Route 133 extends between Dublin and Wicklow. It stops at Wicklow Lidl on weekdays at 07:31 hrs and every hour thereafter until 23:31 hrs (with a late service at 01:23 hrs). The westbound service stops at Tesco Wicklow at 05:10 hrs and every hour thereafter until 23:10 hrs. **Figure 2.4** shows the existing bus routes in the Wicklow Public Transport Network, Wicklow Town, and in relation to the above bus services.



Figure 2.4 Wicklow Public Transport Network¹

¹ Source: www.nationaltransport.ie excerpt Wicklow Public Transport Network map

2.6 Transport for Ireland Local Link

2.6.1 Transport for Ireland (TFI) Local Link Route 183 provides a regular bus service that operates on a fixed route and run on a scheduled timetable, just like any other public transport bus service. The timetables are designed to make it easy to connect with Bus Éireann commercial bus services and Iarnród Éireann rail networks.



Figure 2.5 Connecting Ireland Proposed Network Maps 2021

2.6.2 New and enhanced TFI Local Link services are being added to the Transport for Ireland network as part of the Connecting Ireland Rural Mobility Plan which is a major national public transport initiative developed and funded by the National Transport Authority (NTA). **Figure 2.7** shows the proposed public transport network for Wicklow.

2.7 N11/M11 Bus Priority Interim Scheme

2.7.1 The ‘N11/M11 Bus Priority Interim Scheme’, is progressing as a multi-authority project involving Transport Infrastructure Ireland (TII), the National Transport Authority (NTA), Wicklow County Council and Dún-Laoghaire Rathdown County Council. Kildare National Roads Office has been appointed to project manage the scheme. Wicklow County Council has appointed technical consultants to progress the planning and design of the project.

2.7.2 The objective is to develop a proposal for the provision of bus priority measures (in both directions) during peak periods on the N11/M11 national road. Priority facilities will be used by buses/coaches to avoid congested traffic lanes and will help to make travelling by bus more attractive and thus reduce car dependency. Work is progressing to the final preferred option route which is expected to be published in late Q1, 2025.

3 POTENTIAL DEVELOPMENT

3.1 General

- 3.1.1 This feasibility study suggests that the subject site, if rezoned to 'RNI - New residential Priority 1' has the potential for a development consisting of a total of 61 no. residential units (39 no. houses, 14 no. duplex units and 8 no. apartments).

3.2 Receiving Road

- 3.2.1 The northern boundary of the subject site is along R750 Dublin Road over which the site enjoys approximately 160m of road frontage. The Local Transport Plan characterises R750 as follows:

"High standard road quality (good width, alignment, pedestrian facilities on both sides, cycle lanes, public lighting)."

- 3.2.2 The Local Transport Assessment also notifies the section of R750 Dublin Road onto which the site fronts as 'Segment 2: Railway Underpass to Grand Hotel'. The following narrative is provided with respect to the existing environment.

"Once the chicane south of the railway bridge is passed, this road improves having undergone works in the last 15 years, with the route being widened in parts to accommodate new development along this segment including some central median right turning lanes. The width improvements are not continuous and consistent however with one exchanging between narrower and wider parts approximately 5 times along the segment. There are partial cycleways on the segment and a continuous but narrow footpath on the west side, but a footpath only starts on the east side at Highfield Court. This footpath on the eastern side is only continuous starting from Bollarney Woods.

After the Whitegates junction (adjacent to Tesco) this segment continues up to the Grand Hotel, the junction with the Marlton Road. This part of the segment is more urban, with multiple entrances, pedestrian crossing, bus lay bays; there is adequate vehicular carriageway width for these functions and has footpaths on both sides, but no cycle lanes."

- 3.2.3 The following **Figure 3.1** shows the existing road layout along the frontage of the subject site whilst **Figure 3.2** shows the potential location and configuration of an access serving the subject lands directly from R750 Dublin Road. Since the Local Transport Assessment envisages that the configuration of the existing carriageway cross section will alter in the future and perhaps within the period of the Draft LAP, the layout shown in **Figure 3.2** is presented as a potential interim solution aimed at serving the development of the subject site. The interim layout is designed so

as to be consistent with the existing road layout and to be compatible in particular with the layout of the right turning lane serving the existing access into Lidl Wicklow on the northern side of R750 Dublin Road.

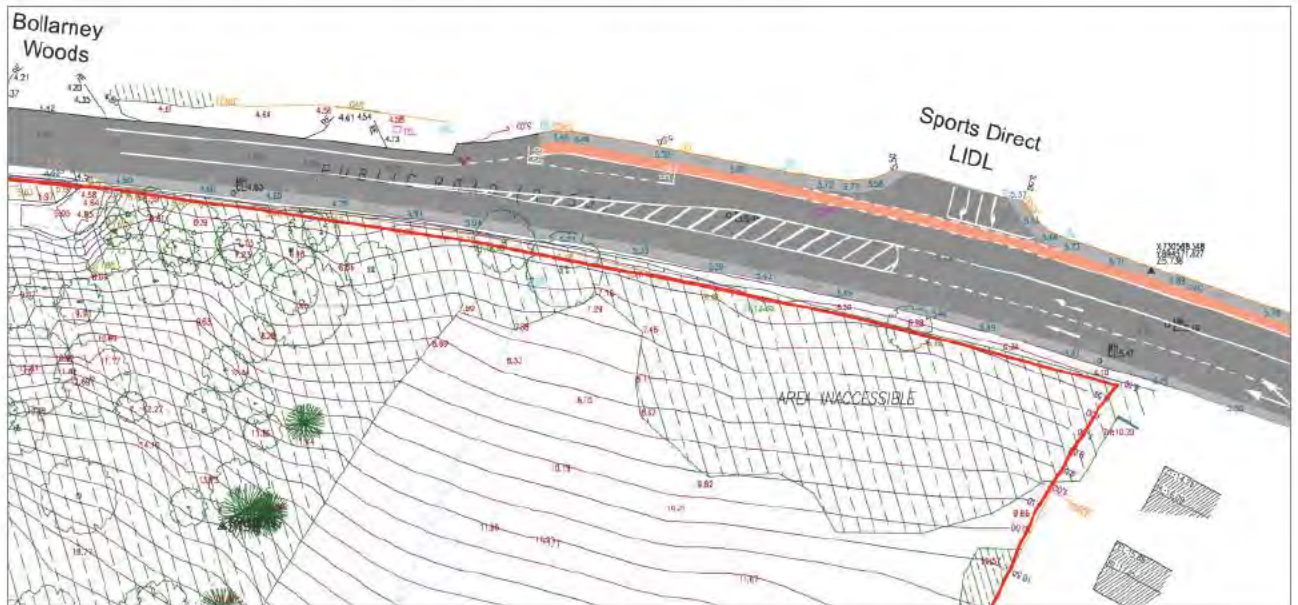


Figure 3.1 Existing Configuration of R750 Dublin Road at Subject Site Frontage

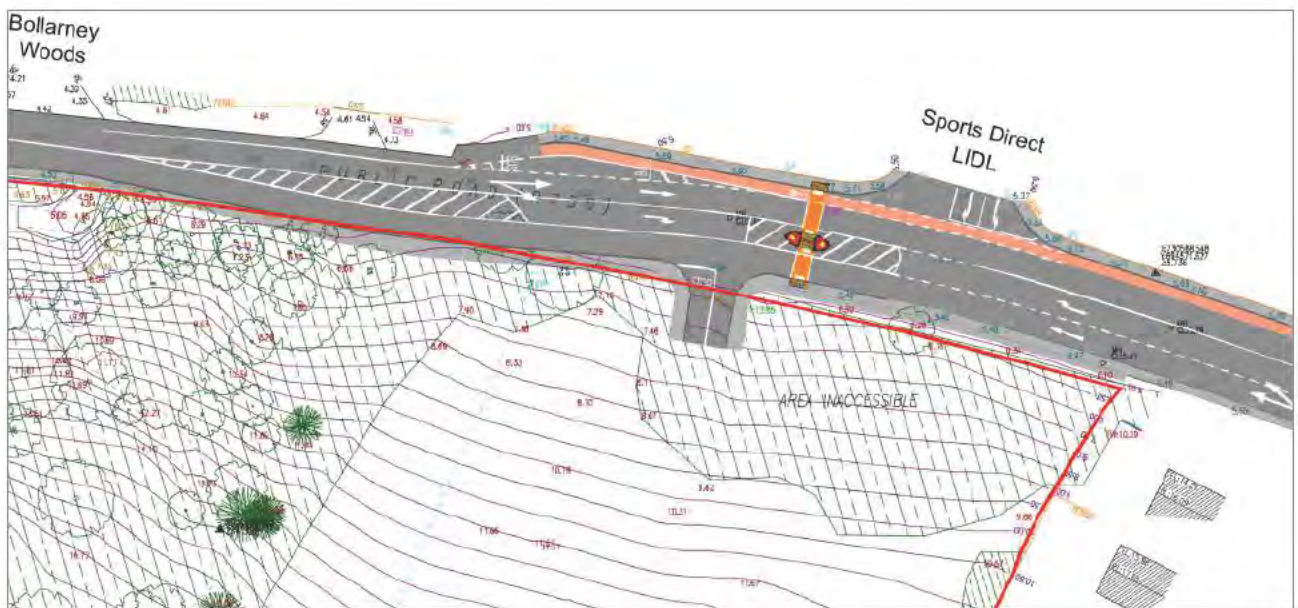


Figure 3.2 Potential Interim Configuration of Direct Access to Subject Site

3.2.4 In brief the potential layout includes for an extension westward from the right turn lane serving Lidl, thus providing an opposing standard width right turning lane into the proposed development (re-zoned lands). There are currently no pedestrian crossings on R750 Dublin Road locally so the layout includes for a two-stage dropped crossing which serves to physically split the opposing right turning lanes. The ghost island taper starts at the access to Bollarney Woods and so does not

interfere with the operation of that access. The position of the pedestrian crossing is at the start of the left turning radius to the Lidl junction. These constraints at the extremities of the access junction layout are key to the interim location of the development access.

3.2.5 The recommendations of the Local Transport Assessment with respect to R750 Dublin Road (Segment 2) reads as follows:

"The route, from the railway underpass as far as Station Road junction, should be upgraded to provide for more consistent width and overall quality, with continuous footpaths and cycleways on both sides. Consideration should be given to reducing current carriageway width and/or removal of central right turning lanes in order to devote more road spaces to pedestrian and cyclists, especially given the high quantum of residential land use along this route. This route should not be considered for any further residential or community developments until such improvements are committed. 'Greening' of this route is also recommended."

3.2.6 The development of the subject site for residential and community uses is not considered likely to prejudice the improvement of the R750 Dublin Road as per the above recommendation. Whilst the future may see the central island removed in favour of giving more space to cycle and pedestrian uses it stands to reason that a proposal for access to the site must initially be consistent with the existing receiving roads environment. **Figure 3.2** presents a reasonable layout which complies with the geometric standard for national roads. **Figure 3.2** includes for a 2.0m footway along the site frontage and it is envisaged that in the future when the road is transformed the 3.0m wide central island would likely satisfy much of the space needed to provide additional cycle and footway infrastructure. The likely future configuration of the R750 Dublin Road is not yet known. The Local Transport Assessment presents various general layouts for existing cycle lanes. It is considered reasonable that the future road will likely include 2.0m wide footways in both directions and 2.0m wide cycleways in both directions. The mainline carriageway would likely be 6.0m in width. This cross-section is accommodated at the entrance to Bollarney Woods eastward which encompasses the entire road frontage of the development site for which the proposed re-zoning applies. Were it desirable to have say a 2.0m wide grass margin with trees on one side of the road (southern side seems more feasible) this can easily be accommodated by a setback of the boundary to the subject site by approximately 1.5m from the back of the footway shown in **Figure 3.2**. Assumed that all future road widening would be achieved only on the southern side, it is noted that the further west along the frontage of the landholding (beyond re-zoning lands and toward woodlands to west) the greater the required setback. The woodlands opposite Bollarney Woods

are not proposed to be developed and so the frontage will be available should it be required to achieve the desired future road cross-section.

3.2.7 **Figure 3.3** below shows the potential set back arising along the landholding to accommodate the provision of a 6.0m carriageway adjoined by 2.0 cycleways and 2.0m footways on both sides (total width 14m). **Figure 3.3** confirms the above and shows that the lands for which the rezoning is proposed can accommodate the cross section with room to spare. As set out, the existing road to the west is narrower and thus the encroachment of the assumed cross section is more pronounced along the wooded area to the west.

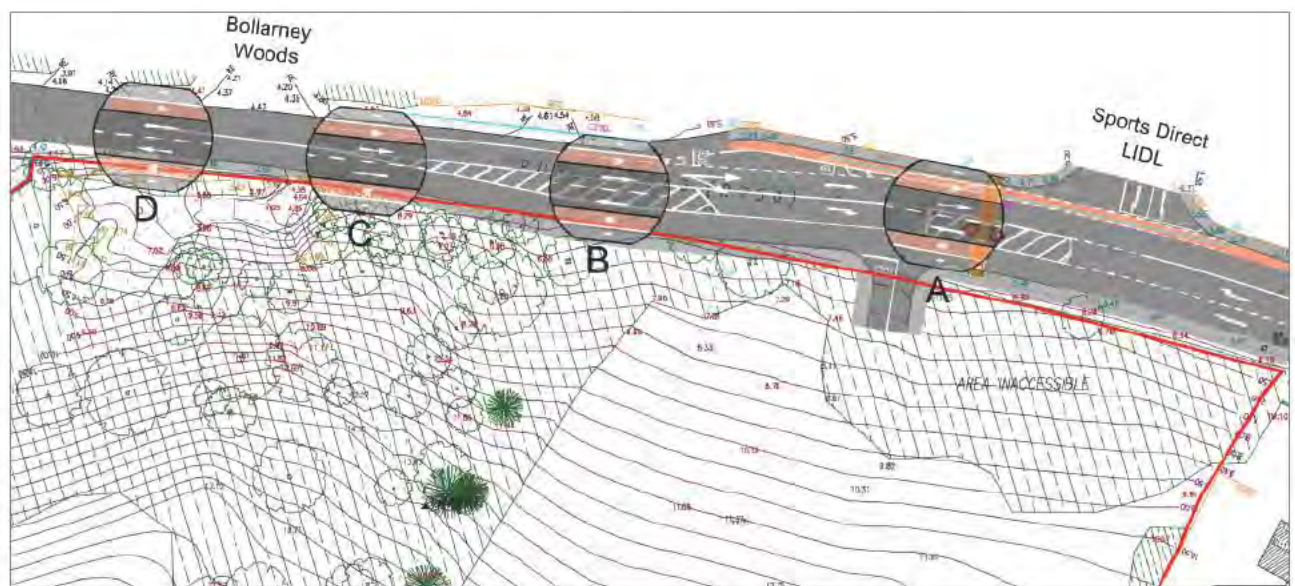


Figure 3.3 Potential Interim Configuration Overlain by Future Cross Section

3.2.8 **Figure 3.3** shows the assumed cross section in bubbles marked 'A' through 'D'. Along the frontage of the subject lands at 'A' the set back from the new road edge to the back of the footway is approximately 1.5m and so there is space in the road width of the interim layout not only to accommodate 2 x footways, 2 x cycleways and 6.0m carriageways but also the capacity to accommodate a grass verge if required. At 'B' a new road cross section of 14m is accommodated. At 'C' the setback into the woodland part of the landholding is approximately 3.0m whilst at 'D' a land take to 4.0m would be required to facilitate the road widening to a total cross sectional width of 14m (only using the southern side of the R750).

3.2.9 The requirements for visibility sightlines at the access location are in the order of 65m by reference to the Design Manual for Urban Roads and Streets (Table 4.2). Given the extent of the road frontage together with the setback of the road there is no obstruction to the achievement of the required standard of sight distance and stopping sight distance at and on the approaches to the identified site access location. This applies to both the long-term and interim arrangements.

4.1 Estimating Trip Attraction

4.1.1 In the context of estimating trip attraction there are four principal assessment methodologies that are commonly used and are considered appropriate in various scenario, these are:

- First Principles
- Comparison with similar existing developments
- Complex Models

4.1.2 In its simplest form the comparison method involves comparing the proposed development with a similar existing development and applying survey information from that site to the proposed development. Some criticism can be directed at the appropriateness of relying on data from a single site although this can be justified in some particular cases. Trip attraction databases such as TRICS provide data on a larger number of sites for a range of land uses and these databases are often referenced since they provide a more comprehensive source of data.

4.1.3 The TRICS (Trip Rate Information Computer System) database has been used to establish representative traffic generation rates for the development. The TRICS criteria selected to model the likely trip rates of the proposed residential development is '03-Residential, A-Houses Privately Owned'. The trip rates in TRICS for apartments are approximately half that of houses. The proposed development includes duplex units and apartments however in the interest of a robust calculation all units in the development are treated as houses. Results for the TRICS database were returned from a selection of 17 no. sites located in residential zones comprising a total of 90 no. survey days with 13 no. being edge of town centre, 37 no. suburban, 33 no. edge of town and 13 no. neighbourhood centre. The selection of survey days is spread evenly over the days of the week excluding Saturday and Sunday.

4.1.4 The purpose of this assessment is to quantify the traffic generation of the development of the subject lands and to identify the likely potential level of traffic arising from a potential residential development. The following **Figure 4.1** is derived from the forecast TRICS rates and provides an estimate of the total traffic generation forecast as arising from the development of the subject lands.

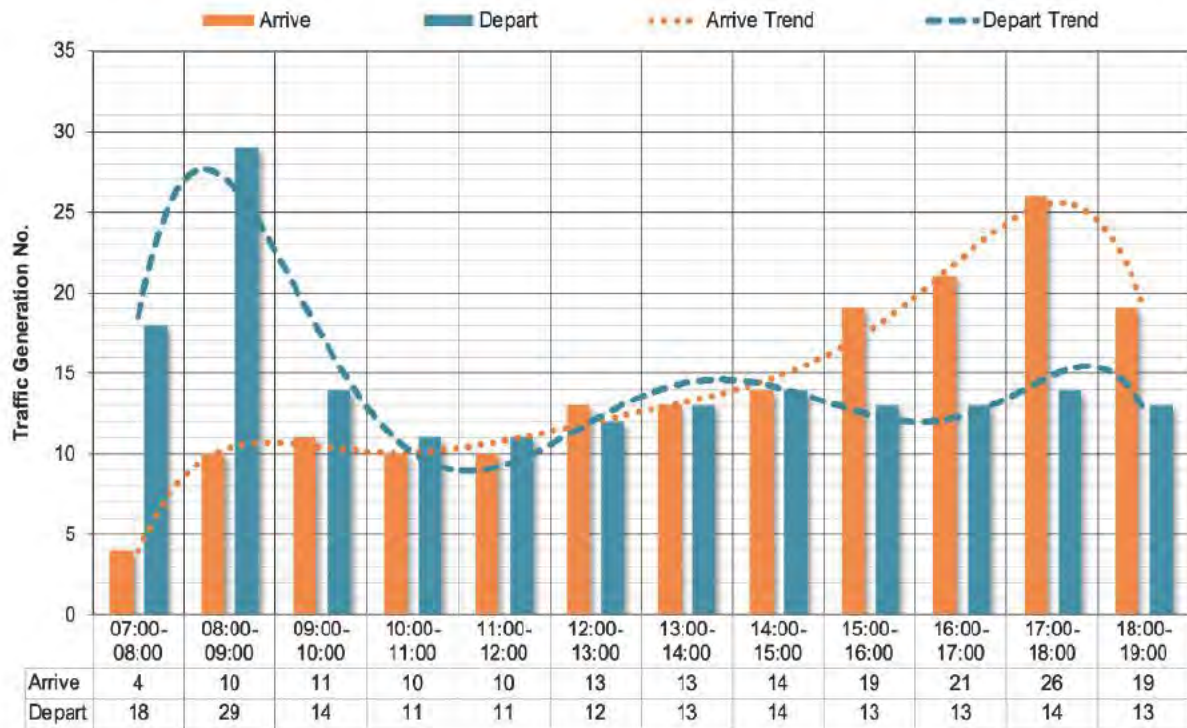


Figure 4.1 TRICS Based Traffic Generation Rates – Residential

4.1.5

In the context of the receiving road environment, the traffic generation of the potential development is not of an order that could reasonably be considered likely to give rise to a significant impact upon the function or capacity of R750 Dublin Road.

5.1 Introduction

5.1.1 The Design Manual for Urban Roads and Streets (DMURS), published by Department of Transport, Tourism and Sport and the Department of Environment, Community and Local Government, provides guidance relating to the design of urban roads and streets. It presents a series of principles, approaches and standards that are necessary to achieve balanced, best practice design outcomes with regard to networks and individual streets.

5.2 General

5.2.1 A preliminary roads and site layout has been prepared to demonstrate the feasibility of developing the subject lands into a pleasant living environment. The layout aligns with the general principles and guidance of the DMURS, aiming to create a sustainable community with safe and pleasant walking and public transport networks, reducing the reliance on private cars, especially for local movement.

5.2.2 The internal road links respect the DMURS principles and standards through a carefully aligned 5.5m circulating carriageway width for the main spine road, connected to R750 Dublin Road.

5.2.3 A mix of shared streets with adjoining footways or segregated pedestrian areas links housing units to the main spine road and potentially to the exiting footway network of Glebemount to the east.

5.2.4 The challenging site topography necessitates the internal spine road to follow a winding ascent from R750 Wicklow Road. The initial 10-15m adjacent to R750 Dublin Road is a dwell area with a flat or nearly flat gradient of less than 4%. A coordinated horizontal and vertical alignment ensures maximum gradients on straight sections and lesser gradients on bends. Longer straight gradients are interrupted with landing areas with crossings. The proposed street layout uses lower-order corner radii at bends and junctions, minimizing straight street links. Landscaping and road texturing at ends/turnaround roads create a sense of place and contribute to a low-speed traffic environment suitable for shared use and vulnerable road users and pedestrians.

- 5.2.5 The internal road network prioritizes safe movement of various road users. Design solutions like wide footpaths, varied road surface treatments, pedestrian crossings, tight radii, road markings, and shared and segregated spaces have been established and assigned. The feasibility layout of the internal road network has been developed with demands, and limitations associated with other engineering and design elements, such as drainage, structures, utilities, and landscaping.
- 5.2.6 The public realm and internal scheme layout should be uncluttered, with only necessary signage and diverse surface materials for comfort and attractiveness. Vehicular infrastructure dimensions ensure safe circulation and low speeds. Site layout features enhance legibility and comfort for pedestrians and vulnerable road users, balancing transport modes and prioritising pedestrians, as recommended by DMURS. However, it still facilitates easy and safe vehicular movements.
- 5.2.7 Pedestrian movement is accommodated through shared surfaces and roadside facilities and crossings. Connections to woodlands to the west provide leisure walking facilities, benefiting the development and neighbouring Glebemount. Pedestrian crossing points are highlighted with contrasting surface materials.
- 5.2.8 The scheme layout aims to connect key local attractions and amenities through permeable links within the proposed development and neighbouring areas. Street and footway linkages prioritize sustainable travel options and provide suitable environments for vulnerable road users. The centre of the site is within a 10-15 minute walk of bus stops and Wicklow Train Station, offering greater modal choice and direct, attractive, and safe links to local services.
- 5.2.9 Dedicated cycleways are not provided on the internal street network. Given the low vehicular traffic volumes (<200 AADT), cyclists share the road with vehicles as per Section 3.1.4 of the Cycle Design Manual '*Low Traffic Neighbourhoods*'.
- 5.2.10 The street layout considers existing boundary conditions, site topography, future development, watercourses, and hedgerows. The resulting network is based on a loose grid pattern with curvature introduced on all streets and straight sections divided through raised crossings, reducing them to 50-70m in length. Pedestrian linkages are prioritized to connect with adjoining residential development to the east and the adjoining woodlands to the west.

5.2.11 **Figure 5.1** shows the general road network provision throughout and around the development, indicating active travel connections to neighbouring residential development and the woodlands to the west.

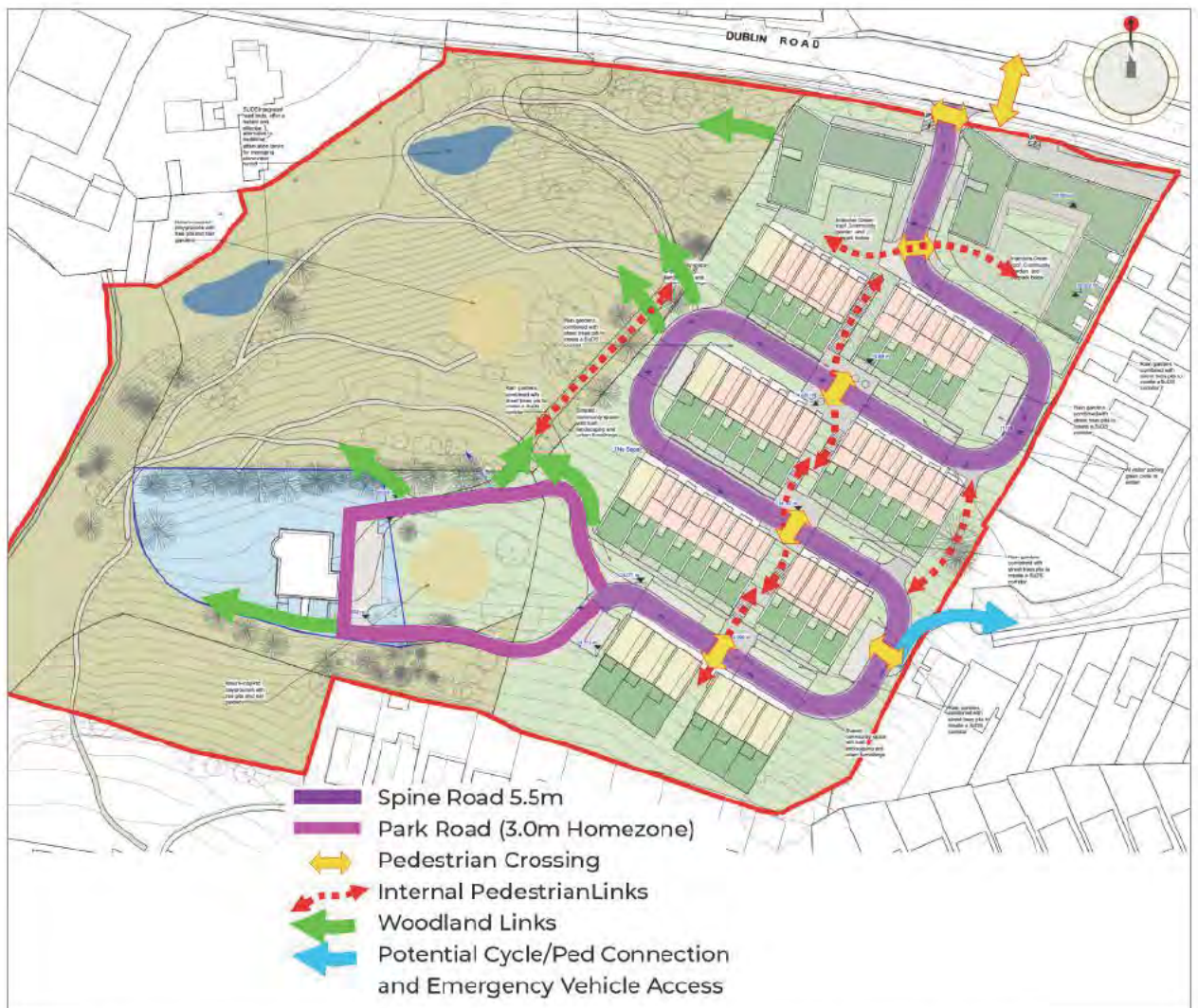


Figure 5.1 Feasibility Internal Roads and Pedestrian Provision and Connections

5.2.12 The proposed development road/street infrastructure layout ensures provision for potential permeability. The main links to the town centre are along Dublin Road and potentially along Glebemount residential roads. Pedestrian/cycle linkages demonstrate the potential for future permeability and connections.

5.2.13 The proposed street layout achieves a balance between functional requirements and enhances the sense of place, consistent with DMURS principles. It encourages a low-speed, high-quality residential environment through self-regulating streets.

- 5.2.14 Specific features of the street network and scheme design ensure the achievement of DMURS objectives, including permeability, self-regulation, and a low-speed, high-quality residential environment.
- 5.2.15 The multidisciplinary approach to designing the locations for access and egress onto the surrounding footpath and road network, as well as the internal footpath and walkway network, involved input from Architects, Civil Engineers, Landscape Architects, and Transportation Planners. The Landscape Architect, Transportation Planner, and Civil Engineers worked closely to design a SuDS drainage system that would distribute rainwater to the ground around the site without interfering with the hard landscaping for pedestrian use and the existing drainage systems. The Architect also provided designs that integrated lighting, building access, and landscaping with the parking strategy and desire lines.
- 5.2.16 DMURS aims to achieve better street design in urban areas to encourage walking, cycling, and public transport by making the experience more attractive, safer, and pleasant. The strategy creates a self-enforcing low-speed environment to reduce unnecessary car use and to promote healthy lifestyles. DMURS also seeks to create communities with a sense of place.
- 5.2.17 The feasibility layout demonstrates the potential for the subject lands to accommodate residential development of the required standard.

6 SUMMARY & CONCLUSION

6.1 Summary

- 6.1.1 Trafficwise Ltd. conducted a Traffic and Transport Appraisal for lands in Wicklow, Ireland, to support a rezoning proposal. The appraisal evaluated the existing road network, pedestrian and cyclist accessibility, and potential traffic generation from a residential development. The appraisal concluded that the existing and developing future infrastructure can accommodate the likely traffic and that measures can be taken to enhance non-car transport modes and accessibility.
- 6.1.2 The subject site is centrally located within a 15-minute walk of three primary schools and three post-primary schools. It is also within a 10-minute walk of Wicklow Train Station and has bus stops on R750 Dublin Road, providing regular connections to Bray, Wicklow, and Dublin. The site has the potential for a development of 61 residential units, with a proposed direct access from R750 Dublin Road.
- 6.1.3 The proposed residential development on the subject lands is feasible, with a layout that accommodates the existing road environment and future road improvements. Development traffic generation is estimated to be low and not likely to significantly impact the function or capacity of R750 Dublin Road. The feasibility design shows that a residential development can incorporate the principles and guidance from the Design Manual for Urban Roads and Streets, and can create a sustainable and connected community that encourages alternative modes of transport.
- 6.1.4 The proposed internal road network for a potential residential development prioritises pedestrian and vulnerable road users, with a focus on low-speed traffic and shared spaces. The layout incorporates features such as raised crossings, varied road surface treatments, and pedestrian crossings to enhance safety and comfort. The design aims to create a self-regulating environment that encourages walking, cycling, and public transport use, promoting a sense of place and healthy lifestyles.

6.2 Conclusion

6.2.1 Having examined the Draft LAP and in particular the Local Transport Assessment together with the feasibility development assessment, we suggest, and invite Wicklow County Council to agree that there are substantive and material Roads and Transport related merits supporting the rezoning of the subject lands owned by the Delahunt Family. The site is well connected to road infrastructure and provides a high level of public transport accessibility.

6.2.2 We respectfully invite the Wicklow County Council to agree that the current proposal for rezoning of the lands from the current Draft LAP proposed 'CE - Community & Education' zoning to 'RN1 - New residential Priority 1', is well formulated and succeeds in providing a balanced approach to the provision of access, servicing and pedestrian welfare on the receiving roads network serving the subject lands and would therefore accord with the principles of proper planning and sustainable development.

Suite No. 5, Gowna Plaza
Bracetown Business Park
D15 R59T

Arboricultural Report

Feasibility Assessment

In relation to the development proposal at:

Fernhill House

Rathnew

Co. Wicklow

June 2024

CHARLES MCCORKELL
ARBORICULTURAL CONSULTANCY

1 Introduction

- 1.1 The purpose of this report is to inform design professionals working on a proposed development at the Fernhill House project of the key constraints imposed by the existing trees on the site.
- 1.2 The document should be read in conjunction with the Tree Survey & Constraints Plan 240532-P-10 and Tree Schedule 240532-PD-10.

2 Tree Survey

- 2.1 A walkover tree survey of the site was carried out on 11 June 2024. The survey provides preliminary information on the existing tree cover on the site. If the project progresses to the planning stage, a more detailed tree assessment will be required.
- 2.2 Existing trees and vegetation which may be of significance to the proposed development have been assessed in accordance with BS5837:2012. The Tree Survey & Constraints Plan illustrates the location of trees, the extent of the spread of their crowns and their estimated theoretical Root Protection Areas.
- 2.3 Each tree and group have been assigned a specific colour which relates to their quality and value as described within the BS5837:2012 Cascade Chart. A copy of this chart is located at the rear of the Tree Schedule. In short, trees/groups in green are of high quality (A Category), trees/groups in blue are of moderate quality (B Category), trees/groups in grey are of low quality (C Category) and trees/groups in red are of poor quality (U Category).
- 2.4 The Root Protection Area (RPA) for each tree and group is shown as a dashed magenta circle. The RPA indicates the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability.

3 Tree Constraints

- 3.1 There are a number of key constraints (both above and below ground) imposed by trees which are required to be considered as part of the development design. These have each been outlined below:
- 3.2 **Protected Trees** – The western woodland area of the site forms part of Burkeen Wood and is legally protected under Tree Preservation Order No.49 (TPO-49). This protected area is highlighted in Dashed Cyan on the Tree Survey & Constraints Plan. Within TPO-49, all trees, regardless of their age, size and species, are protected. The removal

or management of any trees within this area would require the permission of the Local Planning Authority.

- 3.3 This area is required to be retained and protected as part of any future development. There is one area to the south of the existing house that is covered in scrub that could be reviewed and discussed with the Local Planning Authority for possible development works. This area is highlighted in the Tree Survey & Constraints Plan. Compensation to replace the area of the protected woodland lost would likely be required. This would need to connect to the existing woodland.
- 3.4 Beyond the TPO-49 area, three trees of note should be retained and protected due to their high quality. These include two lime trees (T1 & T2) and a Monterey Pine (T8). These trees are of significance due to their age as they would have formed part of the estate's original landscape.
- 3.5 **Tree Loss** – Development proposals generally require the removal of trees. These should be confined to the low and poor quality and value (C & U Category) trees located within the area marked within the Potential Development Area on the Tree Survey & Constraints Plan. The trees and scrub within this area are of low quality and should not be deemed as a constraint to development works.
- 3.6 **Below-Ground Constraints** – Tree RPAs represent the below-ground constraints imposed by the existing trees. Incursions within these areas have the potential to have a detrimental impact on the health and stability of trees and, therefore, need to be assessed carefully. The most common impacts are due to altering site levels, changing surfaces from permeable to impermeable and excavating works, mainly for foundations and drainage.
- 3.7 Where trees are being retained, the default position as stated within the BS5837:2012 is that no works should occur within the RPA and, where this is unavoidable, special methods of construction should be carried out so as not to damage the tree. If a building or new area of hard standing is proposed within the RPA of a tree, specially engineered solutions must be explored. This may include the use of pile and above-ground beam foundations or a cellular confinement system.
- 3.8 The location of drainage and services will need to be located outside the RPAs of retained trees. A proposed drainage and services layout will need to be reviewed by the arboricultural consultant to assess the impacts and whether the retention of trees is both realistic and sustainable for the long term.

- 3.9 **Above-Ground Constraints** – The above-ground constraints are represented by the crown spread of the tree/group and the future growth of the tree/group. The future growth of a tree varies, depending on its age, species type and growth form. If looking to retain trees adjacent to buildings, future growth will need to be considered so that there is an acceptable separation between the crown of the tree and the building elevation. Daylight and sunlight levels will also need to be considered in this instance and if shading poses an issue.
- 3.10 **Design Considerations** – As the TPO woodland is located on the western side of the Potential Development Area, it is recommended that the rear gardens of properties do not back onto this area. The area would be better incorporated into a development if it was adjacent to a roadway that was located outside tree RPAs or an area of public open space.
- 3.11 **Mitigation** - Space should be allocated for new, high-quality tree planting which can help mitigate any loss of trees. The location of new tree planting should take into consideration the mature growing size of the tree to ensure that a harmonious relationship between the proposal can be sustained, for the long term, without the need for unnecessary pruning works. Selecting a diverse range of species should also be considered to make the tree population more resilient and less vulnerable to pests and diseases and climate change.
- 3.12 **Further Requirements** – As part of a detailed planning application, the local authority will require a detailed Tree Survey and an Arboricultural Impact Assessment and Method Statement report. They may also require a woodland management plan if the removal and planting of trees within the TPO-49 area is required to be carried out.

If you have any queries regarding the above, please do not hesitate to contact me.



Charles McCorkell B.Sc. (Hons), MICFor, MArborA

Arboricultural Consultant

Appendix A- Tree Schedule

240532 - Fernhill House

Tree ID	No. Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m)								Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m ²)	RPR (m)	Life expectancy (yrs)	BS Category
					N	NE	E	SE	S	SW	W	NW									
Tree T1	1 Tilia x vulgaris (Common Lime)	22.0	100	1	7.0	7.0	7.0	7.0	7.0	7.0	7.0	0.0		Mature	Structural condition Fair. Physiological condition Good.	11/06/2024	452.4	12.0	40+	B1	
Tree T2	1 Tilia x vulgaris (Common Lime)	22.0	100	1	7.0	7.0	7.0	7.0	7.0	7.0	7.0	0.0		Mature	Structural condition Fair. Physiological condition Good.	11/06/2024	452.4	12.0	40+	B1	
Tree T3	1 Chamaecyparis sp. (False Cypress)	15.0	50	1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	0.0		Early Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	113.1	6.0	20-40	C2	
Tree T4	1 Acer pseudoplatanus (Sycamore)	16.0	61 COM	6	6.0	6.0	6.0	6.0	6.0	6.0	6.0	1.0		Early Mature	Structural condition Fair. Physiological condition Good. Multi-stemmed.	11/06/2024	169.6	7.3	20-40	C2	
Tree T5	1 Pinus sylvestris (Scots Pine)	15.0	50	1	1.0	3.0	5.0	2.0	5.0	2.0	2.0	5.0		Mature	Structural condition Poor. Physiological condition Fair.	11/06/2024	113.1	6.0	10-20	C2	
Tree T6	1 Pinus sylvestris (Scots Pine)	15.0	65	1	4.0	6.0	5.0	3.0	5.0	3.0	3.0	1.0		Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	191.1	7.8	20-40	C2	
Tree T7	1 Thuja plicata (Western Red Cedar)	16.0	65	1	5.5	5.5	5.5	5.5	5.5	5.5	5.5	1.0		Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	191.1	7.8	20-40	B2	
Tree T8	1 Pinus radiata (Monterey Pine)	17.0	90	1	7.0	7.0	7.0	7.0	7.0	7.0	7.0	5.0		Mature	Structural condition Good. Physiological condition Good.	11/06/2024	366.4	10.8	40+	A1	
Tree T9	1 Fraxinus excelsior (Ash)	12.0	50	1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	3.0		Early Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	113.1	6.0	10-20	C2	

Stem **green** Estimated value

Stem **AVE** Average stem diameter for tree groups

Stem **COM** Combined stem diameter in accordance with BS5837

L.B. Height of lowest branch attachment (m) - where relevant

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240532 - Fernhill House

Tree ID	No. Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m)								Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m ²)	RPR (m)	Life expectancy (yrs)	BS Category
					N	NE	E	SE	S	SW	W	NW									
Group G10	1 Prunus spinosa (Blackthorn/Sloe)	4.0	15	1									0.0		Early Mature	Structural condition Fair. Physiological condition Fair. Thicket of blackthorn. Height and stem diameter are average for group.	11/06/2024	10.2	1.8	20-40	C2
Tree T11	1 Acer pseudoplatanus (Sycamore)	11.0	60 COM	4	5.0	5.0	5.0	5.0					0.0		Early Mature	Structural condition Fair. Physiological condition Good.	11/06/2024	162.9	7.2	10-20	C2
Tree T12	1 Acer pseudoplatanus (Sycamore)	15.0	70	1	6.5	6.5	6.5	6.5					0.0		Mature	Structural condition Fair. Physiological condition Good.	11/06/2024	221.7	8.4	10-20	C2
Tree T13	1 Acer pseudoplatanus (Sycamore)	22.0	103 COM	2	8.0	8.0	8.0	8.0					4.0		Mature	Structural condition Fair. Physiological condition Good.	11/06/2024	480.7	12.4	20-40	B2
Tree T14	1 Acer pseudoplatanus (Sycamore)	16.0	50	1	5.0	5.0	5.0	5.0					2.0		Early Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	113.1	6.0	20-40	B2
Tree T15	1 Fagus sylvatica (Common Beech)	24.0	90	1	7.0	7.0	7.0	7.0					5.0		Mature	Structural condition Fair. Physiological condition Good.	11/06/2024	366.4	10.8	40+	A1
Tree T16	1 Fagus sylvatica (Common Beech)	24.0	90	1	7.0	7.0	7.0	7.0					5.0		Mature	Structural condition Fair. Physiological condition Good.	11/06/2024	366.4	10.8	40+	A1
Tree T17	1 Acer pseudoplatanus (Sycamore)	20.0	90	1	8.0	8.0	8.0	8.0					4.0		Mature	Structural condition Fair. Physiological condition Good.	11/06/2024	366.4	10.8	20-40	B2
Tree T18	1 Acer pseudoplatanus (Sycamore)	12.0	45	1		5.0	5.0	5.0	3.0				0.0		Early Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	91.6	5.4	20-40	C2
Tree T19	1 Pinus sylvestris (Scots Pine)	20.0	80	1	5.5	5.5	5.5	5.5					11.0		Mature	Structural condition Fair. Physiological condition Good.	11/06/2024	289.5	9.6	20-40	B2

Stem **green** Estimated value

Stem **AVE** Average stem diameter for tree groups

Stem **COM** Combined stem diameter in accordance with BS5837

L.B. Height of lowest branch attachment (m) - where relevant

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240532 - Fernhill House

Tree ID	No. Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m)								Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m ²)	RPR (m)	Life expectancy (yrs)	BS Category
					N	NE	E	SE	S	SW	W	NW									
Woodlan W20	1 Pseudotsuga menziesii (Douglas Fir)	18.0	50 AVE	1								0.0		Early Mature	Structural condition Fair. Physiological condition Fair. Dense woodland area dominated by sycamore. Major are of an early mature age. Height and stem diameter are average for group. Quantities not recorded, only species mix.	11/06/2024	113.1	6.0	20-40	B2	
	1 Pinus sylvestris (Scots Pine)																				
	1 Ilex aquifolium (Holly)																				
	1 Fraxinus excelsior (Ash)																				
	1 Acer pseudoplatanus (Sycamore)																				
	1 Abies sp. (Fir sp.)																				
Tree T21	1 Acer pseudoplatanus (Sycamore)	20.0	80	1	6.0	6.0	6.0	6.0	2.0		Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	289.5	9.6	20-40	B2				
Tree T22	1 Cerasus avium (Wild Cherry)	12.0	50	1	6.0	6.0	6.0	6.0	1.0		Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	113.1	6.0	10-20	C2				
Tree T23	1 Pinus sylvestris (Scots Pine)	18.0	70	1		5.0	5.5	5.0	4.0	2.0		Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	221.7	8.4	20-40	B2			
Tree T24	1 Pinus sylvestris (Scots Pine)	18.0	70	1		5.0	5.0	5.0	5.0	2.0		Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	221.7	8.4	20-40	B2			

Stem **green** Estimated value

Stem **AVE** Average stem diameter for tree groups

Stem **COM** Combined stem diameter in accordance with BS5837

L.B. Height of lowest branch attachment (m) - where relevant

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240532 - Fernhill House

Tree ID	No. Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m)								Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m ²)	RPR (m)	Life expectancy (yrs)	BS Category	
					N	NE	E	SE	S	SW	W	NW										
Tree T25	1 Pinus nigra (Black Pine)	21.0	90	1		7.0		7.0		7.0		7.0		2.0		Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	366.4	10.8	20-40	B2
Tree T26	1 Pinus sylvestris (Scots Pine)	18.0	60	1		5.0		6.5		6.0		4.0		2.0		Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	162.9	7.2	20-40	C2
Tree T27	1 Acer pseudoplatanus (Sycamore)	14.0	60	1	5.5		5.5		5.5		5.5			0.0		Early Mature	Structural condition Fair. Physiological condition Good.	11/06/2024	162.9	7.2	40+	B1
Tree T28	1 Thuja plicata (Western Red Cedar)	16.0	100	1	4.5		4.5		4.5		4.5			1.0		Mature	Structural condition Poor. Physiological condition Fair.	11/06/2024	452.4	12.0	10-20	C2
Tree T29	1 Thuja plicata (Western Red Cedar)	22.0	120	1	4.5		4.5		4.5		4.5			1.0		Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	651.4	14.4	10-20	C2
Tree T30	1 Thuja plicata (Western Red Cedar)	22.0	100	1	4.5		4.5		4.5		4.5			1.0		Mature	Structural condition Poor. Physiological condition Fair.	11/06/2024	452.4	12.0	10-20	C2
Tree T31	1 Thuja plicata (Western Red Cedar)	22.0	70	1	4.5		4.5		4.5		4.5			1.0		Mature	Structural condition Poor. Physiological condition Fair.	11/06/2024	221.7	8.4	10-20	C2
Tree T32	1 Thuja plicata (Western Red Cedar)	22.0	130	1	4.5		4.5		4.5		4.5			1.0		Mature	Structural condition Poor. Physiological condition Fair.	11/06/2024	706.9	15.0	10-20	C2
Tree T33	1 Thuja plicata (Western Red Cedar)	6.0	50	1	2.0		2.0		2.0		2.0			1.0		Mature	Structural condition Poor. Physiological condition Dead.	11/06/2024	113.1	6.0	0-10	U
Tree T34	1 Thuja plicata (Western Red Cedar)	20.0	80	1	3.5		3.5		3.5		3.5			1.0		Mature	Structural condition Poor. Physiological condition Fair.	11/06/2024	289.5	9.6	10-20	C2

Stem **green** Estimated value

Stem **AVE** Average stem diameter for tree groups

Stem **COM** Combined stem diameter in accordance with BS5837

L.B. Height of lowest branch attachment (m) - where relevant

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240532 - Fernhill House

Tree ID	No. Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m)								Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m ²)	RPR (m)	Life expectancy (yrs)	BS Category
					N	NE	E	SE	S	SW	W	NW									
Tree T35	1 Thuja plicata (Western Red Cedar)	20.0	120	1	4.5	4.5	4.5	4.5	4.5	4.5	4.5	1.0		Mature	Structural condition Poor. Physiological condition Fair.	11/06/2024	651.4	14.4	10-20	C2	
Tree T36	1 Thuja plicata (Western Red Cedar)	6.0	50	1	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0		Mature	Structural condition Poor. Physiological condition Dead.	11/06/2024	113.1	6.0	0-10	U	
Tree T37	1 Thuja plicata (Western Red Cedar)	18.0	65	1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.0		Mature	Structural condition Poor. Physiological condition Fair.	11/06/2024	191.1	7.8	10-20	C2	
Tree T38	1 Thuja plicata (Western Red Cedar)	18.0	65	1	3.0	3.0	3.0	3.0	3.0	3.0	3.0	1.0		Mature	Structural condition Poor. Physiological condition Fair.	11/06/2024	191.1	7.8	10-20	C2	
Tree T39	1 Thuja plicata (Western Red Cedar)	18.0	80	1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.0		Mature	Structural condition Poor. Physiological condition Fair.	11/06/2024	289.5	9.6	10-20	C2	
Tree T40	1 Thuja plicata (Western Red Cedar)	18.0	130	1	5.0	5.0	5.0	5.0	5.0	5.0	5.0	1.0		Mature	Structural condition Poor. Physiological condition Fair.	11/06/2024	706.9	15.0	10-20	C2	
Tree T41	1 Thuja plicata (Western Red Cedar)	22.0	140	1	6.0	6.0	6.0	6.0	6.0	6.0	6.0	1.0		Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	706.9	15.0	10-20	C2	
Tree T42	1 Thuja plicata (Western Red Cedar)	22.0	90	1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.0		Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	366.4	10.8	20-40	C2	
Tree T43	1 Thuja plicata (Western Red Cedar)	22.0	75	1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.0		Mature	Structural condition Poor. Physiological condition Fair.	11/06/2024	254.5	9.0	10-20	C2	
Tree T44	1 Thuja plicata (Western Red Cedar)	22.0	90	1	4.0	4.0	4.0	4.0	4.0	4.0	4.0	1.0		Mature	Structural condition Poor. Physiological condition Fair.	11/06/2024	366.4	10.8	10-20	C2	

Stem **green** Estimated value

Stem **AVE** Average stem diameter for tree groups

Stem **COM** Combined stem diameter in accordance with BS5837

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240532 - Fernhill House

Tree ID	No. Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m)								Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m ²)	RPR (m)	Life expectancy (yrs)	BS Category
					N	NE	E	SE	S	SW	W	NW									
Tree T45	Thuja plicata (Western Red Cedar)	22.0	90	1	4.0		4.0		4.0		4.0		1.0		Mature	Structural condition Poor. Physiological condition Fair.	11/06/2024	366.4	10.8	10-20	C2
Tree T46	1 Thuja plicata (Western Red Cedar)	22.0	90	1	4.0		4.0		4.0		4.0		1.0		Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	366.4	10.8	20-40	C2
Tree T47	1 Thuja plicata (Western Red Cedar)	22.0	60	1	3.5		3.5		3.5		3.5		1.0		Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	162.9	7.2	20-40	C2
Tree T48	1 Thuja plicata (Western Red Cedar)	22.0	120	1	5.5		5.5		5.5		5.5		1.0		Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	651.4	14.4	10-20	C2
Group G49	1 Laurocerasus officinalis (Cherry Laurel)	7.0	35	1									0.0		Early Mature	Structural condition Fair. Physiological condition Fair. Group of cherry laurel.	11/06/2024	55.4	4.2	10-20	C2
Group G50	1 Abies sp. (Fir sp.) 1 Acer pseudoplatanus (Sycamore) 1 Pinus sylvestris (Scots Pine)	20.0	60 AVE	1									0.0		Mature	Structural condition Fair. Physiological condition Fair. Height and stem diameter are average for group. Quantities not recorded, only species mix.	11/06/2024	162.9	7.2	20-40	B2

Stem **green** Estimated value

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240532 - Fernhill House

Tree ID	No. Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m)								Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m ²)	RPR (m)	Life expectancy (yrs)	BS Category
					N	NE	E	SE	S	SW	W	NW									
Group G51	1 Acer pseudoplatanus (Sycamore)	7.0	20 AVE	1									0.0		Early Mature	Structural condition Fair. Physiological condition Fair. Group of naturally regenerated trees and shrubs.	11/06/2024	18.1	2.4	20-40	C2
	1 Salix caprea (Goat Willow/Great Sallow)																				
	1 Sambucus nigra (Elder)																				
Tree T52	1 Acer pseudoplatanus (Sycamore)	13.0	50	1	6.0	6.0	6.0	6.0					0.0		Early Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	113.1	6.0	20-40	C1
Group G53	1 Laurus nobilis (Bay/Bay Laurel/Poets Laurel)	10.0	50 AVE	1									1.0		Mature	Structural condition Fair. Physiological condition Fair. Height and stem diameter are average for group. Quantities not recorded, only species mix.	11/06/2024	113.1	6.0	10-20	C2
	1 Laurocerasus officinalis (Cherry Laurel)																				
	1 Ilex aquifolium (Holly)																				

Stem **green** Estimated value

Stem **AVE** Average stem diameter for tree groups

Stem **COM** Combined stem diameter in accordance with BS5837

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240532 - Fernhill House

Tree ID	No. Species	Height (m)	Stem diameter (cm)	No. of Stems	CROWN SPREAD (m)								Crown clearance (m)	L.B. (m)	Life stage	Condition Notes	Survey date	RPA (m ²)	RPR (m)	Life expectancy (yrs)	BS Category
					N	NE	E	SE	S	SW	W	NW									
Woodlan W54	1 Pinus sylvestris (Scots Pine)	18.0	50 AVE	1									0.0		Mature	Structural condition Fair. Physiological condition Fair. Height and stem diameter are average for group. Quantities not recorded, only species mix.	11/06/2024	113.1	6.0	40+	B2
	1 Ilex aquifolium (Holly)																				
	1 Fraxinus excelsior (Ash)																				
	1 Fagus sylvatica (Common Beech)																				
	1 Acer pseudoplatanus (Sycamore)																				
Tree T55	1 Aesculus hippocastanum (Horse Chestnut)	15.0	50	1	5.0	5.0	5.0	5.0					2.0		Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	113.1	6.0	10-20	C2
Tree T56	1 Acer pseudoplatanus (Sycamore)	15.0	50	1	5.0	5.0	5.0	5.0					2.0		Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	113.1	6.0	10-20	C2
Tree T57	1 Eucalyptus sp. (Eucalyptus Tree)	13.0	45	1	5.0	5.0	5.0	5.0					0.0		Early Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	91.6	5.4	20-40	C2
Tree T58	1 Eucalyptus sp. (Eucalyptus Tree)	13.0	45	1	5.0	5.0	5.0	5.0					0.0		Early Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	91.6	5.4	20-40	C2
Tree T59	1 Eucalyptus sp. (Eucalyptus Tree)	13.0	45	1	5.0	5.0	5.0	5.0					0.0		Early Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	91.6	5.4	20-40	C2

Stem **green** Estimated value

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240532 - Fernhill House

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					N	NE	E	SE	S	SW	W	NW									
Tree T60	Eucalyptus sp. (Eucalyptus Tree)	13.0	45	1	5.0		5.0		5.0		5.0		0.0		Early Mature	Structural condition Fair. Physiological condition Fair.	11/06/2024	91.6	5.4	20-40	C2

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Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	<ul style="list-style-type: none"> * Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) * Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline * Trees infected with pathogens of significance to health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <p>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7</p>			RED
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Tree that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue).	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture).	GREEN
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.	Trees with material conservation or other cultural value.	BLUE
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits.	Trees with no material conservation or other cultural value.	GREY

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This drawing is to be read in conjunction with the respective arboricultural schedules and reports relevant to this project.



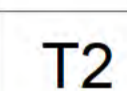




Where contradictions between this drawing and any other design information becomes apparent, the respective authors should be contacted immediately.

It is the responsibility of the main site contractor to check and verify all information and measurements onsite and confirm prior to the commencement of works, and to ensure that all site operatives work in accordance with respective arboricultural reports and BS5837:2012. Trees in relation to design, demolition and construction.

BS5837:2012 Tree Categorisation

-  **Category A**
Trees of high quality with an estimated remaining life expectancy of at least 40 years
-  **Category B**
Trees of moderate quality with an estimated life expectancy of at least 20 years
-  **Category C**
Trees of low quality with an estimated life expectancy of at least 10 years, or young trees with a stem diameter below 150mm
-  **Category U**
Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years

Key

-  **Root Protection Areas**
The minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the trees viability.
-  **Tree, Shrub or Hedgerow Group.**
- T2** **Reference Number for Tree, Group or Hedgerow.**
-  **Tree Preservation Order (TPO) No.49**
Burkeen Wood, Rathnew
-  **Area to be protected, taking into consideration above and below ground tree constraints, including future growth rate of trees.**
-  **Potential Development Area - Trees within this area should not be deemed as a constraint to future development.**
-  **Possible Development Area within TPO subject to discussions with Local Planning Authority. Still considered High Risk as some tree removal are required.**
-  **Site boundary.**



Revision	Date	Description

Title: **Tree Survey & Constraints Plan**

Project: **Fernhill House, Rathnew, Co. Wicklow**

Client: **Creedon Group Ltd.**

Date: June 2024	Scale: 1:500 @ A1	Status: Planning
Drawn by: CMcC	Dwg ref: 240532-P-10	Rev: -
Checked by: CMcC		

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