

Proposed Residential Development – 55 & 57 Liverpool Road North

Transport Note

VN232649/V02

Introduction

1. Vectos have been commissioned by AK Building Contractors (Merseyside) Ltd, to provide a Transport Note, to support the conversion of an existing four storey commercial unit into a mixed use, residential and office use scheme at 55 and 57 Liverpool Road North in Maghull.
2. A detailed site visit was undertaken in December 2022 and the findings from this site visit have been used to inform this Technical Note.
3. **Figure 1** shows the site location in its local context.

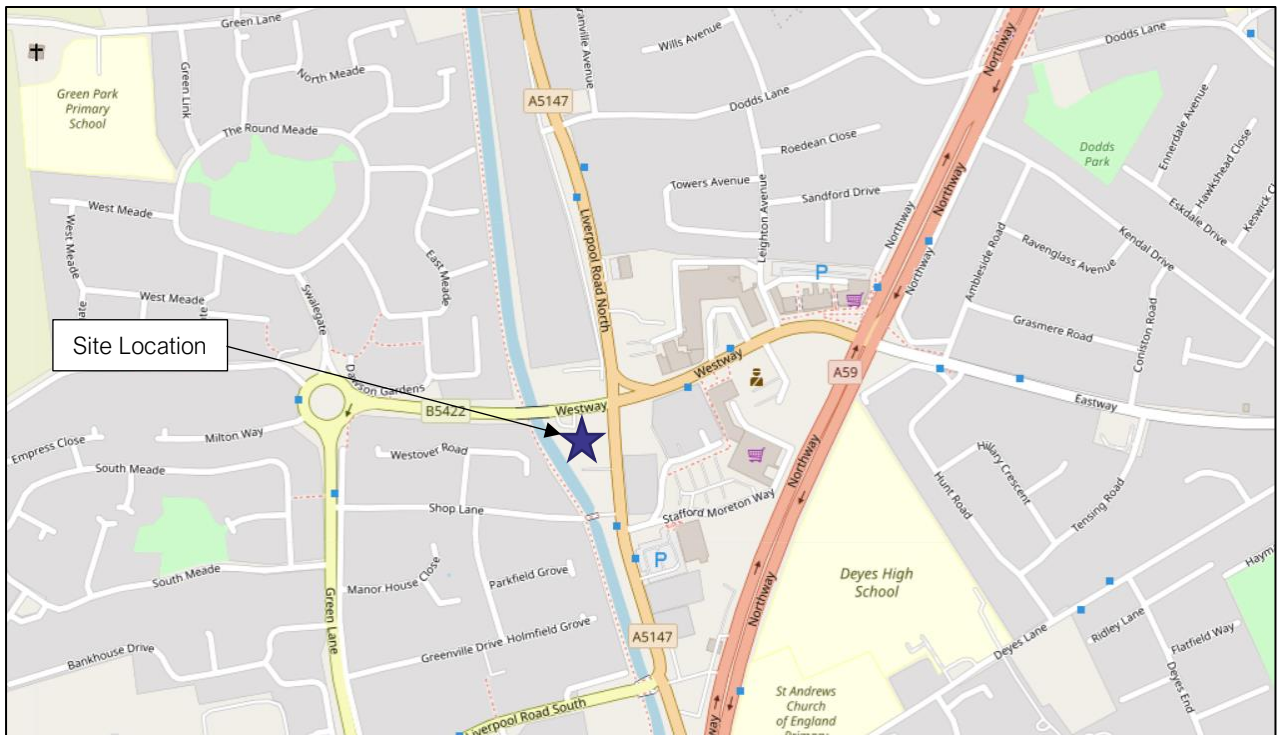


Figure 1 – Site Location Plan (Local Context) (Source: Open Street Map)

Planning History

4. In 2022, the site was subject to a planning application (planning reference: DC/2022/01717) for the 'change of use from office building (E) to 8 self-contained flats (C3), a Cafe to the ground floor (E) and conversion of the detached garage to the side to a Salon (Sui Generis).'

5. This application was subsequently refused in November 2022 and highways was a reason for refusal. The highways reason for refusal is detailed below:

2) The applicant has failed to demonstrate satisfactory details for the layout with respect to access, car parking and manoeuvring space. The proposal is therefore contrary to Local Plan policy EQ3 'Accessibility', the 'Sustainable Travel and Development' Supplementary Planning Document and the requirements of the National Planning Policy Framework in particular Chapter 9 Promoting sustainable transport.

6. This planning application was resubmitted in April 2023 for the 'change of use from office building (E) to 6 self-contained flats (C3) with a Cafe to the ground floor (E) and a conversion of the detached garage to the side to a Salon (Sui Generis)'. This application was supported by a Transport Statement prepared by Vectos (part of SLR) which demonstrated that the proposed level of parking was appropriate.

7. This application was subsequently refused, and highways was a reason for refusal. The reason for refusal is detailed below:

The applicant has failed to demonstrate the proposed development provides satisfactory car parking facilities and the proposal is therefore contrary to Local Plan policy EQ3 'Accessibility', the 'Sustainable Travel and Development' Supplementary Planning Document and the requirements of the National Planning Policy Framework in particular Chapter 9 Promoting sustainable transport.

Baseline Conditions: Highway Arrangement

Local Highway Network

8. Liverpool Road North runs to the east of the site. It is a single carriageway arrangement which is subject to a 30mph speed limit, with footways and street lighting on both sides. The carriageway width is circa. 7.8m in the vicinity of the site and there is a mix of unrestricted and double yellow line markings along Liverpool Road N in the vicinity of the site.

9. Westway runs to the north of the site and provides the main route through Maghull Town Centre and provides access to the A59, a main distributor road into Liverpool. Westway has footways on both sides and street lighting.

10. The Liverpool Road N / Westway signalised intersection lies directly adjacent to the site to the north. Pedestrian crossing facilities are provided at key pedestrian desire lines across the junction arms.

Access Arrangements

11. Vehicular access into the site is currently taken off Liverpool Road North, circa. 25m south of the Liverpool Road N / Westway signalised intersection, with this existing access currently having a drop-kerb arrangement. From this point, access into a paved parking hardstanding is gained (**Figure 2**).

- 12. The main pedestrian access is also taken off Liverpool Road North, via a 2.0m opening and pedestrian paved walkway (**Figure 3**).
- 13. Two additional car parking spaces associated with the existing use are located to the rear of the building (refer to location plan presented in **Appendix A**), with access gained via a priority arrangement with Westway (**Figure 4**).



Figure 2 – Existing Vehicular Access Point off Liverpool Road N



Figure 3 – Existing Pedestrian Access Point off Liverpool Road N



Figure 4 – Existing Vehicular Access Point off Westway

Baseline Conditions: Sustainable Audit

Walking

- 14. Guidelines produced by the Institution of Highways of Transportation (IHT) within their document entitled 'Guidelines for Providing for Journeys on Foot', state that the preferred maximum walking distance for developments to town centres is 800m. The same document also identifies a distance of 2km as being a 'preferred maximum' distance for commuting, school and sight-seeing journeys, whilst 400m is the preferred maximum for access to a bus stop and 1.2km a preferred maximum for a number of other facilities.
- 15. In light of this, due to the Town Centre location of the development site, there are a very wide range of amenities and facilities within a 2km walking distance and these are presented in **Table 1**.

Amenity / Service
Medical Centre / Hospital
Maghull Health Centre
High Pastures Surgery
Boots Pharmacy
School / Education Facility
Deyes High School
St Andrew's Maghull of E Primary School
St John Bosco Catholic Primary School
Green Park School
Northway Nursery & Community Primary School
Supermarket / Convenience Store
Morrisons
Sainsburys Local
Home Bargains
Post Office
Post Office
Bank
TSB Bank
Halifax
General
Noah's Ark Vet Centre
Anytime Fitness
Domino's Pizza
Costa Coffee
Furusato Bar and Grill
Maghull Tyre and Exhaust
Maghull Community Association

The Round Meade Playground
Maghull North Train Station

Table 1 – Local Amenities within a 2km Walking Catchment of the Site

- 16. To support these pedestrian movements, there are continuous footways along Liverpool Road N and Westway. In addition, there are push-button controlled crossing points across Westway in the vicinity of the Shopping Centre and across Liverpool Road N in the vicinity of the junction with Westway. Additional dropped kerb and tactile paved crossing points are provided at key pedestrian desire lines throughout the local area and in the vicinity of the site.

Cycling

- 17. It is generally accepted that the bicycle is an effective mode for short trips of up to 3 to 5 miles (5 to 8km). A 5km cycle catchment from the site would equate to a journey of around 25 minutes at a leisurely cycle speed of 12km per hour.
- 18. The 5km cycle catchment around the application site extends to the areas and the local centres of Lydiate, Town Green, Melling, areas of Kirkby, Aintree and Netherton.
- 19. There are a number of suggested cycle routes in the immediate area, namely a route that runs along Westway, to the South of Central Square, Maghull Shopping Centre. An off-road traffic free cycle route runs along the Leeds and Liverpool Canal (canal towpath). Therefore, cycling is facilitated by the low traffic speeds in the area and the interconnected network of surrounding ‘suggested’ safe cycle routes that are present within Maghull and the wider area.
- 20. There are several cycle parking spaces at the nearby Central Square Shopping Centre and at Maghull Station, providing an opportunity for intermodal trips.

Bus

- 21. Due to the Town Centre location of the development site, there are a large number of bus stops located in walking distance of the application site.
- 22. The nearest bus stops are located on Liverpool Road N and Westway; these bus stops have a shelter, seating and timetable information. A summary of the main bus services at the aforementioned stops are presented in **Table 2**.

Route	Destinations	Frequency per Hour			Operator
		Monday/Fridays	Saturday	Sunday	
36	Aintree Hospital - Maghull	1	1	1	Huyton travel
31 /31A/32 /32A/ 33	Maghull Station - Maghull Station	2	2	2	CumfyBus
133	Kirby – Waterloo	1	1	No service	Hattons Travel
310	Skelmersdale - Liverpool	2	2	2	Arriva Merseyside
739	Prescot Road / Bank Lane - Gainsborough Avenue / Maghull High School	1	No service	No service	People bus
300	Lydiate or Southport - Liverpool	2	2	1	Arriva Merseyside

Table 2 – Summary of Local Bus Services

23. It is considered that there are good bus facilities surrounding the site, providing a number of frequent services to key employment and residential localities ie. Liverpool City Centre. The bus stops are available within an easy walking distance and at key travel times.

Rail

24. Maghull has two railway stations; Maghull Station and Maghull North Station.
25. Maghull Station is located circa. 1.3 miles southeast of the site (26-minute walk / 7-minute cycle). This station could easily be accessed by bike via the canal towpath that runs to the southwest of Maghull Station. The canal tow path would provide an easy, off-road cycle route for people needing to access Maghull Station. The canal tow path is tarmacked and in a good state of repair.
26. Maghull North is a new station that opened in 2018 to support local public transport demand from new housing development in the area. Maghull North is located circa. 1.2 miles east of the site (24-minute walk / 7-minute cycle). The station has a bus stop directly outside, with services for route no. 32, 33 and 36 provided.
27. Both stations are on the Liverpool Central - Ormskirk line. Local, regional and national connections can be made from Liverpool Central by walking to the nearby Liverpool Lim Street Station.

Accessibility Conclusions

28. It is concluded that the site is located in a sustainable location, whereby all users of the site would not require the use of a private car, due to the range of local transport alternatives and everyday amenities that are located in close proximity.

Built Development Proposals

- 29. This prior approval planning application will involve the resubmission of the scheme, with the proposed development seeking to convert the upper two floors to four residential apartments, with the ground floor and basement level remaining as office use.
- 30. Appropriate levels of cycle parking will be provided as part of the proposals. The proposals will involve the provision of 10 secure and covered spaces. The proposed site layout plan showing these spaces can be found in **Appendix A**.

Anticipated Traffic Impact

- 31. A trip generation analysis exercise has been undertaken, based on the land uses that will form the development proposals. All calculations have only selected sites with similar locational characteristics.
- 32. Consideration has also been given to the site’s existing / consented land use as an office use that could reopen at any time.

Extant Use: Office

- 33. The TRICS database has been consulted and a trip generation exercise undertaken for the consented land use (450sqm of office space). The results of this analysis are presented in **Table 3**.

02 – Employment A - Office	Existing Vehicular Trip Generation					
	Trip Rate Per 100sqm			Trip Generation: 450sqm		
	Arr	Dep	Two-way	Arr	Dep	Two-way
AM Network Peak	2.367	0.317	2.684	10	1	12
PM Network Peak	0.231	1.616	1.847	1	7	8

Table 3 – Existing Vehicular Trip Generation: Office

- 34. As is shown, the existing vehicular trip generation would have resulted in 12 vehicle trips in the AM peak hour and 8 vehicle trips in the PM peak hour.
- 35. The full trips output is found in **Appendix B**.

Proposed Use

1. Flats

- 36. A search has been undertaken for the 03 – Residential, C – Flats Privately Owned classification in the TRICS database. This has been calculated to derive the proposed trip generation figures for the proposed four residential flats and is presented in **Table 4** below.

	Proposed Vehicular Trip Generation					
03 – Residential C – Flats Privately Owned	Trip Rate Per 1 Flat			Trip Generation: 4 Flats		
	Arr	Dep	Two-way	Arr	Dep	Two-way
AM Network Peak	0.045	0.206	0.251	0	1	1
PM Network Peak	0.158	0.072	0.230	1	0	1

Table 4 – Proposed Vehicular Trip Generation: Four Flats

37. As is shown, it is anticipated that the proposed four flats would result in just one vehicle trip in both the AM and PM peak hour.
38. The full trips output is found in **Appendix C**.

2. Office

39. The TRICS database has again been consulted and a trip generation exercise undertaken for the remaining office use at basement and ground floor level (total floor area 280sqm). As discussed above, this element of the proposal is already a consented use and hence the same trip generation has been undertaken as was presented in **Table 3**. However, because of the proposed four flats on the upper two floors, the amount of office space as part of the redevelopment of the site will be reduced in size to 280sqm. The results of this analysis are presented in **Table 5** below.

	Existing Vehicular Trip Generation					
02 – Employment A - Office	Trip Rate Per 100sqm			Trip Generation: 280sqm		
	Arr	Dep	Two-way	Arr	Dep	Two-way
AM Network Peak	2.367	0.317	2.684	7	1	8
PM Network Peak	0.231	1.616	1.847	1	5	5

Table 5 – Proposed Vehicular Trip Generation: Remaining Office Use

40. As is shown, the remaining office element of the proposals would result in eight two-way vehicle trips in the AM peak hour and five two-way vehicle trips in the PM peak hour.

Net Difference

41. A net comparison exercise has been undertaken to understand the difference in vehicle trips from the consented land use (450sqm office space), compared to the proposed land use (four residential units + 280sqm office space), the results of this are presented in **Table 6**.

Net Increase	Arr	Dep	Two-way
AM Network Peak	-3	+1	-3
PM Network Peak	+1	-2	-2

Table 6 – Net Difference in Vehicle Trips

42. As is shown in the table above, the proposals will result in a decrease of three vehicle trips in the AM peak and a decrease of two vehicles in the PM peak period.

43. Therefore, the proposed development will benefit the adjoining highway, reduce congestion, reduce noise and improve air quality.

Parking Proposals

Parking Layout

44. The existing parking hardstanding will be utilised to accommodate a total of eight car parking spaces (dimensions: 5.0m x 2.5m). The relevant swept path analysis has been undertaken for this parking area and is shown on **Drawing VN232649-TR100**.
45. As per the existing arrangement, the parking forecourt will be accessed off Liverpool Road North via the existing vehicle crossover point. The required visibility splays of 2.4m x 43m can be achieved and are presented on Vectos **Drawing VN232649-D100**.
46. The existing gate at the site access will be removed as part of the proposals.
47. An additional two spaces to the rear of the building will also form part of the proposals. These spaces have been used and associated with the buildings existing use for many years. Footways along Westway and Liverpool Road N connect these spaces to the main building entrance.

Parking Allocation

1. Flats

48. Under the proposed development one space will be allocated per flat. These spaces will be located in the parking forecourt to the front of the building.
49. An allocation of one space per household is consistent with local car ownership levels which show that the majority of people in the locality, own either no or one car.
50. All four residential spaces will be provided to the front of the property and will be clearly signed and managed accordingly.

2. Office

51. The remaining office element of the proposals will be provided with a total of six car parking spaces; four spaces in the main parking forecourt to the front of the building and two car parking spaces to the rear.
52. As discussed, under the proposals, the existing office use will decrease in size from 450sqm to 280sqm, this equating to a 40% reduction in the available office floor space at the site. As the site is currently provided with a total of 10 car parking spaces, a revised provision of six spaces is proportionate to the amount of office space that will remain as part of the proposals.
53. In addition to the above, there is a large number of unrestricted parking opportunities in the local area. In the highly unlikely event that there is any overspill parking as a result of the remaining office use, this could easily be accommodated for on the adjoining road network, many of which are unrestricted residential streets, whereby any overspill office parking demand would not correspond with existing residential on-street parking demand.

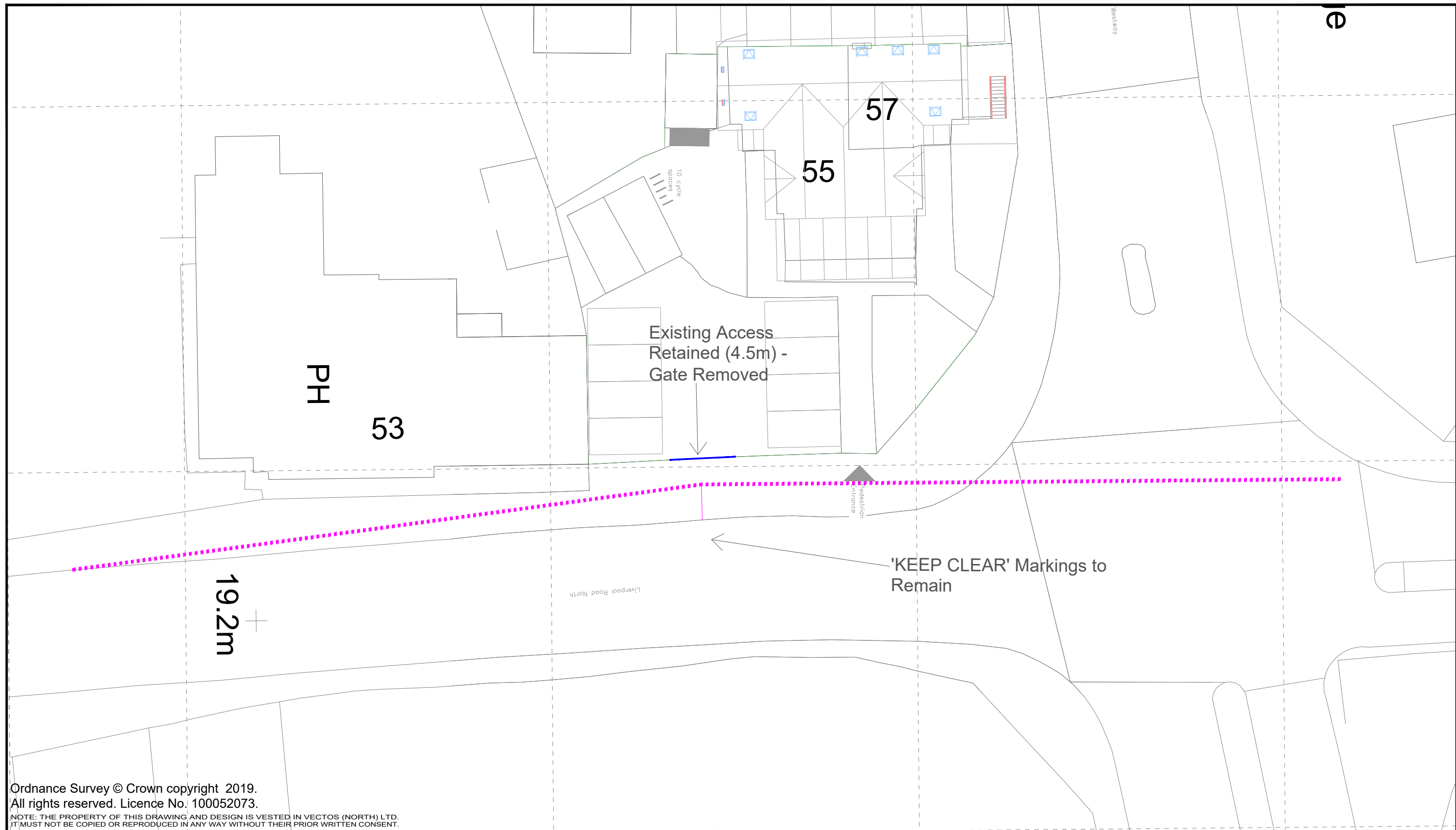
Summary of Parking Provision

3. In summary, the proposed 10 on-site spaces are considered appropriate for the proposed development and will be allocated as follows:
- Front parking forecourt (8 total):
 - 4 spaces: one space per flat;
 - 4 spaces: remaining office use.
 - Rear parking forecourt (2 total):
 - 2 spaces: remaining office use.

Conclusion

4. It is concluded that the proposed development is in accordance with national and local transport policies and is acceptable in highways and transport terms.

Drawings





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REV.	DETAILS	DRAWN	CHECKED	DATE

Notes:

- This is not a construction drawing and is intended for illustrative purposes only.
- White lining is indicative only.

 2.4m x 43m Visibility Splay (in accordance with requirements for 30mph speeds - MfS)
 Vehicle Crossover (Existing)

55 & 57 Liverpool Road North, Maghull

Site Access Drawing

DRAWN: EG	CHECKED: MR	DATE: 02.10.23	SCALES: Scale at 1:250 at A3
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AK Building Contractors Ltd

vectos.

7 Park Row, Leeds, LS1 5HD
0113 512 0293 e: leeds@vectos.co.uk

DRAWING NUMBER: VN232649 - D100	REVISION:
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REV.	DETAILS	DRAWN	CHECKED	DATE

Notes:

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Skoda Octavia
Overall Length 4.572m
Overall Width 1.769m
Overall Body Height 1.488m
Min Body Ground Clearance 0.249m
Max Track Width 1.713m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 5.100m

55 & 57 Liverpool Road North, Maghull

Car Park Swept Path Analysis

DRAWN: EG CHECKED: MR DATE: 02.10.23 SCALES: Scale at 1:250 at A3

AK Building Contractors Ltd

vectos.

7 Park Row, Leeds, LS1 5HD
0113 512 0293 e: leeds@vectos.co.uk

DRAWING NUMBER: VN232649 - TR100 REVISION:

Appendix A

ARCHIPHONIC

Positive Change through Architectural Design

Unit 256, Slater Studios, 9 Slater Street, Liverpool, L1 4BW
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Project Title

1207 - 55&57 Liverpool Road North

Client Name

Andy Kelly

Project Address

55 & 57 Liverpool Road North,
Liverpool, L31 2HF

Additional Notes

REV	Date	Description	Issued

Title

Site Layout Plan - Proposed

Drawing No.

1207-02-02-002

Scale

1 : 200

Date

27/03/23

Sheet Size

A3

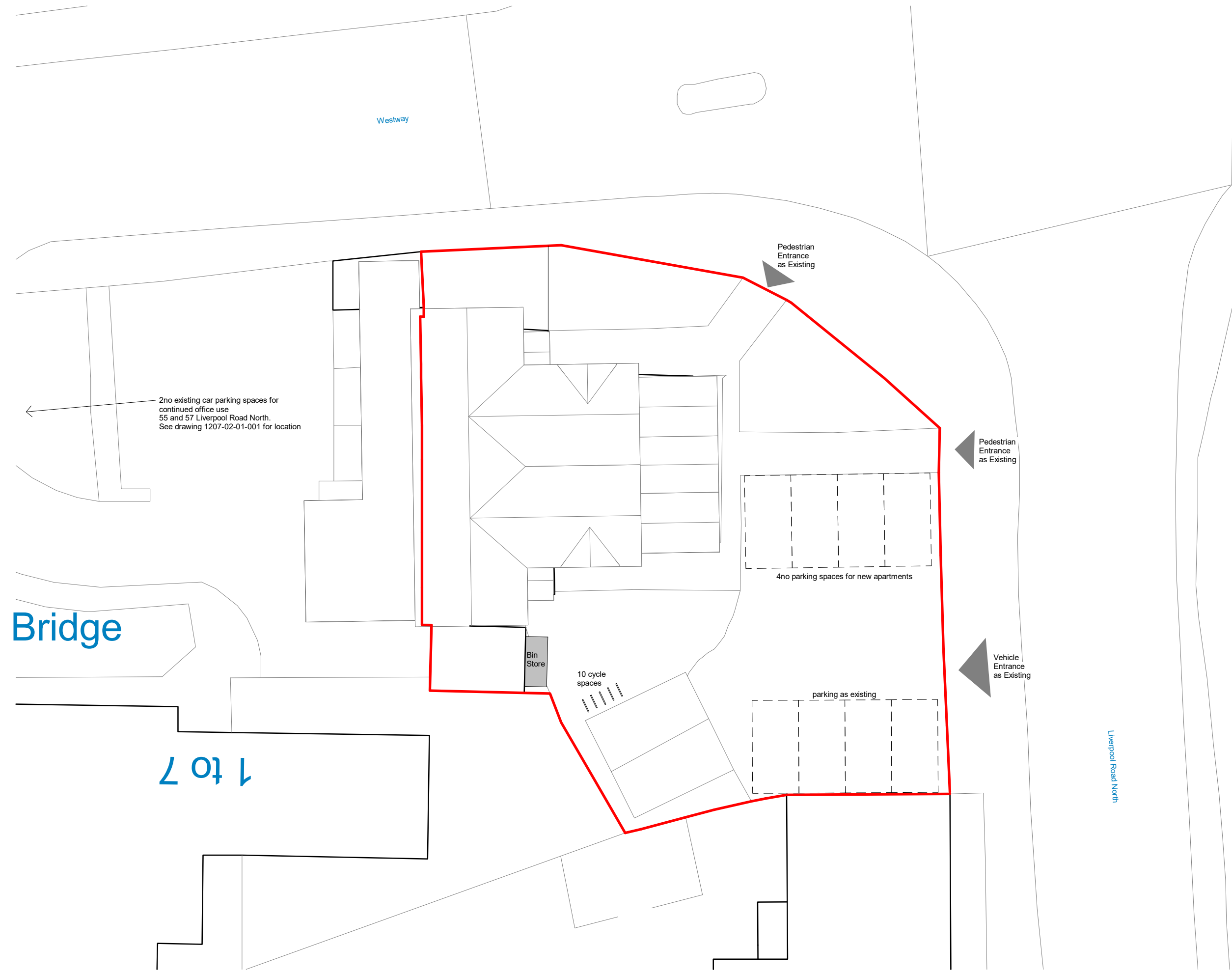
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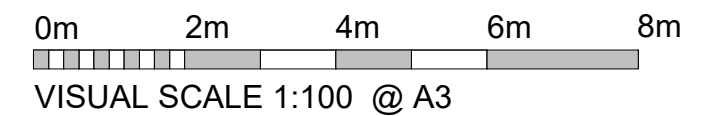
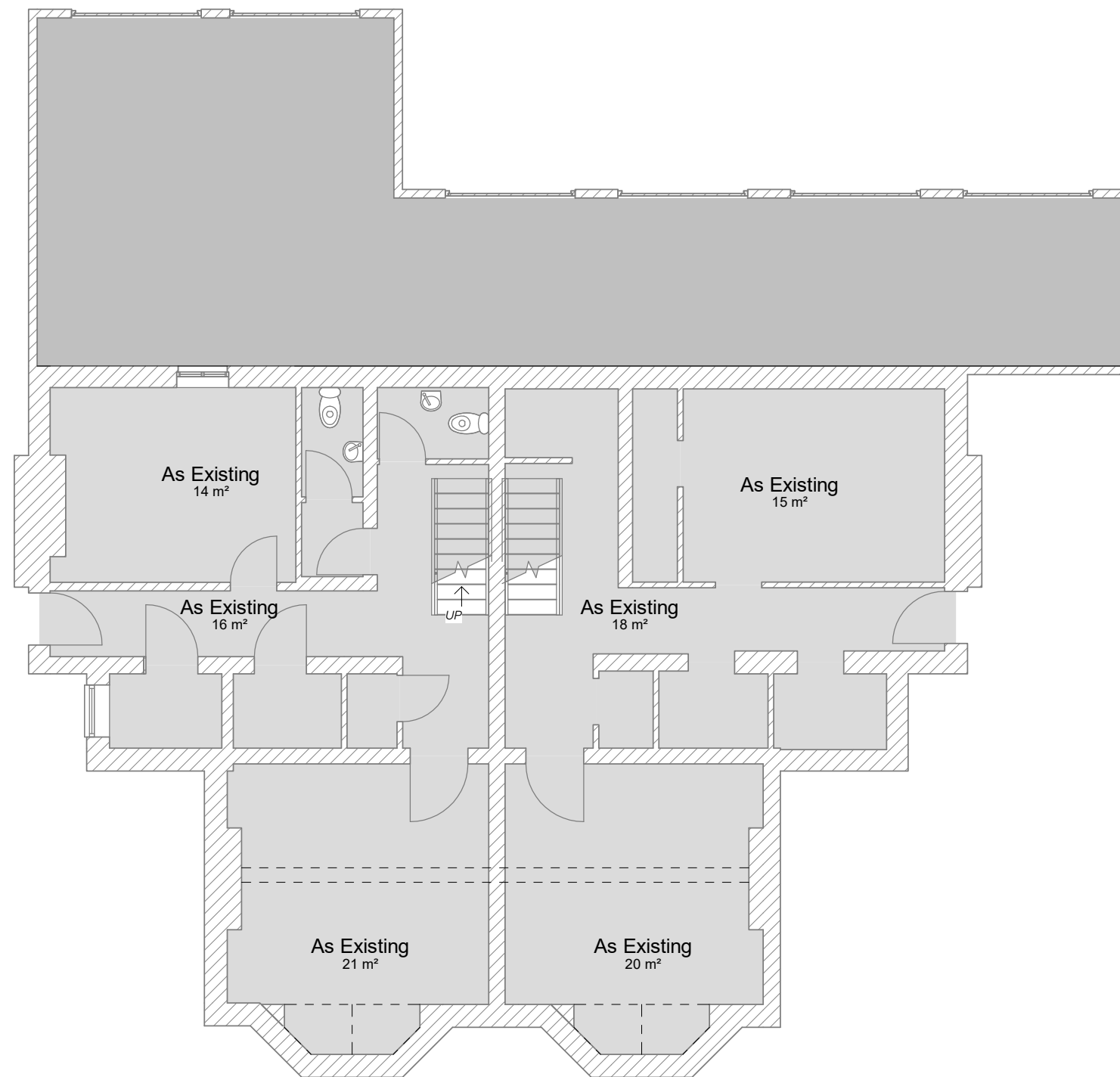
DB

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0m 4m 8m 12m 16m

VISUAL SCALE 1:200 @ A3



REV	Date	Description	Issued	Additional Notes

Project Title
1207 - 55&57 Liverpool Road North

Client Name
Andy Kelly

Project Address
55 & 57 Liverpool Road North, Liverpool, L31 2HF

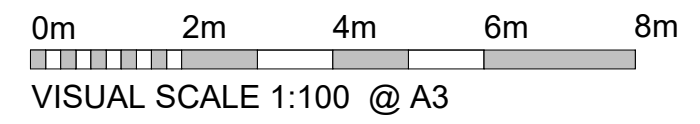
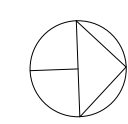
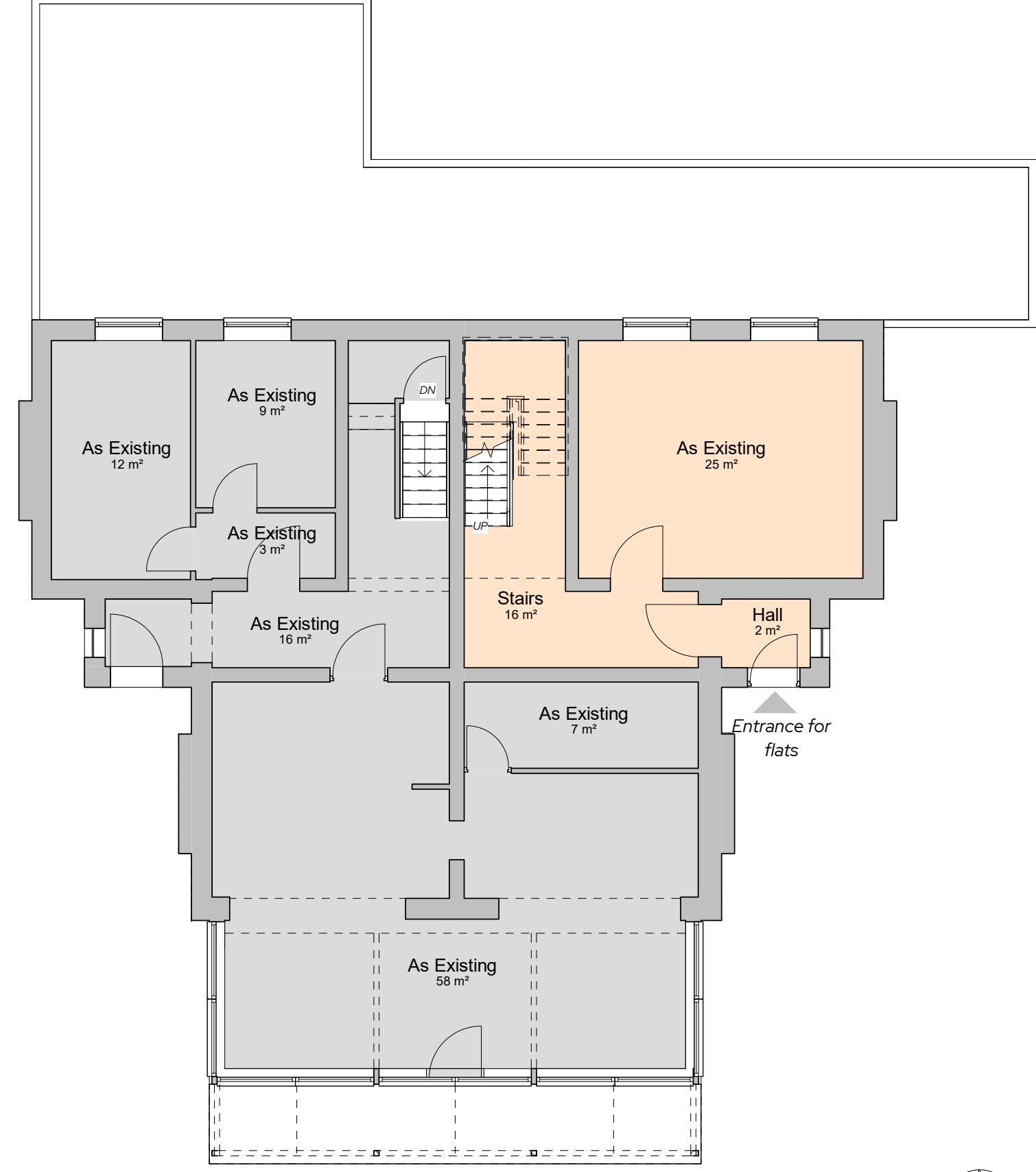
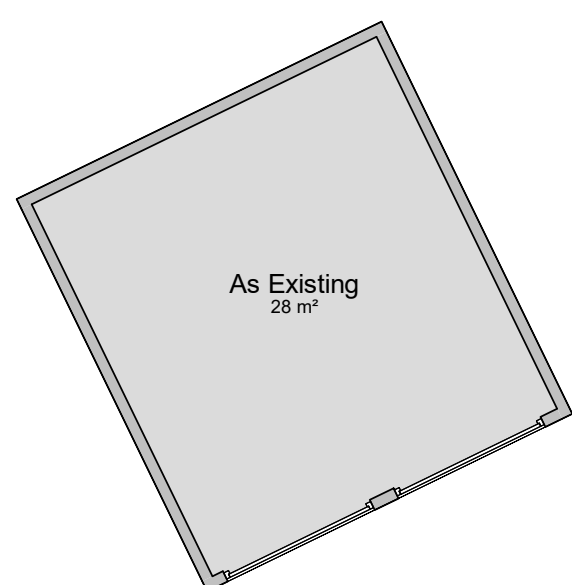
Title
Basement - Proposed

Drawing No.
1207-02-03-005

Date 21/07/23	Scale 1:100	Sheet Size A3	Drawn by AY	Checked by DB
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Project Title
1207 - 55&57 Liverpool Road North

Client Name
Andy Kelly

Project Address
55 & 57 Liverpool Road North, Liverpool, L31 2HF

Title
Ground Floor Plan - Proposed

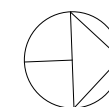
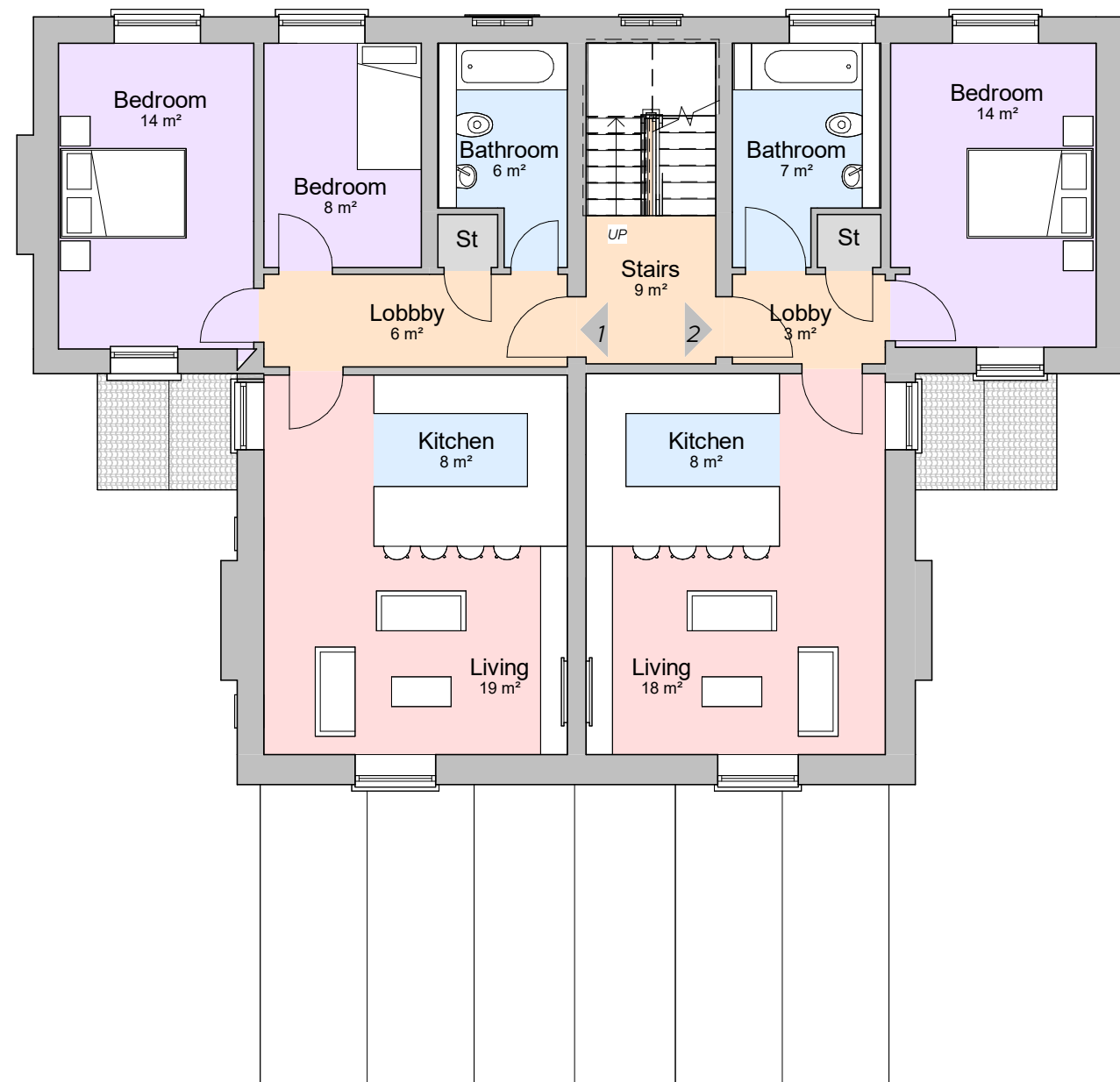
Drawing No.
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Date 21/07/23	Scale 1:100	Sheet Size A3	Drawn by AY	Checked by DB
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0m 2m 4m 6m 8m
 VISUAL SCALE 1:100 @ A3

REV	Date	Description	Issued	Additional Notes

Project Title
 1207 - 55&57 Liverpool Road North

Client Name
 Andy Kelly

Project Address
 55 & 57 Liverpool Road North,
 Liverpool, L31 2HF

Title
 First Floor Plan - Proposed

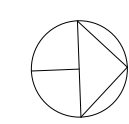
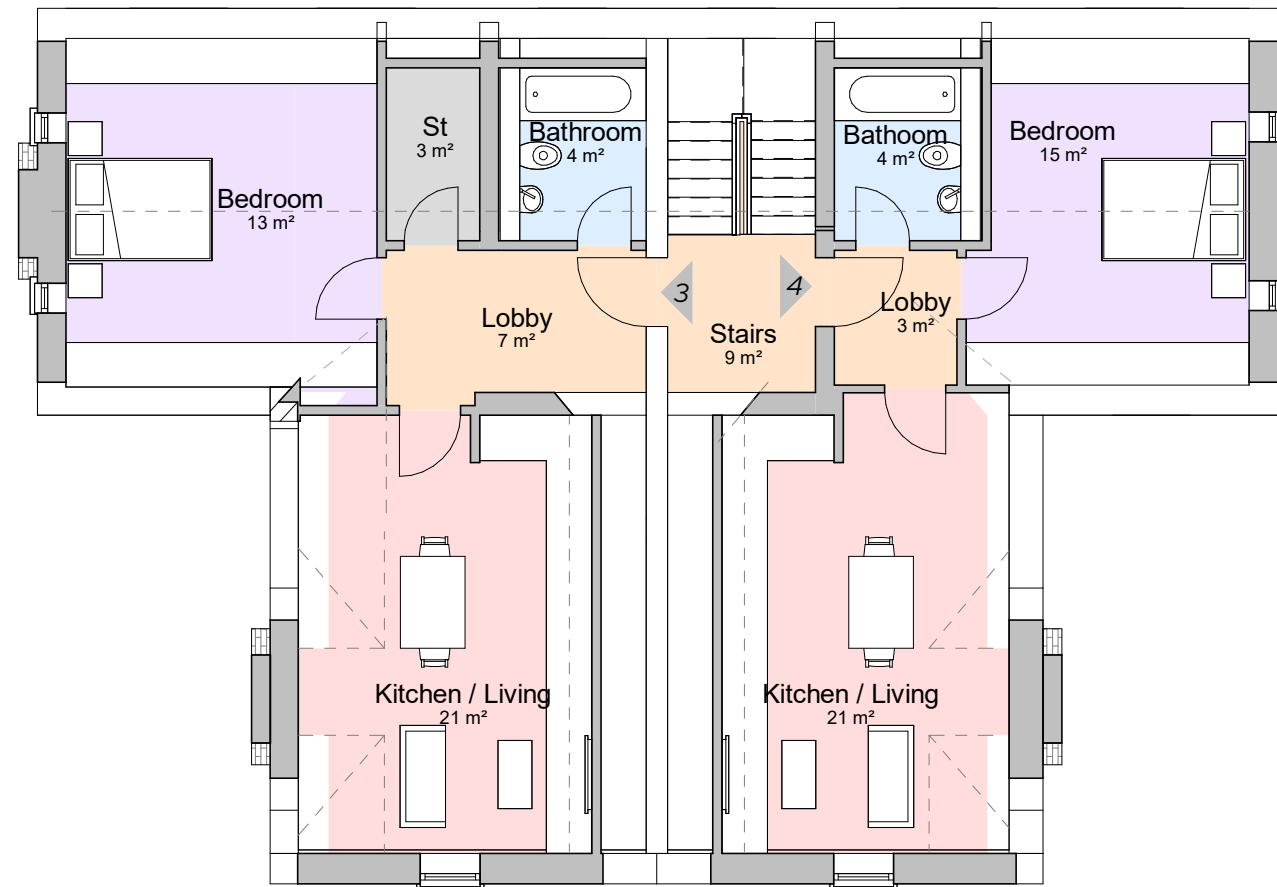
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Date 21/07/23	Scale 1:100	Sheet Size A3	Drawn by AY	Checked by DB
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0m 2m 4m 6m 8m
 VISUAL SCALE 1:100 @ A3

REV	Date	Description	Issued	Additional Notes

Project Title
 1207 - 55&57 Liverpool Road North

Client Name
 Andy Kelly

Project Address
 55 & 57 Liverpool Road North,
 Liverpool, L31 2HF

Title
 Second Floor Plan - Proposed

Drawing No.
 1207-02-03-008

Date 21/07/23 **Scale** 1:100 **Sheet Size** A3 **Drawn by** AY **Checked by** DB

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Appendix B

Calculation Reference: AUDIT-715001-230425-0429

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT

Category : A - OFFICE

TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	BH BRIGHTON & HOVE	1 days
	WS WEST SUSSEX	1 days
03	SOUTH WEST	
	BR BRISTOL CITY	1 days
05	EAST MIDLANDS	
	DY DERBY	1 days
06	WEST MIDLANDS	
	WK WARWICKSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	1 days
09	NORTH	
	CB CUMBRIA	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
 Actual Range: 118 to 925 (units: sqm)
 Range Selected by User: 118 to 1000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/15 to 23/11/22

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	2 days
Tuesday	1 days
Wednesday	1 days
Thursday	2 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	7 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Town Centre	1
Edge of Town Centre	6

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone	1
Residential Zone	2
Built-Up Zone	3
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village,

Secondary Filtering selection:

Use Class:

Not Known

7 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS@.

Filter by Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Population within 1 mile:

20,001 to 25,000

4 days

25,001 to 50,000

3 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

75,001 to 100,000

1 days

100,001 to 125,000

2 days

125,001 to 250,000

1 days

250,001 to 500,000

3 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0

4 days

1.1 to 1.5

3 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No

7 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present

7 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	BH-02-A-05 ROMAN ROAD HOVE	OFFICES		BRIGHTON & HOVE
	Edge of Town Centre Residential Zone Total Gross floor area:		280 sqm	
		<i>Survey date: WEDNESDAY</i>	<i>04/07/18</i>	<i>Survey Type: MANUAL</i>
2	BR-02-A-03 COLSTON STREET BRISTOL	ARCHITECTS		BRISTOL CITY
	Town Centre Built-Up Zone Total Gross floor area:		118 sqm	
		<i>Survey date: MONDAY</i>	<i>15/11/21</i>	<i>Survey Type: MANUAL</i>
3	CB-02-A-02 PORT ROAD CARLISLE	OFFICE		CUMBRIA
	Edge of Town Centre Industrial Zone Total Gross floor area:		925 sqm	
		<i>Survey date: FRIDAY</i>	<i>24/06/16</i>	<i>Survey Type: MANUAL</i>
4	DY-02-A-02 PRIME PARKWAY DERBY	REAL ESTATE DEVELOPERS		DERBY
	Edge of Town Centre No Sub Category Total Gross floor area:		594 sqm	
		<i>Survey date: THURSDAY</i>	<i>21/10/21</i>	<i>Survey Type: MANUAL</i>
5	NY-02-A-01 NORTH PARK ROAD HARROGATE	SOLICITORS		NORTH YORKSHIRE
	Edge of Town Centre Built-Up Zone Total Gross floor area:		178 sqm	
		<i>Survey date: THURSDAY</i>	<i>04/10/18</i>	<i>Survey Type: MANUAL</i>
6	WK-02-A-02 WHITEHALL ROAD RUGBY	OFFICES		WARWICKSHIRE
	Edge of Town Centre Residential Zone Total Gross floor area:		540 sqm	
		<i>Survey date: MONDAY</i>	<i>14/11/22</i>	<i>Survey Type: MANUAL</i>
7	WS-02-A-05 NORTH STREET WORTHING	SOCIAL HOUSING COMPANY		WEST SUSSEX
	Edge of Town Centre Built-Up Zone Total Gross floor area:		830 sqm	
		<i>Survey date: TUESDAY</i>	<i>17/05/22</i>	<i>Survey Type: MANUAL</i>

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

TOTAL VEHICLES

Calculation factor: 100 sqm

Estimated TRIP rate value per 450 SQM shown in shaded columns

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS				DEPARTURES				TOTALS			
	No. Days	Ave. GFA	Trip Rate	Estimated Trip Rate	No. Days	Ave. GFA	Trip Rate	Estimated Trip Rate	No. Days	Ave. GFA	Trip Rate	Estimated Trip Rate
00:00 - 01:00												
01:00 - 02:00												
02:00 - 03:00												
03:00 - 04:00												
04:00 - 05:00												
05:00 - 06:00												
06:00 - 07:00												
07:00 - 08:00	6	548	0.487	2.190	6	548	0.000	0.000	6	548	0.487	2.190
08:00 - 09:00	7	495	2.367	10.649	7	495	0.317	1.429	7	495	2.684	12.078
09:00 - 10:00	7	495	1.039	4.675	7	495	0.924	4.156	7	495	1.963	8.831
10:00 - 11:00	7	495	0.577	2.597	7	495	0.462	2.078	7	495	1.039	4.675
11:00 - 12:00	7	495	0.462	2.078	7	495	0.491	2.208	7	495	0.953	4.286
12:00 - 13:00	7	495	0.462	2.078	7	495	0.981	4.416	7	495	1.443	6.494
13:00 - 14:00	7	495	0.779	3.506	7	495	0.635	2.857	7	495	1.414	6.363
14:00 - 15:00	7	495	0.519	2.338	7	495	0.519	2.338	7	495	1.038	4.676
15:00 - 16:00	7	495	0.231	1.039	7	495	0.519	2.338	7	495	0.750	3.377
16:00 - 17:00	7	495	0.231	1.039	7	495	0.808	3.636	7	495	1.039	4.675
17:00 - 18:00	7	495	0.231	1.039	7	495	1.616	7.273	7	495	1.847	8.312
18:00 - 19:00	6	548	0.030	0.137	6	548	0.030	0.137	6	548	0.060	0.274
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			7.415	33.365			7.302	32.866			14.717	66.231

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

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Parameter summary

Trip rate parameter range selected:	118 - 925 (units: sqm)
Survey date range:	01/01/15 - 23/11/22
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Appendix C

Calculation Reference: AUDIT-715001-230425-0412

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : C - FLATS PRIVATELY OWNED
 TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	CT CENTRAL BEDFORDSHIRE	1 days
	HF HERTFORDSHIRE	1 days
	PO PORTSMOUTH	1 days
03	SOUTH WEST	
	DV DEVON	1 days
04	EAST ANGLIA	
	SF SUFFOLK	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
08	NORTH WEST	
	MS MERSEYSIDE	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: No of Dwellings
 Actual Range: 24 to 91 (units:)
 Range Selected by User: 6 to 100 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/15 to 11/05/22

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	2 days
Tuesday	2 days
Wednesday	1 days
Thursday	1 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	7 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Edge of Town Centre	7
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This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Development Zone	1
Residential Zone	4
Built-Up Zone	2

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	5 days - Selected
Servicing vehicles Excluded	3 days - Selected

Secondary Filtering selection:

Use Class:

C3	7 days
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This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

20,001 to 25,000	1 days
25,001 to 50,000	6 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

50,001 to 75,000	1 days
125,001 to 250,000	3 days
250,001 to 500,000	3 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	4 days
1.1 to 1.5	2 days
1.6 to 2.0	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	2 days
No	5 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	7 days
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This data displays the number of selected surveys with PTAL Ratings.

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions
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LIST OF SITES relevant to selection parameters

1	CT-03-C-02 STANBRIDGE ROAD LEIGHTON BUZZARD	BLOCKS OF FLATS		CENTRAL BEDFORDSHIRE
	Edge of Town Centre Residential Zone Total No of Dwellings:		62	
	<i>Survey date: TUESDAY</i>		<i>15/05/18</i>	<i>Survey Type: MANUAL</i>
2	DV-03-C-01 BONHAY ROAD EXETER	BLOCK OF FLATS		DEVON
	Edge of Town Centre Residential Zone Total No of Dwellings:		27	
	<i>Survey date: MONDAY</i>		<i>10/07/17</i>	<i>Survey Type: MANUAL</i>
3	HF-03-C-03 SHENLEY ROAD BOREHAMWOOD	BLOCK OF FLATS		HERTFORDSHIRE
	Edge of Town Centre Built-Up Zone Total No of Dwellings:		91	
	<i>Survey date: THURSDAY</i>		<i>14/11/19</i>	<i>Survey Type: MANUAL</i>
4	MS-03-C-04 HOY DRIVE NEWTON-LE-WILLOWS EARLESTOWN	BLOCK OF FLATS		MERSEYSIDE
	Edge of Town Centre Residential Zone Total No of Dwellings:		24	
	<i>Survey date: MONDAY</i>		<i>12/04/21</i>	<i>Survey Type: MANUAL</i>
5	PO-03-C-01 CROSS STREET PORTSMOUTH	BLOCKS OF FLATS		PORTSMOUTH
	Edge of Town Centre Built-Up Zone Total No of Dwellings:		90	
	<i>Survey date: TUESDAY</i>		<i>05/06/18</i>	<i>Survey Type: MANUAL</i>
6	SF-03-C-05 FORE STREET IPSWICH IPSWICH WATERFRONT	BLOCKS OF FLATS		SUFFOLK
	Edge of Town Centre Development Zone Total No of Dwellings:		69	
	<i>Survey date: WEDNESDAY</i>		<i>23/06/21</i>	<i>Survey Type: MANUAL</i>
7	WM-03-C-04 GILLQUART WAY COVENTRY PARKSIDE	BLOCKS OF FLATS		WEST MIDLANDS
	Edge of Town Centre Residential Zone Total No of Dwellings:		55	
	<i>Survey date: FRIDAY</i>		<i>11/11/16</i>	<i>Survey Type: MANUAL</i>

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS				DEPARTURES				TOTALS			
	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate
00:00 - 01:00												
01:00 - 02:00												
02:00 - 03:00												
03:00 - 04:00												
04:00 - 05:00												
05:00 - 06:00												
06:00 - 07:00												
07:00 - 08:00	7	60	0.041	0.244	7	60	0.148	0.890	7	60	0.189	1.134
08:00 - 09:00	7	60	0.045	0.273	7	60	0.206	1.234	7	60	0.251	1.507
09:00 - 10:00	7	60	0.053	0.316	7	60	0.079	0.474	7	60	0.132	0.790
10:00 - 11:00	7	60	0.055	0.330	7	60	0.077	0.459	7	60	0.132	0.789
11:00 - 12:00	7	60	0.072	0.431	7	60	0.077	0.459	7	60	0.149	0.890
12:00 - 13:00	7	60	0.098	0.589	7	60	0.089	0.531	7	60	0.187	1.120
13:00 - 14:00	7	60	0.065	0.388	7	60	0.060	0.359	7	60	0.125	0.747
14:00 - 15:00	7	60	0.053	0.316	7	60	0.065	0.388	7	60	0.118	0.704
15:00 - 16:00	7	60	0.079	0.474	7	60	0.057	0.344	7	60	0.136	0.818
16:00 - 17:00	7	60	0.132	0.789	7	60	0.067	0.402	7	60	0.199	1.191
17:00 - 18:00	7	60	0.158	0.947	7	60	0.072	0.431	7	60	0.230	1.378
18:00 - 19:00	7	60	0.206	1.234	7	60	0.105	0.632	7	60	0.311	1.866
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			1.057	6.331			1.102	6.603			2.159	12.934

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

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Parameter summary

Trip rate parameter range selected: 24 - 91 (units:)
 Survey date range: 01/01/15 - 11/05/22
 Number of weekdays (Monday-Friday): 7
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.