



Proposed Micro Service Station for Electric Vehicles, Bowring Park Road, Liverpool

TRANSPORT STATEMENT

Report

Proposed Micro Service Station for Electric Vehicles, Bowring Park Road, Liverpool

TRANSPORT STATEMENT

Report

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1 Introduction

OVERVIEW

- 1.1 JMP Consultants Ltd ('JMP') has been commissioned by Wildstone Estates Ltd ('the Applicant') to prepare a Transport Statement [TS] to support a planning application for a micro service station for electric vehicle drivers on the A5080 Bowring Park Road in the Broad Green area of Liverpool. The proposed scheme also incorporates a digital advertising sign, and a separate highway safety report has been prepared to assess the highway safety implications of erecting a digital display unit at the proposal site.
- 1.2 The proposal site is located on the south side of the A5080 Bowring Park Road between its junction with the A5058 Queens Drive to the west and the end of the M62 to the east (Junction 4). The service station will include waiting facilities, such as a coffee shop, in addition to a series of charging points with parking bays that will be located under a canopy.
- 1.3 It is understood that the site was formerly a Petrol Filling Station (PFS), and now operates as a car wash and valeting centre. The site is served by a left in / left out priority junction arrangement, and under the proposals the existing access and egress junctions will be retained. A site location plan is shown in **Figure 1.1**.

Figure 1.1 Site Location Plan



SCOPE OF REPORT

- 1.4 The scope of the TS in relation to the proposals has been communicated with the Local Highway Authority, Liverpool City Council (LCC), through pre-application correspondence. The relevant emails have been included in **Appendix A**.
- 1.5 Accordingly, this TS considers the following:

- The site and the local transport conditions;
- The existing safety record on the A5080 westbound carriageway in the vicinity of the site;
- Review of vehicular access arrangements and the proposed internal layout; and
- The proposed trip generation associated with the development proposals.

REPORT STRUCTURE

1.6 The report is divided into four sections, including this introduction. The subsequent chapters are as follows:

- **Chapter 2: Baseline Conditions** – Details the existing transport conditions prevailing at the site and on the adjacent A5080 Bowring Park Road;
- **Chapter 3: Development Proposals and Trip Generation** – Describes the proposed development layout including the access / egress arrangements and parking proposals, and sets out the trip generation assessment; and
- **Chapter 4: Summary and Conclusion** – Summarises and concludes the TS.

2 Baseline Conditions

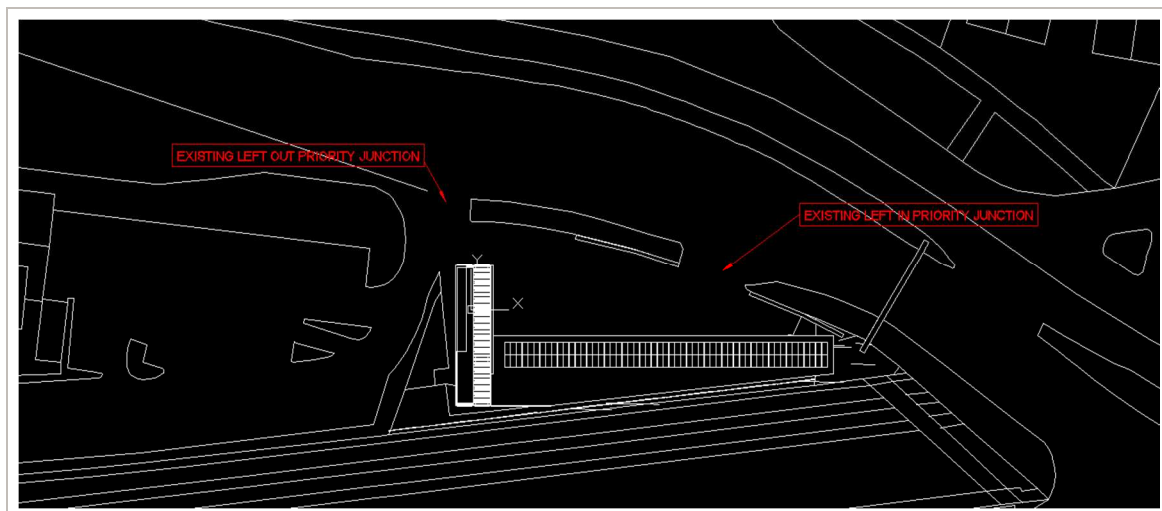
INTRODUCTION

- 2.1 The purpose of this section is to provide an overview of the existing transport infrastructure surrounding the site. It includes a description of the surrounding highway network, a review of injury accident history on the A5080 in the vicinity of the site and an overview of access by sustainable modes. The proposal site is located on the A5080 Bowring Park Road between its junction with the A5058 Queens Drive to the west and the end of the M62 to the east (Junction 4), and is bound by a railway line to the south, the Rocket Public House to the west and the A5080 to the east and north.

LOCAL HIGHWAY NETWORK AND ACCESS BY CAR

- 2.2 The site will be accessed via the A5080 Bowring Park Road, which runs east-west past the proposed development to the north and is one of the main arterial routes into Liverpool from the east via the M62. The road comprises of at least three lanes in each direction past the site and is subject to a 40mph speed limit. The A5080 east and westbound carriageways are separated by a central reservation and the proposed development will be accessed from the westbound carriageway, which is the inbound direction into Liverpool from the M62.
- 2.3 The site is served by a left in / left out priority junction arrangement, and under the proposals the existing access and egress junctions will be retained in their current form. The left in and left out junctions are located at the eastern and western ends of the site respectively as illustrated in **Figure 2.1**, and the existing junction layouts are shown in the photographs overleaf. The left out junction for the development site also provides access to the Rocket Public House.

Figure 2.1 Existing Access Arrangements

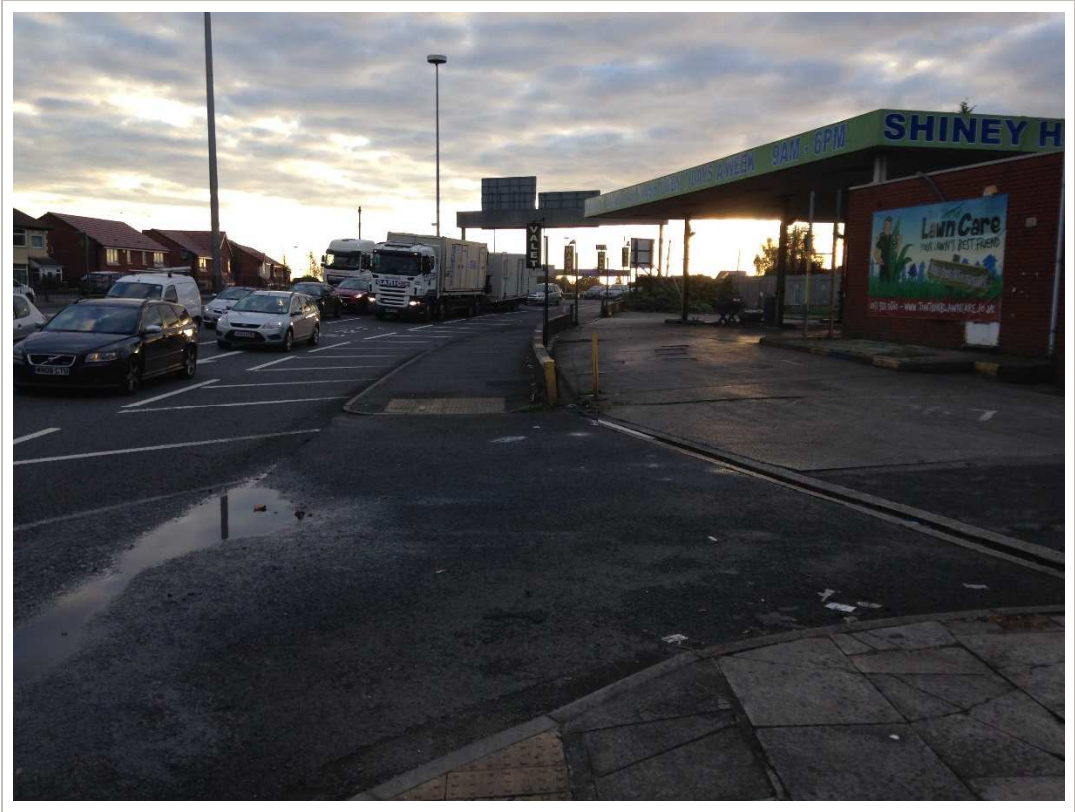


- 2.4 On the approach to the site from the east the A5080 westbound carriageway is three lanes and in advance of the left in access junction there is an on-slip road associated with the residential areas to the south and east. The horizontal alignment of the A5080 forms a bend in the road immediately before the site, and as it passes the site the carriageway layout changes from three lanes to four. The left in junction comprises of a small left turn taper. There is white line hatching in the nearside lane between the access and egress junctions that serve the site, which assists with vehicles exiting the site safely onto the A5080. Once past the site the A5080 splits into six lanes on the approach to the grade separated signal controlled junction with the A5058 to the west.

Figure 2.2 Existing Left In Junction at the Site



Figure 2.3 Existing Left Out Junction at the Site



ACCIDENT DATA

- 2.5 Injury accident records for the most recent five year period have been obtained from the Crashmap website. JMP has assessed the accident records for the A5080 in the vicinity of the site to reveal any accident patterns that may indicate problems relating to local highway conditions and the existing access arrangements. A summary of the data is provided in **Table 2.1** and a plan of accident locations is shown below. The full accident reports can be seen at **Appendix B**.

Figure 2.4 Accident Locations (2011 - 2015)



Source crashmap.co.uk

Table 2.1 Accidents on the Local Highway Network (2011 - 2015)

Injury Accidents	2011	2012	2013	2014	2015	Total
Fatal	0	0	0	0	0	0
Serious	0	0	0	0	0	0
Slight	1	1	0	1	0	3
Total	1	1	0	1	0	3

- 2.6 As shown in the table above, a total of three accidents have occurred in the vicinity of the site in the five year period from 2011 to 2015, with all of these being slight in nature. Accident reference 201205EE02811

took place in advance of the left in junction that serves the site and involved a car and a good vehicles (over 3.5 tonnes but less than 7.5 tonnes) colliding in the main carriageway. Accident reference 201105EE02828 occurred adjacent to the site but was a result of driver error as a car collided with a bollard / refuge at the side of the carriageway. Accident reference 2014051400243 involved four cars and took place immediately downstream of the left out junction for the site and was a rear end shunt, which is likely to be linked to queuing traffic associated with the signal junction to the west.

- 2.7 Whilst any accident is regrettable, it is considered that an accident rate of three per five year period, i.e. 0.6 per year, demonstrates that there are no existing highway safety issues on the road network surrounding the site, which comprises of a busy three lane carriageway between the M62 and the A5080 / A5058 signal junction. It should also be noted that no accidents have occurred at either of the existing junctions that serve the site. Considering the accident statistics above, it can be concluded that overall the recent accident record does not present grounds for concern in the context of the development proposal.
- 2.8 On the basis of this review, there is no reason to assume that the present situation would significantly worsen as a result of the development proposals and the existing site access and egress junctions have a good safety record.

ACCESS BY SUSTAINABLE TRANSPORT

- 2.9 Given the nature of the development proposals as a service station for electric vehicles, it is considered that access to the site by sustainable modes will only represent a negligible number of trips to / from the site, for example by staff who live in the local area.
- 2.10 In terms of pedestrian access to the proposed development site, there is a footway that runs along the south side of the A5080 carriageway past the site, which links to the residential area to the south and east as well as connecting to the wider footway network to the west via the subway system that exists under the A5080 / A5058 signal junction.
- 2.11 The site is located on a bus route. Department for Transport (DfT) guidance states that for a bus to be a viable option for most people, a bus stop or station must be located within 400m of the site. This criterion is met by the bus stops on the A5080 immediately to the west of the site adjacent to the Rock Public House. The eastbound bus stop is located on the opposite side of the carriageway and is accessible via the footways and subway system under the A5080 / A5058 signal junction. Both bus stops in the vicinity of the site are of a good standard and consist of a shelter and seating.
- 2.12 Broad Green Rail Station is located near the site to the east and is within easy walking distance via the footway route that runs under the A5080 and then alongside the slip road. The station is located approximately 625m to the east (roughly an 8 minute walk assuming an average walking speed of 80m per minute). The services from this station extend the connectivity of the site by providing connections to Liverpool Lime Street, Wigan, Warrington and Manchester.

CONCLUSION

- 2.13 The site is in a good location in terms of access to the local highway network, and its position on a main arterial route into Liverpool will ensure that the potential for attracting electric vehicles is maximised. The existing access and egress junctions operate safely and there is no history of accidents problems in this location. The site is also in an accessible location with good potential for sustainable travel to and from the development for staff.

3 Development Proposals and Trip Generation

INTRODUCTION

- 3.1 This chapter presents the development proposals, access arrangements and internal layout in relation to the micro service station for electric vehicle drivers. This section of the TS also provides a summary of the trip generation assessment.

DEVELOPMENT PROPOSALS

- 3.2 The proposals seek to provide a micro service station for electric vehicle drivers on the A5080 Bowring Park Road. The proposal site is located on the south side of the A5080 Bowring Park Road between its junction with the A5058 Queens Drive to the west and the end of the M62 to the east (Junction 4). The service station will include waiting facilities, such as a coffee shop, in addition to a series of charging points with parking bays that will be located under a canopy.

ACCESS ARRANGEMENTS

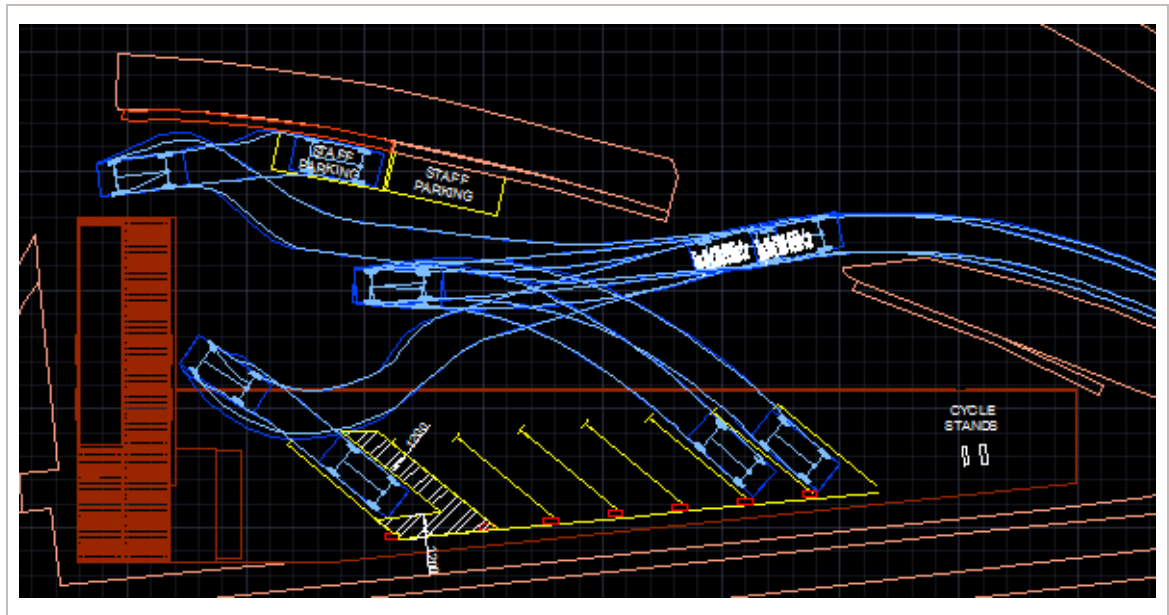
- 3.3 Vehicular access to the service station will be from the A5080 westbound carriageway from the M62 towards Liverpool. The existing site is served by a left in / left out priority junction arrangement, and under the proposals the existing access and egress junctions will be retained. As set out in the previous chapter, the existing access and egress junctions operate safely and there is no history of accidents problems in this location, and as a result it is considered that the current junction layouts are acceptable.

INTERNAL LAYOUT

- 3.4 Detailed plans showing the proposed site layout have been included in **Appendix C**, and these illustrate the layout and the scale of the service station.
- 3.5 The proposals consist of a building at the western end of the site which contains a waiting area for driver and facilities including a coffee shop. The parking bays and associated charging points are located under a canopy that runs along the southern boundary of the site. It is proposed to provide up to seven electric vehicle charging points including one disabled bay closest to the building, and the proposed layout of these is illustrated in **Figure 3.1**.
- 3.6 The parking spaces are proposed to be echelon bays which are positioned at a 45 degree angle westwards. The dimensions of the six standard parking bays are 2.4m wide and 4.8m long, and the disabled bay is 3.6m wide and 6m long which includes 1.2m access zones to the rear and along the driver side (designed for a car reversing into the parking space). The proposed positioning of the spaces is to ensure that the reversing manoeuvres to access the bays take place clear of the inbound junction bell mouth, so that a vehicle can wait off the carriageway if it arrives at the site and a vehicle is in the process of reversing into a space. In addition, the proposed site layout includes two parallel car parking spaces for staff that are 2m wide and 6m long, and these are located along the northern edge of the site between the access and egress junctions. The scheme also includes the provision of two cycle parking standards (four spaces) for staff use that are located under the canopy to the east of the seven parking bays with charging points. As the 'Sui Generis' nature of the development proposal for a micro electric vehicle service station does not fall within any established use class, it is not considered applicable to apply the LCC parking standards to inform (staff) parking provision. As a result, the proposed car and cycle parking provision for staff is based on predicted operational requirements.

- 3.7 Areas have been allocated for general waste and recycling to the rear of the main building on the site, but for ease of access servicing will take place using the main forecourt. Bins will be taken the short distance from the rear of the building to the forecourt on the relevant collection days. It is expected that there will be no more than one collection per week. Given the former use of the site as a PFS, it is reasonable to assume that a refuse vehicle will be able to access the left in / left out priority junctions as a petrol tanker would have previously served the site, which would be a similar size to a refuse vehicle or larger.

Figure 3.1 Proposed Swept Path Analysis and Layout of the Parking Bays



TRIP GENERATION

Extant Use

- 3.8 As set out in the introduction, the site was formerly a PFS, and now operates as a car wash and valeting centre. The old PFS infrastructure is still in place at the site such as the canopy on the forecourt and the shop. From the layout of the forecourt and the canopy it is possible to identify that when the PFS was operational it had eight pumps.
- 3.9 Accordingly, trip generation figures for a standalone PFS have been derived from the TRICS database (version 7.3.3). The TRICS database was interrogated to determine the trip rates for the weekday morning (08:00-09:00) and evening (17:00-18:00) peaks. In order to obtain appropriate trip rates, sites within London, Northern Ireland and the Republic of Ireland have been discounted.
- 3.10 The results of this TRICS interrogation are shown within **Table 3.1**, whilst the TRICS outputs for the extant planning permission are presented within **Appendix D**.

Table 3.1 Trip Generation – Extant PFS Use

	AM Peak (08:00 – 09:00)		PM Peak (17:00 – 18:00)	
	Arrivals	Departures	Arrivals	Departures
Trip Rate Per Pump	6.65	6.73	7.16	7.28
Trip Generation (8 Pump PFS)	53	54	57	58
Two-Way Trips	107		115	

- 3.11 As shown in the table above, the results indicate that the extant PFS use at the site would have been expected to generate 107 and 115 two-way trips during the weekday morning and evening peak periods respectively.

Proposed Development

- 3.12 JMP has undertaken a trip generation exercise to predict the number of trips associated with the development proposals, which is based on a first principles approach. As set out earlier in this chapter, it is proposed to provide up to seven electric vehicle charging points as part of the service station. It is understood that the Tesla Super Charger Model charging points take up to 30 minutes to charge a car, and this specification has been used as the basis for determining the predicted vehicle trip generation of the proposed development site. It is assumed that if the service station was operating at full capacity, then each bay could accommodate two vehicles per hour (although this is considered a robust assessment as there will be some dead time incurred such as when drivers walk from the building to the car and have to disconnect the charging equipment).
- 3.13 The results of this trip generation assumptions for the electric vehicle service station are shown within **Table 3.2**.

Table 3.2 Trip Generation – Proposed Electric Vehicle Service Station Use

	AM Peak (08:00 – 09:00)		PM Peak (17:00 – 18:00)	
	Arrivals	Departures	Arrivals	Departures
Trip Rate Per Charging Point	2	2	2	2
Trip Generation (7 Charging Point Service Station)	14	14	14	14
Two-Way Trips	28		28	

- 3.14 As shown in the table above, the results indicate that the proposed use at the site would be expected to generate 28 two-way trips during the weekday morning and evening peak periods respectively. This is significantly lower than the vehicle trip generation associated with the extant PFS use at the site. Even if the predicted vehicle trip generation for the proposed use assumes a trip rate per charging point of 3 vehicles (42 two-way trips in each peak hour), this is still a significant reduction in peak hour trip generation compared to the extant PFS use.

SUMMARY

- 3.15 As discussed earlier in this report, there are no existing capacity or safety issues on the road network surrounding the site, and given the low level of trip generation outlined above, it is unlikely that there will be a significant adverse impact on the local highway network as a result of the development proposals.

Furthermore, the extant use of the site has been considered as part of the trip generation exercise and this shows that the former PFS operation at the site would have generated a significantly higher level of vehicle trips during the peak periods compared to the proposed electric vehicle service station.

- 3.16 It is therefore JMP's view that this development proposal should be considered acceptable in traffic impact terms.

4 Conclusion

- 4.1 JMP has been commissioned by Wildstone Estates Ltd to prepare a TS to support a planning application for a micro service station for electric vehicle drivers on the A5080 Bowring Park Road in the Broad Green area of Liverpool.
- 4.2 The proposal site is located on the south side of the A5080 Bowring Park Road between its junction with the A5058 Queens Drive to the west and the end of the M62 to the east (Junction 4). The service station will include waiting facilities, such as a coffee shop, in addition to a series of charging points with parking bays that will be located under a canopy. The proposals include provision of car and cycle parking for staff and the site layout can facilitate access for a refuse vehicle.
- 4.3 Vehicular access to the service station will be from the A5080 westbound carriageway from the M62 towards Liverpool. The existing site is served by a left in / left out priority junction arrangement, and under the proposals the existing access and egress junctions will be retained. The existing junctions that serve the site operate safely and there is no history of accidents problems in this location. The site is also in an accessible location with good potential for sustainable travel to and from the development for staff.
- 4.4 The trip generation assessment estimates that the proposed electric vehicle service station would be expected to generate 28 two-way trips during the weekday morning and evening peak periods respectively. This has been compared with the extant use of the site and it is considered that the former PFS operation at the site would have generated a significantly higher level of vehicle trips during the peak periods compared to the proposed electric vehicle service station.
- 4.5 In conclusion, it can be considered that there are no significant transport reasons why the development proposals should not be granted planning permission.

Appendix A

PRE-APPLICATION CORRESPONDENCE

Phil Tilby

From: Phil Tilby
Sent: 14 October 2016 16:32
To: 'Fraser.Arnett@liverpool.gov.uk'
Subject: Bowring Park Road, Liverpool - Proposed Electric Vehicle Service Station
Attachments: 20160629_Tesla Presentation_UT_V1.pdf

Hi Fraser

I have been given your contact details by Ben Kelly at Wildstone Planning, who I believe has previously been in discussions with you over the proposals for the electric vehicle service station incorporating a digital advertising display at above site.

For your information, JMP Consultants have been appointed as transport advisors on the scheme and I am writing in relation to the transport scope for the planning application.

We are intending to submit a Highway Safety Report to assess the acceptability of the digital advertising display element of the proposal in terms of public safety and driver distraction.

For the electric vehicle service station we are producing a Transport Statement (TS) to address the transport impacts of the proposed scheme and layout, and the TS will seek to demonstrate that the proposals can be safely accommodated without leading to detrimental impacts on the local highway network.

It is proposed to include the following information in the TS report:

- Description of the existing conditions and characteristics of the site.
- Review the accident records in relation to the existing site and the access arrangements.
- Undertake a trip generation exercise comparing the extant uses (PFS and car wash and valeting services) at the site with the proposals in terms of trip generation. We would seek to demonstrate that the proposal site will have less traffic impact compared to the extant uses at the site.
- Consider the suitability of the current access arrangements and the proposed internal layout of the site to ensure that the access / egress from the charging points can operate safely without creating conflicts with the adjacent highway.

I would be grateful if you could review the proposed scope and provide me with any feedback / comments next week if possible?

Also, please could you provide contact details at Liverpool City Council for purchasing highway boundary data?

I look forward to hearing from you soon.

Kind Regards

Phil

Phil Tilby
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Appendix B

ACCIDENT DATA



Crash Date:	Tuesday, April 10, 2012	Time of Crash:	1:30:00 PM	Crash Reference:	201205EE02811
Highest Injury Severity:	Slight	Number of Vehicles:	2	Number of Casualties:	1
Highway Authority:	Liverpool	OS Grid Reference:	340440	390290	
Local Authority:	Liverpool				
Road Number:	A5080	Road Type:	Dual carriageway		
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	50	Junction Control:	Auto traffic signal		
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Multiple junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Goods vehicle over 3.5 tonnes and under 7.5 tonnes mgw	-1	Male	46 - 55	Vehicle proceeding normally along the carriageway, not on a bend	Did not impact	Journey as part of work	None	None
2	Car (excluding private hire)	6	Female	46 - 55	Vehicle proceeding normally along the carriageway, not on a bend	Did not impact	Other	None	None

For more information about the data please visit: <http://www.crashmap.com/home/aboutthedata> and <http://www.crashmap.com/home/definitions>



Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Slight	Driver or rider	Female	46 - 55	Unknown or other	Unknown or other

For more information about the data please visit: <http://www.crashmap.com/home/aboutthedata> and <http://www.crashmap.com/home/definitions>



Crash Date:	Tuesday, April 12, 2011	Time of Crash:	7:15:00 PM	Crash Reference:	201105EE02828
Highest Injury Severity:	Slight	Number of Vehicles:	1	Number of Casualties:	1
Highway Authority:	Liverpool			OS Grid Reference:	340420 390300
Local Authority:	Liverpool				
Road Number:	A5080	Road Type:	Dual carriageway		
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	40	Junction Control:	Not Applicable		
Light Conditions:	Daylight: regardless of presence of streetlights				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				

Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	10	Male	21 - 25	Vehicle proceeding normally along the carriageway, on a left hand bend	Front	Other	Bollard/Refuge	Road sign/Traffic signal

For more information about the data please visit: <http://www.crashmap.com/home/aboutthedata> and <http://www.crashmap.com/home/definitions>



Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
1	1	Slight	Driver or rider	Male	21 - 25	Unknown or other	Unknown or other

For more information about the data please visit: <http://www.crashmap.com/home/aboutthedata> and <http://www.crashmap.com/home/definitions>

Crash Report including Vehicle and Casualty Information



Crash Date:	Monday, November 10, 2014	Time of Crash:	5:00:00 PM	Crash Reference:	2014051400243
Highest Injury Severity:	Slight	Number of Vehicles:	4	Number of Casualties:	5
Highway Authority:	Liverpool			OS Grid Reference:	340355 390329
Local Authority:	Liverpool				
Road Number:	A5080	Road Type:	Dual carriageway		
Weather Description:	Fine without high winds				
Road Surface Description:	Dry				
Speed Limit:	40	Junction Control:	Not Applicable		
Light Conditions:	Darkness: street lights present and lit				
Carriageway Hazards:	None				
Junction Detail:	Not at or within 20 metres of junction				
Junction Pedestrian Crossing:	No physical crossing facility within 50 metres				

For more information about the data please visit: <http://www.crashmap.com/home/aboutthedata> and <http://www.crashmap.com/home/definitions>



Vehicles involved

Vehicle Ref	Vehicle Type	Vehicle Age	Driver Gender	Driver Age Band	Vehicle Manoeuvre	First Point of Impact	Journey Purpose	Hit Object - On Carriageway	Hit Object - Off Carriageway
1	Car (excluding private hire)	10	Male	26 - 35	Vehicle proceeding normally along the carriageway, not on a bend	Front	Other	None	None
2	Car (excluding private hire)	5	Male	26 - 35	Vehicle is slowing down or stopping	Back	Other	None	None
3	Car (excluding private hire)	2	Female	46 - 55	Vehicle is slowing down or stopping	Back	Other	None	None
4	Car (excluding private hire)	5	Female	26 - 35	Vehicle is slowing down or stopping	Back	Other	None	None

Casualties

Vehicle Ref	Casualty Ref	Injury Severity	Casualty Class	Gender	Age Band	Pedestrian Location	Pedestrian Movement
2	1	Slight	Driver or rider	Male	26 - 35	Unknown or other	Unknown or other
3	2	Slight	Driver or rider	Female	46 - 55	Unknown or other	Unknown or other
3	3	Slight	Vehicle or pillion passenger	Male	56 - 65	Unknown or other	Unknown or other
3	4	Slight	Vehicle or pillion passenger	Female	21 - 25	Unknown or other	Unknown or other
3	5	Slight	Vehicle or pillion passenger	Female	66 - 75	Unknown or other	Unknown or other

For more information about the data please visit: <http://www.crashmap.com/home/aboutthedata> and <http://www.crashmap.com/home/definitions>

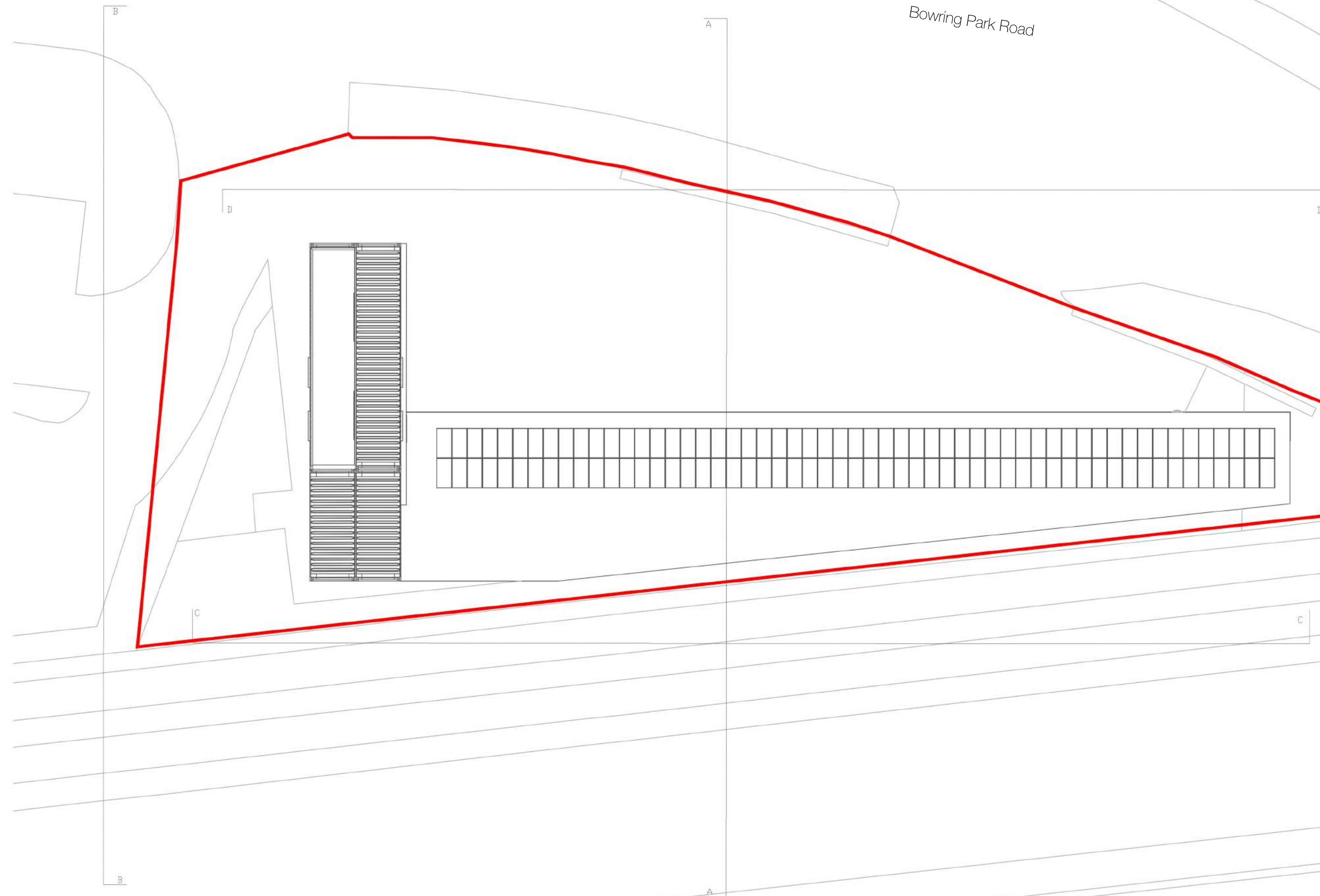
Appendix C

DEVELOPMENT PROPOSALS



WILDSTONE

22 Berghem Mews
Blythe Road
London
W14 0HN
www.wildstone.co.uk
020 7313 9571



Title
Proposed Block Plan

Project
32 Bowring Park Road

Client
Wildstone

Job No.
4955

Issued
20/10/16

Drawn By
UT

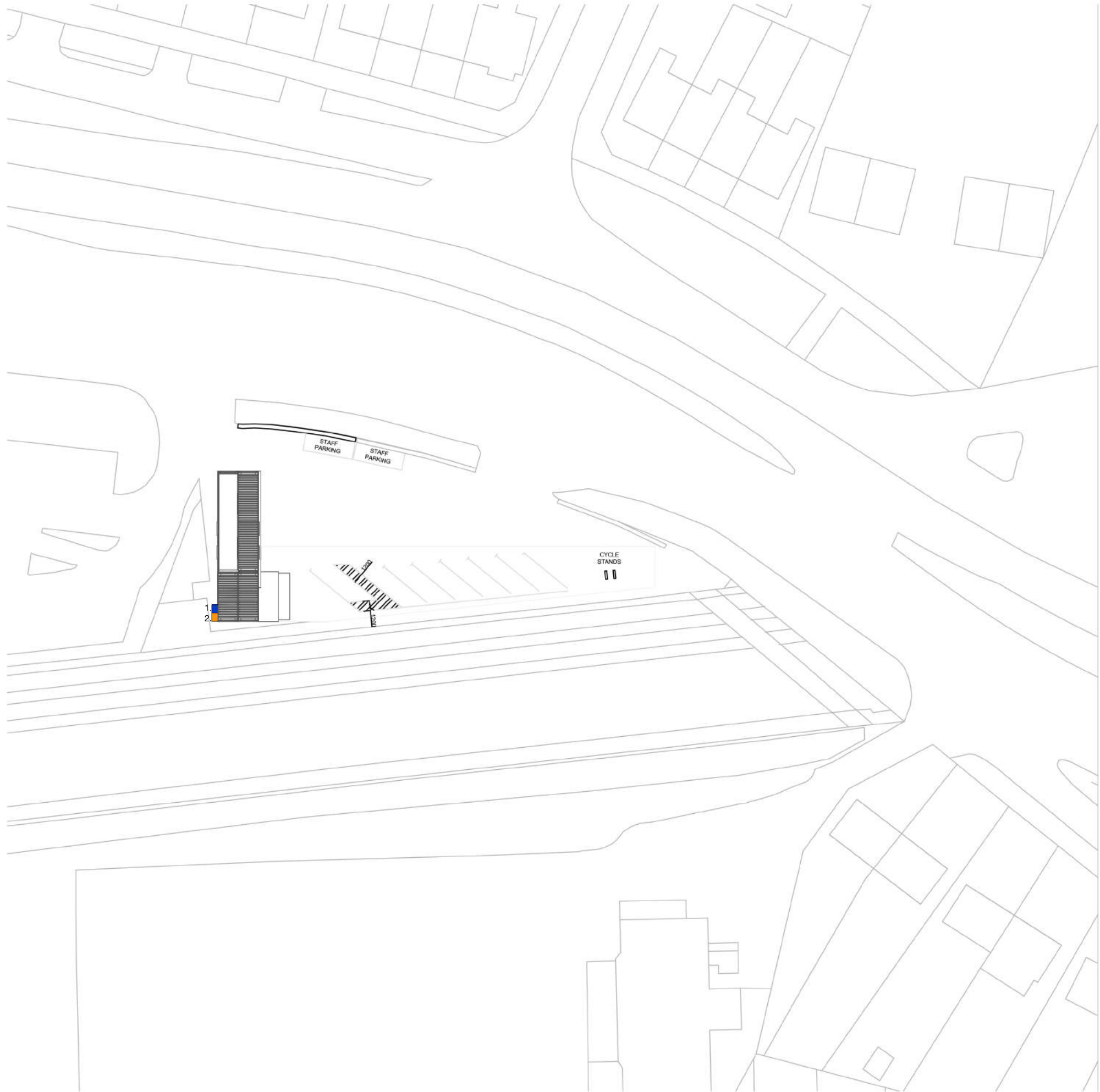
Checked By
CB

Signed By

Scale
1:200 @ A3

Key
— 1. Site Location

All information is to be checked on site for accuracy and fit. Only drawings with WD status with the most recent revision are to be used for construction. Report any discrepancies and omissions to Wildstone



WILDSTONE

22 Berghem Mews
Blythe Road
London
W14 0HN
www.wildstone.co.uk
020 7313 9571

Title
Parking and Servicing Plan

Project
32 Bowring Park Road

Client
Wildstone

Job No.
4955

Issued
20/10/16

Drawn By
UT

Checked By
CB

Signed By

Scale
1:500 @ A3

Key
1. General Waste
2. Recycling

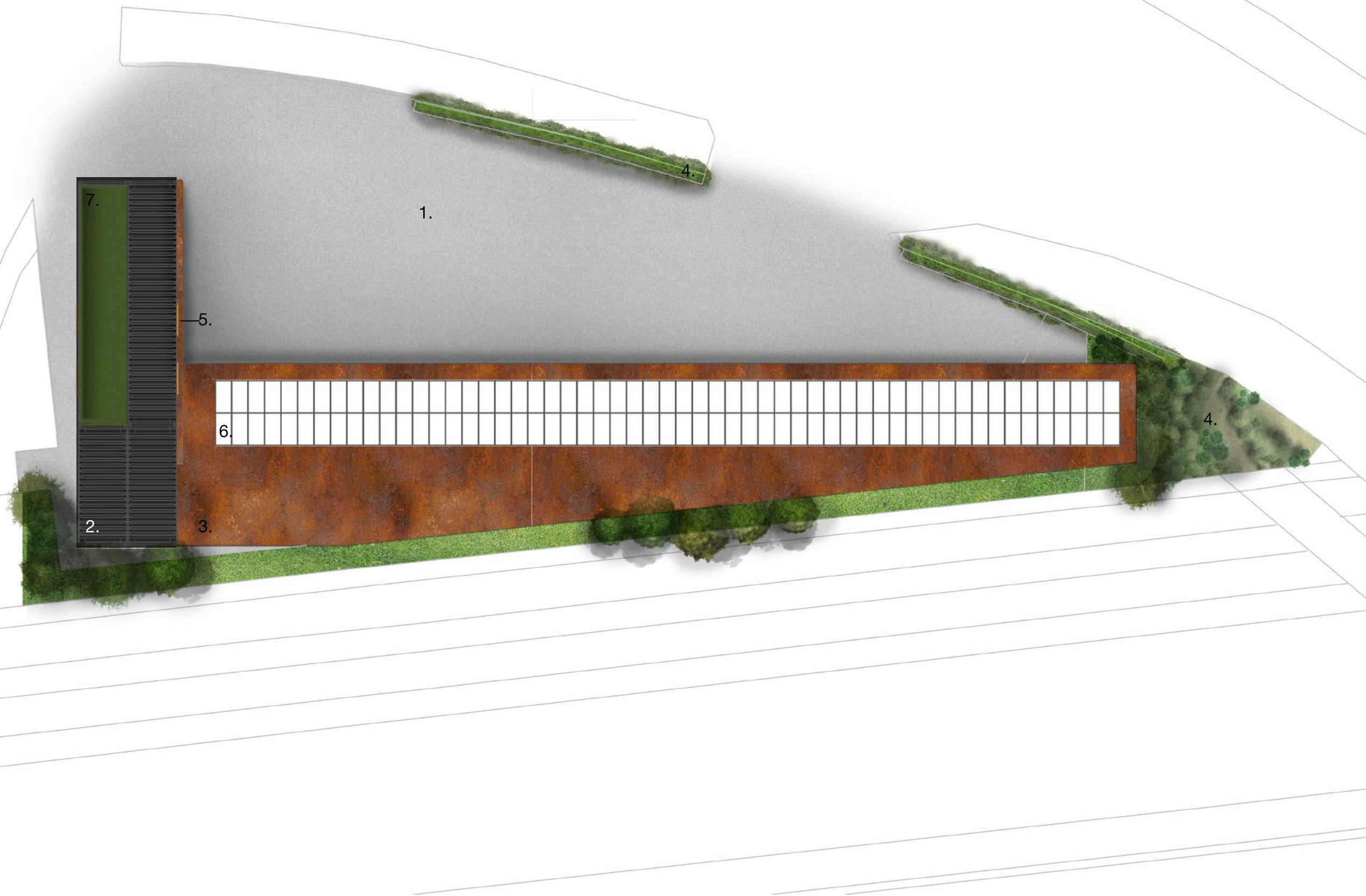
All information is to be checked on site for accuracy and fit. Only drawings with WD status with the most recent revision are to be used for construction. Report any discrepancies and omissions to Wildstone



WILDSTONE

22 Berghem Mews
Blythe Road
London
W14 0HN
www.wildstone.co.uk
020 7313 9571

Bowring Park Road



Title
Materials and Planting Plan

Project
32 Bowring Park Road

Client
Wildstone

Job No.
4955

Issued
20/10/16

Drawn By
UT

Checked By
CB

Signed By

Scale
1:200 @ A3

- Key**
- 1. Tarmac
 - 2. Painted Steel Containers
 - 3. Corten
 - 4. Shrubbery
 - 5. Glass
 - 6. Solar Panels
 - 7. Easy Grass

All information is to be checked on site for accuracy and fit. Only drawings with WD status with the most recent revision are to be used for construction. Report any discrepancies and omissions to Wildstone



WILDSTONE

22 Berghem Mews
Blythe Road
London
W14 0HN
www.wildstone.co.uk
020 7313 9571



A:A Site Elevation



B:B Site Elevation

Title
Materials and Planting Elevations

Project
32 Bowring Park Road

Client
Wildstone

Job No.
4955

Issued
20/10/16

Drawn By
UT

Checked By
CB

Signed By

Scale
NTS @ A3

- Key**
- 1. Tarmac
 - 2. Painted Steel Containers
 - 3. Corten
 - 4. Shruberry
 - 5. Glass
 - 6. Solar Panels

All information is to be checked on site for accuracy and fit. Only drawings with WD status with the most recent revision are to be used for construction. Report any discrepancies and omissions to Wildstone

Appendix D

TRICS OUTPUTS

Calculation Reference: AUDIT-846403-161019-1051

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 13 - PETROL FILLING STATIONS
 Category : A - PETROL FILLING STATIONS
 VEHICLES

Selected regions and areas:

05	EAST MIDLANDS	
	LE LEICESTERSHIRE	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	2 days
08	NORTH WEST	
	LC LANCASHIRE	1 days
09	NORTH	
	NB NORTHUMBERLAND	1 days
11	SCOTLAND	
	EB CITY OF EDINBURGH	1 days

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

Filtering Stage 2 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: Filling bays
 Actual Range: 8 to 11 (units:)
 Range Selected by User: 4 to 12 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/08 to 17/10/14

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	1 days
Tuesday	2 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	6 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)	3
Edge of Town	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	4
Built-Up Zone	1
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, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

Sui Generis 6 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:

5,001 to 10,000	1 days
10,001 to 15,000	1 days
15,001 to 20,000	1 days
25,001 to 50,000	2 days
50,001 to 100,000	1 days

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

Population within 5 miles:

250,001 to 500,000 6 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	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:

No 6 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.

LIST OF SITES relevant to selection parameters

1	EB-13-A-02 SHELL 1 STENHOUSE ROAD			CITY OF EDINBURGH
	EDINBURGH Suburban Area (PPS6 Out of Centre) Residential Zone Total Filling bays:	8		
	Survey date: FRIDAY	06/05/11		Survey Type: MANUAL
2	LC-13-A-01 MURCO VICTORIA ROAD WALTON LE DALE PRESTON Edge of Town Centre Built-Up Zone Total Filling bays:	8		LANCASHIRE
	Survey date: MONDAY	14/05/12		Survey Type: MANUAL
3	LE-13-A-03 TOTAL GLENFIELD ROAD			LEICESTERSHIRE
	LEICESTER Suburban Area (PPS6 Out of Centre) Residential Zone Total Filling bays:	8		
	Survey date: THURSDAY	27/09/12		Survey Type: MANUAL
4	NB-13-A-03 BP BURRADON ROAD ANNITSFORD NEAR CRAMLINGTON Edge of Town Residential Zone Total Filling bays:	11		NORTHUMBERLAND
	Survey date: THURSDAY	22/11/12		Survey Type: MANUAL
5	WM-13-A-03 TOTAL CHESTER ROAD CASTLE BROMWICH BIRMINGHAM Edge of Town Residential Zone Total Filling bays:	8		WEST MIDLANDS
	Survey date: TUESDAY	18/10/11		Survey Type: MANUAL
6	WM-13-A-04 SHELL STATION ROAD STECHFORD BIRMINGHAM Suburban Area (PPS6 Out of Centre) No Sub Category Total Filling bays:	8		WEST MIDLANDS
	Survey date: TUESDAY	23/10/12		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.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
CA-13-A-04	Less accessible
CB-13-A-02	Low accessibility
CP-13-A-01	Low accessibility
DV-13-A-03	Low accessibility
SH-13-A-01	Low accessibility
WS-13-A-02	BN14 8HR

TRIP RATE for Land Use 13 - PETROL FILLING STATIONS/A - PETROL FILLING STATIONS
VEHICLES

Calculation factor: 1 BAYS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. BAYS	Trip Rate	No. Days	Ave. BAYS	Trip Rate	No. Days	Ave. BAYS	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	3	8	3.500	3	8	3.333	3	8	6.833
07:00 - 08:00	6	9	6.098	6	9	5.824	6	9	11.922
08:00 - 09:00	6	9	6.647	6	9	6.725	6	9	13.372
09:00 - 10:00	6	9	6.196	6	9	6.333	6	9	12.529
10:00 - 11:00	6	9	6.588	6	9	6.431	6	9	13.019
11:00 - 12:00	6	9	6.235	6	9	6.510	6	9	12.745
12:00 - 13:00	6	9	6.784	6	9	6.745	6	9	13.529
13:00 - 14:00	6	9	6.333	6	9	6.333	6	9	12.666
14:00 - 15:00	6	9	6.686	6	9	6.490	6	9	13.176
15:00 - 16:00	6	9	7.588	6	9	7.098	6	9	14.686
16:00 - 17:00	6	9	7.235	6	9	7.569	6	9	14.804
17:00 - 18:00	6	9	7.157	6	9	7.275	6	9	14.432
18:00 - 19:00	6	9	6.902	6	9	6.863	6	9	13.765
19:00 - 20:00	5	8	6.725	5	8	6.900	5	8	13.625
20:00 - 21:00	5	8	4.925	5	8	4.900	5	8	9.825
21:00 - 22:00	5	8	3.300	5	8	3.775	5	8	7.075
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			98.899			99.104			198.003

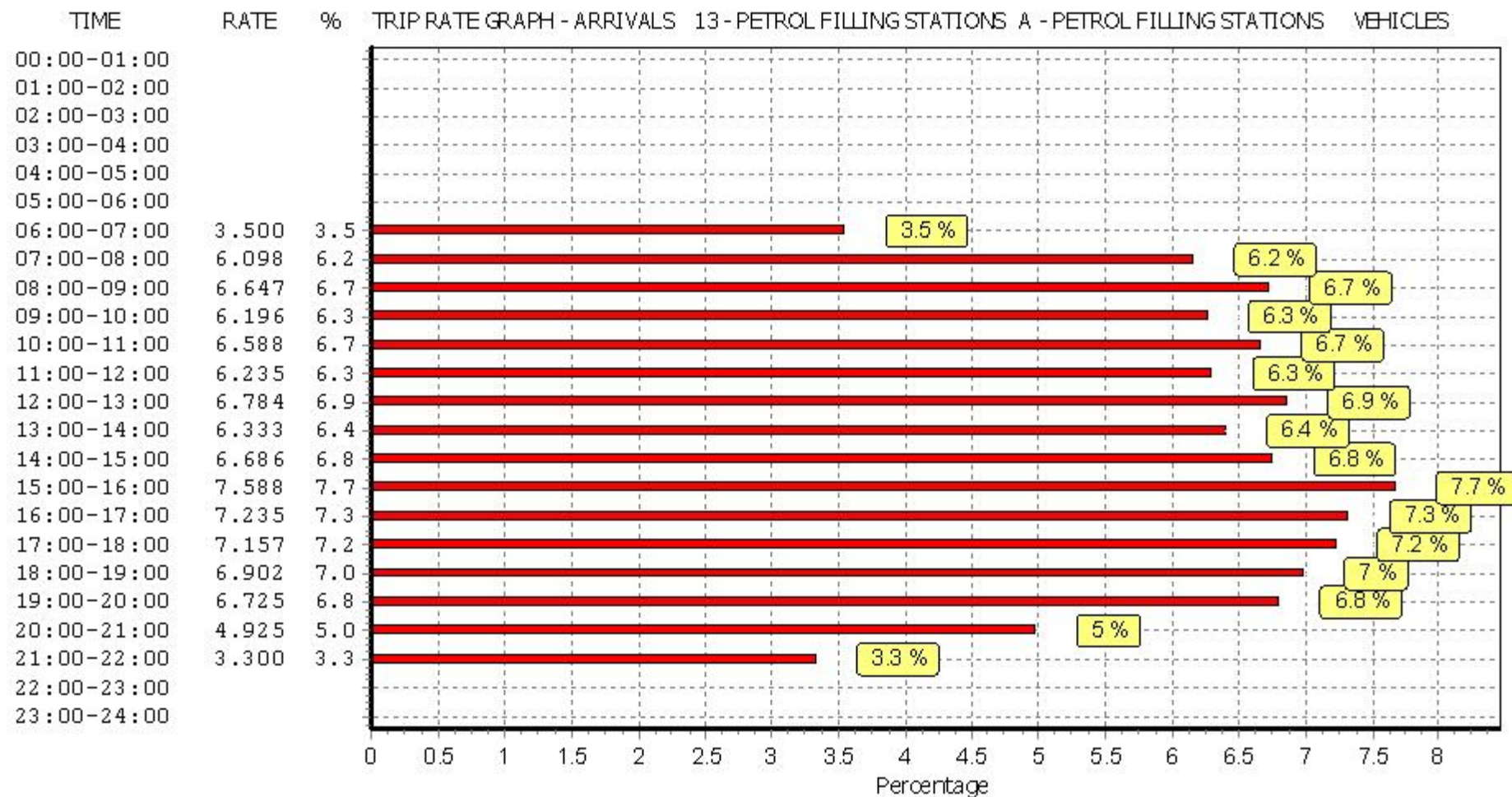
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are 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.

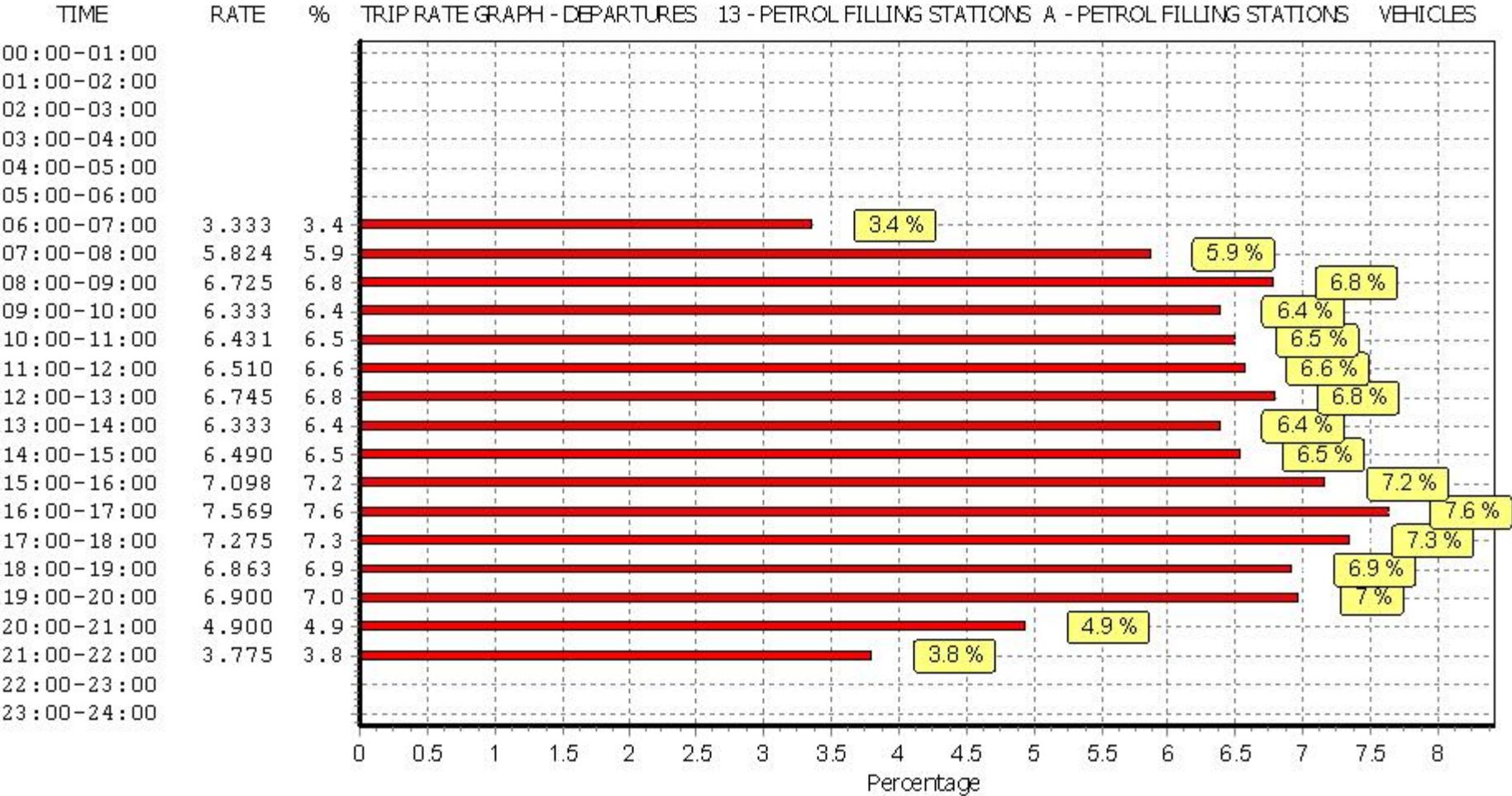
Parameter summary

Trip rate parameter range selected: 8 - 11 (units:)
 Survey date range: 01/01/08 - 17/10/14
 Number of weekdays (Monday-Friday): 6
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 6

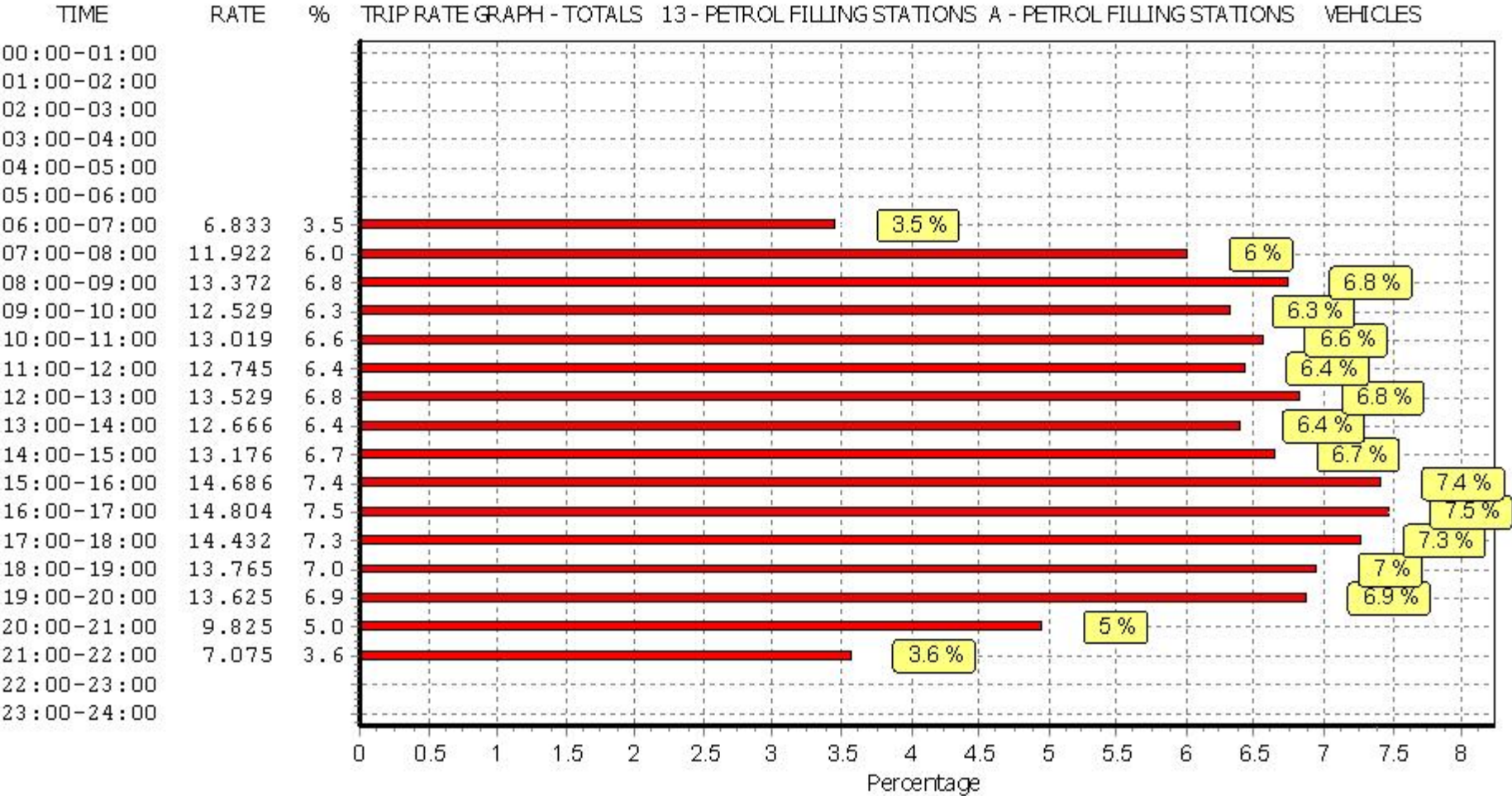
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



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