IE01T25B36

PROPOSED RESIDENTIAL DEVELOPMENT AT CORNAMADDY, ATHLONE, CO. WESTMEATH

Transport Statement

NOVEMBER 2025

SYSTRA

DOCUMENT CONTROL SHEET

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1	Author	H Robinson	Senior Consultant	14/11/2025	Draft for Review
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	Approved by	C Killeen	Associate Director	21/11/2025	

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1. INTRODUCTION

1.1 Context

1.1.1 SYSTRA Ltd. have been appointed by Westmeath County Council (WCC) to provide this Transport Statement (TS) to accompany a planning application for a 94-unit residential development at a site west of Cornamaddy Drive in Cornamaddy, Athlone.

1.1.2 The site location is shown in **Figure 1.**

Figure 1. Site location

1.2 Background

1.2.1 The development site is located approximately 2km northeast of Athlone Town and will be accessed via Cornamaddy Drive, which links to the N55 / R916 / Drumaconn Roundabout (Cornamaddy Roundabout).

1.2.2 The development will be situated mostly within an area zoned for residential development by Westmeath County Council (WCC) and will be accessed via the adjacent Gracefields residential development under construction to the east (planning reference: 22577), as well as the already-constructed Drumaconn housing estate.

1.2.3 The impacts of the proposed development have been assessed using flows derived from the Athlone Local Area Model, which was created to support the Athlone Area-Based Transport Assessment (Athlone ABTA).

2. ATHLONE AREA-BASED TRANSPORT ASSESSMENT AND LOCAL AREA PLANS

2.1 Area-Based Transport Assessment

2.1.1 In 2023, SYSTRA Ltd, in association with J.B. Barry Transportation, were commissioned by Westmeath and Roscommon County Councils to prepare an Area-Based Transport Assessment (ABTA) for the Athlone Regional Growth Centre, as identified in Project Ireland 2040 and the National Planning Framework (NPF). Under the NPF, Athlone is designated as a Regional Growth Centre and is planned to accommodate significant population growth, requiring a coordinated transport strategy. As part of the ABTA, a Local Area Model was developed for Athlone.

2.1.2 The ABTA sets out a multi-faceted, sustainable transport approach to support Athlone's development to 2040. The assessment included the development of a Local Area Model (LAM), detailed in the ABTA report, which was calibrated and validated in line with Transport Infrastructure Ireland (TII) guidelines, and is considered to be a robust tool for evaluating future infrastructure proposals and their impact on the local road network. Strategic multi-modal modelling was also carried out using the National Transport Authority's Western Regional Model (WRM) to forecast future traffic growth and test various network options.

2.1.3 Scenarios modelled included a 'Do Minimum' 2040 baseline and a 'Do Something' scenario incorporating proposed ABTA transport strategies by mode, infrastructure recommendations and supporting demand management measures. The modelling considered mode share, trip distribution, levels of walking and cycling, public transport usage, and future traffic demand, ensuring alignment with national objectives for sustainable mobility and growth.

2.1.4 In the site vicinity, the ABTA indicates active travel, public transport and road-based infrastructure measures, including the proposed Coosan/Cornamaddy Link Road (with active travel and public transport measures) and the East Athlone Relief Route.

2.1.5 The Local Area Model and the associated future land use projections for the ABTA in the 2040 horizon year include the proposed development site (zoned as suitable for residential development).

2.2 Athlone Local Area Plan (2014-2020)

2.2.1 The land-use zoning currently applicable to the site is set out in the Athlone Town Development Plan (2014-2020). The zoning map is indicated below in Figure 2. The forthcoming Athlone Joint Area Plan, being developed collaboratively by Westmeath and Roscommon County Councils, will set out the land-use zoning to 2040, which will be consistent with that assumed in the ABTA as outlined above.

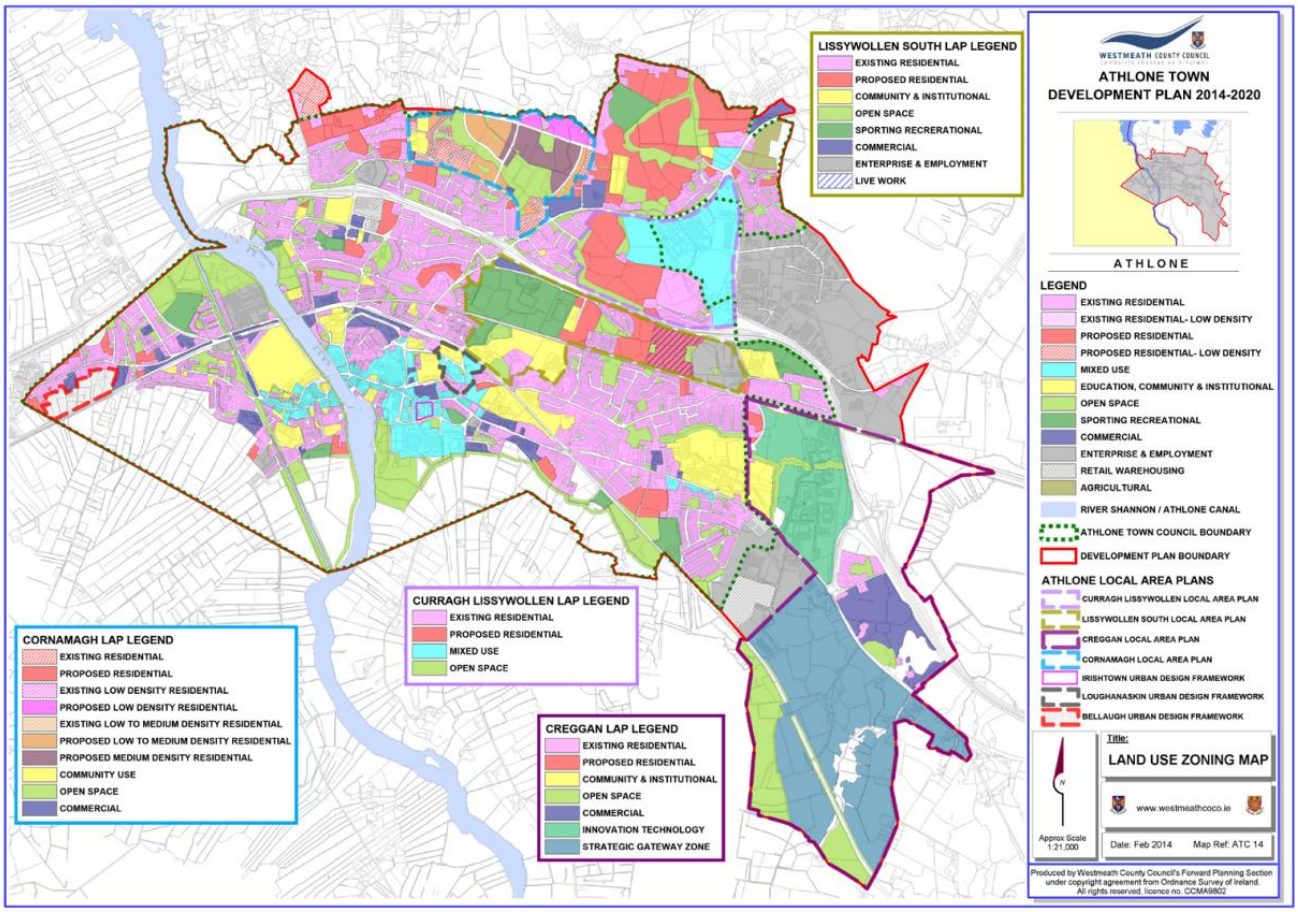


Figure 2. Land-Use Zoning (Athlone Town Development Plan)

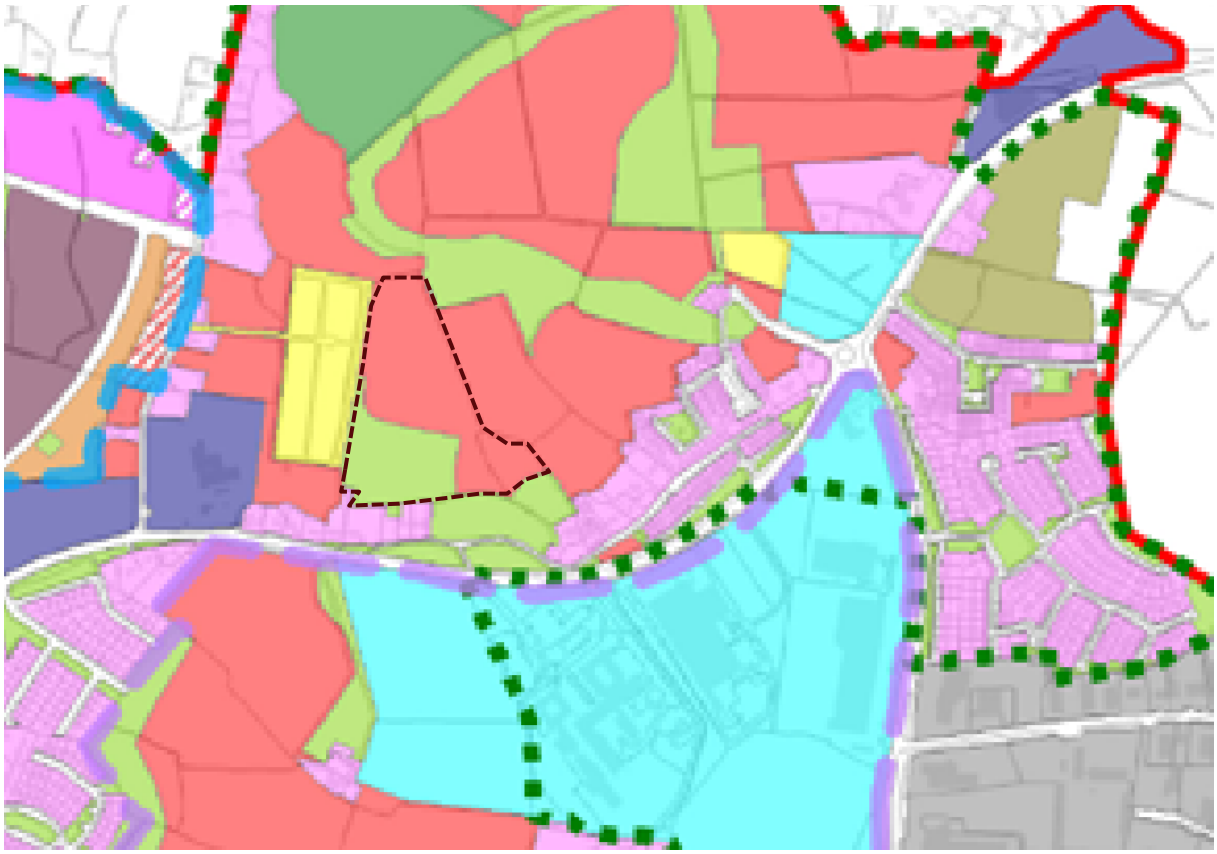


Figure 3. Land-Use Zoning (Site Specific)

3. TRANSPORT BASELINE

3.1.1 This section sets out existing transport conditions for all transport modes and includes a description of the local highway network and of key junctions.

3.2 Local Highway Network

3.2.1 The key access points, junctions and roads within the vicinity of site are set out in Figure 4.

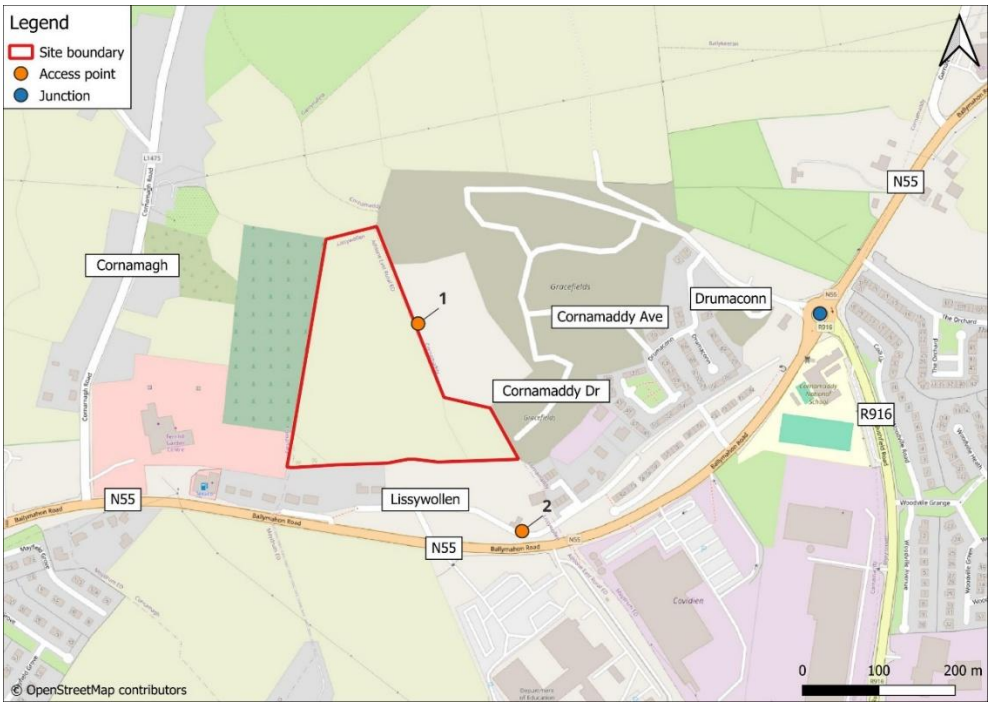


Figure 4. Site location in relation to highway network

3.2.2 To the east of the site, the principal site access (Access 1) will be provided via a link road through the Glenveagh Gracefields residential development (currently under construction) to the east, using Cornamaddy Avenue, which connects to the N55 at Cornamaddy Roundabout. Cornamaddy roundabout is a four-arm priority roundabout connecting the N55 with the R916 and Drumaconn.

3.2.3 A secondary access (Access 2) will be provided via an existing access road and junction via Lissywollen to the south of the site. The secondary access will not be available to general development traffic; instead, it will be primarily for emergency vehicle access. The secondary access will however be accessible for walking and cycling trips to and from the site, with a 3m shared facility proposed alongside the 5.5m wide carriageway.

3.2.4 The N55 is a single-carriageway road running in an east-west direction, parallel to the southern boundary of the site, and connects to the N6 to the south and Athlone town centre.

3.3 Pedestrian and Cycling Infrastructure

3.3.1 Figure 5 illustrates the existing pedestrian and cycling infrastructure in the vicinity of the site.

3.3.2 Pedestrian footways are available on both sides of most streets; however, there is only one footway (which is part of a shared-use path, separated for pedestrians and cyclists by a painted line, as shown in Figure 4) on the southern side of the N55.

3.3.3 Two zebra crossing points are available in the site vicinity, one across the N55 eastern approach/exit of Cornamaddy Roundabout, and one across the R916, along with numerous uncontrolled crossings.

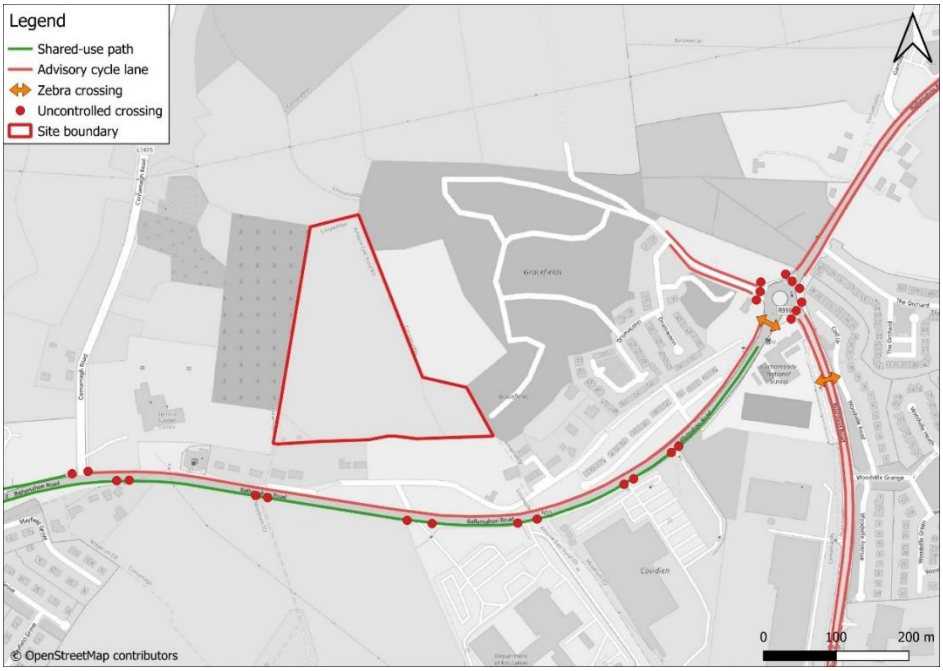


Figure 5. Pedestrian and Cycling infrastructure in site vicinity

3.3.4 A number of advisory cycle lanes are present along the N55 and R916. An approximately 1.5m-wide cycle lane is available along the southern side of the N55, separated from the road by a kerb and from the pedestrian footway by a painted line.

3.4 Bus services

3.4.1 The closest bus stop to the site (Stop ID: 455971), for buses travelling into town, is located approximately 500m to the south of the site along the N55, as illustrated in Figure 4. This stop is served by the A2 Bus Éireann route, which offers connections to Bealnamulla in Roscommon, and runs at a 30-minute frequency. This stop is located close to the secondary pedestrian access route to the site from the N55 via Lissywollen.

3.4.2 The site also benefits from proximity to additional transport links. Athlone bus station, located approximately 2km to the southwest, provides a range of reasonably frequent bus services, including:

- Route 72 to Limerick Train Station;
- Route 70 to Green Bridge;
- Route 440 to the Rail Walk;
- Route 461 to Roscommon;
- Route 466 to Longford;
- Route 73 to Waterford City;
- Route 70 to Mullingar; and
- Route 65 to Kilnacloy.

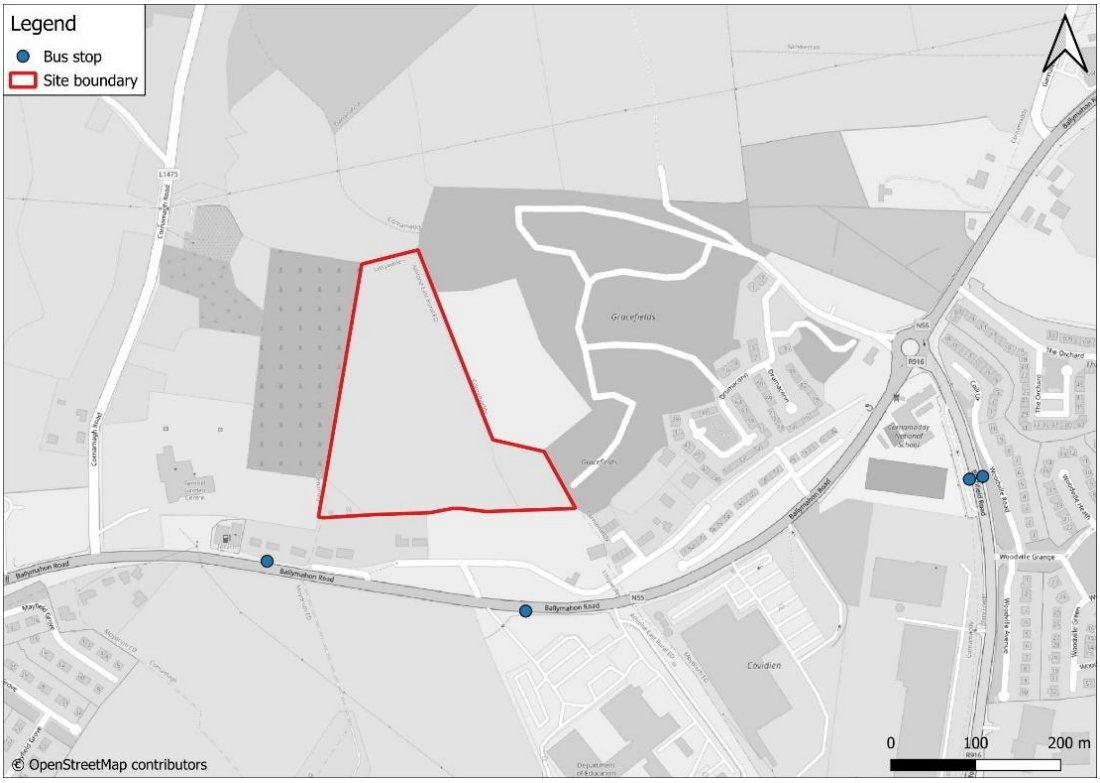


Figure 6. Bus stop locations

3.5 Local amenities and services

3.5.1 The site benefits from its proximity to Athlone Town, providing access to a range of amenities including schools, supermarkets, a library, and restaurants. Additionally, the local retail area at Cloghanboy, which features a SuperValu supermarket, Costa Coffee, a restaurant, a garden centre, and other services, is within a 15-minute walk of the site, as shown in Figure 7.

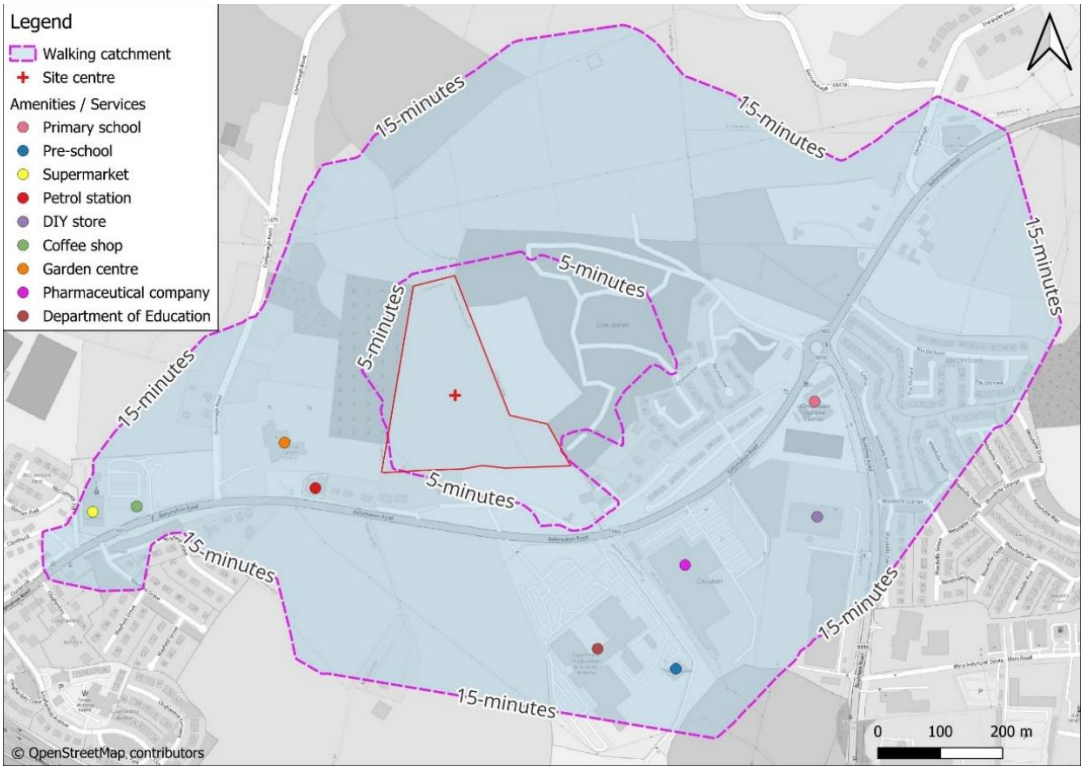


Figure 7. Amenties and services within a 5 – 15-minute walking catchment from site

4. PROPOSED DEVELOPMENT

4.1 Site description

4.1.1 The proposed scheme comprises 94 residential units, including 8 apartments and 86 houses, on a mostly level, sheltered site defined by existing boundaries of mature trees, hedgerows, and a stone wall. The development prioritises the retention and enhancement of natural features, including the approximately 2m high stone wall shared with Cornamagh Cemetery and three fully mature trees, which have been thoughtfully incorporated into the site layout.

4.1.2 An extract of the site layout is shown in Figure 8. The detailed site layout can be found in Appendix A and the description of the residential mix is as follows:

- Apartments:
  - 4 x 1-bed (2 person, Universal Design/Age Friendly); and
  - 4 x 1-bed (2 person).
- Houses:
  - 55 x 2-bed (4 person, 2 storey);
  - 14 x 3-bed (5 person, 2 storey);
  - 2 x 4-bed (7 person, 2 storey); and
  - 15 x 4-bed (7 person, 3 storey).

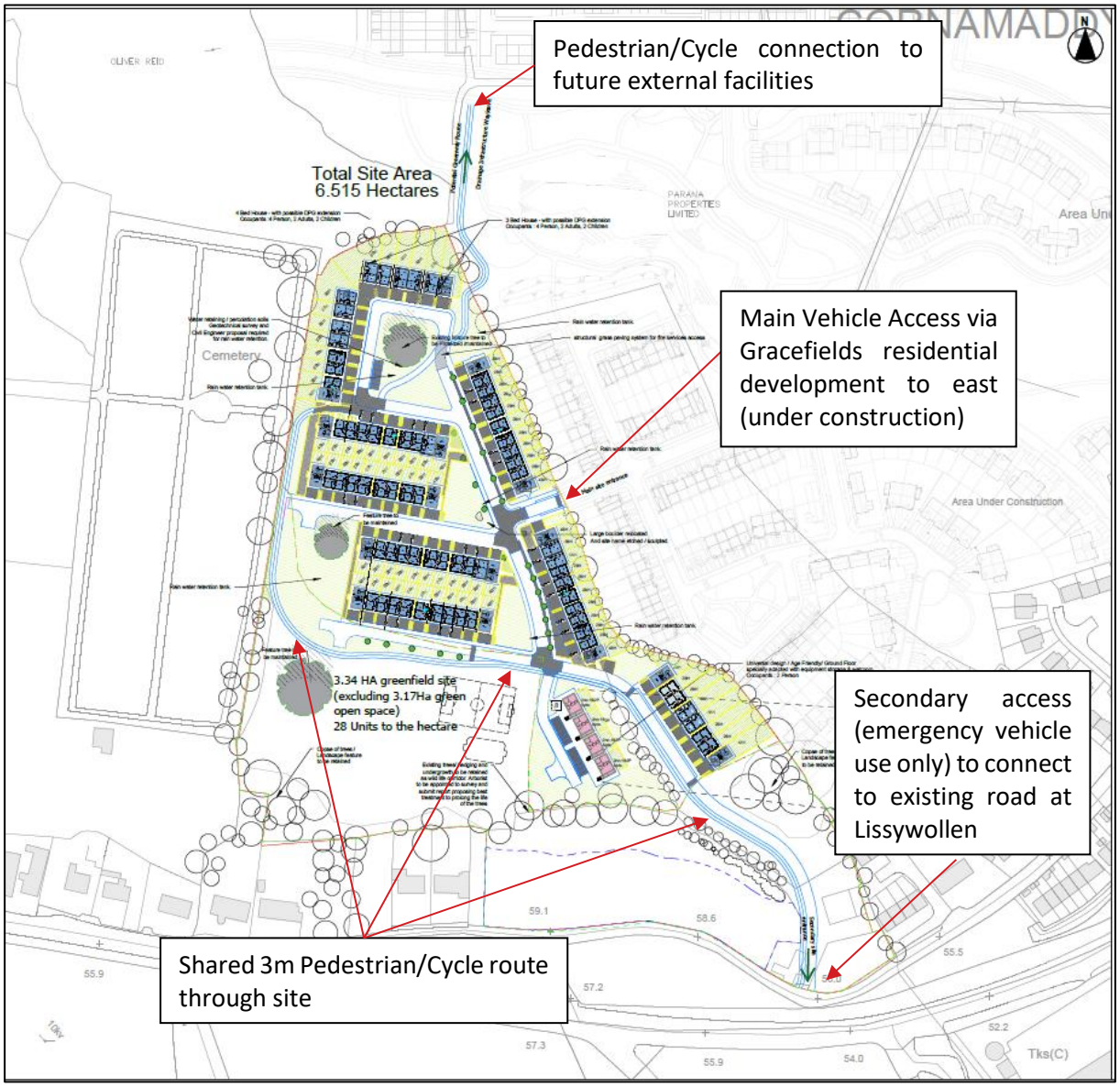


Figure 8. Site Layout and Access

4.1.3 All units will benefit from private gardens or amenity spaces via terraces and balconies. The layout also includes public open space for residents, with considerations for views and landscape integration, enhancing both biodiversity and the visual quality of the scheme.

4.2 Access strategy

4.2.1 The principal development main vehicle access is taken via the eastern boundary of the site which connects through to the Gracefields residential area to the east (currently under construction). A secondary access is proposed via the south connecting to Lissywollen, which is a local road providing onward connection to the N55. This secondary site access will only facilitate emergency vehicle use and pedestrian/cycle connectivity.

4.2.2 The site layout drawing can be found in Appendix A (drawing number: 127_WCC_ZZ_XX_DR_A_509).

4.2.3 Internally within the site, a 3m shared pedestrian and cycle facility is proposed, which will route from the north through the northern site extents, through the site and along the western site boundary and ultimately following the alignment of the secondary site access to connect to Lissywollen to the south.

4.3 Car Parking

4.3.1 A total of 192 parking spaces will be provided on site, which is above the maximum standards set out in Table 16.2, Chapter 16 of the Westmeath County Development Plan "Development Management Standards," which state that the maximum number of parking spaces permitted is one space per dwelling for residents and one visitor space for every three dwellings, equating to the following.

- Residential parking = 94 spaces (1 per dwelling).
- Visitor parking = 31 spaces (1 per 3 dwellings).
- Maximum total parking = **125 spaces**.

4.4 Cycle Parking Provision

4.4.1 In accordance with the Westmeath "Development Management Standards" for housing developments, cycle parking will be provided as follows:

- Private Secure Spaces: 1 private secure bicycle space per bed space (with a minimum provision of 2 spaces per dwelling, and design ensuring access does not require bicycles to pass through living areas).
- Visitor Spaces: 1 visitor bicycle space per two housing units.

4.4.2 2 residential cycle parking spaces for the houses will be provided within the curtilage of each individual unit. For the apartments, a total of 16 cycle parking spaces will be provided. Finally, a total of 47 visitor cycle parking spaces will be provided across the site at appropriate locations.

4.4.3 For the proposed 94-dwelling development, the total cycle parking requirements are as follows:

- Visitor Spaces: 94 dwellings ÷ 2 = **47 visitor bicycle spaces**.
- Private Secure Spaces: in line with **Table 1** = **228 private secure spaces**.

Table 1. Private secure cycle parking spaces

Number of beds	Dwellings	Total spaces
1	8	8
2	55	110
3	14	42
4	17	68
Total	**94**	**228**

5. 2040 CAPACITY ASSESSMENT

5.1 Introduction

5.1.1 Within Junctions 11 (analysis software for priority junctions and roundabouts), the performance of the N55 / R916 / Drumaconn (Cornamaddy) Roundabout has been assessed using the ARCADY module. Traffic flows for the assessment were derived from the Athlone Area-based Transport Assessment (ABTA) Local Area Model (LAM) for the 2040 scenario, which includes the proposed development site as part of the future land-use proposals in the LAM. Vehicle turning movements have been extracted from the LAM in the 2040 scenario, for the AM and PM peak periods, for the purpose of this assessment.

5.1.2 The results presented are for a 'With Development' scenario only, for the AM and PM peak periods in the horizon year of 2040.

5.2 Junction Analysis Results

5.2.1 The analysis indicates that the Cornamaddy Roundabout will have sufficient residual capacity in the 2040 assessment year, with the proposed development in place (as part of the wider land-use forecasts assumed to be in place in Athlone in 2040 as part of the Area-Based Transport Assessment. Table 2 below summarises the junction analysis. Results presented indicate Queues, Delay and the Ratio of Flow to Capacity (RFC) for each arm. RFC is an indicator of the proportion of capacity at each arm that is utilised based on the prevailing traffic flows. Typically, an RFC value of under 85% indicates that an arm at a junction has residual capacity to accommodate additional traffic flow, whereas for values of 85% the arm may begin to approach a congested state.

5.2.2 The full Junctions analysis output is provided in Appendix B.

Table 2. 2040 AM and PM Peak Period Analysis Results

ARM	AM			PM		
	Queue (Veh)	Delay (s)	RFC (%)	Queue (Veh)	Delay (s)	RFC (%)
1 – N55 (N)	1.4	5.76	59%	0.6	3.45	36%
2 – R916	0.8	5.57	45%	1.9	7.87	66%
3 – N55 (S)	0.4	3.10	27%	1.0	5.43	50%
4 – Cornamaddy Road	0.2	3.44	18%	0.0	4.72	2%

6. SUMMARY & CONCLUSION

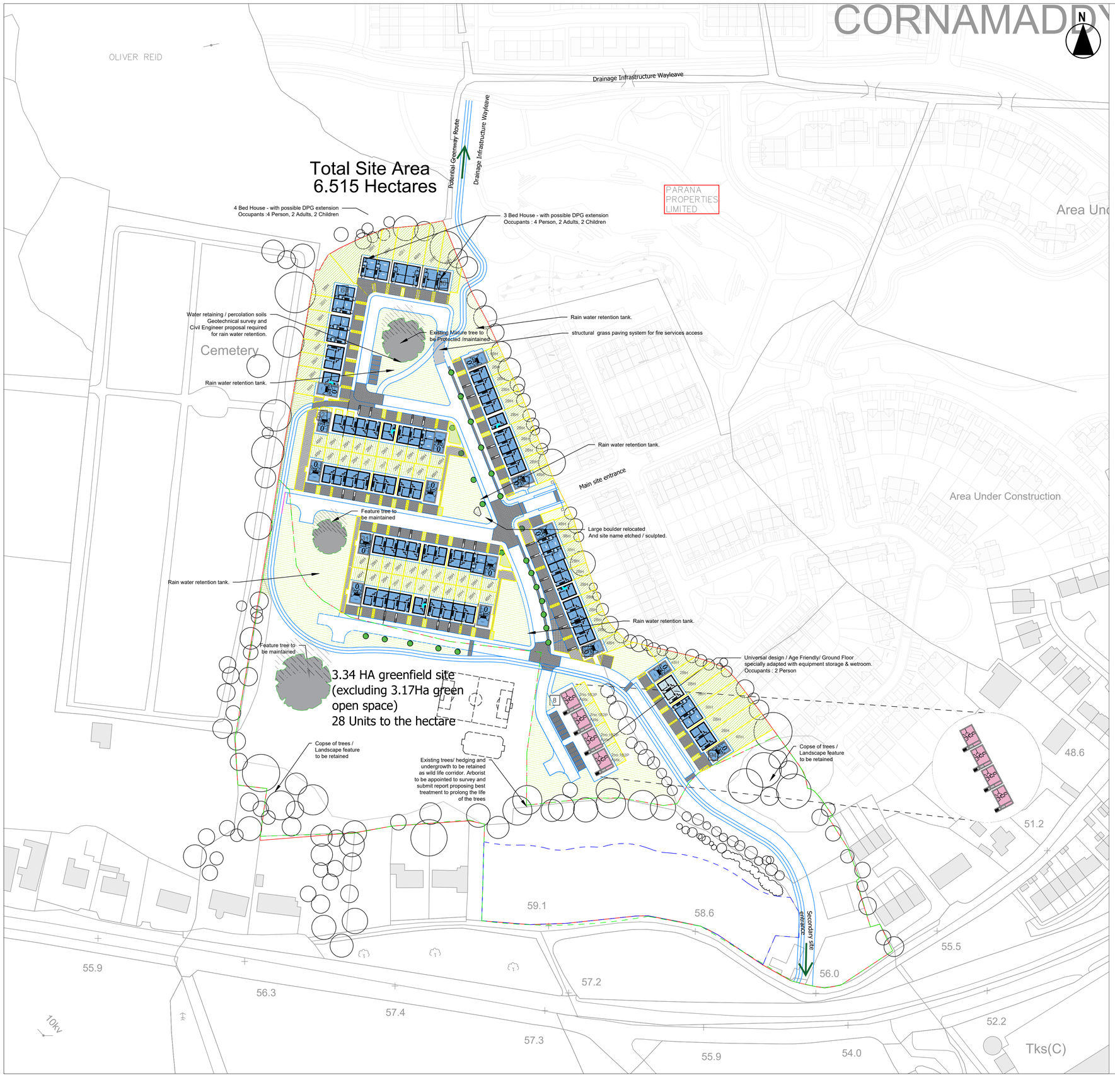
6.1 Summary & Conclusion

6.1.1 The proposed development at Cornamaddy forms part of the envisaged land-use for the area in the period to 2040 as set out in the Athlone Area-Based Transport Assessment. The development site will benefit from a primary vehicle access through the adjacent residential site under construction, representing an appropriate continuation of development of residential sites at this location.

6.1.2 Pedestrians and cyclists will benefit from a second, more direct link to the N55 to the south via Lissywollen, where existing cycle infrastructure and public transport services are accessible.

6.1.3 Analysis undertaken using outputs from the 2040 Athlone ABTA Local Area Model at the Cornamaddy Roundabout indicate that the junction will have sufficient capacity to accommodate the proposed development without any significant impact.

APPENDIX A: SITE LAYOUT PLAN



LEGEND

- Site extents shown outlined in
- Future potential development
- Green Open Space

Tennancy split - as per WCC Mixed Tenure Policy

50% - Private - 47 units
30% - Social - 28 units
20% - Affordable - 19 units

Unit Number Breakdown

Total Units = 94no.

Apartments = 8no.

Houses = 86no.

Apartment breakdown
1 Bed, 2 Person UD / Age Friendly = 4no.
1 Bed, 2 Person = 4no.

House breakdown
2 Bed, 4 Person, 2 Storey = 55no.
3 Bed, 5 Person, 2 Storey = 14no.
4 Bed, 7 Person, 2 Storey = 17no.

SITE DENSITY

Revised site area excluding
Green Open Space - 3.35 Hectares

Approx. 27 Units per Hectare
(excluding green open space)

TYPOLOGY

Variation of DHLGH A14 (1Bed) = 4no. units
Variation of DHLGH A15 (1 Bed) = 4no. units
Variation of DHLGH H12 (2 Bed) = 55no. units
Variation of DHLGH H8 (3 Bed) = 14no. Units
Variation of DHLGH H1 (4 Bed) = 2no. Units
Variation of Glenveagh "the sparrow" (4bed) = 15 No.

Note: Details shown on this map is for information purposes only. Further details on any item should be clarified with Westmeath County Council. This map has been produced by Westmeath County Council with available Local Authority and Tailte Éireann Surveying Base Data.

Rev.	Description.	Date	Chk'd	App'd
	Cuan Womens refuge removed	22/01/2025		
	issued to DHLGH for comment	12/03/2025		
	issued to DHLGH for comment	12/03/2025		
	DHLGH comment re Apt Site layout	16/10/2025		
	Total numbers update	07/11/2025		

Tionscadal Éireann
Project Ireland
2040

WESTMEATH COUNTY COUNCIL
Comhairle Chontae na hIarmhi

WESTMEATH HOUSING DESIGN TEAM
CIVIC CENTRE, CHURCH ST, ATHLONE, N37 P2T5
Phone: 09064 42100, Web: www.westmeathcoco.ie

PROJECT:
CONSTRUCTION OF 90 DWELLING UNITS AT CORNAMADDY, ATHLONE

TITLE:
SITE LOCATION & EXTENTS MAP

Scale:	**Datum:**	**Date:**
1:1000 @ A1	MALIN	16/02/2023

Drawing No:	**Stage:**	**Revision**
127_WCC_ZZ_XX_DR_A_509	Stage 2	

Surveyed	**Drawn**	**Checked**	**Approved**
NA	BMC	BMC	AM

File Name and Directory:
127 - Revised Site Plan 2025.10.16.dwg
H:\CAPITAL HOUSING DESIGN TEAM\1-Capital Schemes\127-Cornamaddy\4. Stage 2\Drawings\2. DWG's\0000 Site drawings\Revised October 2025

APPENDIX B: JUNCTION ANALYSIS REPORT

Junctions 10

ARCADY 10 - Roundabout Module

Filename: N55_R916_roundabout.j10
Path: \\systra.info\uk_dfs\dublinfile\PROJECTS\IE01T24A45 - Novo Nordisk Site Masterplan\5. Technical\5. Modelling\Junction Models\N55_R916 Roundabout
Report generation date: 17/11/2025 11:02:46

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
	2040									
1 - N55 (N)	D1	1.4	5.76	0.59	A	D2	0.6	3.45	0.36	A
2 - R916		0.8	5.57	0.45	A		1.9	7.87	0.66	A
3 - N55 (S)		0.4	3.10	0.27	A		1.0	5.43	0.50	A
4 - L8048		0.2	3.44	0.18	A		0.0	4.27	0.02	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

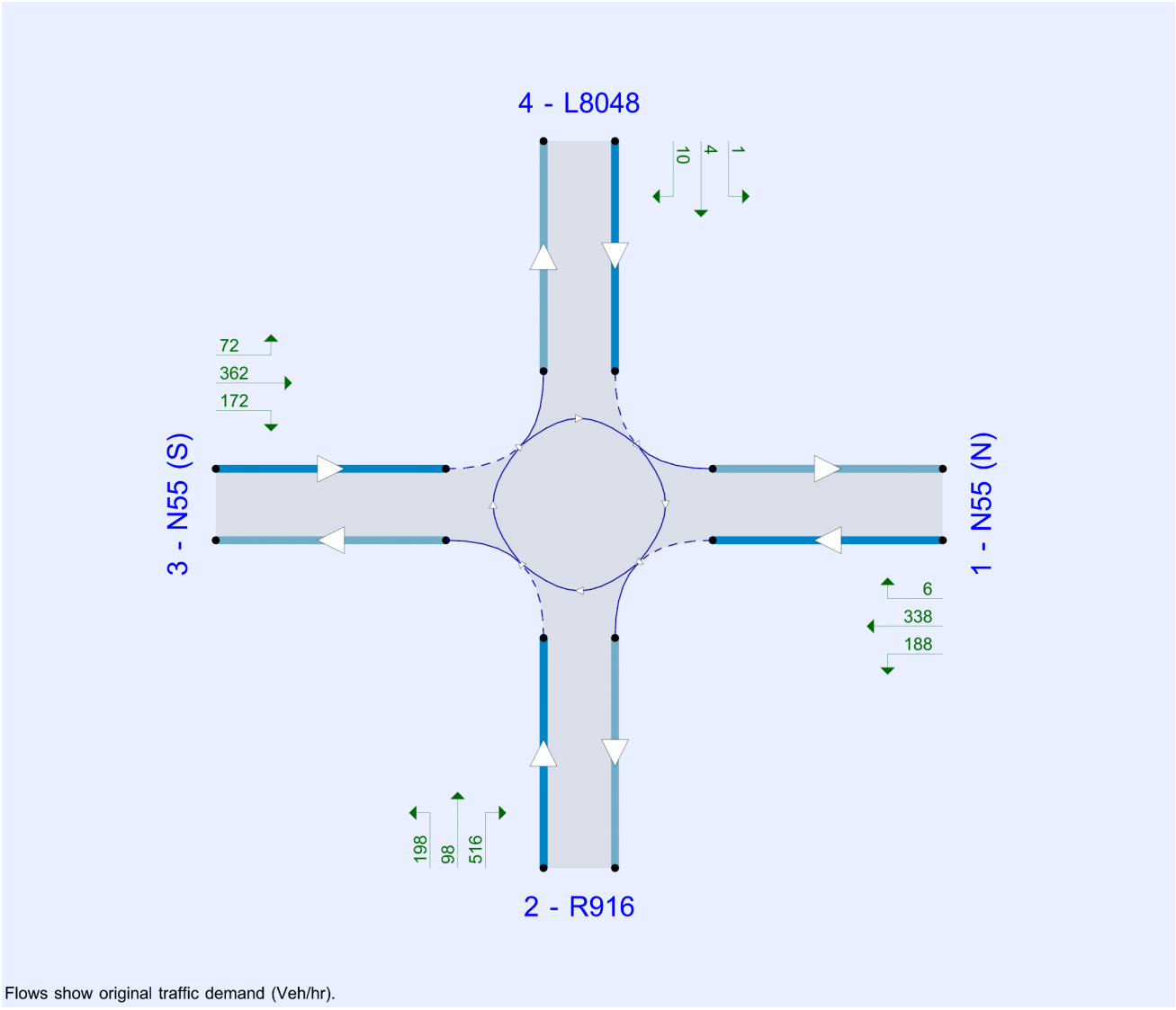
File summary

File Description

Title	
Location	
Site number	
Date	17/11/2025
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ADSYSTRA\giha
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin



Flows show original traffic demand (Veh/hr).

The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
5.75						0.85	36.00	20.00		

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2040	AM	ONE HOUR	08:00	09:30	15	✓
D2	2040	PM	ONE HOUR	17:00	18:30	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2040, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - N55 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	4.91	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	4.91	A

Arms

Arms

Arm	Name	Description	No give-way line
1	N55 (N)		
2	R916		
3	N55 (S)		
4	L8048		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
1 - N55 (N)	3.20	6.00	40.0	25.0	45.0	8.0		
2 - R916	3.20	6.00	25.0	18.0	45.0	20.0		
3 - N55 (S)	3.20	6.50	30.0	20.0	45.0	12.0		
4 - L8048	3.40	6.20	15.0	20.0	45.0	27.0		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - N55 (N)	0.674	1806
2 - R916	0.625	1641
3 - N55 (S)	0.669	1816
4 - L8048	0.607	1578

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2040	AM	ONE HOUR	08:00	09:30	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - N55 (N)		ONE HOUR	✓	809	100.000
2 - R916		ONE HOUR	✓	487	100.000
3 - N55 (S)		ONE HOUR	✓	394	100.000
4 - L8048		ONE HOUR	✓	214	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - N55 (N)	2 - R916	3 - N55 (S)	4 - L8048
From	1 - N55 (N)	0	350	459	0
	2 - R916	292	0	195	0
	3 - N55 (S)	0	143	0	251
	4 - L8048	10	62	142	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - N55 (N)	2 - R916	3 - N55 (S)	4 - L8048
From	1 - N55 (N)	0	1	3	0
	2 - R916	3	0	3	1
	3 - N55 (S)	2	0	0	0
	4 - L8048	1	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - N55 (N)	0.59	5.76	1.4	A	742	1114
2 - R916	0.45	5.57	0.8	A	447	670
3 - N55 (S)	0.27	3.10	0.4	A	362	542
4 - L8048	0.18	3.44	0.2	A	196	295

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - N55 (N)	609	152	260	1596	0.382	607	226	0.0	0.6	3.628	A
2 - R916	367	92	451	1313	0.279	365	416	0.0	0.4	3.789	A
3 - N55 (S)	297	74	219	1665	0.178	296	597	0.0	0.2	2.628	A
4 - L8048	161	40	326	1375	0.117	161	188	0.0	0.1	2.962	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - N55 (N)	727	182	312	1562	0.465	726	271	0.6	0.9	4.299	A
2 - R916	438	109	540	1258	0.348	437	498	0.4	0.5	4.383	A
3 - N55 (S)	354	89	262	1635	0.217	354	715	0.2	0.3	2.809	A
4 - L8048	192	48	391	1335	0.144	192	225	0.1	0.2	3.149	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - N55 (N)	891	223	382	1516	0.587	889	332	0.9	1.4	5.715	A
2 - R916	536	134	660	1183	0.453	535	610	0.5	0.8	5.543	A
3 - N55 (S)	434	108	321	1595	0.272	433	875	0.3	0.4	3.099	A
4 - L8048	236	59	478	1281	0.184	235	276	0.2	0.2	3.443	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - N55 (N)	891	223	382	1516	0.588	891	332	1.4	1.4	5.756	A
2 - R916	536	134	662	1182	0.453	536	611	0.8	0.8	5.570	A
3 - N55 (S)	434	108	321	1594	0.272	434	876	0.4	0.4	3.101	A
4 - L8048	236	59	479	1280	0.184	236	276	0.2	0.2	3.444	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - N55 (N)	727	182	312	1562	0.466	729	272	1.4	0.9	4.335	A
2 - R916	438	109	542	1257	0.348	439	500	0.8	0.5	4.408	A
3 - N55 (S)	354	89	263	1635	0.217	355	717	0.4	0.3	2.812	A
4 - L8048	192	48	392	1334	0.144	193	226	0.2	0.2	3.153	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - N55 (N)	609	152	261	1596	0.382	610	228	0.9	0.6	3.655	A
2 - R916	367	92	453	1312	0.279	367	418	0.5	0.4	3.812	A
3 - N55 (S)	297	74	220	1664	0.178	297	600	0.3	0.2	2.634	A
4 - L8048	161	40	328	1374	0.117	161	189	0.2	0.1	2.970	A

2040, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - N55 (N) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		1, 2, 3, 4	5.90	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.90	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2040	PM	ONE HOUR	17:00	18:30	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - N55 (N)		ONE HOUR	✓	532	100.000
2 - R916		ONE HOUR	✓	814	100.000
3 - N55 (S)		ONE HOUR	✓	606	100.000
4 - L8048		ONE HOUR	✓	15	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - N55 (N)	2 - R916	3 - N55 (S)	4 - L8048
From	1 - N55 (N)	0	188	338	6
	2 - R916	516	2	198	98
	3 - N55 (S)	362	172	0	72
	4 - L8048	1	4	10	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

		To			
		1 - N55 (N)	2 - R916	3 - N55 (S)	4 - L8048
From	1 - N55 (N)	0	1	3	0
	2 - R916	3	0	3	1
	3 - N55 (S)	2	0	0	0
	4 - L8048	1	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - N55 (N)	0.36	3.45	0.6	A	488	732
2 - R916	0.66	7.87	1.9	A	747	1120
3 - N55 (S)	0.50	5.43	1.0	A	556	834
4 - L8048	0.02	4.27	0.0	A	14	21

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - N55 (N)	401	100	141	1673	0.239	399	659	0.0	0.3	2.823	A
2 - R916	613	153	266	1431	0.428	610	275	0.0	0.7	4.370	A
3 - N55 (S)	456	114	466	1478	0.309	454	410	0.0	0.4	3.510	A
4 - L8048	11	3	789	1088	0.010	11	132	0.0	0.0	3.343	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - N55 (N)	478	120	169	1655	0.289	478	789	0.3	0.4	3.059	A
2 - R916	732	183	318	1398	0.523	730	329	0.7	1.1	5.382	A
3 - N55 (S)	545	136	558	1416	0.385	544	490	0.4	0.6	4.126	A
4 - L8048	13	3	944	991	0.014	13	158	0.0	0.0	3.680	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - N55 (N)	586	146	207	1630	0.359	585	965	0.4	0.6	3.444	A
2 - R916	896	224	389	1353	0.662	893	402	1.1	1.9	7.763	A
3 - N55 (S)	667	167	682	1332	0.501	666	600	0.6	1.0	5.395	A
4 - L8048	17	4	1155	861	0.019	16	193	0.0	0.0	4.263	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - N55 (N)	586	146	207	1630	0.359	586	968	0.6	0.6	3.447	A
2 - R916	896	224	390	1353	0.662	896	403	1.9	1.9	7.874	A
3 - N55 (S)	667	167	685	1330	0.502	667	601	1.0	1.0	5.432	A
4 - L8048	17	4	1158	859	0.019	17	194	0.0	0.0	4.273	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - N55 (N)	478	120	169	1654	0.289	479	793	0.6	0.4	3.063	A
2 - R916	732	183	319	1398	0.524	735	330	1.9	1.1	5.462	A
3 - N55 (S)	545	136	562	1413	0.385	546	492	1.0	0.6	4.160	A
4 - L8048	13	3	949	988	0.014	14	159	0.0	0.0	3.691	A

18:15 - 18:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1 - N55 (N)	401	100	142	1673	0.239	401	663	0.4	0.3	2.833	A
2 - R916	613	153	267	1430	0.429	614	276	1.1	0.8	4.422	A
3 - N55 (S)	456	114	469	1476	0.309	457	412	0.6	0.4	3.537	A
4 - L8048	11	3	794	1085	0.010	11	133	0.0	0.0	3.355	A

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