

Appendix V: Infrastructure Assessment

1.0 Infrastructure Assessment

The Infrastructure Assessment is provided to support the Draft Carlow-Graiguecullen Joint Urban Local Area Plan 2024-2030 (JULAP) in regard to the co-ordination of proposed 'New Residential' land use zonings for undeveloped lands with existing and planned development services.

The National Planning Framework (NPF) requires that the zoning of undeveloped lands is carried out in accordance with a standardised methodology termed a Tiered Approach to Zoning (TAZ)¹. The objective of the TAZ is to avoid zoning lands that cannot be brought forward for development due to deficiencies in necessary infrastructure and services. It provides an evidence-based approach that identifies which:

- Lands are already serviced;
- Lands can connect to services; and,
- Lands are to be provided with services within the lifetime of a development plan.

In accordance with the NPF, infrastructure and services include:

- Road and footpath access, including public lighting;
- Foul sewer drainage;
- Surface water drainage; and,
- Water supply.

It is a requirement that the Infrastructural Assessment is aligned with the approved infrastructure investment programmes(s) of relevant delivery agency(ies) such as Uisce Éireann, or is based on a written commitment of the relevant delivery agency to provide the identified infrastructure within a specified timescale i.e. within the lifetime of the plan.

Carlow County Council or Laois County Council may also commit to the delivery of the required and identified infrastructure in their own infrastructural investment programmes (i.e. Budgeted Capital Programmes) in order to support certain lands for zoning.

The methodology for TAZ is included in Appendix 3 of the NPF, which sets out a two-tier approach to land use zoning as follows:

Tier 1: Serviced Zoned Land

Comprises zoned lands that can accommodate new development as they can connect to existing services and there is service capacity available. The NPF states that these lands will generally be positioned within the existing built-up footprint of a settlement or be contiguous to existing development lands and will be within the footprint of or spatially sequential within the identified settlement.

Tier 2: Serviced Zoned Land

Comprises zoned lands that are not currently sufficiently serviced to support new development but have the potential to become serviced during the lifetime of the development plan. The NPF states that these lands may be positioned within the existing built-up footprint of a settlement or be contiguous to existing development lands or Tier 1 zoned lands, where required to fulfil the spatially sequential approach to the location of new development within the identified settlement.

The NPF requires that where lands are identified as Tier 2 lands, the potential for the delivery of the required services and/or capacity to support new development, must be identified and specific details provided by the planning authority at the time of publication of the draft and final plan.

¹ National Policy Objectives 72a-c and Appendix 3

1.1 Methodology for Infrastructural Assessment

In the absence of Departmental guidelines which as referred to in the NPF are expected to issue under Section 28 of the Planning and Development Act 2000 (as amended), the Infrastructural Assessment has been development in accordance with Appendix 3 of the NPF.

The Infrastructure Assessment applies to the joint urban area of Carlow-Graiguecullen for which a proposed land use zoning map has been prepared and incorporated into Chapter 12 of the written statement. The assessment involves a review of zoned undeveloped land in the joint urban area, which includes lands zoned for town centre, mixed use, and residential purposes, and which takes account of the potential for brownfield and infill development.

The focus of the Infrastructural Assessment is on roads, foul sewer drainage, surface water, and water supply infrastructure. The assessment has been informed by consultation with the internal departments of Carlow County Council and Laois County Council, as well as by consultation with Uisce Éireann. This is in addition to the examination of the infrastructure and services mapping available to Carlow County Council and Laois County Council for their respective functional areas.

The consultations with the Councils' internal departments and with Uisce Éireann provided an overview of future infrastructure requirements in Carlow-Graiguecullen, in addition to more detailed analysis on a site-by-site basis where this was deemed necessary. Each internal department was required to provide details of the following:

- Any infrastructure deficits that would impede the development of lands;

- The current status of any plans/programmes in place to address these infrastructure deficits; and,
- The anticipated timeframe for the delivery of these projects.

Transportation Infrastructure

Chapter 6 of the Plan identifies the transportation infrastructure required to ensure that people and goods can continue to be efficiently transported throughout the joint urban area, with an emphasis on integrated land use and transport planning, and on supporting sustainable travel modes such as walking, cycling and public transport. As part of the preparation of this JULAP an Area Based Transport Assessment (ABTA) has been undertaken on behalf of Carlow County Council and Laois County Council and in conjunction with the National Transport Authority (NTA). The ABTA has also informed a series of strategy options, with associated objectives and proposed interventions to support the shift towards sustainable movement throughout the joint urban area and to accommodate anticipated transport demand due to planned population growth.

Costing

No new strategic road links to facilitate release of lands zoned for development have been identified on the zoning maps. The zoning of lands within Carlow-Graiguecullen are centrally located and serviced to a relatively high level by footpath infrastructure. Where footpath / cycling infrastructure is required current indicative costings may range between €150-€250 per sqm. However, full cost of delivery of such infrastructure would be informed at site specific detailed design stage. Smaller interventions to facilitate vulnerable road users will be facilitated over the period of the JULAP and will be informed by provisions of the ABTA as referred to (See also Appendix IV).

Water and Wastewater Infrastructure

Uisce Éireann is responsible for the delivery of water services infrastructure, and they identify the necessary investments in water and wastewater treatment plants and associated collection and distribution network to facilitate future population and economic growth in urban areas such as Carlow-Graiguecullen. As part of their input into the preparation of the JULAP, Uisce Éireann have provided the following information:

- **Water:** Carlow-Graiguecullen is served by the Carlow North Water Resource Zone (WRZ) and it is envisaged that the Carlow North WRZ has capacity to cater for growth in the in the joint urban area.
- **Wastewater:** Capacity is available at the Mortarstown WWTP which serves Carlow-Graiguecullen. Upgrade to increase capacity at the WWTP is due to be completed in 2025 subject to statutory and budgetary approvals processes.

Costing

Carlow County Council and Laois County Council will continue to engage with and be advised by Uisce Éireann regarding the delivery of the upgrade to the Mortarstown WWTP. Estimated costs for the delivery of the upgrade to the WWTP has not yet been identified by Uisce Éireann. However, as referred to above, the upgrade to the WWTP is due to be completed during the lifetime of this JULAP i.e. in 2025.

Tier 1 and Tier 2 Zoned Lands

Tier 1

In order for a parcel of land to be identified as 'Tier 1' there shall be no infrastructure impediments restricting the development of the lands i.e. all transportation and water services infrastructure needs to be in place.

Sites which may require minor additional works or investment have also been identified as Tier 1 in certain circumstances, depending on the nature and scale of the works required.

Tier 2

The identification of a site as 'Tier 2' highlights to landowners and potential investors that there are deficiencies in infrastructure that need to be addressed prior to the lands being developed. The nature of the deficiencies can vary between lands and settlements.

All lands examined in Carlow-Graiguecullen are designated as Tier 1.

Traffic Light Rating System

A traffic light rating system has been developed that highlights any deficiencies in the lands, analysed as follows:

- A green colour indicates that infrastructure/services are available;
- An amber colour indicates that infrastructure/services are not available or further investment in same is required and this investment is likely to be provided during the lifetime of the Plan;
- A red colour indicates infrastructure/services are not available and are unlikely to be provided during the lifetime of the Plan.

An example of this system is set out as Table B on the following page.

Legend	Tier
Infrastructure/services available	
Further investment required	
Provision of infrastructure/services unlikely during period of Plan	

Table B: Traffic Light Rating System Example

Land Use Evaluation

The Infrastructure Assessment has also been combined with a land use evaluation, which also utilises the traffic light rating system (See Table C). The land use evaluation takes account of compact growth considerations and physical suitability considerations in terms of built and natural heritage and flood risk. In this regard, the traffic light rating system also reflects a score rating of 1 to 3 for land use evaluation, with 1 being the most optimal and 3 being the least optimal score.

	1
	2
	3

Table C: Land Use Evaluation Scores

Infrastructure Assessment Matrixes

The Infrastructure Assessment for Carlow-Graiguecullen is set out in table form in this section (See Table 1). All lands that have been examined are identified in the table with individual reference numbers. These reference numbers can be used to identify the lands on the Objectives Map (Map 12.2) included in Chapter 12 of the JULAP and at the end of this document.

TABLE 1: CARLOW-GRAIGUECULLEN – KEY TOWN
(SEE OBJECTIVES MAP REF. 12.2)

		INFRASTRUCTURE ASSESSMENT	LAND USE EVALUATION			
		Infrastructure/Services (Roads, foul sewer, water supply, surface water)	Compact (within settlement, infill/consolidation, proximity to town/village centre, promotes sustainable mobility)	Growth existing to centre, sustainable)	Physical Suitability (built & natural heritage, flood risk)	
Tier	Map Ref.				Justification	
T1	CW1				Infrastructure / services available & within existing built-up footprint	
T1	CW2				Infrastructure / services available & within existing built-up footprint	
T1	CW3				Infrastructure / services available & contiguous to existing development lands	
T1	CW4				Infrastructure / services available & contiguous to existing development lands	
T1	CW5				Infrastructure / services available & within existing built-up footprint	
T1	CW6				Infrastructure / services available & within existing built-up footprint	
T1	CW7				Infrastructure / services available & within existing built-up footprint	
T1	CW8				Infrastructure / services available & within existing built-up footprint	
T1	CW9				Infrastructure / services available & within existing built-up footprint	
T1	CW10				Infrastructure / services available &	



					within existing built-up footprint	
T1	CW11				Infrastructure / services available & within existing built-up footprint	
T1	CW12				Infrastructure / services available & contiguous to existing development lands	
		INFRASTRUCTURE ASSESSMENT	LAND USE EVALUATION			
		Infrastructure/Services (Roads, foul sewer, water supply, surface water)	Compact (within settlement, infill/consolidation, proximity to town/village centre, promotes sustainable mobility)	Growth existing to centre, sustainable	Physical Suitability (built & natural heritage, flood risk)	
T1	CW13				Infrastructure / services available & within existing built-up footprint	
T1	CW14				Infrastructure / services available & within existing built-up footprint	
T1	CW15				Infrastructure / services available & contiguous to existing development lands	
T1	CW16				Infrastructure / services available & contiguous to existing development lands	
T1	CW17				Infrastructure / services available & contiguous to existing development lands	
T1	CW18				Infrastructure / services available & contiguous to existing development lands	
T1	CW19				Infrastructure / services available & contiguous to existing development lands	
T1	CW20				Infrastructure / services available & contiguous to existing development lands	
T1	CW21				Infrastructure / services available & contiguous to	



					<i>existing development lands</i>
T1	CW22				<i>Infrastructure/services available & contiguous to existing development lands</i>

DRAFT CARLOW - GRAIGUECULLEN
JOINT URBAN
LOCAL AREA PLAN
2024 - 2030
PROPOSED MATERIAL AMENDMENTS



Legend

- Settlement Consolidation Sites
- Regeneration Sites
- Infrastructure Assessment Lands
- Core Retail Area
(See Appendix V Retail Strategy - Carlow County Development Plan 2022 - 2028)
- Opportunity Site
(See Appendix V Retail Strategy - Carlow County Development Plan 2022 - 2028)
- Traveller Accommodation Site
- Roads Objectives
- Public Right of Ways
- Slí Na Sláinte Walking Routes
- Trails of the Saints
- Flood Zone A: 1% AEP (or a 1 in 100 chance of occurring in any given year)
- Flood Zone B: 0.1% AEP (or a 1 in 1000 chance of occurring in any given year)
- Carlow Town Flood Defended Area
- Former Carlow Town Council Boundary
- Joint Urban Local Area Plan Boundary

Objectives Map
(Map 12.2)



CARLOW COUNTY COUNCIL
AND
LAOIS COUNTY COUNCIL
FORWARD PLANNING SECTIONS

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