

Technical Note

TRANSPORT TECHNICAL NOTE

RESIDENTIAL DEVELOPMENT

SITE: **Bonc Wen, Rhosllanerchrugog, Wrexham**

CLIENT: PDW

DATE: 30th October 2020

REFERENCE: VC0311 R1.2

APPROVED BY: **Matt Cleggett BEng (Hons) FCILT MCIHT**


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INTRODUCTION

1.1 Introduction

Vectio Consulting Limited have been appointed by PDW Limited to prepare a Transport Technical Note in support of a planning application for a residential development. The development is to comprise 12 affordable dwellings, served from Bonc Wen, in Rhosllanerchrugog, Wrexham.

The site has previously gained consent for a similar layout associated with planning application reference: P/2015/0915.

This Technical Note has been prepared to discuss the internal road and parking layout as submitted, along with highlighting the additional off site measures proposed, acknowledging those previously consented.

The site currently comprises of a parcel of land located at the heart of a retail and residential area in Rhosllanerchrugog in Wrexham. To the south of the site is a Local Authority car park, the site itself is cleared land that was formerly occupied by the Local Authorities Local Housing Office (demolished early in 2015) and a Community Centre (on site until circa 1989).

The proposed development is to be accessed from Bonc Wen to the south, through the existing council car park, culminating in a turning head surrounded by the proposed dwellings and associated parking and landscaping.

The location of the site is illustrated in Figure 1.

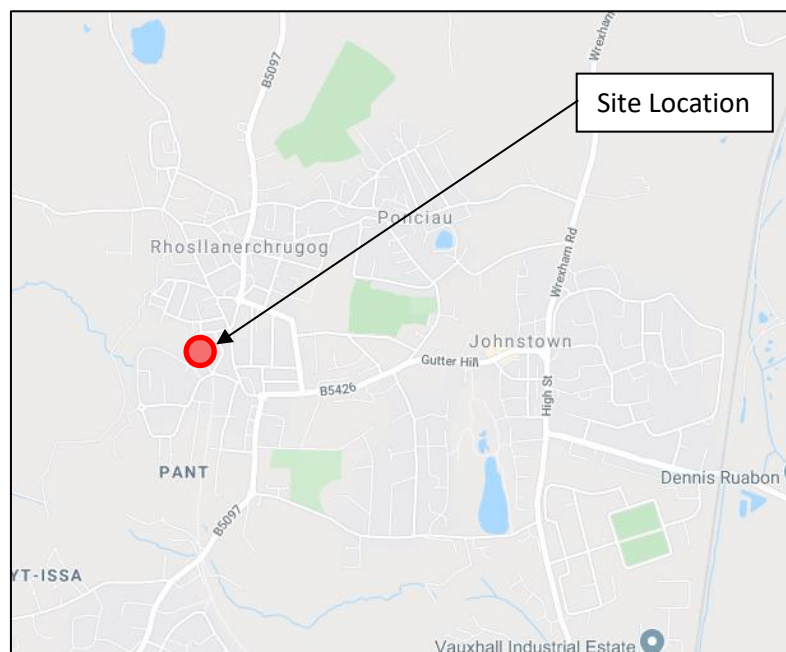


Figure 1: Site Location Plan

This Technical Note has been based on the Department for Transport's (DfT), guidance document titled: "Transport Evidence bases in plan making" dated 10th October 2014 and the NPPF.

1.2 Planning History

In July 2010, the application site was granted outline planning consent for a residential development consisting of 9 units (Application reference: RHO P/2010/0243). In February 2015, the site obtained Full Permission for an 11 unit social housing development comprising 1 bungalow, 1 block of 4 apartments and 3 pairs of semi detached houses (Application reference: RHO P/2015/0915).

An extract from the consented 2015 layout is shown in Figure 2, whilst a list of highway related pertinent planning conditions are listed as follows:

- *“5) Before development commences on the residential element of this development, full design details of the proposed re-configured public car parking area for 42 parking spaces, including details to confirm how the spaces will be delineated and the area drained, shall be submitted to the Local planning Authority for further approval.....”*
- *“12) The vehicular parking and turning areas as shown on the approved drawingsfor the whole site area edged red shall be fully laid out, surfaced and drained prior to first use of the housing development.....”*
- *“13) No part of the development shall commence until a scheme detailing the construction of the following has been submitted to and approved in writing by the Local Planning Authority:*
 - i) *Detailed layout, design, drainage, and construction of the proposed new footway / carriageway.....”*
- *“14) No part of the development shall commence until a Construction Traffic Management Plan including provisions for contractor parking has been submitted to and approved in writing by the Local Planning Authority.....”*
- *“21) No private surface water run off shall be permitted to flow from the development site onto the adjoining highway. An Aco drain or similar shall be provided across the approved access to intercept any such run off prior to first use of the development.”*

For the avoidance of doubt, all of the conditions above are still considered to be pertinent to the current application.

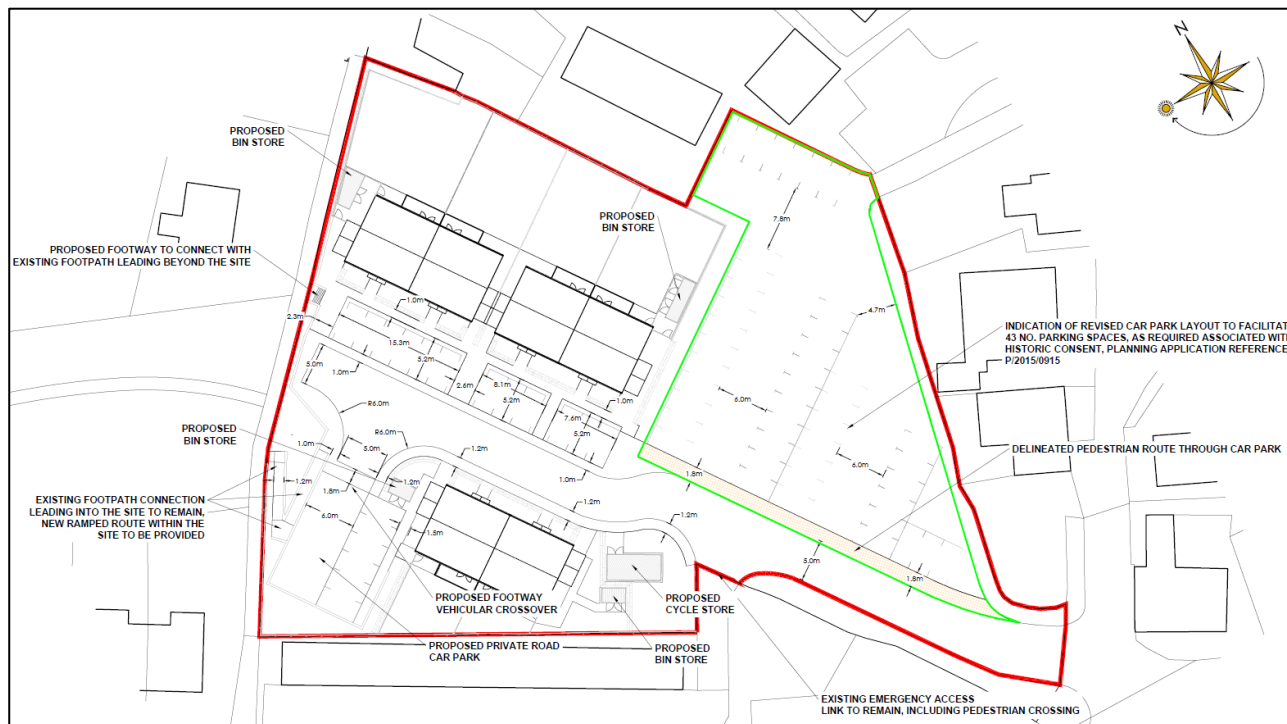


Figure 2: Extract from 2015 Consented Layout

DEVELOPMENT PROPOSALS

2.1 Development Composition

The proposed development is to include 12 residential affordable housing units. The layout of the site is shown in the indicative road layout and parking plan appended to this Transport Note, and as illustrated in the extract provided in Figure 3.



2.2 Pedestrian Access

As per the consented scheme, pedestrians will be able to access the site from School Street to the north-east, using existing footpaths, Glanrafon to the southwest, via an existing emergency access link which is to remain in its current form, Bonc Wen to the east, via the existing council car park and existing footpath link, and Bonc Wen to the south, via the existing car parks vehicular access junction.

Similarly, as proposed in support of the consented scheme, the existing car park layout is to be revised to include 43 delineated parking spaces, along with a pedestrian route between the development site, and the car parks vehicular access leading onto Bonc Wen. A drawing illustrating the layout, similar to that of the previously consented scheme, is appended to this Transport Note.

2.3 Servicing

Access for servicing and delivery vehicles will be gained directly from Bonc Wen, through the existing public car park, and into the development.

A swept path analysis exercise has been undertaken to ensure the turning head within the proposed development will cater for turning manoeuvres of large refuse vehicles and fire appliances. A drawing illustrating the viability of these manoeuvres is appended to this Transport Note.

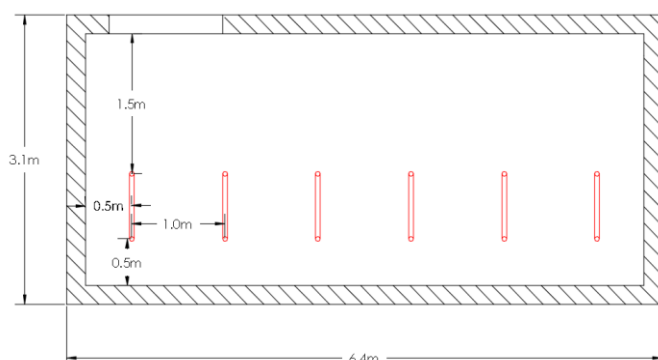
2.4 Parking Provision

A review of Wrexham County Borough Council Parking Standards has been undertaken, reference: Local Planning guidance Note 16. The guidance highlights the following standards:

Development Type		Parking Standards	Cycle Parking Standards
C3 Dwelling	1 Bedroom	1.5 parking spaces per unit	2 secure cycle parking spaces per dwelling
	2 Bedroom	2.0 parking spaces per unit	

The proposed development includes 18 car parking spaces. The proposed number of beds per unit is one. Therefore sufficient car parking has been proposed.

With regard to cycle parking, each ground floor unit (6no.) will have a secure structure in their rear gardens for bicycles to be stored (such as a shed). An external cycle store building is proposed for first floor residents to store their bicycles. The external cycle store has been sized so as to be able to hold 6 Sheffield Hoops (12 bicycles), as indicatively shown in the layout drawing below:



2.5 Traffic Impact

The development site is to comprise of 12 affordable dwellings. An interrogation of the TRICS database has been undertaken to determine the vehicular generation a development of this size is likely to create during a standard weekday. A summary of the forecast trip generations calculated from the TRICS data is presented in Table 1, whilst a copy of the TRICS report is appended to this Transport Note.

Table 1: Forecast Trip Generations

Vehicular	AM			PM			Daily
	Arrival	Dept'ure	Total	Arrival	Dept'ure	Total	
Residential Trip Rates (Affordable)	0.147	0.324	0.471	0.301	0.243	0.544	4.721
Trips	2	4	6	4	3	7	57

The results in Table 1 indicate that the proposed development will only generate in the order of 6 vehicular movements during a standard weekday AM peak hour, 7 during a PM peak hour, and 57 movements during a standard weekday.

This level of vehicular activity is considered to be low, and as such would not have a material bearing upon the capacity of the surrounding highway network.

2.6 ACCIDENT ANALYSIS

Recorded road traffic accident data has been obtained from crashmap.co.uk for the most recent 5-year period adjacent to the site between the years of 2015 to 2019 (being the most recently available period that data is available). The locations of the recorded accidents are illustrated in Figure 4.

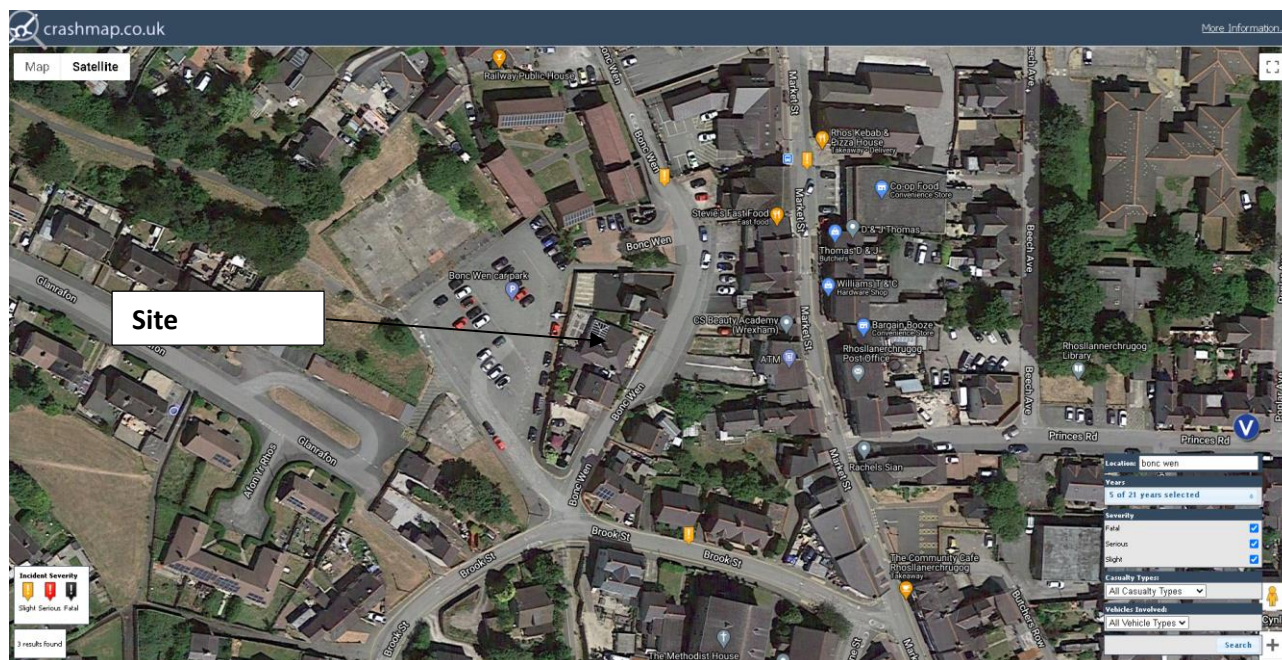


Figure 4: Accident Data Assessment Area

Over the period considered there were 3 recorded accidents resulting in slight injury severity ratings. All three incidents involved pedestrians.

The closest incident occurred on Bonc Wen due east of the site, in November 2019, with the records highlighting that a child pedestrian was crossing the road carriageway, not at a crossing point, when they conflicted with a vehicle travelling along Bonc Wen.

The second incident occurred on Market Street, due east of the site, in March 2019, with the records highlighting a pedestrian was struck in the road whilst a car was reversing.

The third incident occurred on Brook Street due south of the site, in November 2019, with the records highlighting a conflict between a car travelling along the road carriageway, and a pedestrian walking along what appears to be a narrow footway.

None of the accidents were recorded as severe or fatal.

No patterns or trends have been identified that would give concern to the proposed development exacerbating any existing road traffic accident issues.

2.7 Preliminary Construction Traffic Management Plan

The estimated transport impacts during the site construction stages are relatively unknown at this time. Therefore a construction plan to cover the build out period for the site has not been developed.

It is recommended, similarly to the consented scheme, that a suitable construction stage traffic management plan is prepared and put in place prior to site construction. This plan will be required in order to minimise traffic travelling through the existing area, and to ensure a safe environment is maintained for users of the adjacent car park and highway network.

It is anticipated that the site will generate a relatively low level of construction traffic. However, it will be important for a construction stage traffic management plan to be prepared in agreement with Wrexham County Borough Council Highways, which should include:

- Construction traffic routes, including provision for access to the site;
- Entrance/exit from the site for visitors/contractors/deliveries;
- Location of directional signage within the site;
- Siting of temporary containers;
- Parking for contractors, site operatives and visitors;
- Identification of working space and extent of areas to be temporarily enclosed and secured during each phase of demolition/construction;
- Temporary roads/areas of hard standing;
- Schedule for large vehicles delivering/exporting materials to and from site;
- Storage of materials and large/heavy vehicles/machinery on site;
- Measures to control noise and dust;
- Details of street sweeping/street cleansing/wheel wash facilities;
- Details for the recycling/disposing of waste resulting from demolition and construction works;
- Hours of working; and,
- Phasing of works including start/finish dates.

SUMMARY & CONCLUSIONS

Vectio Consulting Limited have been appointed by PDW Limited to prepare a Transport Technical Note in support of a planning application for a residential development. The development is to comprise 12 affordable dwellings, served from Bonc Wen, in Rhosllanerchrugog, Wrexham.

The site has previously gained consent for a similar layout associated with planning application reference: P/2015/0915.

This Technical Note has been prepared to discuss the internal road and parking layout as submitted, along with highlighting the additional off site measures proposed, acknowledging those previously consented.

3.1 Summary

This report has highlighted previous conditions associated with the historically consented scheme that are still pertinent to the scheme, and are expected to be conditioned as part of any consent.

The report has included a description of the proposed internal road layout, illustrating its suitability for all users both within the site, and at its interfaces with external infrastructure.

As per the consented scheme, an indicative layout showing revisions to the council car park has been provided, illustrating the viability for 43 car parking spaces to be made, along with a pedestrian route between the development site and Bonc Wen to the south.

Swept path analysis has been included illustrating the viability for a large refuse vehicle and fire appliance to enter, turn, and exit the site in a forward gear. In addition vehicle tracking has been provided illustrating that cars will easily be able to manoeuvre into and out of the proposed parking spaces.

The suitability and quantum of car parking spaces has been assessed, and it has been confirmed that all parking spaces are accessible.

A review of car and cycle parking standards have been undertaken. It has been illustrated that sufficient provision has been catered for.

An assessment of the likely level of vehicular movements that will be created by the development during a standard weekday has been undertaken. This assessment has forecast that between 6 and 7 vehicular movements will be created during a standard weekday peak hour, and a total of approximately 57 movements during a standard weekday. This level of trip making is considered to be low and as such would not have a material bearing upon the capacity of the surrounding highway network.

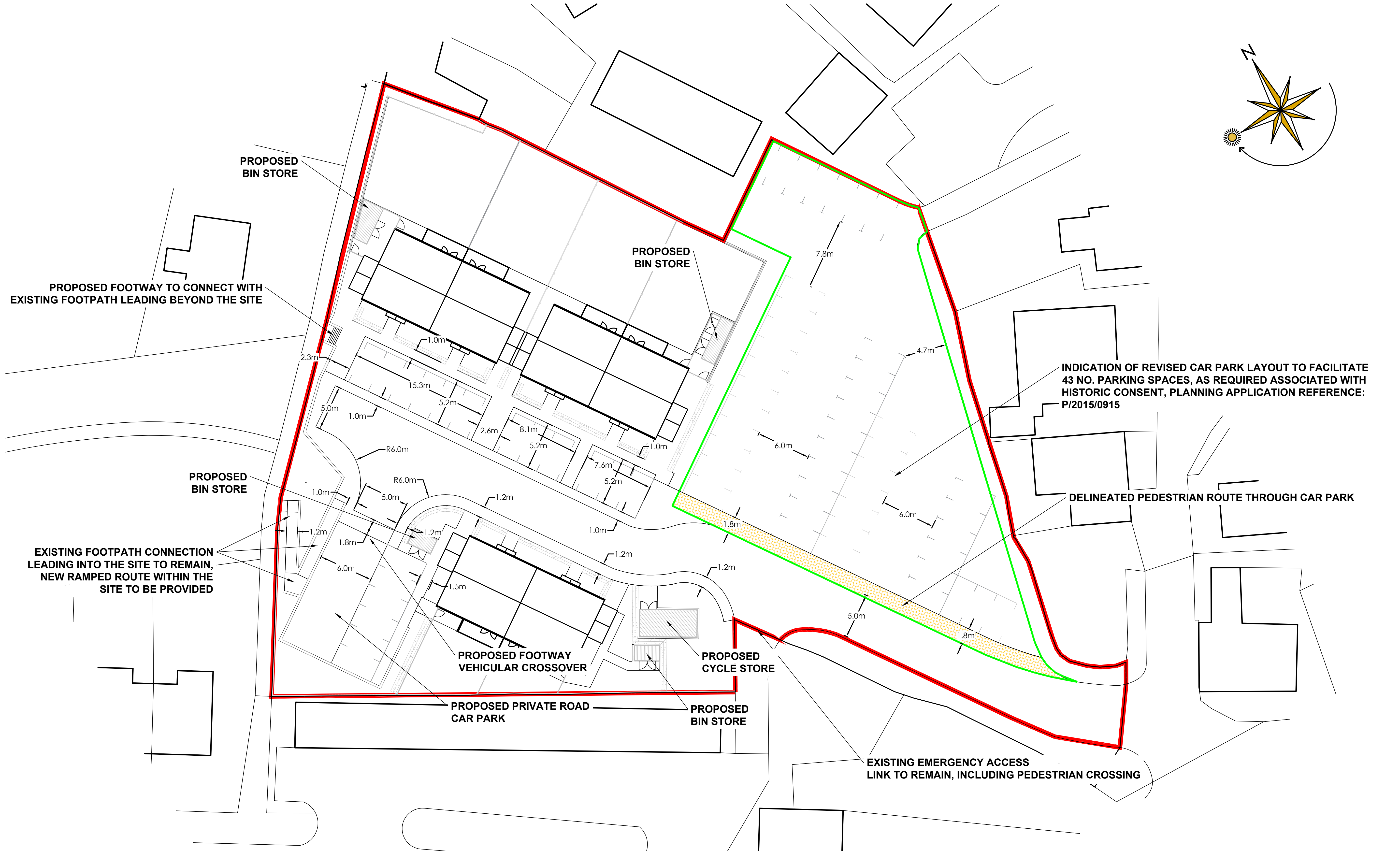
A review of recorded road traffic accident data has been undertaken considering the most recently available data over a 5 year period. No trends or patterns have been identified that are likely to be exacerbated by the operations of the proposed development.

This report has highlighted that the construction impacts are relatively unknown at this time, however a suitable Construction Stage Traffic Management Plan should be prepared, and agreed upon with the Highway Authority prior to commencement of works, to ensure a safe environment is maintained during that stage of development.

3.2 Conclusions

It is the view of this Transport Note that, in transportation and highway safety terms, there are no overriding issues that would prevent the granting of planning permission based on the recommendations within this report being implemented.

APPENDIX A: Road Layout and Parking Plan



KEY:-

- RED LINE BOUNDARY OF THE APPLICATION SITE
- GREEN LINE BOUNDARY OF CAR PARK
- MODIFICATIONS - FOR VIABILITY PURPOSES

100mm on Original

Revision	Amendment	Approved	Revision Date
A	SITE LAYOUT ALTERATIONS	MC	29-10-2020

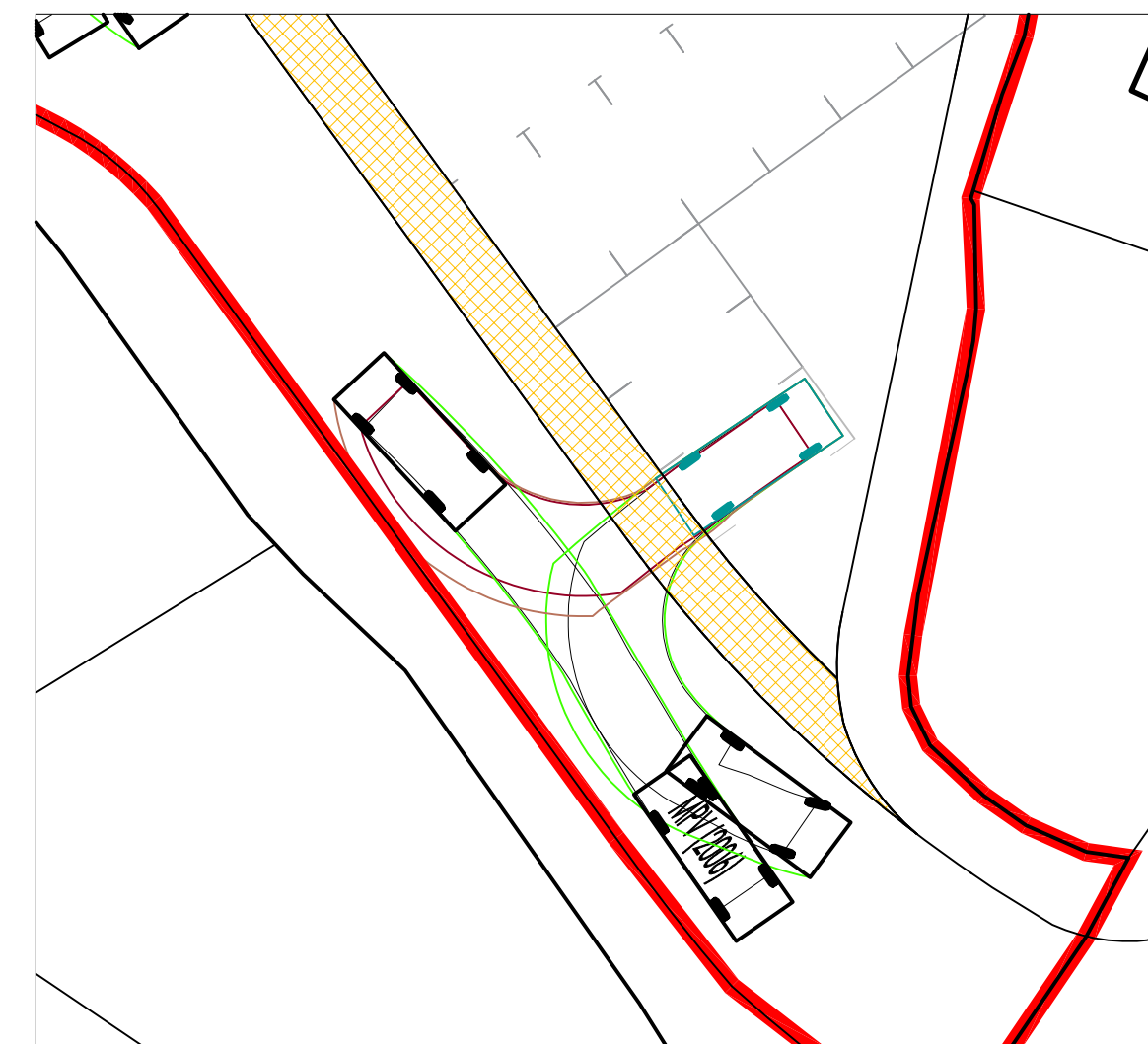
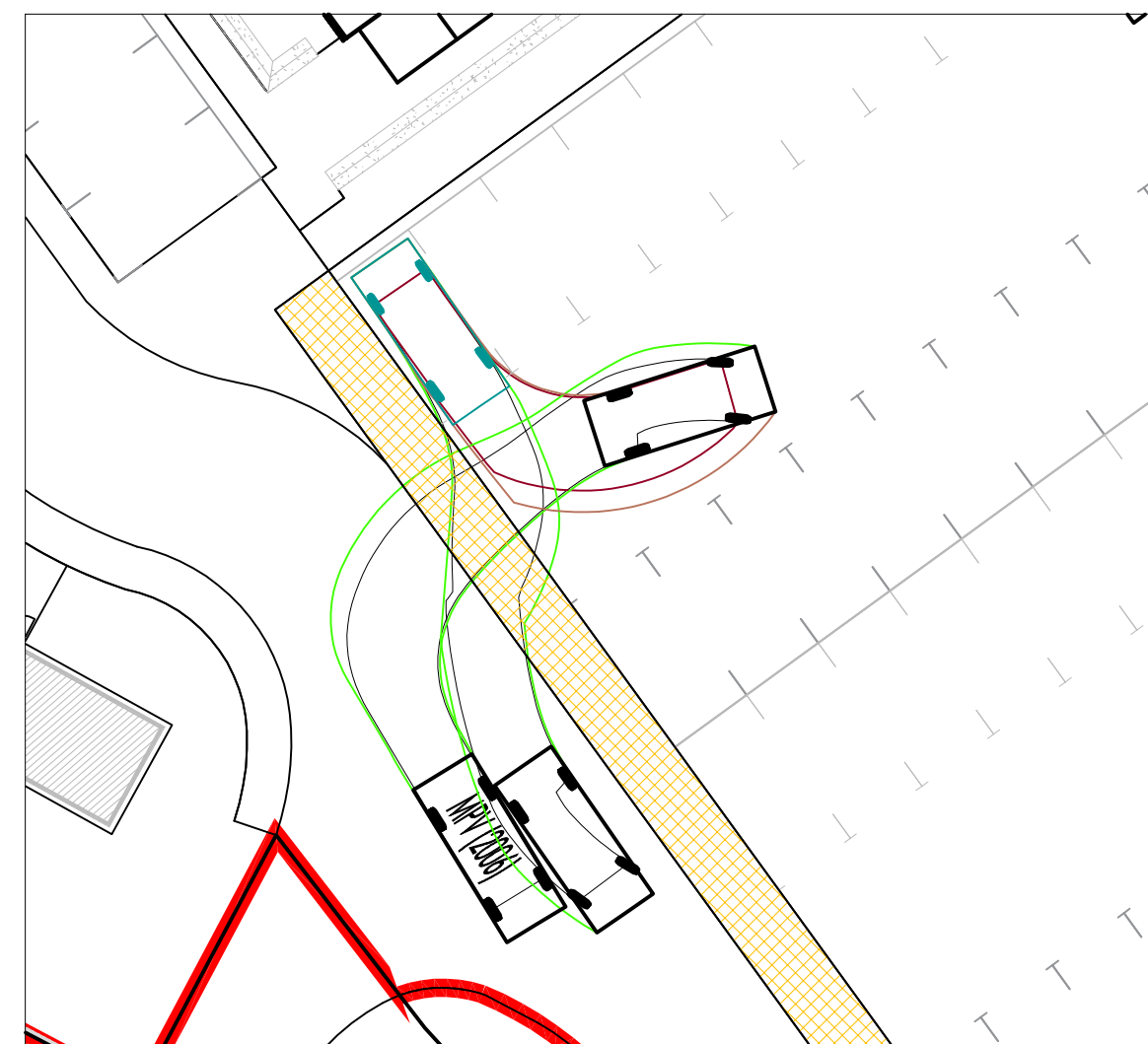
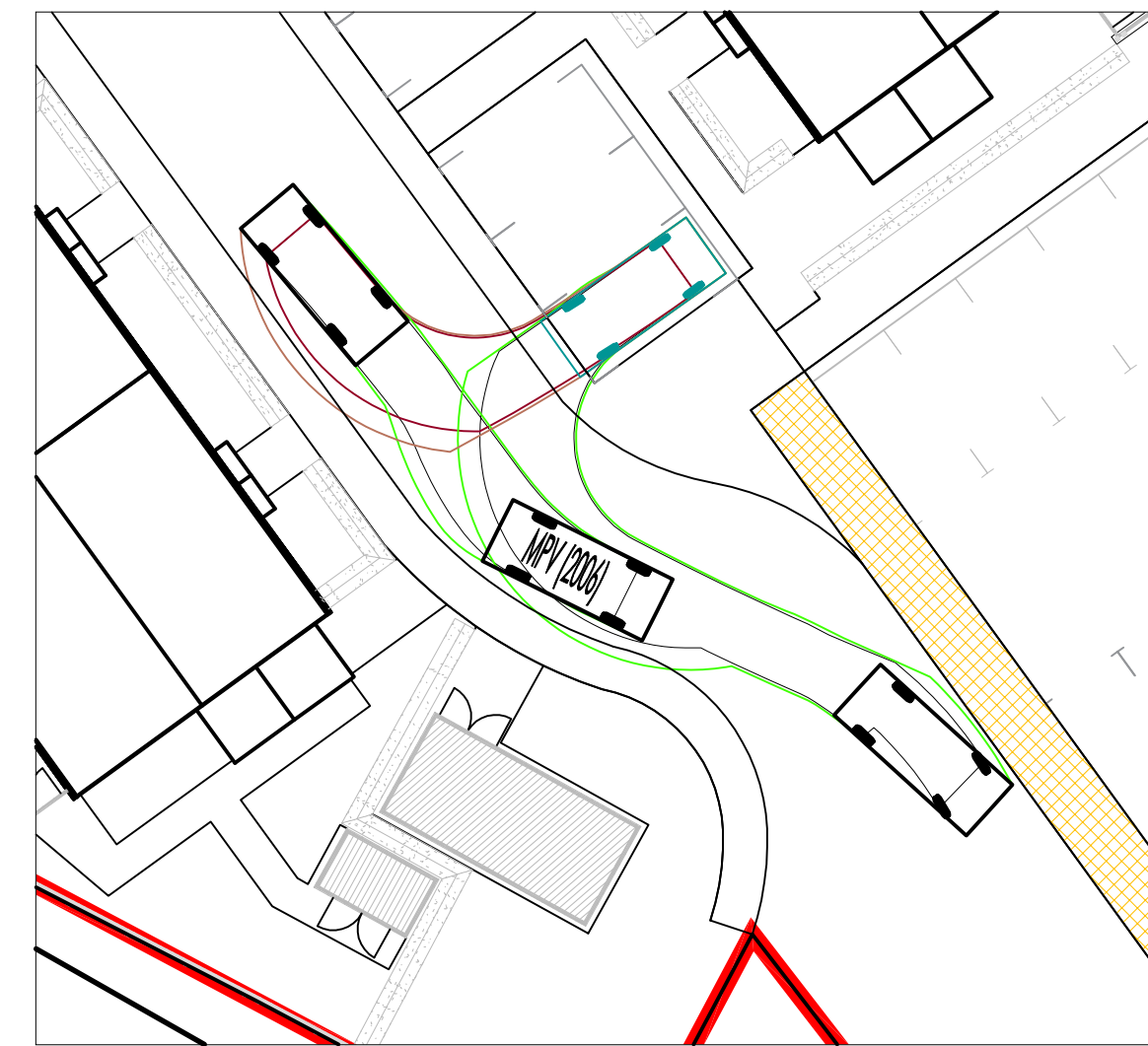
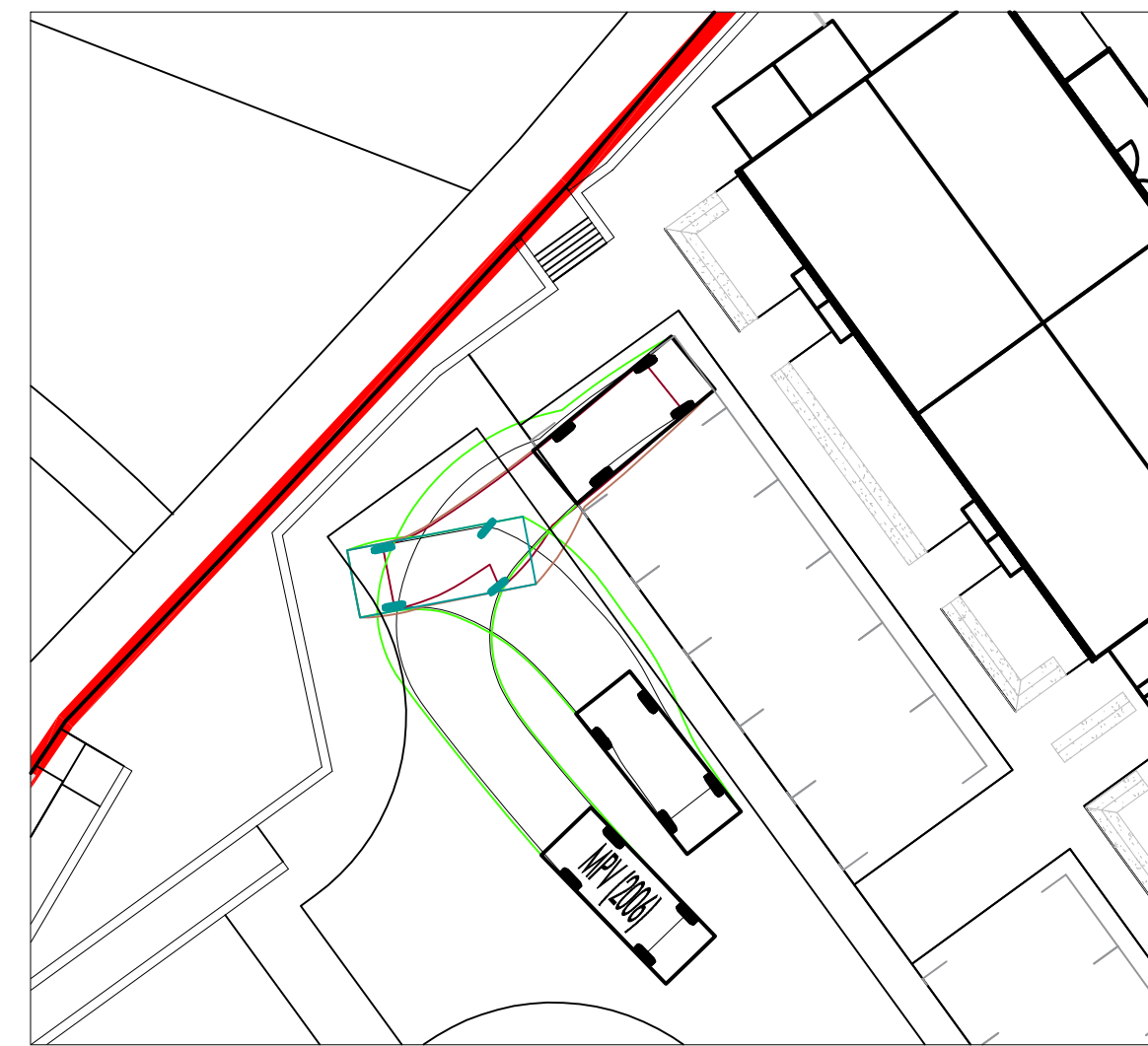
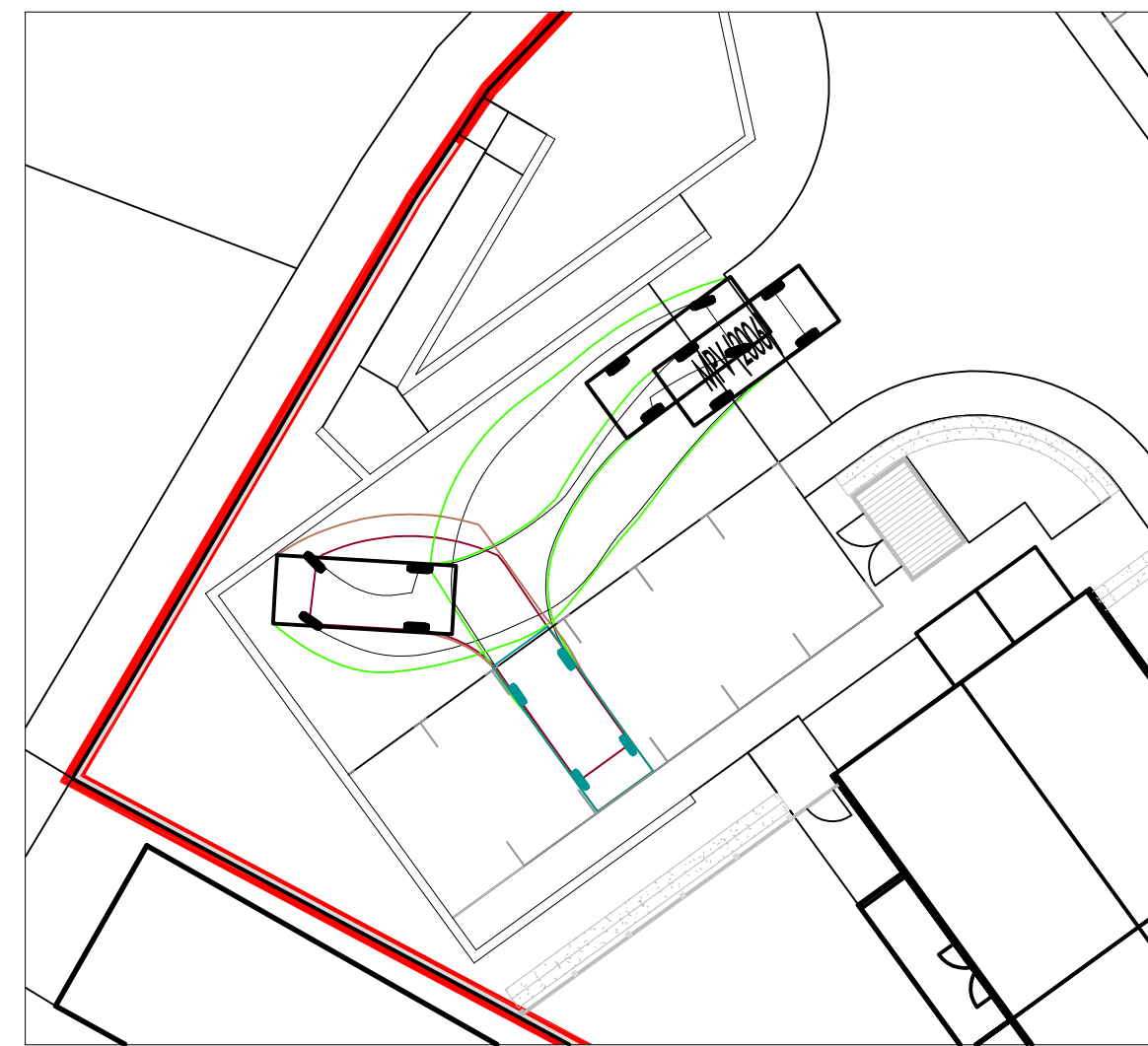


Drawn	Designed	Approved	Drawing Date
MC	MC	LC	19/06/2020
Project No.	Scale		
VC0311	1:200@A1		

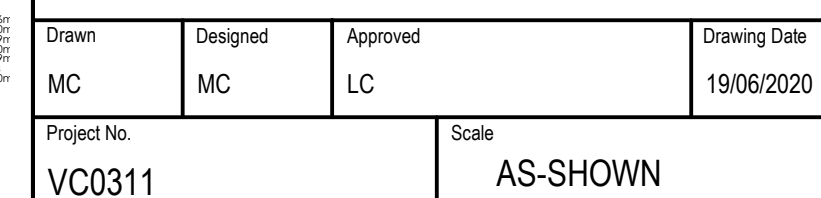
Project	BONC WEN, RHOSLLANERCHRUGOG RESIDENTIAL DEVELOPMENT
Sheet	PROPOSED ROAD AND PARKING LAYOUT
Drawing No.	001
Sheet No.	001
Revision	A

APPENDIX B: Swept Path Analysis Plan

LARGE REFUSE VEHICLE

[illegible]

Vehicle	Overall length	Overall width	Overall body height	Overall body width	Max body width	Kerb to Kerb Turning Radius
Genys Sabre fire Tender (PHE)	7,700mm	2,420mm	3,170mm	2,300mm	2,400mm	7,400mm
Phoenix 2 Duo (PQ-15W with Elite axel chassis)	11,200mm	2,130mm	3,170mm	2,300mm	2,400mm	9,300mm
MPH (2004)	4,200mm	1,730mm	2,130mm	1,730mm	1,800mm	4,200mm



Drawing No.	Sheet No.	Revision
002	001	A

APPENDIX C: TRICS Report



Calculation Reference: AUDIT-761101-200619-0657

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : B - AFFORDABLE/LOCAL AUTHORITY HOUSES
 VEHICLES

Selected regions and areas:

06	WEST MIDLANDS	
	WO WORCESTERSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	WY WEST YORKSHIRE	2 days
08	NORTH WEST	
	LC LANCASHIRE	1 days
	MS MERSEYSIDE	1 days
13	MUNSTER	
	TI TIPPERARY	1 days
15	GREATER DUBLIN	
	DL DUBLIN	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: 8 to 35 (units:)
 Range Selected by User: 8 to 40 (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: 01/01/12 to 19/10/18

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	4 days
Tuesday	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	1
Suburban Area (PPS6 Out of Centre)	2
Edge of Town	2
Neighbourhood Centre (PPS6 Local Centre)	2

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:

Residential Zone	6
Built-Up Zone	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, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3

7 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

1,001 to 5,000

2 days

5,001 to 10,000

3 days

25,001 to 50,000

2 days

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

Population within 5 miles:

5,001 to 25,000

2 days

75,001 to 100,000

1 days

125,001 to 250,000

3 days

250,001 to 500,000

1 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

5 days

1.1 to 1.5

2 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	DL-03-B-02	TERRACED HOUSES	DUBLIN
	MARIGOLD ROAD		
	DUBLIN		
	DARNDALE		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total No of Dwellings:	35	
	Survey date: MONDAY	19/10/15	Survey Type: MANUAL
2	LC-03-B-02	SEMI DETACHED / TERRACED	LANCASHIRE
	BILLINGE STREET		
	BLACKBURN		
	Edge of Town Centre		
	Residential Zone		
	Total No of Dwellings:	15	
	Survey date: MONDAY	10/06/13	Survey Type: MANUAL
3	MS-03-B-01	TERRACED	MERSEYSIDE
	TARBOCK ROAD		
	LIVERPOOL		
	SPEKE		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	16	
	Survey date: TUESDAY	18/06/13	Survey Type: MANUAL
4	TI-03-B-02	BUNGALOWS	TIPPERARY
	STRADAVOHER		
	THURLES		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total No of Dwellings:	8	
	Survey date: MONDAY	20/11/17	Survey Type: MANUAL
5	WO-03-B-02	TERRACED HOUSES	WORCESTERSHIRE
	GOODREST WALK		
	WORCESTER		
	MERRIMANS HILL		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total No of Dwellings:	16	
	Survey date: MONDAY	14/11/16	Survey Type: MANUAL
6	WY-03-B-03	TERRACED HOUSES	WEST YORKSHIRE
	LINCOLN GREEN ROAD		
	LEEDS		
	Suburban Area (PPS6 Out of Centre)		
	Built-Up Zone		
	Total No of Dwellings:	29	
	Survey date: THURSDAY	19/09/13	Survey Type: MANUAL
7	WY-03-B-04	TERRACED HOUSES	WEST YORKSHIRE
	SYKES CLOSE		
	BATLEY		
	Edge of Town		
	Residential Zone		
	Total No of Dwellings:	17	
	Survey date: FRIDAY	19/10/18	Survey Type: MANUAL

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/B - AFFORDABLE/LOCAL AUTHORITY HOUSES
VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	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	19	0.066	7	19	0.132	7	19	0.198
08:00 - 09:00	7	19	0.147	7	19	0.324	7	19	0.471
09:00 - 10:00	7	19	0.147	7	19	0.169	7	19	0.316
10:00 - 11:00	7	19	0.162	7	19	0.199	7	19	0.361
11:00 - 12:00	7	19	0.154	7	19	0.176	7	19	0.330
12:00 - 13:00	7	19	0.169	7	19	0.147	7	19	0.316
13:00 - 14:00	7	19	0.162	7	19	0.184	7	19	0.346
14:00 - 15:00	7	19	0.191	7	19	0.169	7	19	0.360
15:00 - 16:00	7	19	0.346	7	19	0.272	7	19	0.618
16:00 - 17:00	7	19	0.199	7	19	0.221	7	19	0.420
17:00 - 18:00	7	19	0.301	7	19	0.243	7	19	0.544
18:00 - 19:00	7	19	0.265	7	19	0.176	7	19	0.441
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.309			2.412			4.721

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: 8 - 35 (units:)
 Survey date range: 01/01/12 - 19/10/18
 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.



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