N62 Slievenamon Road Phase 2 Road Improvement Scheme

Report for the Screening of Appropriate Assessment

July 2022

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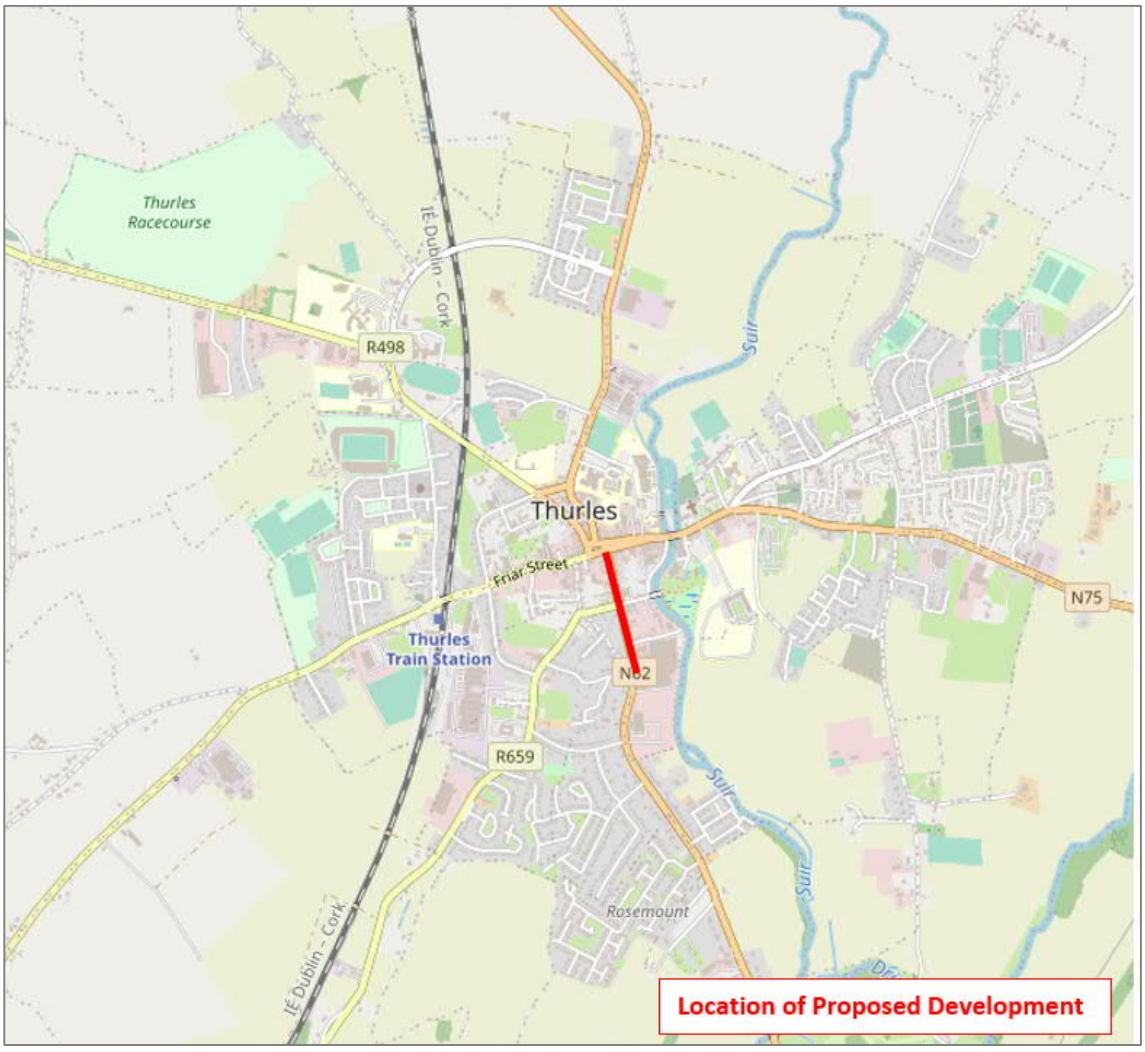
Contents

1 Introduction

1.1 Overview

Tipperary County Council (TCC) has proposed an improvement project for a section of the N62 Slievenamon Road (hereafter 'the proposed project'), within the town centre of Thurles, Co. Tipperary. The location of the proposed development is shown in Figure 1.1.

Figure 1.1: Location of Proposed Development



Source: © OpenStreetMap contributors

Mott MacDonald Ireland Ltd, on behalf of TCC has prepared this Screening for Appropriate Assessment to support the Part VIII planning application by TCC for the proposed project. This assessment has been prepared to fulfil the requirements of Article 6(3) of the EU Habitats Directive 92/43/EEC ('The Habitats Directive').

1.2 Project Background

Along the N62 Slievenamon Road, the current public realm is deteriorating. This is worsened by vehicular parking on footpaths which results in footpath surface cracking and breakup.

Unauthorised parking on footpaths is also reducing usability for pedestrians, especially for mobility restricted or disabled people. The proposed development seeks to address this issue through increased footpath widths (where implementable) and dedicated on-street parking spaces.

Although the N62 Slievenamon Road has not been identified as a high collision location in historic reviews by Transport Infrastructure Ireland (TII) Road Safety Section, an evaluation of the latest Road Safety Inspections for the N62 shows deficiencies with respect to the road layout, signage and road markings. These deficiencies increase the risk of collisions with pedestrians and vehicles.

Furthermore, Road Safety Inspections carried out on the N62 in May 2018 recommended that, *'this section of the N62 inside the 50km/h zone should be upgraded to improve safety and comfort for vulnerable road users and to reduce the severity and frequency of traffic collisions.'*

The completed Liberty Square public realm enhancement project represents an important project for Thurles which is hoped will be a catalyst for growth in the commercial centre of the town and enhance the attractiveness of Thurles as a place to live and a place for investment and employment. The proposed development along Slievenamon Road will link Liberty Square and continue the enhancement of the public realm between Liberty Square and another commercial node within the town, Thurles Shopping Centre.

The proposed development is intrinsically a road safety and pedestrian safety scheme which has incorporated a strong focus on the enhancement of the public realm. The delivery of the project objectives reflects both the safety aspects and the continued renewal of Thurles town, especially through the redevelopment of the public realm. The project objectives are detailed hereunder;

- **Objective 1** – Promote traffic calming along the N62 and maintain reduced speeds through the urban core.
- **Objective 2** – Ensure all crossings are conspicuous with buildouts and removal of obstructions to improve visibility for motorists and vulnerable road users.
- **Objective 3** – Increase safety and comfort for vulnerable road users through improved pedestrian infrastructure in line with DMURS principles.
- **Objective 4** – Provide an improved sense of place to promote walking and cycling over private motor vehicle use in the town.
- **Objective 5** – Support national, regional and local policies to increase the modal share for walking and cycling within Thurles Town.

The project scope also includes improving the layout for vulnerable road users by narrowing lane widths where appropriate, improve provision for pedestrians along footpaths and at junctions by narrowing junction mouths, provide defined no-street parking divided at regular intervals using build-outs and enhance sense of place with the use of hard and soft landscaping. A detailed description of project is provided in Section 2 of this report.

1.3 Legal Context and Requirement for Appropriate Assessment

Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora ('the Habitats Directive') is European Community legislation aimed at nature conservation.

The Habitats Directive requires that where a plan or project is likely to have a significant effect on a European site (s), (and where the plan or project is not directly connected with or necessary to the nature conservation management of the European site), the plan or project will be subject to 'Appropriate Assessment' (AA) to identify any implications for the European site(s)

in view of the site's Conservation Objectives. Specifically, Article 6(3) of the Habitats Directive states:

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

Regulation 42 of Birds and Natural Habitats Regulations 2011, including the amendments in S.I. No. 293 of 2021, transposes Article 6 of the Habitats Directive into Irish law. The regulations require that before consent for a project is given, a screening for Appropriate Assessment of a project must be carried out by the public authority to assess, in view of best scientific knowledge and in view of the conservation objectives of the site, if that project, individually or in combination with other plans or projects is likely to have a significant effect on the European site.

Case law of the European Court of Justice (ECJ) has determined that AA is required, if likely significant effects cannot be excluded on the basis of objective information. Case law has also clarified that measures intended to avoid or reduce harmful effects on European sites, must not be considered when determining whether it is necessary to carry out an AA.

The Project is not associated with the 'management' of a European Site having regard to Article 6 of the Habitats Directive. Therefore, the Project is not directly connected with or necessary to the management of any European Site and must undergo screening for Appropriate Assessment in accordance with Regulation 42(1) of the European Communities (Birds and Natural Habitats) Regulations 2011.

This report has been prepared by Mott MacDonald on behalf of Tipperary County Council to inform the screening determination required under Regulation 42 of the European Communities (Birds and Natural Habitats) Regulations 2011 (as amended).

This report has been prepared in accordance with the following European Commission Guidance:

- EC (2018) Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC Commission Notice C (2018) 7621
- EC (2001) 'Assessment of plans and projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC'
- DEHLG (2009) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities (Revised 2010).

This report has similarly been prepared with regard to relevant rulings by the Court of Justice of the European Union (CJEU), the High Court, and the Supreme Court.

1.4 Statement of Competency

This report has been prepared by Robert Clisham (BSc.), an ecological consultant with Mott MacDonald with ten years' professional experience and is a competent expert in undertaking habitat and ecological assessments to this level. Robert has been involved in public and private sector projects with the main focus being public infrastructure (water and wastewater, roads and power). Experienced in preparing Stage 1 and 2 Appropriate Assessments and ecological

impact assessment reports for a range of projects, and confidently able to undertake ecological field surveys.

The report has been reviewed by Roger Macnaughton MCIEEM (Principal Ecologist, Mott MacDonald). Roger is a qualified and experienced environmental consultant specialising in ecology. Roger has over twenty year's professional experience in the environmental consultancy sector and an additional seven years of primarily research-based experience in freshwater and marine ecology. Roger specialises in the delivery of Ecological Impact Assessment (EcIA) and Appropriate Assessment (AA) for a broad range of projects potentially affecting; terrestrial, freshwater and marine ecology.

2 Methodology

2.1 Description

This report has been prepared in accordance with the following European Commission Guidance:

- EC (2021) Assessment of Plans and Projects in Relation to Natura 2000 Sites – Methodological guidance on Article 6(3) and (4) of the Habitats Directive 92/43/EEC
- EC (2018) Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC Commission Notice C (2018) 7621
- DEHLG (2009) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities (Revised 2010)

This report has similarly been prepared with regard to relevant rulings by the Court of Justice of the European Union (CJEU), the High Court, and the Supreme Court.

This assessment includes a desk-based review of available records of protected species and habitats including the following sources:

- Conservation Status Assessment Reports (CSARs), Backing Documents and Maps prepared in accordance with Article 17 of the Habitats Directive;
- Site Synopsis and Conservation Objective Reports available from NPWS;
- Published and unpublished NPWS reports on protected habitats and species including Irish Wildlife Manual reports, Species Action Plans, and Conservation Management Plans; and
- Existing relevant mapping and databases e.g. waterbody status, species and habitat distribution etc. (sourced from the Environmental Protection Agency - http://gis.epa.ie/, the National Biodiversity Data Centre - http://maps.biodiversityireland.ie and the National Parks and Wildlife Services - http://www.npws.ie/mapsanddata/)

2.2 Desk Study

A comprehensive desk study has been carried out in order to obtain information relevant to the completion of this report.

- Identifying relevant statutory and non-statutory designated sites of nature conservation importance.
- Protected species records and any existing relevant ecology reports using freely available information on the internet.
- Identification of habitats of conservation importance.
- An assessment of habitats and habitat features to support protected and notable features.
- Identification, where possible, of invasive non-native species.
- Assessment of potential impacts to designated sites, habitats, protected/notable species.
- Scope requirement for further detailed survey / site visits.

The following information sources were additionally reviewed. Locations, extents and qualifying features of relevant European sites from the National Parks and Wildlife Service (NPWS), available at www.*npws.ie*;

- Site synopses and conservation objectives and supporting documents for relevant European sites from the NPWS, available at www.*npws.ie*;

- Satellite imagery from various sources and dates including Google, Bing, Digital Globe and Ordnance Survey Ireland;
- Information from the Waterbird Disturbance and Mitigation Tool on the documented threshold levels for noise disturbance to relevant species, available at www.tide-toolbox.eu/tidetools/waterbird_disturbance_mitigation_toolkit/;

A complete list of all publications consulted in the completion of this report is presented at the end of this report.

2.3 Field Survey

Mott MacDonald ecologists have undertaken a field survey of the route of the proposed development. The route is comprised of buildings and artificial surfaces with flower beds and borders. No evidence of any protected species was recorded during the site walkover and these habitats are of low ecological value. No invasive species listed under the Third Schedule of S.I No. 477 of 2011, European Communities (Birds and Natural Habitats) Regulations 2011 were recorded within or adjacent to the scheme. A number of trees were recorded along the scheme. These trees may provide suitable habitat for nesting birds in the vicinity. It is recommended that any removal of these trees be carried out outside of the bird nesting season.

3 Description of Development

3.1 Project Location

The proposed development is located in Thurles town centre, Co. Tipperary, and comprises improvement works to a section of the existing N62 national road known as the Slievenamon Road. It extends from the junction of Slievenamon Road and Liberty Square at the northern extent, for a distance of approximately 450m along the N62 to the Thurles Shopping Centre roundabout, which forms the southern extent of the project [central grid co-ordinates at the junction of Slievenamon Road and Fianna Road (Irish Transverse Mercator (ITM) grid reference: 612660E, 658463N).

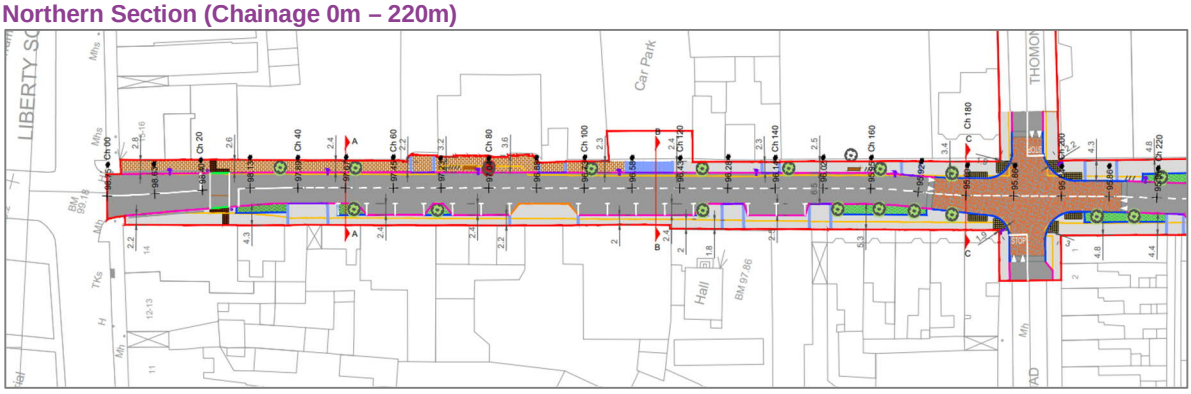
3.2 Project Description

The proposed development is presented in Figure 3.1 will comprise the following:

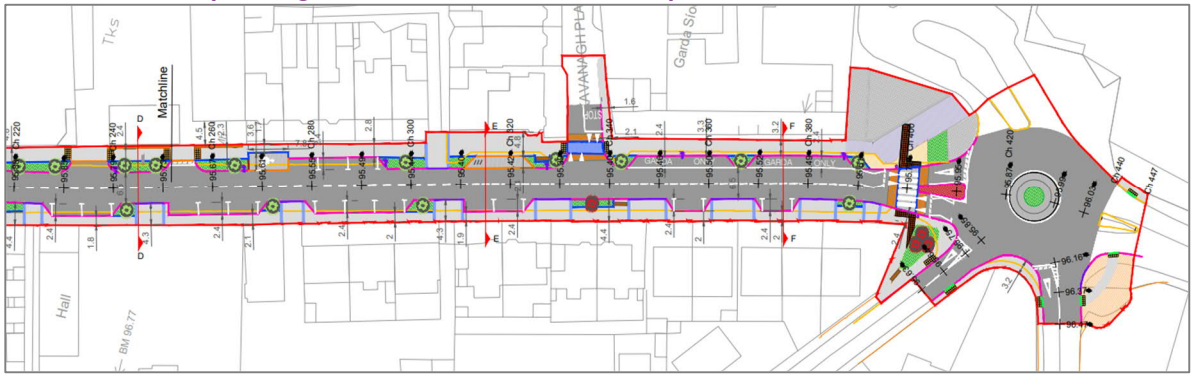
- upgraded road layout with reduced carriageway width (approximately 6.5m)
- improved junctions with enhanced infrastructure for pedestrians and vulnerable road users
- widened footways with new paving (widths ranging from 1.8m to 2.5m)
- road resurfacing
- upgraded public lighting comprising 15 no. lighting columns at 25m intervals
- 416m of 225mm diameter surface water drainage infrastructure
- enhanced soft and hard landscaping including the provision of upgraded street furniture.
- associated site works

Figure 3.1: Proposed Development – General Layout

Northern Section (Chainage 0m – 220m)



Southern Section (Chainage 220m – 380m and roundabout)



Source: Extract from Mott MacDonald Drawing 229100430-MMD-0100-01-DR-C-0101

3.2.1 Project Programme

It is anticipated that the construction will commence in Q3 2023, with the construction programme lasting the duration of 14 months. The proposed projected is expected to be complete by the end of 2024.

3.2.2 Construction Activities

3.2.2.1 Temporary Site Compound

As the works will extend over a period of 14 months, a temporary site compound will be required. The temporary compound will include site offices i.e. portacabins that will be prefabricated and delivered to site, site welfare facilities and the provision of hard standing areas to provide car parking facilities and equipment laydown areas. It is noted that the exact location of the temporary works compound is not known at this time, however, the compound(s) will be sited in a convenient centralised location within Thurles town.

3.2.2.2 Road Layout Improvement Works

The proposed road layout improvement works will reduce the existing road carriageway by approximately 6.5m width. This will allow for a number of beneficial improvements along the road for pedestrians and road safety, particularly at existing junctions.

Footpaths of 1.8m width or greater will be established along the northbound carriageway. Additionally, pedestrian footpaths will be of 2.5m width of greater (with localised 2m pinch points) along the southbound carriageway.

Approximately 11 no. formalised parking spaces will be established on the northbound carriageway between Liberty Square and Thomond/Fianna Road junction. An additional 12 no. formalised parking spaces will be created at the southern end of the project proximal to Kavanagh Place. Additionally, there will be a number of formalised parking spaces established along the southbound carriageway between Thomond/Fianna Road junction and the Thurles Shopping Centre roundabout. Existing car parking spaces reserved for Thurles Garda Station will be retaining.

Raised table pedestrian crossing facilities will be provided at the Thomond Road and Kavanagh Place junctions.

The proposed project kerbing along the Slievenamon Road will tie into existing kerb lines along the N62.

3.2.2.3 Drainage Improvement Works

The project area is already served by an existing surface water drainage system. However, as part of the project new surface water drainage network will be constructed within the public road. This will comprise a total of 416m of 225mm diameter surface water drains which will be laid along Slievenamon Road. The proposed new surface water drainage network will connect into the existing surface water network. No works will be undertaken to the existing drainage system.

Drainage of the footways will be achieved through the provision of dished channels conveying flow to the existing road drainage system. Existing surface water channels will be supplemented by additional channels where the footway drainage is known to be inadequate, including at existing downpipes.

As the kerbline will be modified to facilitate the new road cross section, it is proposed to relocate existing road gullies and provide additional road gullies and connecting pipes where required in accordance with TII publication DN-DNG-03067-02 and DMURS.

The hard paved surface contributing surface run-off to the existing sealed drainage network will be reduce run-off volumes through the inclusion of soft landscaping and tree pits. A holistic approach will be adopted to incorporate elements of SuDS treatments into the landscaping and drainage design where possible (specifically the inclusion of vegetated filter strips where possible at soft landscaping locations) in accordance with 'the SuDS Manual' and DMURS.

Proposed surface water drainage works are included in Appendix A.

3.2.2.4 Public Lighting Improvements

Lighting along the N62 Slievenamon Road scheme will be upgraded in accordance with TII Publication DN-LHT-03038 Design of Road Lighting for the National Road Network.

Public lighting for the proposed development will be achieved by a combination of luminaires mounted on top of existing ESB poles along the street and 15 no. new dedicated galvanised steel columns, at approximately 25m spacings.

New lighting columns will be 8m overground height, manufactured from steel with a tapered octagonal section, root mounted, hot dip galvanised to BS EN 1461. Columns are to be fitted with access doors to allow for cable connections and mounting of local electrical cut-outs (fuse/ isolators).

Feature lighting columns similar to those installed as part of the Liberty Square Redevelopment will be used on the southbound carriageway between Chainage 0+000 and 0+110 to reflect the objectives of the proposed development.

3.2.3 Operational Phase

The proposed works will improve the road layout by renewing the pavement surface, improving pedestrian infrastructure and enhancing road safety. It is expected that the road will operate in the same manner following the works and that there would be no increase in traffic flows. The design life of the pavement works is 20 years and any further improvements will be subject to environmental assessment.

3.3 Baseline Environment

Mott MacDonald ecologists undertook a field survey of the scheme in March 2019. The route is comprised of buildings and artificial surfaces with flower beds and borders. No evidence of any protected species was recorded during the site walkover and these habitats are of low ecological value.

No invasive species listed under the Third Schedule of S.I No. 477 of 2011, European Communities (Birds and Natural Habitats) Regulations 2011 were recorded within or adjacent to the scheme. A number of trees were recorded along the scheme. These trees may provide suitable habitat for nesting birds in the vicinity. Recommendations were provided in relation to breeding birds.

4 Identification of Relevant European Sites

4.1 Establishing the Zone of Influence

Projects have the potential to impact on European Sites beyond the footprint of the project itself. National Guidance States that screening for Appropriate Assessment should be carried out for any European Site within the likely 'Zone of Influence' of a plan or project. For projects the guidance recommends that the Zone of Influence (ZoI) must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, the sensitives of the ecological receptors and the potential for in combination effects.

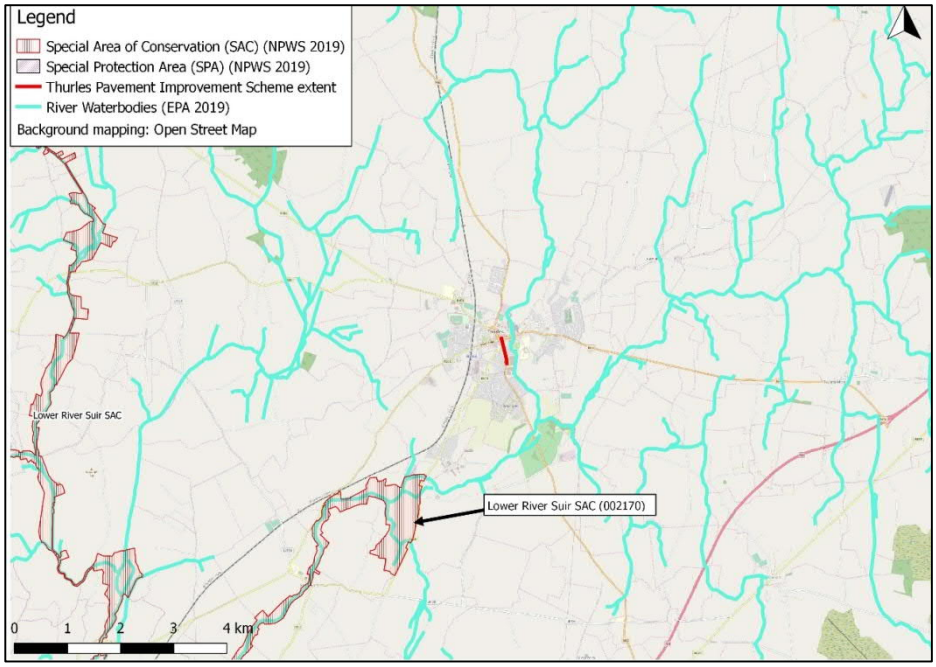
In order to establish the ZoI of the nationally available data on protected habitats and species was mapped using Geographic Information System (GIS). This data was interrogated for source-pathway-receptor connectivity. The source (potential impacts from the proposed project), pathways (hydrological, physical or ecological connectivity) and receptors (qualifying interest and special conservation interests of the European Sites) were identified using GIS software, and through examination of aerial photography. European Sites identified to have a source-pathway-receptor link are detailed within Section 4.2.

4.2 Source Pathway Receptor Assessment

The proposed scheme is located wholly outside of any European Site.

The closest European Site is the Lower River Suir Species Area of Conservation (SAC) (Site code: 002137), which is located approximately 1.60km (straight-line distance) from the southern extent of the project. It is noted, the River Suir is located >100m to the east of the proposed scheme along Slievenamon Road. The northern extent of the project, located at the junction between the N62/N75 is located approximately 215m west of the existing Cathedral Street (N75) road bridge and the River Suir. Here, the Lower River Suir SAC is located approximately 4.2km (hydrological distance) downstream from the Cathedral Street bridge (Figure 4.1).

Figure 4.1: Project Location in relation to Lower River Suir SAC



Source: https://gis.epa.ie/EPAMaps/ (accessed March 2022).

No other European Sites are located within the surrounding 10km to the proposed scheme.

Given the proposed project is located upstream of the Lower River Suir SAC, a hydrological source-pathway-receptor link exists between the proposed project and this European site, via the River Suir.

4.3 European Sites within ZoI

Lower River Suir SAC (Site Code: 002137) is the only European Site identified in the ZoI.

The Lower River Suir SAC consists of the freshwater stretches of the River Suir immediately south of Thurles, the tidal stretches as far as the confluence with the Barrow/ Nore, immediately east of Cheekpoint in Co. Waterford, and many of tributaries including the Clodiagh in Co. Waterford, the Lingaun, Anner, Nier, Tar, Aherlow, Multeen and Clodiagh in Co. Tipperary. The Suir and its tributaries flow through the counties of Tipperary, Kilkenny and Waterford. The SAC covers an area of approximately 71km^2 and contains a range of Annex I habitats, including floating river vegetation, eutrophic tall herbs, alluvial forest, old oak woods, yew woods and salt meadows. The site is very important for the presence of a number of scarce and specialised Annex II animal species with particularly important populations of the fish species *Salmo salar* and *Alosa fallax fallax*. *Lutra lutra* is widespread on the system, as is *Austropotamobius pallipes*.

The site supports two Annex I priority and five non-priority Annex I habitats. There are four Annex I species of birds present within the site. The rare lichen *Lobaria pulmonaria*, an ancient woodland indicator, occurs at Portlaw Oak Woods, within the site.

Each of the sites qualifying features and distance from the Project are detailed in Table 4.1 below.

Table 4.1: European sites within the vicinity of the Project

Site Name and Code	Distance and Direction from Project	Qualifying Interest / Special Conservation Interests of the European Site
Lower River Suir SAC [IE0002137]	1.60km (straight line distance) 4.17km (hydrological distance)	**Annex I Habitats:** ● Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330]. ● Mediterranean salt meadows (Juncetalia maritimi) [1410]. ● Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]. ● Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430]. ● Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]. ● Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] *****. ● Taxus baccata woods of the British Isles [91J0] *****. **Annex II Species:** ● Twait shad (*Alosa fallax*) [1103]. ● European freshwater crayfish (*Austropotamobius Pallipes*) [1092]. ● European river lamprey (*Lampetra fluviatilis*) [1099]. ● Brook lamprey (*Lampetra planeri*) [1096]. ● Sea lamprey (*Petromyzon Marinus*) [1095]. ● European otter (*Lutra lutra*) [1355]. ● Freshwater pearl mussel (*Margaritifera margaritifera*) [1099]. ● Atlantic salmon (*Salmo salar*) [1106].

* Denotes Priority Habitat

4.4 Conservation Objectives

European and national legislation places a collective obligation on Ireland and its citizens to maintain or restore habitats and species in the Natura 2000 Network to favourable conservation condition. Ireland has determined conservation objectives for European Sites which define favourable conservation condition for habitats and species protected under the Habitats Directive (i.e. qualifying interests of a SAC) and Birds Directive (special conservation interests of a SPA).

4.4.1 Species Areas of Conservation (SAC)

To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected. The favourable conservation status of an Annex I habitat is achieved when:

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

Where appropriate this also includes: The favourable conservation status of an Annex II species is achieved when:

- Population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats;
- The natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future; and
- There is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

4.4.2 Site Specific Conservation Objectives

Site specific conservation objectives are in place for two qualifying features of the Lower River Suir SAC, including:

- Atlantic salt meadows.
- Mediterranean salt meadows.

These two saltmarsh habitats are usually found in close association with each other.

Both qualifying features are associated with the lower reaches of the River Suir, proximal to the confluence with the Celtic Sea, in particular, Little Island saltmarsh located in the Lower Suir Esturary (Little Island-Cheekpoint) SAC [site code: IE_SE_100_0500], located to the east of Waterford which is a straight line distance of approximately 69km southeast of Thurles.

5 Impact Prediction

5.1 Introduction

The likely effects of the extension of the proposed project on the Lower Suir SAC are assessed with regard to the checklist provided in 'Assessment of plans and projects significantly affecting Natura 2000 sites Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC' (European Commission, 2001).

5.2 Potential Impacts Associated with the Project

5.2.1 Construction Run-off

The construction activities associated with the proposed project have the potential to generate run-off containing sediment and other pollutants i.e. chemicals, cement, oil, petrol. Other pollutants such as petrol and oil will be used to power the equipment which could also be released into surface water and groundwater run-off. During periods of rainfall, surface water run-off or sediment generated from construction activities will enter the existing road drains which either discharge via existing storm water outfalls to the River Suir or to the wastewater treatment plant.

5.2.2 Air Quality

The proposed construction works will include excavation and profiling activities and the storage of stockpiles of spoil on site. All of these activities have the potential to generate dust throughout the duration of the construction works which can have a detrimental impact on the surrounding air quality.

5.2.3 Noise and Vibration

The Project will result in an increase in ambient noise and vibration conditions within the vicinity of the site during the construction phase. The works are predicted to commence in Q3 2023, for 14 no. month duration. There will be periods of time when there are high levels of construction phase noise and vibration, particularly associated with works associated with the removal of existing road and pavements.

5.2.4 Operational Impacts

No potential impacts are anticipated during the operational phase of the project.

5.3 Potential Impacts to European Sites

As highlighted within Section 3.2 the closest European Site is the Lower River Suir SAC, located approximately 1.6km (straight-line distance) / 4.2km hydrological distance from the project. There is no potential for direct impacts to the European Site.

5.3.1 Construction Run-Off

A hydrological source-pathway-receptor link has been identified between the Project and the River Suir via existing road draining along the N62 Slievenamon Road. Any sediment or surface water run-off generated during the construction works along the N62 Slievenamon Road would be intercepted by this road drainage (e.g. gullies) and could be released to the River Suir via existing outfalls. The River Suir is located less than 100m to the east of the project and has

been assessed as having 'Moderate' water quality status under the Water Framework Directive (WFD) 2013 – 2018 monitoring period.

However, construction works within the Project will be undertaken in sections, as such, works will be localised at any one time and therefore the risk of significant run-off is low. The construction works will implement pollution control measures in accordance with CIRIA guidance for "Environmental Good Practice on Site" (C741) and "Control of water pollution from linear construction projects. Technical guidance" (C648) and as per the IFI guidance (2016) "Guidelines on protection of Fisheries During Construction Works in and Adjacent to Waters". Therefore, the risk of measurable levels of sediment/ pollution reaching the Lower River Suir SAC is considered very low. Additionally, with consideration to ex-situ SAC species which may range upstream of the SAC (e.g. European otter, Freshwater crayfish, migratory salmonids etc.) no significant effects to these species are anticipated.

Further consideration is given to Freshwater pearl mussel a qualifying interests of the SAC which are highly sensitive to water siltation and/or pollution. This species requires clean, fast-flowing streams and rivers where they can live buried or partially buried in gravels or coarse sands. It is not anticipated river conditions on downstream stretches of the River Suir (from the nearest upstream location from the Project) provide suitable habitat for this species. No freshwater peal mussel populations are identified in the River Suir SAC Conservation Objectives[1]. The SAC population is associated with the River Clodiagh Catchment which is not directly hydrologically connected to the proposed works.

Standard pollution controls are outlined to protect water quality from the works. These are not specific measures to protect European sites as they would be implemented whether an SAC was hydrologically linked or not. In the unlikely event of run-off of contaminants and/or silt release into the River Suir, via the surface water drainage networks and associated outfalls, it is likely that levels of pollution/ sediments associated with the proposed construction activities would be of a similar nature to current cumulative runoff from other existing projects/ land activities in the area, and would not measurably increase total pollution loads in the River Suir. Any measurable change to water quality from the project would be highly localised given the low flow of the River, and short term. It would be assimilated locally and therefore not result in degradation in water quality and possible adverse effects to dynamic aquatic qualifying interests, and also noting the SAC boundary is approximately 4.2km downstream.

5.3.2 Air Quality

The Institute of Air Quality Management 'Guidance on the Assessment of dust from demolition and construction' (Holman et al, 2014) prescribes potential dust emission risk classes to ecological receptors. The guidelines specify that, for highly sensitive ecological receptors, sensitivity to dust is 'High' up to 20m from the source, 'Medium' up to 50m from the source and reduces to 'Low' at distances over 50m from the source. The closest European Site to the Lower River Suir SAC which is located approximately 1.6km (straight-line distance)

As such, the risk of dust being transported in any sufficient level to result in potential impacts to the Lower River Suir SAC is considered to be negligible.

5.3.3 Disturbance

There is no potential for the works to result in visual disturbance or noise disturbance to qualifying features located within the Lower River Suir SAC due to the nature of the qualifying features and the distance from the River Suir (e.g. ex-situ species) and the SAC boundary

[1] https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO002137.pdf

located in the wider area due to the distance separating the Project from both the river and European Site.

As the Project is set back and screening by existing buildings from the River Suir, and located at some distance from the Lower River Suir SAC, the proposed change in artificial lighting regimes along Slievenamon Road will not adversely impact both the SAC or ex situ species located upstream of the European Site, proximal to Thurles.

It is therefore assessed that there is no potential for any impacts to European Sites in relation to the proposed project.

6 Plans and Projects which Might Act in Combination

6.1 Overview

Article 6(3) of the Habitats Directive requires that:

Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives.

It is therefore required that the potential impacts of the proposed works are considered in combination with any other relevant plans or projects.

6.2 Plans

The extant development plan which covers Thurles town is the North Tipperary County Development Plan 2010 (as varied) (referred to as NTCDP), includes a planning policy on the application of Appropriate Assessment for development that may independently, or cumulatively impact on the conservation values of Natura 2000 sites. This policy is reproduced below.

Policy LH6: Natura 2000 Sites and Protected Species

It is the policy of the Council to ensure the protection, integrity and conservation of existing and candidate Natura 2000 sites and Annex I and II species listed in EU Directives. Where itis determined that a development may independently, or cumulatively, impact on the conservation values of Natura 2000 sites, the Council will require planning applications to be accompanied by a Natura Impact Statement in accordance with 'Appropriate Assessment of Plans and Projects, Guidelines for Planning Authorities', (DEHLG 2009) or any amendment thereof.

The NTCDP will be replaced by a single statutory development plan for the entire county, namely, draft Tipperary County Development Plan 2022-2028. The draft plan also contains planning policy relating to Appropriate Assessment which is reproduced below.

Policy 11-1 [Conservation and Protection of Sites]

In assessing proposals for new development, to balance the need for new development with the protection and enhancement of the natural environment and human health. In line with the provisions of Article 6(3) and Article 6 (4) of the Habitats Directive no plans, programmes, etc. or projects giving rise to significant cumulative, direct, indirect or secondary impacts on European sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this Plan (either individually or in combination with other plans, programmes, etc. or projects

The proposed development is in accordance with the above planning policies.

6.3 Planning Applications

A search of the Tipperary County Council planning enquiry system (https://www.tipperaryCC.ie/searchtypes), An Bord Pleanála's application database and the EIA portal was carried out on 6th May 2022 of planning applications lodged in the last five years. These are summarised in Table 6.1, below.

Table 6.1: Relevant Planning History

Application Ref	Description	Status	Address & Distance/ Direction from Project
20424	a) Construct 36 No. two storey houses consisting of 11 no. two bedroom townhouses, 21 No. three bedroom townhouses, 4 No. three bedroom semi-detached dwellings b) Demolish 2 no. existing dwellings to allow for the creation of a new site entrance (c) Construction of an electrical substation d) erect estate name signage and (e) All associated site works	Third party appeal withdrawn. Granted approval (03/11/2021)	Stradavoher Road, Stradavoher, Thurles Approx. 250m south-southwest
19601159	Construction and operation of solar PV arrays mounted on metal frames on a 37.6ha site, inclusive of an electrical substation compound, up to 10 inverter units, a temporary construction area and ancillary facilities, (inclusive of gross floor space of proposed works up to 248 sq.m).	Granted (04/08/2020)	Ballycarrane, Thurles Approx. 1.6km south-southwest
201172	Demolition of a section of wall (in part) at Mitchel Street and partial demolition of 3 no. outbuildings within the site to create a point of vehicular, pedestrian and cycle access from Mitchel Street north into the site; development of 75 no. residential units, public and private open space, private and visitor car parking, creche building to cater for 35. no. children, pumping station, set down area and associated infrastructure works, all tree planting, landscaping and earthworks, all roads, footpaths, cycle paths, public lighting, all associated works and services	Granted (21/09/2021)	lands to the north of Mitchel Street, Thurles Townparks and Bohernamona, Thurles Approx. 600m north-northeast
21279	Demolition of existing wall at Bohernamona Road, Thurles and creation of new vehicular and pedestrian entrance from Bohernamona Road, creation of new crossing point via raised table from the application site to the existing playpark at Loughtagalla Park, Bohernamona Road, development of 50 residential units, public and private open space, private and visitor car parking spaces, associated drainage and infrastructure works, all tree planting and landscaping and earthworks, all roads, footpaths, cycle paths, public lighting and associated works and services. This application represents a Phase 2 development proposal.	Granted (21/09/2021)	Thurles townparks, Bohernamona and Bowling Green, Thurles Approx. 1.1km northeast
Part 8 application	Restoration and renovation of the existing Agricultural Building and the installation of a fixed roof covering of the external car-park, with associated support structures, to form a multi-functional weatherproof venue. - Restoration, renovation and glazed extension to the existing agricultural building for multi-functional uses; - Installation of a moveable roof covering and associated supporting structures for multi-functional uses; - Improved access between site and St. Patrick's College; - Upgrade of vehicular and pedestrian access to site; - Installation of EV car charging points; and - All associated site works.	Approved November 2020	Cathedral Street, Thurles Approx. 270m east

Notable developments with the potential for an in-combination effect are discussed further, below.

Solar Power Facility, Ballycarrane, Thurles - Planning Application 19601159

A 37Ha solar power facility was granted planning approval in August 2020. As noted in Table 6.1, the project generally comprises the construction and operation of solar PV arrays mounted on metal frames on a 37.6ha site.

This is located approximately 1.6km to the south-west of the Project, in close proximity to the River Suir. Habitats are the site were described within the associated Ecological Impact Assessment Report[2] as comprising agricultural grassland, disturbed ground and recolonizing bare ground.

An Appropriate Assessment Screening has been undertaken in relation to the Solar PV development. The potential effects to the Lower River Suir SAC, located 0.6km from the project, were considered due to hydrological connectivity via the River Suir. The Screening Report[3] could not rule out the potential for a likely significant effect as a result of the construction of the development, and therefore, a Natura Impact Statement was required.

The Natura Impact Statement introduced pollution prevention measures (in the form of the CEMP) in relation to watercourses (namely the River Suir) associated with potential adverse effects of the Solar PV development, primarily associated with site drainage and flood risk, both during construction and decommissioning. The Natura Impact Statement concluded the Solar PV development would not result in a likely significant effect to the qualifying interests of the Lower River Suir SAC, following the implementation of appropriate '*working near water'* mitigation.

Given that the Natura Impact Statement concluded that the Solar Power Facility will not have the potential to result in likely significant effect through the implementation of mitigation measures, there is no potential for the Project to result in an in-combination effect to the Lower River Suir SAC.

Residential Development, Stradavoher Road, Thurles – Planning Application 20242

As noted in Table 5.1, the project generally comprises the development of new residential housing, new road infrastructure and construction of an electrical substation proximal to the new housing, located approximately 250m south- west of the Road Improvement Project.

The residential development application proposes the construction of an independent surface water network, which will include Sustainable Urban Drainage Scheme (SUDS) principles with an attenuation tank on site, which thereafter will connect to the combined sewer at the site entrance.

An Environmental Impact Assessment (EIA) Pre-Screening form was undertaken within the Planning Report[4] and concluded an absence of a source-pathway-receptor-link between the residential development project and Lower River Suir SAC. To this end, it was assessed there would be no significant effects and therefore Appropriate Assessment was not required.

Due to the lack of source-pathway-receptor-link the Stradavoher Road Residential Development project will not be at risk of having in-combination impacts with the Project.

[2] http://193.178.30.67/idocswebDPSS/ViewFiles.aspx?docid=604247&format=jpeg (accessed 23rd March 2022)
[3] http://193.178.30.67/idocswebDPSS/ViewFiles.aspx?docid=604244&format=jpeg (accessed 23rd March 2022)
[4] http://193.178.30.67/idocswebDPSS/ViewFiles.aspx?docid=632198&format=djvu (accessed 23rd March 2022)

7 Potential for Effects on Site Integrity

There is no potential for impacts on the European Site identified within the surrounding 10km from the proposed Road Improved Project. This is primarily due to the distance separating European sites from the Project and the small scale controlled nature of the proposed works where a hydrological link has been outlined between the project and the Lower River Suir SAC.

There is therefore no potential for any significant effects on any European Sites or their qualifying interests (including ex-situ species such of otter, migratory salmonids etc.), in view of their conservation objectives, either alone or in combination with any other Plans or Projects.

No adverse effects on any European Sites Integrity will arise and no specific mitigation is required to avoid adverse effects on European sites.

8 Screening Statement

8.1 Summary

The current assessment investigates the potential for likely significant effects on European Sites arising from the proposed development. The assessment considered whether the proposed works, alone or in combination with other projects or plans, will have potential for significant effects on any European sites.

It is concluded that there is no potential for any effects on European Sites from the proposed works, either alone or in-combination with other plans and/or projects due the distance separating the Sites from the Project and the dispersal and dilution of any sediment / pollutants that could be released to connected waterbodies before reaching the European Sites. The findings of this Screening for Appropriate Assessment report are summarised in the Findings of No Significant Effects Matrix hereunder.

Table 8.1: Screening Matrix for the Project

Findings of No Significant Effect

Description of the project or plan	The proposed development comprises improvement works to a 450m section of the N62 – Slievenamon Road in Thurles town, Co. Tipperary. The works comprise the following: ● upgraded road layout with reduced carriageway width (approximately 6.5m) ● improved junctions with enhanced infrastructure for pedestrians and vulnerable road users ● widened footways with new paving (widths ranging from 1.8m to 2.5m) ● road resurfacing ● upgraded public lighting comprising 15no. lighting columns at 25m intervals ● 416m of 225mm diameter surface water drainage infrastructure ● enhanced soft and hard landscaping including the provision of upgraded street furniture.
Name and location of European sites	The closest European Site is the Lower River Suir Species Area of Conservation (SAC), which is located approximately 1.60km (straight-line distance) from the southern extent of the project The northern extent of the project, located at the junction between the N62/N75 is located approximately 215m west of the existing Cathedral Street (N75) road bridge and the River Suir. Here, the Lower River Suir SAC is located approximately 4.2km (hydrological distance) downstream from the Cathedral Street road bridge. No other European Sites are present within the surrounding 10km.
Is the project or plan directly connected with or necessary to the management of the site?	No.
Are there other projects or plans that together with the project or plan being assessed could affect the site?	A review of Tipperary County Council and An Bord Pleanála application databases and the EIA Portal have not identified any projects which could result in in-combination impacts to the European Sites within the

Findings of No Significant Effect

	ZoI of this project.
The assessment of significance of effects	
Describe how the project or plan (alone or in combination) is likely to affect the European site.	There is no potential for likely significant effects as a result of the Project due the distance separating the Sites from the Project and the dispersal and dilution of any sediment / pollutants that could be released to connected waterbodies before reaching the European Sites
Explain why these effects are not considered significant	No effects have been determined therefore there can be no alteration of the conservation condition or objectives of the European sites due to the proposed works.
List of agencies consulted: provide contact name and telephone or e-mail address	None.
Response to consultation.	N/A
Data collected to carry out the assessment	
Who carried out the assessment	Robert Clisham, Ecologist with Mott MacDonald
Sources of data?	Refer to Reference Sections
Level of assessment?	Desktop Study

References

DEHLG (2009) Appropriate Assessment of Plans and Projects in Ireland Guidance for Planning Authorities (Revised 2010).

EC (2007) Guidance document on Article 6(4) of the 'Habitats Directive' 92/43/EEC: Clarification of the concepts of alternative solutions and imperative reasons of overriding public interest, compensatory measures, overall coherence, opinion of the Commission.

EC (2018) Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC Commission Notice C (2018) 7621.

EC (2021) Assessment of Plans and Projects significantly affecting Natura 2000 sites: Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC.

Fossitt, J., (2007) A Guide to Habitats in Ireland. The Heritage Council of Ireland Series. ISSN 1393 – 68 08

NPWS (2017) Conservation Objectives: Lower River Suir SAC 002137. Version 1. National Parks and Wildlife Service, Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs

Appendices

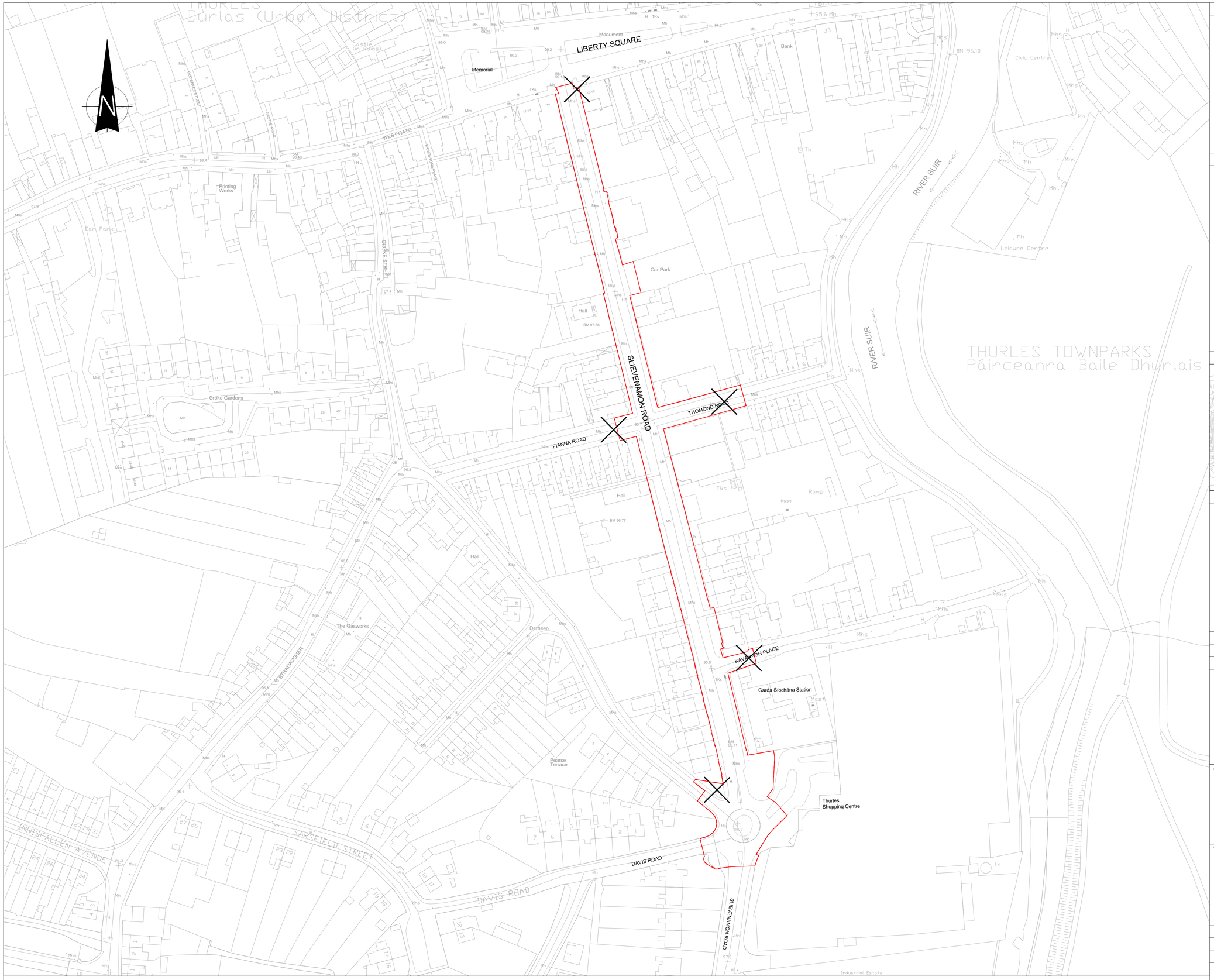
A. Drawings

A.1 229100430-MMD-0000-01-DR-C-0001 Rev P02

A.2 229100430-MMD-0100-01-DR-C-0101 Rev P02

A.3 229100430-MMD-0100-01-DR-C-0102 Rev P02

A.4 229100430-MMD-0500-01-DR-C-0001 Rev P02



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Key to symbols

Application Boundary

Site Notice

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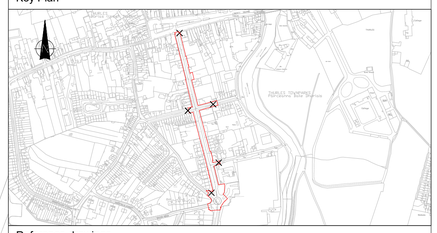
Key Plan



Reference drawings

229100430-MMD-0100-01-DR-C-0101 - Site Layout Plan

Rev	Date	Drawn	Description	Ch'k'd	App'd
P02	22.07.2022	AK	Issue For Part 8 Planning	GR	JH
P01	30.06.2022	AK	Issue For Client Review	GR	JH

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Title

N62 Slievenamon Road Phase 2 Road Improvement Scheme Site Location Map

Designed	Various		Eng check	A. Costello	
Drawn	A. Kaciniel		Coordination	A. Costello	
Dwg check	G. Reid		Approved	J. Hawe	

Scale at A1	Status	Rev	Security
1:1000	PRE	P02	STD

Drawing Number
229100430-MMD-0000-01-DR-C-0001

Plan 1
1:1000 @ A1

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Key to symbols

- Carriageway - Asphalt
- Raised Table/Crossings - Asphalt Coloured Aggregate
- Footway - Concrete Finish
- Application Boundary
- Footway Border - Natural Stone Limestone Cubes 3 no.150x150mm
- Footway - Natural Stone Granite Pavers
- Raised Crossing - Granite Aggregate Paving Setts
- Contrasting Surface - Concrete Paving Setts (Charcoal Colour)
- Roundabout Splitter Island - Limestone Aggregate Paving Setts
- Existing Shopping Centre Paving Setts - Extension
- Existing Shopping Centre Paving Setts - Maintained
- Raised Planters
- Kerb (125mm Upstand) - Natural Stone Limestone
- Kerb (125mm Bevelled) - Natural Stone Limestone
- Kerb (25mm Upstand) - Natural Stone Limestone
- Kerb (6mm Upstand) - Natural Stone Limestone
- Kerb (0mm Upstand) - Natural Stone Limestone
- Kerb (Transition) - Natural Stone Limestone
- Kerb (Existing)
- Tactile Paving (Buff, Red Colour)
- Lighting Column
- Traffic Signal Post
- Street Bench
- Bicycle Rack
- Street Tree / Tree Pit
- Feature Tree
- Soft Landscaping

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Reference drawings

229100430-MMD-0000-01-DR-C-0001 - Site Location Map
229100430-MMD-0100-01-DR-C-0102 - Typical Cross Sections

Rev	Date	Drawn	Description	Ch'k'd	App'd
P02	22.07.2022	AK	Issue For Part 8 Planning	GR	JH
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Title
N62 Slievenamon Road Phase 2 Road Improvement Scheme Site Layout Plan

Designed	Various		Eng check	A. Costello	
Drawn	A. Kaciniel		Coordination	A. Costello	
Dwg check	G. Reid		Approved	J. Hawe	

Scale at A1	Status	Rev	Security
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Drawing Number
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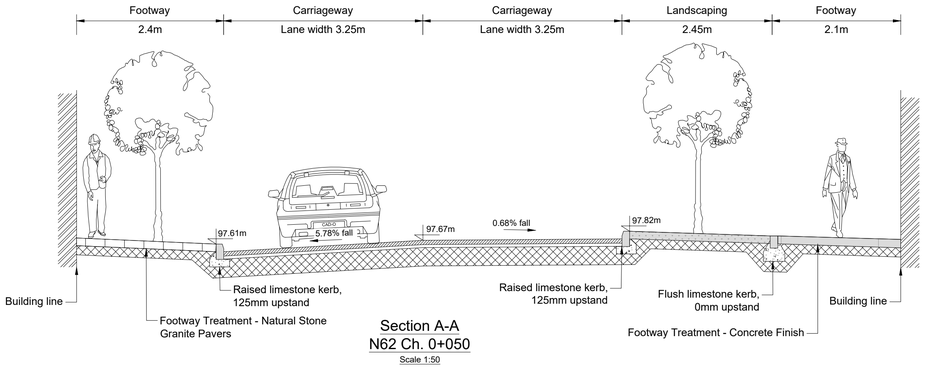

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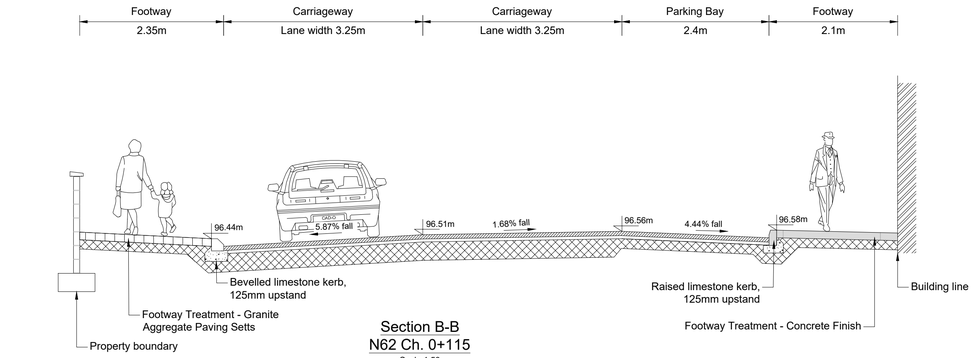

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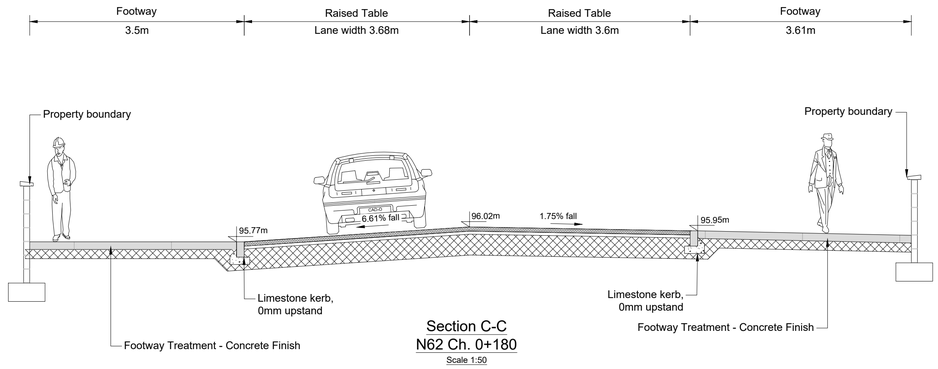

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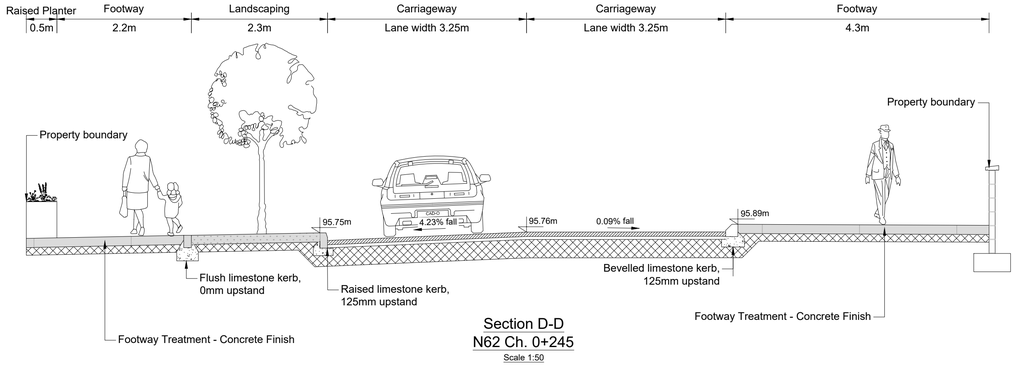

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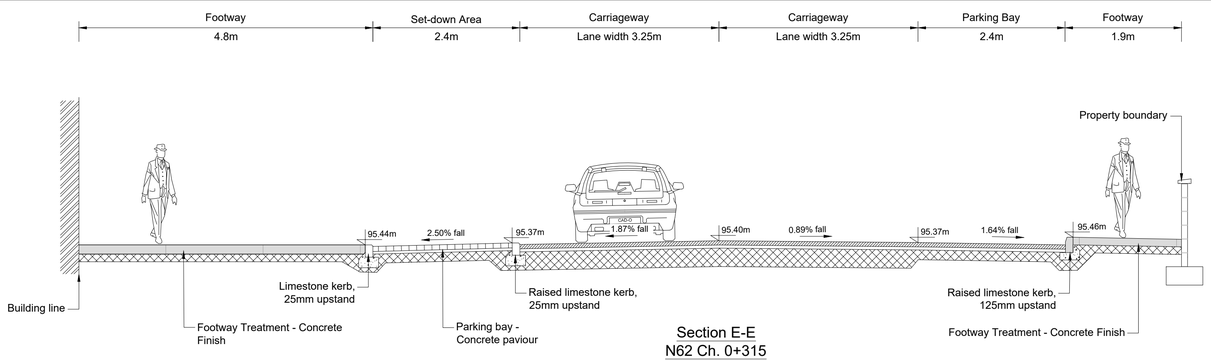

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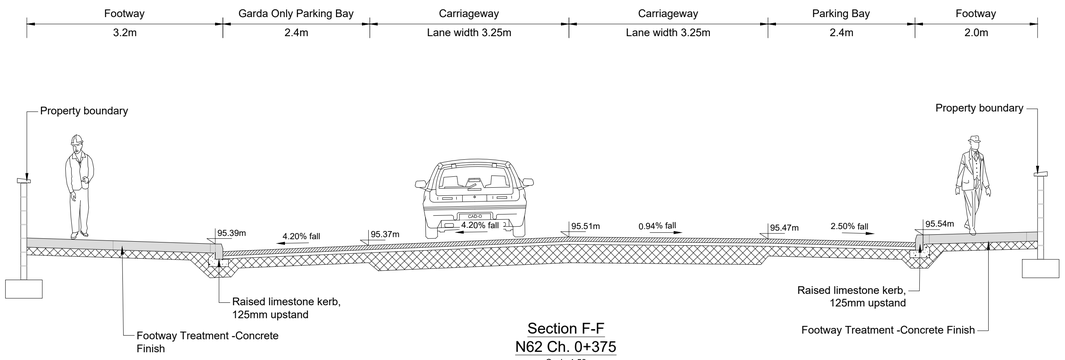

Section F-F
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Key to symbols

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Reference drawings

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229100430-MMD-0100-01-DR-C-0101 - Site Layout Plan

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N62 Slievenamon Road Phase 2
Road Improvement Scheme
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Drawn	A. Kaciniel		Coordination	A. Costello	
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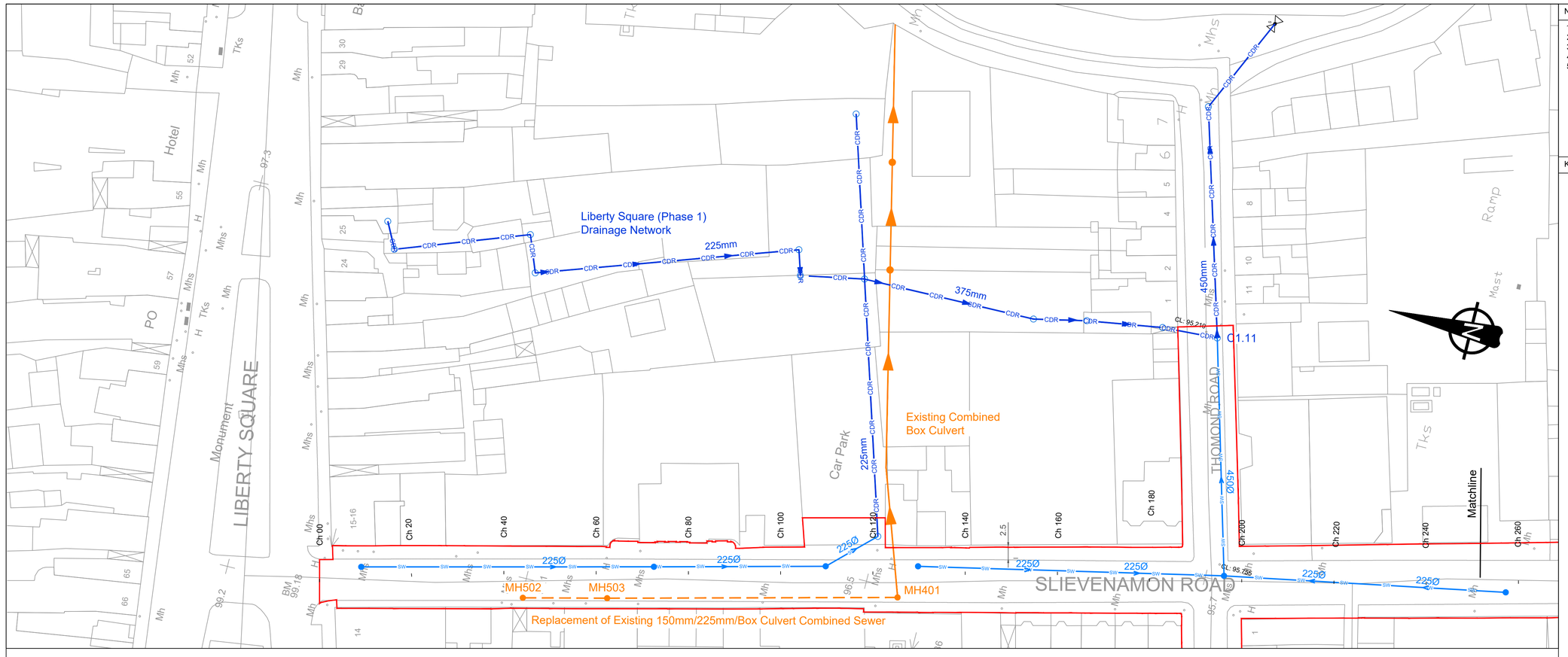

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Key to symbols

- Existing Surface Water Network
- Proposed Surface Water Network
- Existing Combined Network
- Proposed Combined Network Upgrade
- Application Boundary

Reference drawings

229100430-MMD-0000-01-DR-C-0001 - Site Location Map
229100430-MMD-0100-01-DR-C-0101 - Site Layout Plan
229100430-MMD-0100-01-DR-C-0102 - Typical Cross Sections

1:500 0 25m 50m

Rev	Date	Drawn	Description	Ch'k'd	App'd
P02	22.07.2022	AK	Issue For Part 8 Planning	GR	JH
P01	30.06.2022	AK	Issue for Client Review	GR	JH

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Title
N62 Slievenamon Road Phase 2 Road Improvement Scheme Drainage Layout

Designed	A. O'Connell		Eng check	A. Costello	
Drawn	A. Kaciniel		Coordination	A. Costello	
Dwg check	G. Reid		Approved	J. Hawe	

Scale at A1	Status	Rev	Security
1:500	PRE	P02	STD

Drawing Number
229100430-MMD-0500-01-DR-C-0001

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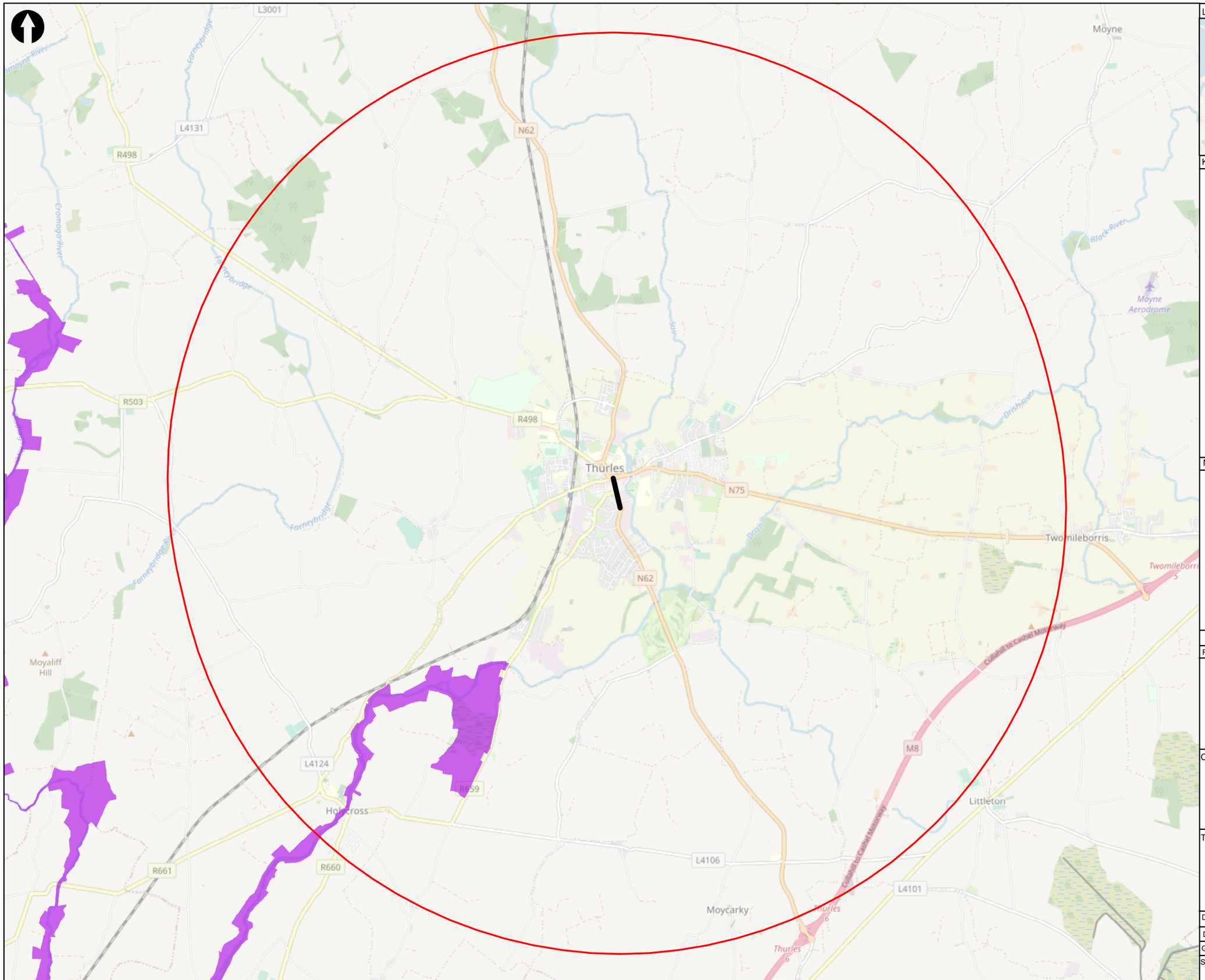
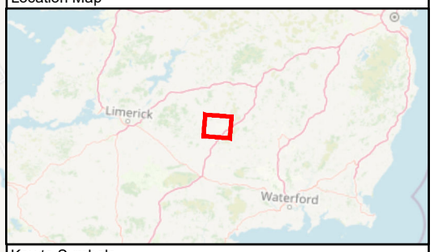
COS38458

B. European Sites in relation to the Project



Location Map



Key to Symbols

Legend

- Proposed Development
- Lower River Suir SAC
- Study Area (10km)

Notes

Rev	Date	Drawn	Description	Ch'k'd	App'd
01	29/06/22	RAC	First Issue	RMAC	JHAW

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Title

N62 Slievenamon Road
Phase 2 Road Improvement Scheme
Screening of Appropriate Assessment
Appendix B

Designed	RAC		Eng Check	RMAC	
Drawn	RAC		Coordination	AC	
GIS Check	KM		Approved	JHAW	

Scale at A3	Status	Rev	Security
1:80,000	For Info	01	STD

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0 1,600 3,200 m

SITE SYNOPSIS

Site Name: Lower River Suir SAC

Site Code: 002137

Lower River Suir SAC consists of the freshwater stretches of the River Suir immediately south of Thurles, the tidal stretches as far as the confluence with the Barrow/Nore immediately east of Cheekpoint in Co. Waterford, and many tributaries including the Clodiagh in Co. Waterford, the Lingaun, Anner, Nier, Tar, Aherlow, Multeen and Clodiagh in Co. Tipperary. The Suir and its tributaries flow through the counties of Tipperary, Kilkenny and Waterford.

Upstream of Waterford city, the swinging meanders of the Suir criss-cross the Devonian sandstone rim of hard rocks no less than three times as they leave the limestone-floored downfold below Carrick-on-Suir. In the vicinity of Carrick-on-Suir the river follows the limestone floor of the Carrick Syncline. Upstream of Clonmel the river and its tributaries traverse Upper Palaeozoic Rocks, mainly the Lower Carboniferous Visean and Tournaisian. The freshwater stretches of the Clodiagh River in Co. Waterford traverse Silurian rocks, through narrow bands of Old Red Sandstone and Lower Avonian Shales, before reaching the carboniferous limestone close to its confluence with the Suir. The Aherlow River flows through a Carboniferous limestone valley, with outcrops of Old Red Sandstone forming the Galtee Mountains to the south and the Slievenamuck range to the north. Glacial deposits of sands and gravels are common along the valley bottom, flanking the present-day river course.

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

[1330] Atlantic Salt Meadows
[1410] Mediterranean Salt Meadows
[3260] Floating River Vegetation
[6430] Hydrophilous Tall Herb Communities
[91A0] Old Oak Woodlands
[91E0] Alluvial Forests*
[91J0] Yew Woodlands*

[1029] Freshwater Pearl Mussel (*Margaritifera margaritifera*)
[1092] White-clawed Crayfish (*Austropotamobius pallipes*)
[1095] Sea Lamprey (*Petromyzon marinus*)
[1096] Brook Lamprey (*Lampetra planeri*)
[1099] River Lamprey (*Lampetra fluviatilis*)

[1103] Twaite Shad (*Alosa fallax*)
[1106] Atlantic Salmon (*Salmo salar*)
[1355] Otter (*Lutra lutra*)

Alluvial wet woodland is a declining habitat type in Europe as a result of drainage and reclamation. The best examples of this type of woodland in the site are found on the islands just below Carrick-on-Suir and at Fiddown Island. Species occurring here include Almond Willow (*Salix triandra*), White Willow (*S. alba*), Rusty Willow (*S. cinerea* subsp. *oleifolia*), Osier (*S. viminalis*), with Yellow Iris (*Iris pseudacorus*), Hemlock Water-dropwort (*Oenanthe crocata*), Wild Angelica (*Angelica sylvestris*), Pendulous Sedge (*Carex pendula*), Meadowsweet (*Filipendula ulmaria*) and Common Valerian (*Valeriana officinalis*). The terrain is littered with dead trunks and branches and intersected with small channels which carry small streams to the river. The bryophyte and lichen floras appear to be rich. A small plot is currently being coppiced and managed by the National Parks and Wildlife Service. In the drier areas species such as Ash (*Fraxinus excelsior*), Hazel (*Corylus avellana*), Hawthorn (*Crataegus monogyna*) and Blackthorn (*Prunus spinosa*) occur.

Eutrophic tall herb vegetation occurs in association with the various areas of alluvial forest and elsewhere where the floodplain of the river is intact. Characteristic species of the habitat include Meadowsweet, Purple Loosestrife (*Lythrum salicaria*), Marsh Ragwort (*Senecio aquaticus*), Ground Ivy (*Glechoma hederacea*) and Hedge Bindweed (*Calystegia sepium*).

Old oak woodlands are also of importance at the site. The best examples are seen in Portlaw Wood which lies on both sides of the Clodiagh River. On the south-facing side the stand is more open and the oaks (mainly Pedunculate Oak, *Quercus robur*) are well grown and spreading. Ivy (*Hedera helix*) and Bramble (*Rubus fruticosus* agg.) are common on the ground, indicating relatively high light conditions. Oak regeneration is dense, varying in age from 0-40 years and Holly (*Ilex aquifolium*) is fairly common but mostly quite young. Across the valley, by contrast, the trees are much more closely spaced and though taller, are poorly grown on average. There are no clearings; large oaks extend to the boundary wall. In the darker conditions, Ivy is much rarer and Holly much more frequent, forming a closed canopy in places. Oak regeneration is uncommon since there are as yet few natural clearings. The shallowness of the soil on the north-facing slope probably contributes to the poor tree growth there. The acid nature of the substrate has induced a 'mountain' type oakwood community to develop. The site is quite species-rich throughout, including an abundance of mosses, liverworts and lichens. The rare lichen *Lobaria pulmonaria,* an indicator of ancient woodlands, is found here.

Inchinsquillib Wood consists of three small separate sloping blocks of woodland in a valley cut by the young Multeen River and its tributaries through acidic Old Red Sandstone and Silurian rocks. Two blocks, both with an eastern aspect, located to the north of the road, are predominantly of Sessile Oak (*Quercus petraea*) and Hazel, with Downy Birch (*Betula pubescens*), Ash and Holly. The ground flora is quite mixed with,

for example, Wood-sedge (*Carex sylvatica*), Bluebell (*Hyacinthoides non-scripta*), Primrose (*Primula vulgaris*), Wood-sorrel (*Oxalis acetosella*), Pignut (*Conopodium majus*) and Hard Fern (*Blechnum spicant*). The base poor nature of the underlying rock is to some extent masked by the overlying drift. The third block, to the south of the road, and with a northern aspect, is a similar although less mature mixture of Sessile Oak, Birch and Holly. Here the influence of the drift is more marked, with the occurrence of Wood Anemone (*Anemone nemorosa*) amongst the ground flora.

Two stands of Yew (*Taxus baccata*) woods, a rare habitat in Ireland and the E.U., occur within the site. These are on limestone ridges at Shanbally and Cahir Park. Both are in woods planted with non-native species, including conifers. However, the area at Cahir Park is fairly substantial in size and includes some relatively undisturbed patches of wood and some very old trees. Regeneration of the Yew trees is mostly poor, due to competition from species such as Sycamore (*Acer pseudoplatanus*) and, at Shanbally, due to heavy grazing by goats. Other native species which occur with the Yew trees include Ash, Pedunculate Oak, Hazel and Spindle (*Euonymus europaeus*). Future prospects for these Yew woods are good as the sites are proposed for restoration under a Coillte E.U. LIFE programme.

Floating river vegetation is evident in the freshwater stretches of the River Suir and along many of its tributaries. Typical species found include Canadian Pondweed (*Elodea canadensis*), water-milfoils (*Myriophyllum* spp.), Fennel Pondweed (*Potamogeton pectinatus*), Curled Pondweed (*P. crispus*), Perfoliate Pondweed (*P. perfoliatus*), Pond Water-crowfoot (*Ranunculus peltatus*), other crowfoots (*Ranunculus* spp.) and the moss *Fontinalis antipyretica.* At a couple of locations along the river Opposite-leaved Pondweed (*Groenlandia densa*) occurs. This species is protected under the Flora (Protection) Order, 1999.

The Aherlow River is fast flowing and mostly follows a natural unmodified river channel. Submerged vegetation includes the aquatic moss *Fontinalis antipyretica* and Stream Water-crowfoot (*R. pencillatus*), while shallow areas support species such as Reed Canary-grass (*Phalaris arundinacea*), Brooklime (*Veronica beccabunga*) and Water Mint (*Mentha aquatica*). The river bank is fringed in places with Alder (*Alnus glutinosa*) and willows (*Salix* spp.).

The Multeen River is fast flowing, mostly gravel-bottomed and appears to follow a natural unmodified river channel. Water-crowfoots occur in abundance and the aquatic moss *Fontinalis antipyretica* is also common. In sheltered shallows, species such as Water-cress (*Nasturtium officinale*) and water-starworts (*Callitriche* spp.) occur. The river channel is fringed for most of its length with Alder, Willow and a narrow strip of marshy vegetation.

Salt meadows occur below Waterford City in old meadows where the embankment is absent, or has been breached, and along the tidal stretches of some of the in-flowing rivers below Little Island. There are very narrow, non-continuous bands of this habitat along both banks. More extensive areas are also seen along the south bank at Ballynakill, the east side of Little Island, and in three large salt meadows

between Ballynakill and Cheekpoint. The Atlantic and Mediterranean sub-types are generally intermixed. The species list is extensive and includes Red Fescue (*Festuca rubra*), oraches (*Atriplex* spp.), Sea Aster (*Aster tripolium*), Sea Couch (*Elymus pycnanthus*), frequent Sea Milkwort (*Glaux maritima*), occasional Wild Celery (*Apium graveolens*), Parsley Water-dropwort (*Oenanthe lachenalii*), English Scurvygrass (*Cochlearia anglica*) and Sea Arrowgrass (*Triglochin maritima*). These species are more representative of the Atlantic sub-type of the habitat. Common Cord-grass (*Spartina anglica*), is rather frequent along the main channel edge and up the internal channels. The legally protected (Flora (Protection) Order, 1999) Meadow Barley (*Hordeum secalinum*) grows at the landward transition of the saltmarsh. Sea Rush (*Juncus maritimus*), an indicator of the Mediterranean salt meadows, also occurs.

Other habitats at the site include wet and dry grassland, marsh, reedswamp, improved grassland, coniferous plantations, deciduous woodland, scrub, tidal river, stony shore and mudflats. The most dominant habitat adjoining the river is improved grassland, although there are wet fields with species such as Yellow Iris, Meadowsweet, rushes (*Juncus* spp.), Meadow Buttercup (*Ranunculus acris*) and Cuckooflower (*Cardamine pratensis*).

Cabragh marshes, just below Thurles, lie in a low-lying tributary valley into which the main river floods in winter. Here there is an extensive area of Common Reed (*Phragmites australis*) with associated marshland and peaty fen. The transition between vegetation types is often well displayed. A number of wetland plants of interest occur, in particular the Narrow-leaved Bulrush (*Typha angustifolia*), Bottle Sedge (*Carex rostrata*) and Blunt-flowered Rush (*Juncus subnodulosus*). The marsh is naturally eutrophic but it has also the nutritional legacy of the former sugar factory which discharged into it through a number of holding lagoons, now removed. Production is high, which is seen in the size of such species as Celery-leaved Buttercup (*Ranunculus sceleratus*), as well as in the reeds themselves.

Throughout the Lower River Suir site are small areas of woodland other than those described above. These tend to be a mixture of native and non-native species, although there are some areas of semi-natural wet woodland with species such as Ash and willow. Cahir Park Woodlands is a narrow tract of mixed deciduous woodland lying on the flat-lying floodplain of the River Suir. This estate woodland was planted over one hundred years ago and it contains a large component of exotic tree species. However, due to original planting and natural regeneration there is now a good mix of native and exotic species. About 5 km north-west of Cashel, Ardmayle pond is a long, possibly artificial water body running parallel to the River Suir. It is partly shaded by planted Lime (*Tilia* hybrids), Sycamore and the native Alder. Growing beneath the trees are shade tolerant species such as Remote sedge (*Carex remota*).

The site is of particular conservation interest for the presence of a number of Annex II animal species, including Freshwater Pearl Mussel (both *Margaritifera margaritifera* and *M. margaritifera* subsp. *durrovensis* occur), White-clawed Crayfish, Salmon, Twaite Shad (*Alosa fallax fallax*), three species of Lampreys - Sea Lamprey, Brook

Lamprey and River Lamprey, and Otter. This is one of only three known spawning grounds in the country for Twaite Shad.

The site also supports populations of several other animal species. Those which are listed in the Irish Red Data Book include Daubenton's Bat, Natterer's Bat, Pipistrelle Bat, Pine Marten, Badger, Irish Hare, Smelt and Common Frog. Breeding stocks of Carp are found in Kilsheelan Lake. This is one of only two lakes in the country which is known to have supported breeding Carp. Carp require unusually high summer water temperatures to breed in Ireland. As the site is therefore unusual in this regard, it may also support interesting invertebrate populations.

Parts of the site have also been identified as of ornithological importance for a number of Annex I (E.U. Birds Directive) bird species, including Greenland White-fronted Goose (10), Golden Plover (1,490), Whooper Swan (7) and Kingfisher. Figures given in brackets are the average maximum counts from four count areas within the site for the three winters 1994-1997. Wintering populations of migratory birds use the site. Flocks are seen in Coolfinn Marsh and also along the reedbeds and saltmarsh areas of the Suir. Coolfinn supports nationally important numbers of Greylag Goose on a regular basis, with numbers between 600 and 700 recorded. Other species occurring include Mallard (21), Teal (159), Wigeon (26), Tufted Duck (60), Pintail (4), Pochard (2), Little Grebe (2), Black-tailed Godwit (20), Oystercatcher (16), Lapwing (993), Dunlin (101), Curlew (195), Redshank (28), Greenshank (4) and Green Sandpiper (1). Nationally important numbers of Lapwing (2,750) were recorded at Faithlegg in the winter of 1996/97. In Cabragh marshes there is abundant food for surface feeding wildfowl which total approximately 1,000 in winter. Widgeon, Teal and Mallard are numerous, and the latter has a large breeding population, with up to 400 in summer. In addition, less frequent species like Shoveler and Pintail occur and there are records for both Whooper and Bewick's swans. Kingfisher, a species that is listed on Annex I of the E.U. Birds Directive, occurs along some of the many tributaries throughout the site.

Land use at the site consists mainly of agricultural activities including grazing, silage production, fertilising and land reclamation. The grassland is intensively managed and the rivers are therefore vulnerable to pollution from run-off of fertilisers and slurry. Arable crops are also grown. Fishing is a main tourist attraction on stretches of the Suir and some of its tributaries, and there are a number of Angler Associations, some with a number of beats. Fishing stands and styles have been erected in places. Both commercial and leisure fishing takes place on the rivers. The Aherlow River is a designated Salmonid Water under the E.U. Freshwater Fish Directive. Other recreational activities such as boating, golfing and walking are also popular. Several industrial developments, which discharge into the river, border the site including three dairy related operations and a tannery.

The Lower River Suir contains excellent examples of a number of Annex I habitats, including the priority habitats alluvial forest and Yew woodland. The site also supports populations of several important animals species, some listed on Annex II of the Habitats Directive or listed in the Irish Red Data Book. The presence of two

legally protected plants (Flora (Protection) Order, 1999) and the ornithological importance of the site adds further to the ecological interest and importance.