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Residential Redevelopment of 9 Dwellings and Associated Parking Cockpit Farm, Knowle Lane, Fair Oak

Introduction

This highway technical note has been commissioned by Alderberry Homes Ltd in support of a planning application submission to Eastleigh Borough Council for a residential redevelopment at Cockpit Farm, Knowle Lane, Fair Oak. The location of the site is shown below.



Access to the site is gained via Knowle Lane, an unclassified public highway with the identification number U517. The site forms part of Cockpit Farm which was previously operating as a poultry farm for egg production.

Knowle Lane is a rural access road which links the B3354 Botley Road to the west with the B3037 Mortimer's Lane to the north. In the vicinity of the site the road has two lanes with no pedestrian facilities and no street lighting. The road is subject to a posted speed limit of 30mph.

Planning History

A previous application for a Class R Change of Use was submitted under reference PN/22/92314 which sought a conversion and change of use of part of the agricultural building to an Office.

A further application was also submitted under reference PN/22/92315 for a change of use of the agricultural building to a residential use for 5 dwellings.

Both applications were approved, subject to a number of standard planning conditions.

Proposed Development

This application seeks a residential redevelopment of the site to provide a total of 9 dwellings with associated car parking, to be served from the existing central access point. The details of the proposal are shown on drawing numbered SL01, included as [Appendix 1](#) to this note.

Access and Visibility

Knowle Lane is subject to a 30-mph speed limit and on-site observations have shown that traffic is travelling at or around the posted speed limit. To the south of the site is a bend which limits traffic speeds, indeed a highway sign located on the northern approach advises drivers of a maximum speed of 20mph.

In accordance with the advice contained within Manual for Streets and the HCC document Technical Guidance 3, visibility splays of 2.4m by 43.0m would be required to serve the development.

The site benefits from an existing access where good visibility is available due to the wide highway verge that fronts the site and is demonstrated below.



Drawing numbered NJC-001 is included as [Appendix 2](#) to this note which shows the existing site access together with visibility splays of 2.3m by 43.0m in both the northerly and southerly directions. In reality though, far greater splays are available across the site frontage.

Traffic Impact

In order to determine the likely traffic impact that the proposed dwellings will generate, the TRICS database v7.9.1 has been interrogated. Small, privately owned residential developments of between 6 and 40 dwellings were selected, located in suburban and edge of town areas. The TRICS Data and likely traffic generation is shown below.

TRICS Trip Residential Privately Owned			
	Arrivals	Departures	Two-way Total
AM Peak Hour	0.119	0.350	0.469
PM Peak Hour	0.331	0.144	0.475
Daily Traffic	2.169	2.351	4.520

TRICS Vehicle Trip Generation Based on 9 Units			
AM Peak Hour	1.071 (1)	3.15 (3)	4
PM Peak Hour	2.979 (3)	1.30 (1)	4
Daily Traffic	19.521 (20)	21.159 (22)	42

From the above TRICS data it can be seen that the proposed change of use is likely to generate just 4 traffic movement in the AM and PM peak periods, and an average of 42 daily two-way traffic movements.

Consideration should be given however to the existing lawful use of the site which previously generated large, slow moving agricultural vehicles. Such vehicles will now be replaced with domestic traffic movements.

The TRICS data is included as [Appendix 3](#).

When the previous Class Q and Class R applications were considered, the Highway Technical Note accompanying the application included likely traffic generation data for the proposed 5 residential units together with the 500sqm of Office development which was accepted by the Highway Authority. This data is shown below.

TRICS Vehicle Trip Generation Based on 5 Residential Units and 500sqm of Commercial			
AM Peak Hour	10	2	12
PM Peak Hour	2	20	22
Daily Traffic	56	57	113

It can be seen that when compared to the likely traffic that the two approved schemes would generate, the residential development now proposed would see a significant decrease in traffic as a result.

Car Parking

Car parking standards for residential development can be found within the Residential Parking Standards 2009 Supplementary Planning Document.

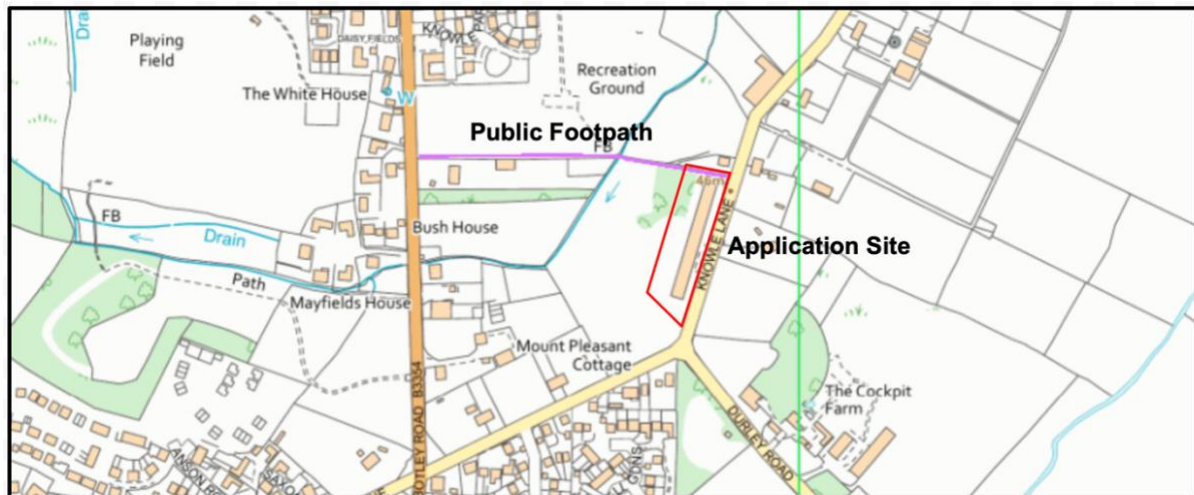
The development comprises of 5 number detached dwellings and two pairs of semi-detached units. In this case the development provides double garages with two forecourt parking spaces for the larger units and single garages with forecourt parking for the smaller units. Plots 5 and 6 have two open parking spaces per unit, and these are shown on the site plan. Secure and undercover cycle parking can be provided within the garages whilst sheds will be located within rear gardens of plots 5 and 6.

Servicing

Day to day servicing is likely to be undertaken by a 7.5T box van, or smaller Transit type vehicles however drawing numbered NJC-002 and NJC-003 are included as [Appendix 4](#) to this note which shows the swept path tracking for an 11.2m long refuse freighter which is the largest vehicle expected to serve the site. The drawings clearly demonstrate that such a vehicle can enter the site from both the northerly and southerly directions, turn within the curtilage and leave in forward gear.

Pedestrian Provision

Despite the previous applications being approved, the Highway Authority were concerned about the lack of dedicated pedestrian facilities on Knowle Lane. This has been acknowledged and the site plan now shows a new pedestrian path at the southern end of the site which passes through the development and then travels west where it connects with Public Footpath 085 which runs between Knowle Lane and Botley Road and is demonstrated below.



Summary and Conclusion

This Highway Technical Note has been produced in support of a planning application for a residential redevelopment at Cockpit Farm, Knowle Lane.

Adequate visibility is available at the site access junction with Knowle Lane, commensurate with the posted speed limit and in accordance with Technical Guidance 3.

If permitted, the site will result in 4 traffic movements in each of the AM and PM peak periods and an increase of 42 traffic movements throughout the day.

Adequate car and cycle parking is being provide in accordance with the EBC current standards.

Adequate provision for the servicing of the site has been made, based on the largest vehicle likely to be generated.

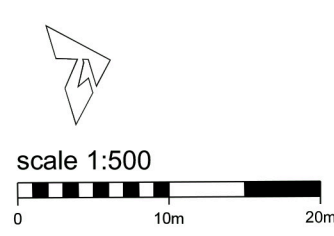
A pedestrian path is to be provided through the site which will link in the existing Public Footpath Network

It is therefore considered that the application would not cause any demonstrable harm to highway safety.

Nick Culhane June 2022

Appendix 1

Site Plan



Note: All new planting is shown indicative Please refer to landscape architects drawings for details

JON DALE ARCHITECT LTD.

Jon Dale RIBA 7 Crestwood View, Eastleigh, Hampshire, SO50 4NF Tel: 07787 575126 E-mail: jondalearchitect@gmail.com

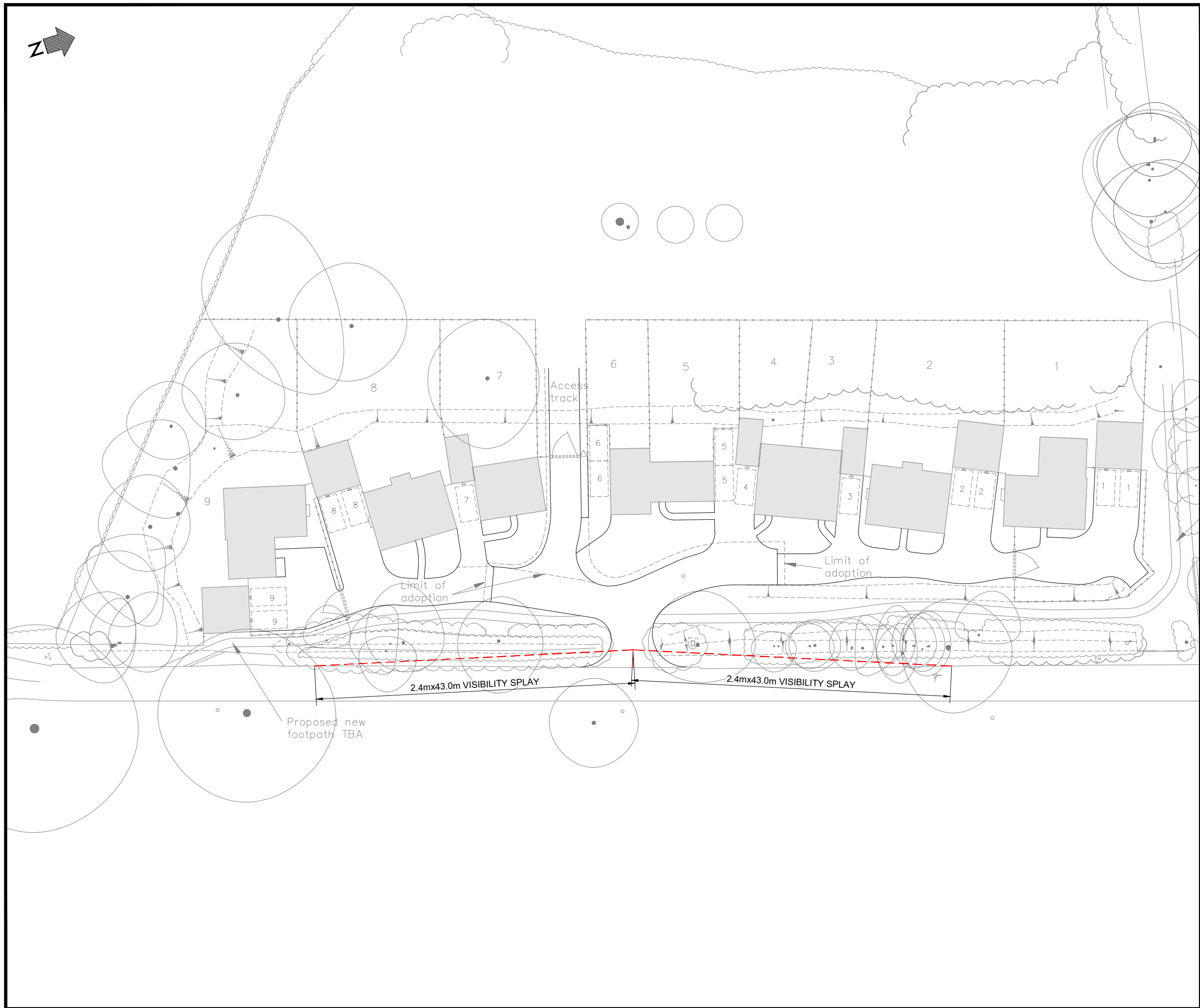
Project
Land Off Knowle Lane
Cockpits Farm
Fair Oak

Title
Site Layout

Scale	Date	Drawn	Checked	Job No.	Drawing. No.	Revision
1:500@A3	Apr '22	RDP	JD	JD_104	SLO1	-

Appendix 2

Access and Visibility



Nick Culhane
Highway Consultant

Project

COCKPIT FARM, KNOWLE LANE

Drawing Title

ACCESS AND VISIBILITY

Drawing Status

FOR INFORMATION

Drawn AT	Designed NC	Date MAY 2022	Scale 1:500	Size A3
Drawing No. NJC-001				Rev -

Appendix 3

TRICS Data Residential

Calculation Reference: AUDIT-405201-211006-1019

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED
 TOTAL VEHICLES

Selected regions and areas:

04	EAST ANGLIA	
	NF NORFOLK	2 days
	SF SUFFOLK	2 days
06	WEST MIDLANDS	
	SH SHROPSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	2 days
08	NORTH WEST	
	CH CHESHIRE	1 days
10	WALES	
	VG VALE OF GLAMORGAN	1 days
11	SCOTLAND	
	AG ANGUS	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: 7 to 40 (units:)
 Range Selected by User: 6 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: 01/11/11 to 04/06/19

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	3 days
Wednesday	5 days
Thursday	1 days

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

Selected survey types:

Manual count	9 days
Directional ATC Count	1 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:

Suburban Area (PPS6 Out of Centre)	3
Edge of Town	7

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	10
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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	10 days
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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 500m Range:

All Surveys Included

Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	1 days
10,001 to 15,000	3 days
15,001 to 20,000	3 days
20,001 to 25,000	1 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	1 days
25,001 to 50,000	3 days
50,001 to 75,000	3 days
75,001 to 100,000	2 days
125,001 to 250,000	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	4 days
1.1 to 1.5	6 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	1 days
No	9 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	10 days
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This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

The 'browse and select' feature in TRICS was used to choose the sites to be included in this selected set. The TRICS user browsed the full list of sites for this land use category and selected directly from this list.

1	AG-03-A-01 KEPTIE ROAD ARBROATH	BUNGALOWS / DET.	ANGUS
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 7 Survey date: TUESDAY 22/05/12		Survey Type: MANUAL
2	CH-03-A-10 MEADOW DRIVE NORTHWICH BARNTON	SEMI-DETACHED & TERRACED	CHESHIRE
	Edge of Town Residential Zone Total No of Dwellings: 40 Survey date: TUESDAY 04/06/19		Survey Type: MANUAL
3	NF-03-A-03 HALING WAY THETFORD	DETACHED HOUSES	NORFOLK
	Edge of Town Residential Zone Total No of Dwellings: 10 Survey date: WEDNESDAY 16/09/15		Survey Type: MANUAL
4	NF-03-A-10 HUNSTANTON ROAD HUNSTANTON	MIXED HOUSES & FLATS	NORFOLK
	Edge of Town Residential Zone Total No of Dwellings: 17 Survey date: WEDNESDAY 12/09/18		Survey Type: DIRECTIONAL ATC COUNT
5	NY-03-A-11 HORSEFAIR BOROUGHBRIDGE	PRIVATE HOUSING	NORTH YORKSHIRE
	Edge of Town Residential Zone Total No of Dwellings: 23 Survey date: WEDNESDAY 18/09/13		Survey Type: MANUAL
6	NY-03-A-13 CATTERICK ROAD CATTERICK GARRISON OLD HOSPITAL COMPOUND	TERRACED HOUSES	NORTH YORKSHIRE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 10 Survey date: WEDNESDAY 10/05/17		Survey Type: MANUAL
7	SF-03-A-04 NORMANSTON DRIVE LOWESTOFT	DETACHED & BUNGALOWS	SUFFOLK
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 7 Survey date: TUESDAY 23/10/12		Survey Type: MANUAL
8	SF-03-A-05 VALE LANE BURY ST EDMUNDS	DETACHED HOUSES	SUFFOLK
	Edge of Town Residential Zone Total No of Dwellings: 18 Survey date: WEDNESDAY 09/09/15		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9	SH-03-A-06 ELLESMERE ROAD SHREWSBURY	BUNGALOWS	SHROPSHIRE
	Edge of Town Residential Zone Total No of Dwellings:	16	
	Survey date: THURSDAY	22/05/14	Survey Type: MANUAL
10	VG-03-A-01 ARTHUR STREET BARRY	SEMI-DETACHED & TERRACED	VALE OF GLAMORGAN
	Edge of Town Residential Zone Total No of Dwellings:	12	
	Survey date: MONDAY	08/05/17	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.

Nick Culhane Highway Consultant Fairclose Drive Winchester

Licence No: 405201

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES 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	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	10	16	0.100	10	16	0.275	10	16	0.375
08:00 - 09:00	10	16	0.119	10	16	0.350	10	16	0.469
09:00 - 10:00	10	16	0.119	10	16	0.231	10	16	0.350
10:00 - 11:00	10	16	0.163	10	16	0.138	10	16	0.301
11:00 - 12:00	10	16	0.119	10	16	0.163	10	16	0.282
12:00 - 13:00	10	16	0.181	10	16	0.175	10	16	0.356
13:00 - 14:00	10	16	0.181	10	16	0.194	10	16	0.375
14:00 - 15:00	10	16	0.156	10	16	0.175	10	16	0.331
15:00 - 16:00	10	16	0.244	10	16	0.212	10	16	0.456
16:00 - 17:00	10	16	0.237	10	16	0.150	10	16	0.387
17:00 - 18:00	10	16	0.331	10	16	0.144	10	16	0.475
18:00 - 19:00	10	16	0.219	10	16	0.144	10	16	0.363
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.169			2.351			4.520

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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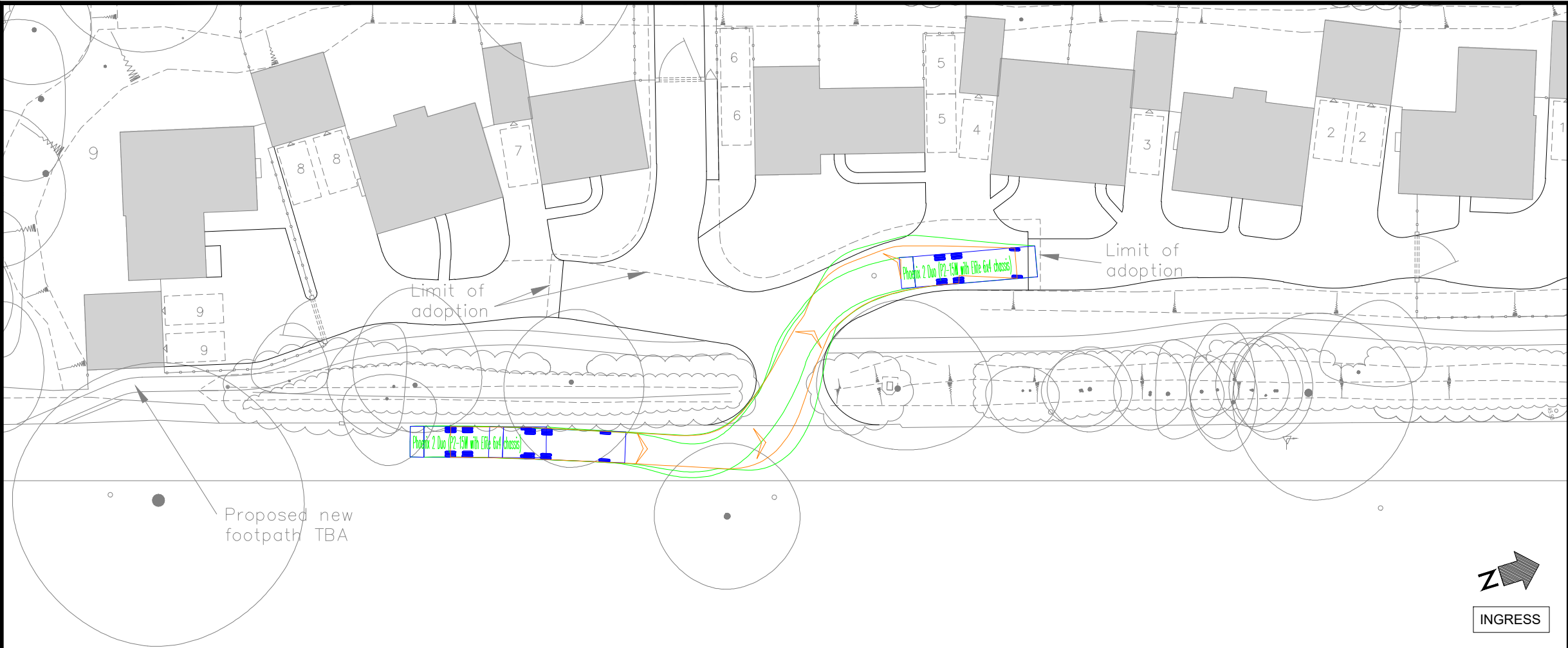
Parameter summary

Trip rate parameter range selected: 7 - 40 (units:)
 Survey date range: 01/11/11 - 04/06/19
 Number of weekdays (Monday-Friday): 10
 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.

Appendix 4

Swept Path Tracking



VEHICLE DETAILS:

**PHOENIX 2 DUO
(P2-15W WITH ELITE 6X4 CHASSIS)**

Overall Length	11.200m
Overall Width	2.530m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	9.500m

Design speed 5kph for all Forward movements
Design speed 2.5kph for all Reverse movements



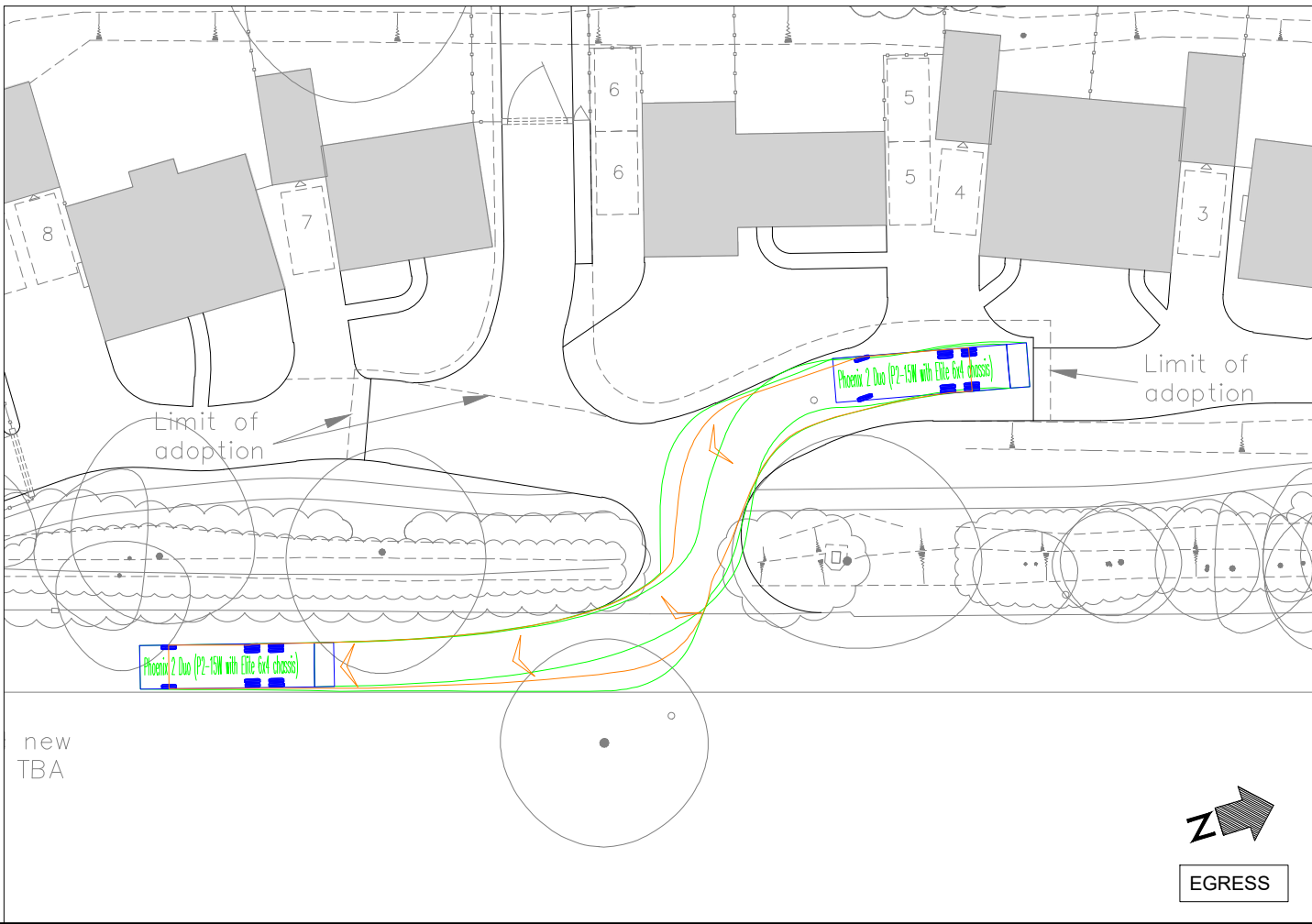
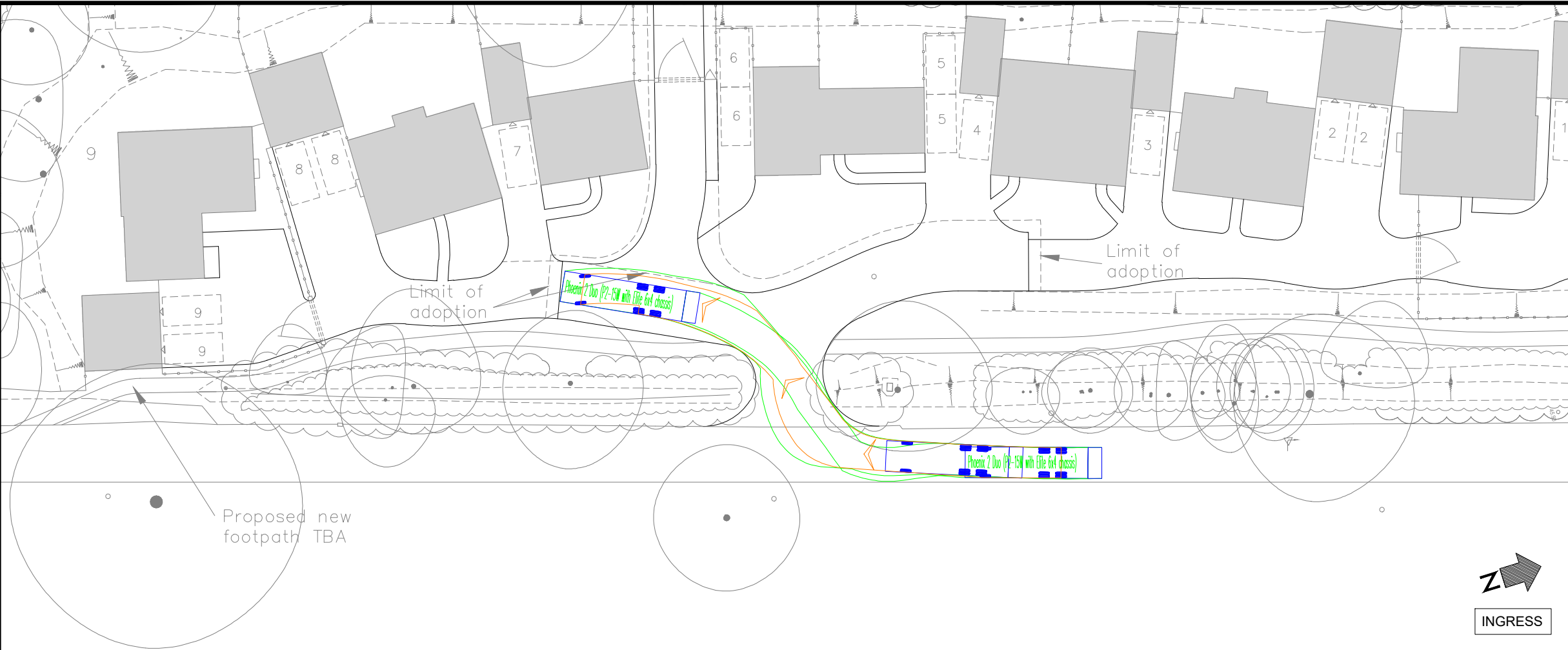
**Nick Culhane
Highway Consultant**

Project
COCKPIT FARM, KNOWLE LANE

Drawing Title
SWEPT PATH TRACKING

Drawing Status
FOR INFORMATION

Drawn AT	Designed NC	Date MAY 2022	Scale 1:400	Size A3
Drawing No. NJC-002				Rev -



VEHICLE DETAILS:

**PHOENIX 2 DUO
(P2-15W WITH ELITE 6X4 CHASSIS)**

Overall Length	11.200m
Overall Width	2.530m
Overall Body Height	3.751m
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Highway Consultant

Project				
COCKPIT FARM, KNOWLE LANE				
Drawing Title				
SWEPT PATH TRACKING				
Drawing Status				
FOR INFORMATION				
Drawn AT	Designed NC	Date MAY 2022	Scale 1:400	Size A3
Drawing No. NJC-003				Rev -