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Kingscourt Town Centre Regeneration Scheme

Transport Statement

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Kingscourt Town Centre Regeneration Scheme

Transport Statement

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1.0 INTRODUCTION & DESCRIPTION

1.1 INTRODUCTION

The Kingscourt Town Centre Regeneration Scheme aims to deliver a high-quality public realm to the town centre of Kingscourt, Co. Cavan. The scheme is a follow through of the 2018 Kingscourt Revitalisation Plan which identified suitable sites for regeneration.

With the town being surrounded by large industries, it boasts a significant population of 2500 (as at 2016 census) to cater for within the town. The current feel of the town is industrial with many heavy vehicles passing through the Main Street (R162). The objective of a public realm scheme is to soften this landscape and improve the public space for residents and visitors while maintaining the functionality of the town.

The Kingscourt Town Centre Regeneration Scheme is set to improve the economic and physical landscape of the town. The scheme aims to unlock the potential of the town and to stimulate private and public investment. The main objective is to increase footfall within the town by creating a safe place for pedestrians and cyclists in a town which is currently dominated by traffic. The scheme will reimagine a space in the town centre that residents and visitors can enjoy.

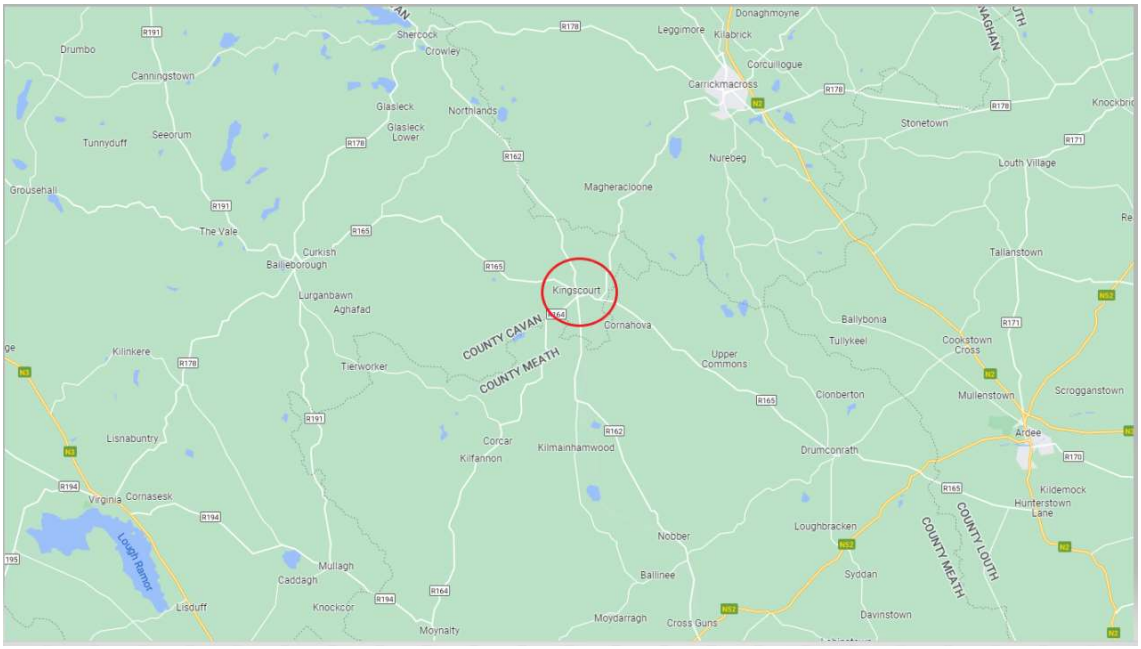

Figure 1 – Project Location

1.2 DESCRIPTION

In November 2021 Cavan County County appointed a team of consultants led by TOBIN Consulting Engineers to develop the Kingscourt Town Centre Regeneration Scheme. The scope of works are as follows:

- Refurbishment, adaptation and extension of the former National Irish Bank building on Market Square as a new library and part-demolition of existing outbuilding;

- Refurbishment works to Protected Structure (RPS: CV35015), formerly Bank of Ireland building on Main Street and adaptation as a new "remote working hub", with demolition of rear extension and replacement with new extension for universal accessibility;
- Reconfiguration of the former Shekleton's site (RPS: CV35012), including: the partial demolition of the overhanging room above entrance gate, demolition of outbuildings located to the rear of the main building and demolition of former salon building to the north of Shekleton's to accommodate new access road from Main Street to proposed off-street car parking area;
- Reconfiguration of road layout, car parking, and public realm enhancements to Main Street between Market Square and Kells Road Roundabout;
- New segregated cycleway along Main Street;
- Reconfiguration of road layout, car parking and public realm enhancements to Market Square;
- Proposed off-street car parking off Main Street and rear of Shekleton's to accommodate 126 no. car parking spaces; including 9 no. accessible car parking, 2 no. EV spaces and 1 no. occasional loading bay;
- Proposed new access road from Rocks Road to the proposed off-street car parking area incorporating repairs to existing boundary walls within the curtilage of Protected Structure (RPS: CV35012);
- Junction improvements and traffic calming measures on Rocks Road and St. Mary's Road to facilitate new access to off-street parking area;
- Public realm enhancements including new tree planting, greening, paving, street furniture, sustainable urban drainage systems (SUDs), street lighting, undergrounding of overhead cables, and associated works and services to Main Street, Market Square, Rocks Road and proposed off-street car parking area.

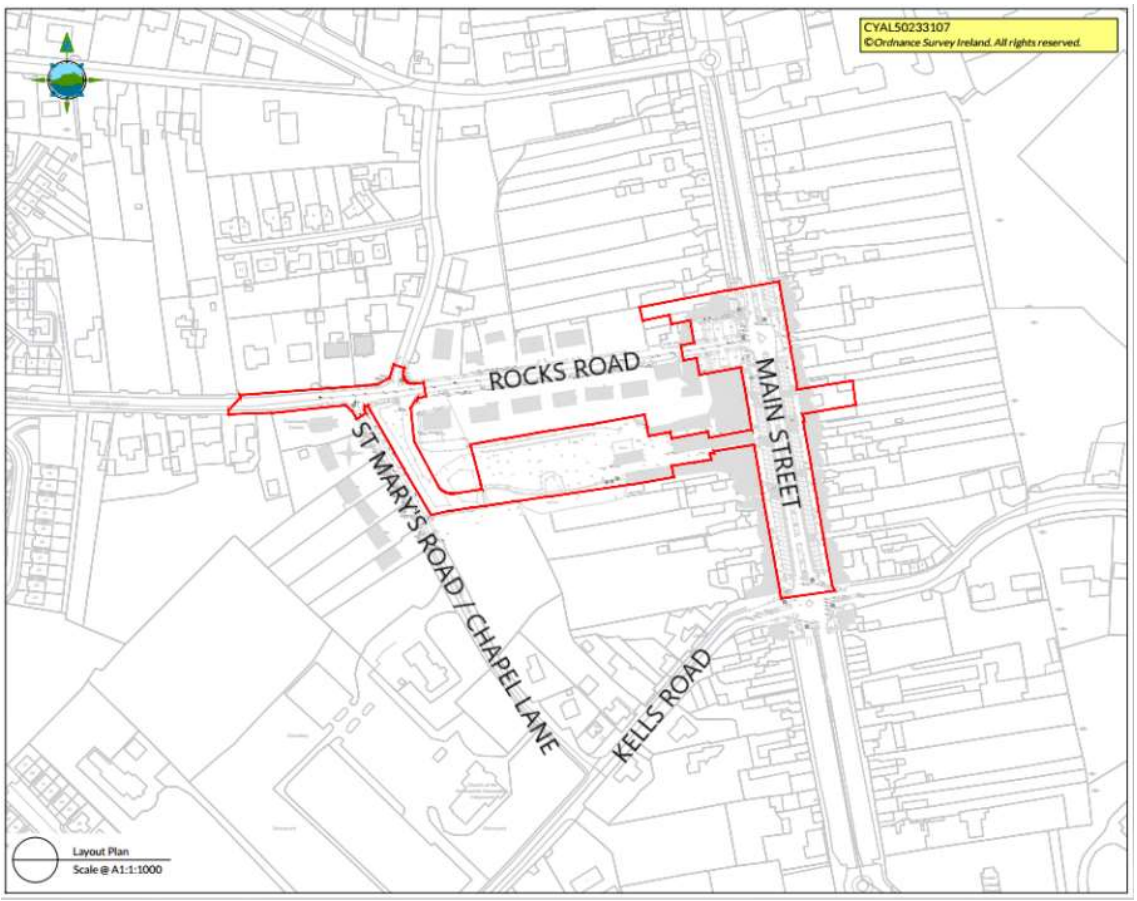

Figure 2 – Site Location Plan Showing Extent of Proposed Works

1.3 PURPOSE OF THIS REPORT

This report focuses on the scheme from a transportation point of view. The report considers the impacts of the scheme on the carriageways in terms of safety for pedestrians, cyclists, and traffic. It also considers the preliminary design of the scheme with regard to the carriageways and drainage.

The scheme consists of a section of Main Street approximately 200m long, a new car park utilising existing backlands and a revised junction which facilitates access to this car park.

Urban renewal schemes require design considerations in accordance with the Design Manual for Urban Roads and Streets (DMURS), National Cycle Manual as well as other reference documents relating to accessibility and road safety.

1.4 COLLISION HISTORY

The following accident data was received from Cavan County Council's Roads Department. The accident classifications below can be referenced to Figure 3:

- Blue - Serious Injury
- Green – Minor Injury
- Yellow – Material Damage

Accident data available covers the period from 1990 to 2017. It is apparent that the majority of accidents occur at the Kells Road roundabout with an even spread across Main Street (R162). Three accidents were recorded at the Rocks Road / St Mary's Road Junction.

The majority of these accidents were minor with material damage and no injuries while there were nine minor injuries and one serious injury recorded. Detailed accident data can be found in Appendix 1

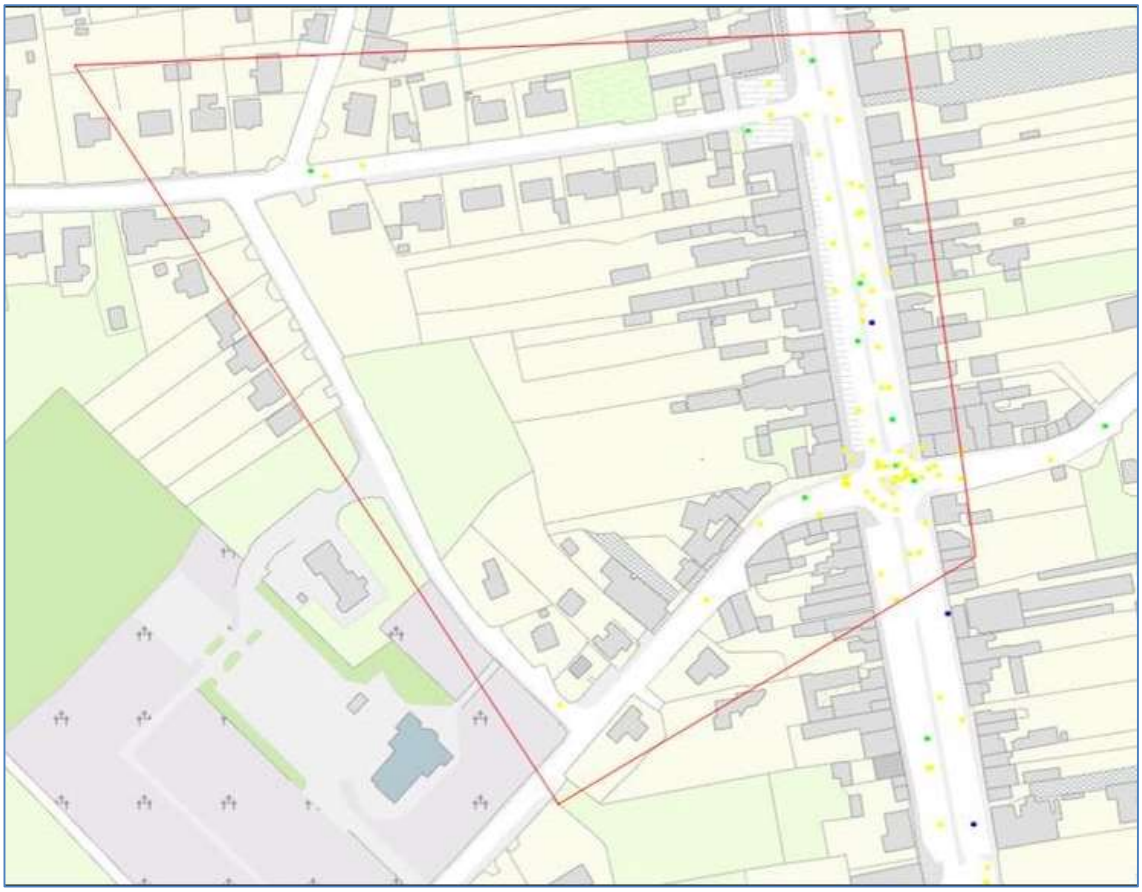

Figure 3 – Historic Accident Data (1990-2017)

2.0 SCHEME / SAFETY OBJECTIVES

2.1 SCHEME OBJECTIVES

As part of the overall project, it is intended that the study area will be enhanced as a multi-use urban space where priority is given to pedestrians and cyclists. The scheme will incorporate marked but subtle transitions between compatible town centre uses suggested through public realm treatments. Some of these uses include outdoor casual seating, soft landscaping and street furniture. Some of these will enable spill out spaces for businesses for outdoor dining as and when required.

Cycling infrastructure has also been catered for by the introduction of cycle lanes within the scheme. These are included to future proof the town to tie in to the surrounding cycle ways such as the Navan to Kingscourt Greenway project.

Other objectives of the scheme are to provide adequate parking and loading provisions for a town which is at the centre of a number of industrial activities. This is also a commuter town which sees many people travel out of town for work daily. A parking survey carried out in November 2021 (Appendix 2) revealed 10 percent of vehicles occupy Main Street and 19 percent occupying Market Square for the entire day. As these vehicles are not parking for the purposes of business in Kingscourt itself, the proposal to relocate these spaces from the Main Street to an off-street car park is warranted.

Businesses whose premises are within the scheme boundary are to be catered for in terms of daily or weekly deliveries. Following stakeholder consultations on the proposals, time restricted loading bays for larger vehicles have been incorporated into the scheme, while also retaining 44 car parking spaces. These loading bays will need to be controlled for effective use of the space.

A final objective of the scheme will be to 'open up' the backlands areas behind the buildings on the western side of Main Street, which are currently underutilised.

2.2 SAFETY OBJECTIVES

The following safety objectives have been identified:

- Address safety issues for vulnerable road users in the design of the higher-level scheme objectives.
- Apply DMURS principles in catering for vulnerable road users.
- Apply DMURS principles in reducing vehicle speeds.
- Provide adequate sight distances at junctions and accesses.
- Provide safe crossing facilities for vulnerable road users.
- Apply National Cycle Manual guidance to the scheme.
- Apply guidance from the Wheelchair Association as well as the Road Markings Manual for an accessible site.

3.0 EXISTING CONDITIONS

3.1 SPEED

The speed limits on Main Street and Rocks Road are 50km/h. Speed surveys conducted on Main Street in May 2008 indicate the 85th percentile on the Cootehill Road (R162) traffic counter to be 77.8km/h (northbound) and 83.5km/h (southbound). The Navan Road (R162) counter shows an 85th percentile speed of 68km/h (northbound) and 73.4km/h (southbound).

A speed survey was done on Rocks Road in February 2022 between the Rocks Road / St Mary's Road Junction and Market Square. The 85th percentile speeds eastbound to Market Square was 70km/h and the westbound speed away from Market Square was 68km/h.

These results indicate a need for traffic calming measures to be put in place for the safety of both pedestrians and motorists.

3.2 TRAFFIC VOLUMES

Six junction counts were carried out in May 2008 in Kingscourt as part of a traffic study. Conclusions for the 2008 traffic conditions showed that the junction at Kells Road roundabout was operating above capacity for the PM peak hour and approaching capacity for the AM peak hour traffic. The 2025 predicted future situation showed this junction operating above capacity on both peak periods.

The Rocks Road / St Marys Road junction showed no issues with capacity. It must be noted, however, that these are 2008 studies.

With regards to traffic volumes, recent February 2022 counts were available for the Rocks Road / St Marys Road junction and these show eastbound Annual Average Daily Traffic (AADT) of 1104 and westbound AADT of 1167.

3.3 HORIZONTAL & VERTICAL ALIGNMENTS

Main Street has a north/south alignment with the project area being approximately 200m long. The street incorporates two lanes of traffic, each approximately 3.5m wide, with a centre median approximately 2.5m wide. In total, Main Street is approximately 30m wide between building lines with angled parking on both sides of the street.

Rocks Road has an east/west alignment with a 3m wide traffic lane in each direction. The proposed project area is confined to the Rocks Road / St Marys Road junction, which at present is a 4-way staggered junction.

3.4 CROSSFALL AND SUPERELEVATION

Main Street has a west to east crossfall with no superelevation. Rocks Road has a camber with a centre crown with no superelevation.

3.5 FACILITIES FOR VULNERABLE ROAD USERS

There are three existing uncontrolled pedestrian crossings within the proposed works area ie. a crossing at the southern end of Main Street with two crossings at the northern end. There are no crossings at Market Square / Rocks Road. Crossings are approximately 2m wide which is the minimum width required. There are no line markings present at these crossings. DMURS

recommends increasing these widths where possible to accommodate pedestrians, buggies and cyclists. Given the length of Main Street, a mid-block crossing would be required.

There is no provision for pedestrian crossing points on Rocks Road.

Figure 4 – Pedestrian Crossings on Main Street at Kells Road roundabout

3.6 JUNCTIONS AND ACCESSES

There are currently two mini roundabouts at either end of the scheme ie. Kells Road Roundabout and the Roundabout at the Square.

There are multiple accesses from residential properties onto Rocks Road and a staggered junction at Rocks Road / St Marys Road.

3.7 VISIBILITY AND SIGHTLINES

Visibility and sightlines at the Rocks Road / St Marys staggered junction is substandard and hazardous when coupled with the high speeds measured. The section of Main Street within the scheme boundary is on a straight so there are no issues with visibility and sightlines.

4.0 ENVIRONMENTAL, ARCHAEOLOGICAL & OTHER CONTRAINTS

The main Planning Report incorporates the AA Screening Report, Cultural Heritage Impact Assessment and the Architectural Heritage Impact Assessment reports.

5.0 PROPOSED DESIGN

5.1 GENERAL

The Design Manual for Urban Roads and Streets (DMURS) proposes pedestrians be given the highest design consideration on urban roads and streets. The proposed scheme provides for a segregated cycleway and widened footpaths, with provision for crossings on Main Street, Market Square and Rocks Road, at appropriate locations. The carriageway widths on Main Street will remain unchanged at 3.5m per lane due to the heavy vehicle usage of the street. This allows the public realm to be fully functional for the industries and business it serves as well as being a safe space for its residents and visitors. Appropriate junction and access treatment will be provided on Main Street as well as Rocks Road in line with TII and DMURS standards. The junction of Main Street and Market Square is proposed to be a shared space with pedestrian priority.

Adequate loading facilities are allowed for deliveries to businesses. These will be controlled and time restricted for loading and will be available as parking spaces outside of the specified loading times.

5.2 LAND ACQUISITION

Cavan County Council have acquired land for the off-street car park to be located at the rear of buildings on the western side of Main Street. This land acquisition also incorporates access roads into the car park from Main Street and Rocks Road.

5.3 HORIZONTAL & VERTICAL ALIGNMENTS

The proposed design follows the existing alignment and levels as far as is possible. All horizontal radii adhere to DMURS standards without the need for superelevations or transitions. The radii predominantly used on the horizontal geometric design is between 4m and 6m. There are horizontal deflections incorporated on Rocks Roads to facilitate safety in design.

There are vertical constraints along the entire project such as kerbs, roundabouts, entrances, and crossings. The proposed design incorporates shared spaces and raised tables at Market Square and the Rocks Road / St Mary's Road junction respectively. All vertical geometry shall be finalised at detailed design stage and shall comply with TII and DMURS standards.

5.4 CROSSFALL AND SUPERELEVATION

The typical cross section of the proposed road improvements on Main Street consists of the following and can be seen in figure 5 below:

- 3.5m wide lanes in each direction
- A combination of perpendicular and parallel parking
- Segregated 3m wide two-way cycleway
- Segregated footpaths

Market Square will be a raised surface and shared space with a crossfall in a west to east direction.

The junction of Rocks Road and St Mary's Road would be a raised table maintaining the existing longitudinal gradient from west to east with a camber and centre crown.

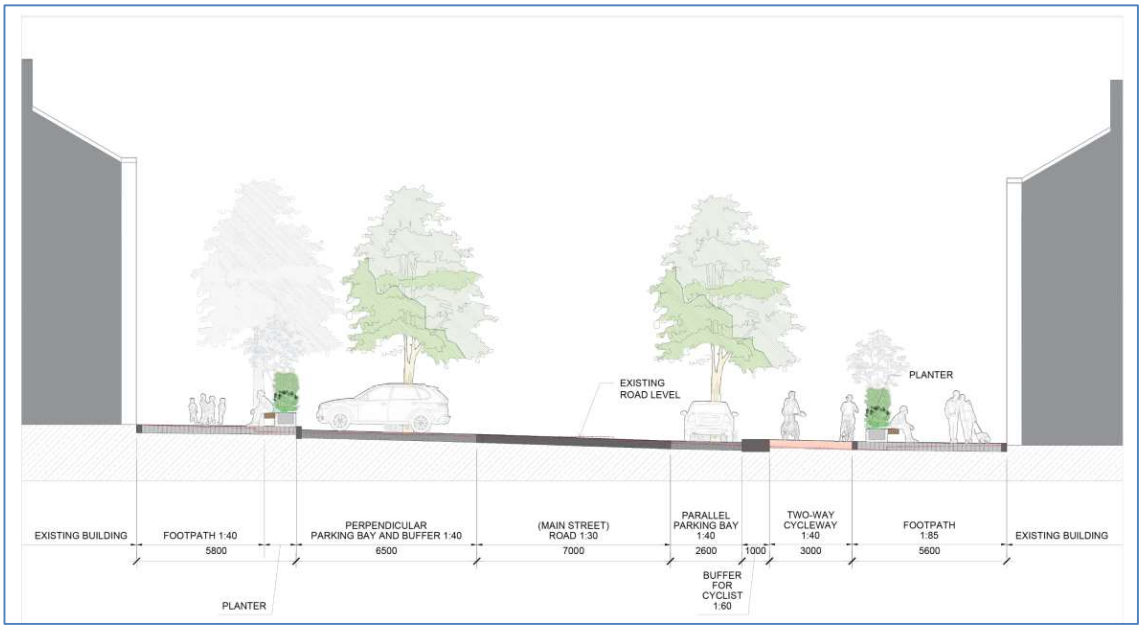

Figure 5 – Typical section of Main Street in the proposed scheme

5.5 FACILITIES FOR VULNERABLE ROAD USERS

Extensive footpaths and cycle facilities will be provided as part of the scheme. Crossing facilities in accordance with DMURS and the Traffic Signs Manual Chapter 7 are to be applied at all junctions.

Two uncontrolled pedestrian crossings are proposed on Main Street ie. one at the southern end of Main Street and the other mid-block on Main Street.

Market Square will be a shared space with pedestrian priority and the junction at Rocks Road / St Mary's Road with a be a raised table incorporating pedestrian crossings.

5.6 JUNCTIONS AND ACCESSES

The key Sustainable Safety principles guiding the design of junctions are Homogeneity and Legibility as mentioned in the National Cycle Manual.

Junctions are safer when the differential speed between conflicting road users is minimised. In effect, turning vehicles (including cyclists, motorists, tractors, trucks) should be taking the turn at of the same speed as bicycles and pedestrians who cross the mouth of the same junction. This facilitates eye contact between users and provides enough time to avoid collisions.

A junction is safer when all road users can read it and understand it. A legible junction design will be self-evident, self-explanatory, and self-enforcing.

In the design of junctions, in addition to considering pedestrians and cyclists crossing the mouth of the junction, it is just as important to inform vehicles entering/exiting the side road, as well as informing the main road traffic approaching the side road junction.

The design of Market Square will incorporate smaller radii in line with recommendations made by DMURS to facilitate slower moving traffic through the shared space. Auto tracking ensures heavy use vehicles are still able to safely use this junction. Horizontal deflection will be utilised on Market Square which will aid in reducing vehicle speeds through this shared space.

The Rocks Road / St Mary's Road staggered junction will comply with TII and DMURS standards regarding visibility, sightlines and overall safety in mind. The junction will consist of the following:

- Narrowed carriageway to 3m lanes in each direction,
- Provision for improved visibility and sight distances,
- Raised table, with the provision of integrated footpaths and pedestrian crossing facilities
- Inclusion of access road to the proposed off-street car park

The design of the off-street Car Park will cater for 126 parking spaces and will be accessed via Main Street and Rocks Road. These junctions will allow two-way traffic. The internal configuration of the car park will contain perpendicular bays with a one-way direction of flow.

5.7 VISIBILITY AND SIGHTLINES

A visibility analysis was carried out for each junction in accordance with DMURS. Figures 6 and 7 show the appropriate visibility and stopping distances according to a specified design speed.

The visibility splays determined from guidance in DMURS using a design speed of 30km/h at all junctions except Rocks Road where it is recommended the design speed be reduced to 60km/hr from 70km/hr. The following junctions were considered:

- Market Square / Main Street
- Main Street / Proposed Car Park access
- Rocks Road / St Mary's Road
- Rocks Road / Proposed Car Park access

Vertical geometry will be considered during the detailed design stage.

SSD STANDARDS

Design Speed (km/h)	SSD Standard (metres)
10	7
20	14
30	23
40	33
50	45
60	59

Forward Visibility

Design Speed (km/h)	SSD Standard (metres)
10	8
20	15
30	24
40	36
50	49
60	65

Forward Visibility on Bus Routes

Figure 6 – Visibility and Stopping Sight Distance Requirements from DMURS

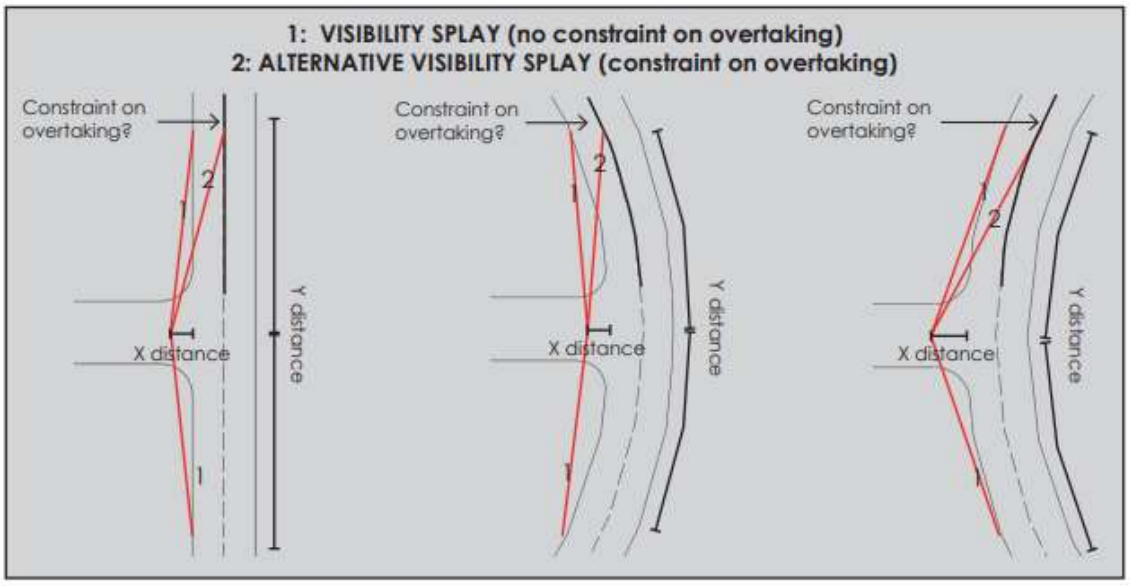

Figure 7 – Forward visibility splays in terms of X and Y distances

5.8 DRAINAGE

The site is currently serviced by concrete stormwater pipes with pipe diameters varying from 450mm to 850mm. The wider network comprises of smaller 100mm diameter pvc pipes to 300mm PE pipes. Surface water drainage of the site is facilitated by gullies on Main Street and Rocks Road.

It is anticipated to utilise the existing stormwater infrastructure where practicable for the town centre regeneration scheme.

The proposed scheme intends to remove the central median and in turn remove the existing gullies which are found along this central median.this will require detailed vertical geometric design of the surface which will inform the new drainage design.

The proposed design intends to incorporate Sustainable Drainage Systems (SuDS) so as to reduce any risk of overloading the existing storm water drainage system. Figure 8 shows a typical extended tree pit incorporating the SuDS principles where rainwater infiltrates a permeable medium and is used for the benefit of planting, stormwater management and filtering clean water back into the earth. Excessive flows would then be transported through the existing storm network through drainage pipes.

The final provision of inlets is subject to a detailed drainage design and vertical geometric design.

A new stormwater system will be required for the new car park given it is a conversion of a greenfield site to a car park. Detailed design of the drainage system will be carried out in conjunction with the vertical geometric design of the car park, where stormwater attenuation will be considered if required.

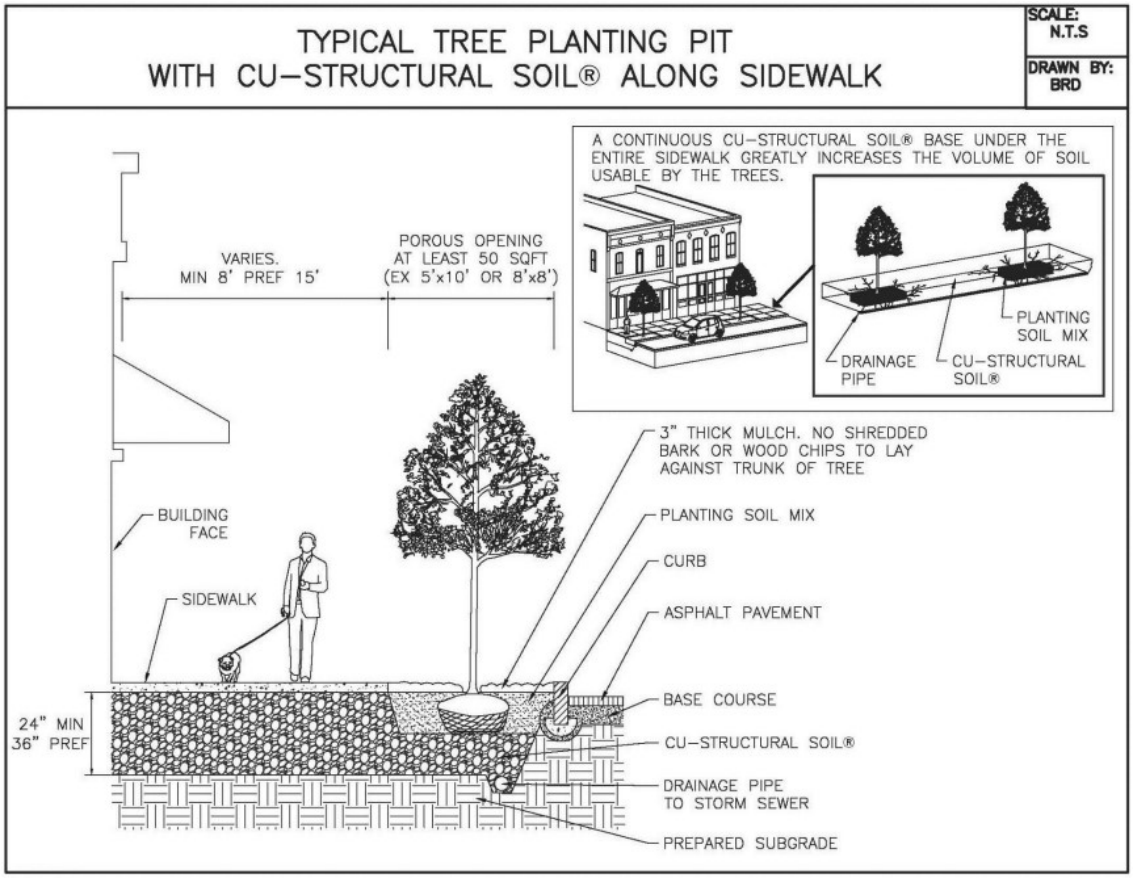

Figure 8 – Tree Pit example

5.9 PAVEMENT

The following guidance will be used in the pavement design of the scheme:

- The mainline pavement will be designed in accordance with the TIIs Design Manual for Roads and Bridges and in particular:
  - PE-SMG-02002 (old NRA addendum to HD 24/06) – Traffic Assessment
  - DN-PAV-03021 (old NRA HD 25-26/10) – Pavement & Foundation Design
- The thickness of capping and subbase shall be obtained from Figure 4.1 of DN-PAV-03021 (old NRA HD 25-26/10).
- The key element in the design of a road pavement is the volume of commercial vehicles travelling along the road measured in one direction (1-way flow). Commercial vehicles are defined as those over 3.5 tonnes gross vehicle weight. The structural wear caused by lighter traffic (i.e., bikes, cars and light goods vehicles) is negligible.
- Paragraph 4.5 of DN-PAV-03021 (old NRA HD 25-26/10) and PE-SMG-02002 (old NRA addendum to HD 24/06) specifies the Design Period for long life pavements as 40 years.
- Various pavement options are available, but for this short scheme, the normal flexible pavement type is envisaged.
- Given the urban nature of the road, a surface course of Stone Mastic Asphalt (SMA) would be recommended as it provides for a quieter running surface than Hot Rolled Asphalt (HRA) and is more practical for installation given the carriageway widths.

5.10 TRAFFIC SIGNS AND ROAD MARKINGS

Traffic signs and road markings will be designed in accordance with the current version of the Traffic Signs Manual at detailed design stage. In accordance with the principles of DMURS, signage will be kept to a minimum to avoid clutter. The existing signage arrangement adheres to this principle and minimal adjustment to signage is proposed.

5.11 ACCOMMODATION WORKS

All public and private accesses including accesses to businesses and driveways impacted by the proposed improvement works will be tied into the level of the renewed carriageway.

The relevant utility companies have been consulted to identify conflict areas between their services and the proposed road scheme.

Stakeholders will be accommodated so that disruption to businesses during construction will be kept to the minimum possible.

5.12 LIGHTING

Existing lighting on Main Street is located on the central median. With the removal of this median, the street lighting positions will be relocated.

New lighting will be provided in the proposed car park. The lighting design of the scheme will be carried out by Cavan County Council.

6.0 ROAD SAFETY AUDIT

A stage 1 Road Safety Audit was carried out on the proposed scheme by a team of independent auditors. Problems which were identified were resolved for the planning submission with some of the items to be resolved at detailed design stage. The full report and responses can be found in Appendix 3.

7.0 TOTAL SCHEME BUDGET

As the design has developed to an acceptable level of detail, a preliminary cost estimate was produced for the proposals put forward. It must be noted that this is a high-level Order of Magnitude and may be subject to change. Every effort has been made to account for market fluctuations with regards to rates and construction costs. The construction cost estimate of the scheme is €8,779,852.00 ex VAT.

The total estimated construction cost of the scheme comprises the Public Realm element and the two buildings ie. Public Library and the Remote Working Hub. The breakdown of these two are as follows:

Public Realm - €5,991,286.00

Library and Remote Working Hub - €2,788,566.00

The detailed Order of Magnitude can be found in Appendix 4.

Appendix 1 – Road Accident Data

Appendix 2 – Parking Survey

Appendix 3 – Road Safety Audit – Stage 1

Appendix 4 – Order of Magnitude Cost Estimate

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