

Highways Technical Note

Introduction

- 1.1 This Technical Note has been prepared in respect of planning applications 21/00489/FUL *'re-opening of former site highway access onto Ellis Ashton Street'* and 21/00682/FUL *'alterations to existing vehicular access points to create a single vehicular access point to car park together with creation of hard standing area for storage / commercial use resulting in the loss of 18 No. car park spaces'*.
- 1.2 This Technical Note presents further information as requested within comments (dated 10/01/2021 and 23/12/2021) received from the Transportation and Traffic Services department of Knowsley Council.

Vehicle Access and Parking Arrangements

- 1.3 The vehicle access arrangements have now been amended to achieve 2.4m x 43m visibility splays and to accommodate vehicle swept paths. **Appendix A** presents drawing FCL0101-01 and **Appendix B** drawing FCL0101-02. The following provides commentary of what has been included and is demonstrated by these drawings.

Drawing FCL0101-01

- ♦ 2.4m x 43m visibility splays for both two-way access junctions.
- ♦ Amended boundary treatment to accord with visibility splays.
- ♦ Widened eastern access (increased radius to right-hand side of the junction) to enable two 16.5m articulated lorries to pass.
- ♦ Vehicle tracking for a 16.5m articulated lorry entering middle access and exiting eastern access.
- ♦ Vehicle tracking for a 3.5t van entering and exiting western access (the largest vehicle that will use this access).
- ♦ Vehicle tracking for an estate car entering and exiting the car park.

Drawing FCL0101-02

- ♦ Vehicle tracking for a 16.5m articulated lorry entering and exiting the eastern vehicle access and each of the new areas of open storage in forward gear.
- 1.4 As demonstrated by the vehicle tracking, all movements are accommodated for the vehicles used, and two vehicles can pass in the proximity of the two two-way access junctions.

- 1.5 The parking area located within the south/eastern section of the site will replace an existing section of overflow parking that has not been utilised for parking for several years. The proposals also include the formalisation of parking arrangements located within the site between the western and middle access junctions.
- 1.6 The site currently generates approximately 25 two-way (50 vehicle trips in total) staff and visitor daily vehicle trips. The parking demand associated with this is accommodated by the car park located between the western and middle access, which it is proposed be formalised and include 36 marked car park spaces.
- 1.7 The replacement area of parking located within the south-eastern section of the site includes 16 parking spaces. This level of parking will accommodate staff and visitor parking associated with the proposed areas of open storage.

Vehicle Trip Generation and Parking Demand

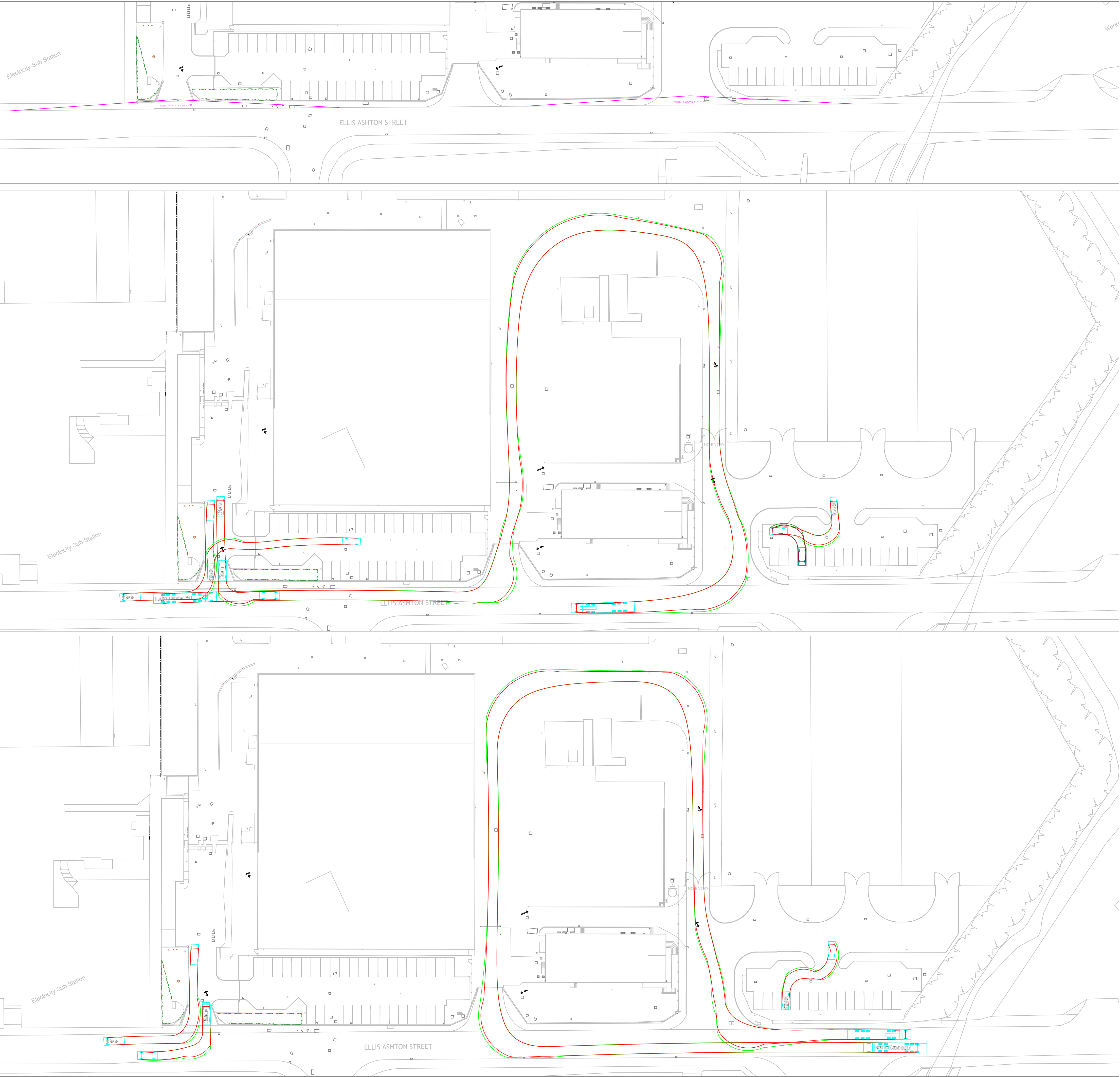
- 1.8 Other than the three proposed areas of open storage, amendments within the site comprise the formalisation of access and parking arrangements only, which will not result in additional vehicle trip generation.
- 1.9 The TRICS category 02 Employment F Warehousing has been used to calculate a vehicle trip generation rate in consideration of the proposed 6,940sqm site area of open storage. The sites included within the calculation incorporate building accommodation, which is used for storage of materials and goods. The trip rate calculation within TRICS is based on floor area of the building rather than site area. Whilst the land use category is considered to be reasonably representative, using it in this instance will inevitably result in an overestimation of vehicle trips as a relatively large proportion of the proposed open storage area will be used for vehicle turning and loading/unloading.
- 1.10 **Appendix C** presents the TRICS output, which includes the site selection criterion. Two sites were omitted from the trip rate calculation as the surveys had been undertaken during pandemic associated restrictions and a third due to it being a more distribution orientated operation. **Table 1** below presents the calculated vehicle trip rates and subsequent number of vehicle trips.

Time Range	ARRIVALS		DEPARTURES		TOTALS	
	Trip	Veh	Trip	Veh	Trip	Veh
	Rate	Trips	Rate	Trips	Rate	Trips
07:00-08:00	0.239	17	0.116	8	0.355	25
08:00-09:00	0.26	18	0.128	9	0.388	27
09:00-10:00	0.236	16	0.12	8	0.356	25
10:00-11:00	0.175	12	0.142	10	0.317	22
11:00-12:00	0.168	12	0.189	13	0.357	25
12:00-13:00	0.158	11	0.123	9	0.281	20
13:00-14:00	0.187	13	0.215	15	0.402	28
14:00-15:00	0.156	11	0.206	14	0.362	25
15:00-16:00	0.125	9	0.203	14	0.328	23
16:00-17:00	0.116	8	0.21	15	0.326	23
17:00-18:00	0.078	5	0.213	15	0.291	20
18:00-19:00	0.052	4	0.156	11	0.208	14
Daily Trip Rates:	1.95	135	2.021	140	3.971	276

Table 1: Vehicle Trips Warehousing (Commercial) – 6,940sqm

- 1.11 As previously identified, it is anticipated that vehicle trip generation will be significantly lower than the figures presented within Figure 1. However, two-way vehicle trips remain below 30 per hour throughout the daily period.
- 1.12 Based on the nature of the open storage use, it is unlikely that a significant number of people will be employed. The formalised parking area of 16 marked car parking spaces will provide 5 or 6 car parking spaces per area, which is considered adequate for likely staff and visitor parking demand. Furthermore, depending on the occupier, parking for commercial vehicles may be accommodated internally. Assuming 50% of arrivals and departures would be commercial vehicles travelling to/from the site then based on the calculated trip generation, the maximum calculated residual accumulation is 15 vehicles.

Appendix A: Drawing FCL101-01



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PRELIMINARY DESIGN - NOT FOR CONSTRUCTION

rev.	amendment	checked	date
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client
Hardwood Sales Limited

project
New Vehicle Access & B8 Storage Accommodation,
Ellis Ashton Street, Huyton

scale 1:500 @A1 drawn by JL checked by -

date MARCH 2022 cad file FCL0101-01.DWG

title
Preliminary Vehicle Access Junction Design &
Vehicle Tracking (16.5m Artic Lorry, Van & Estate Car)

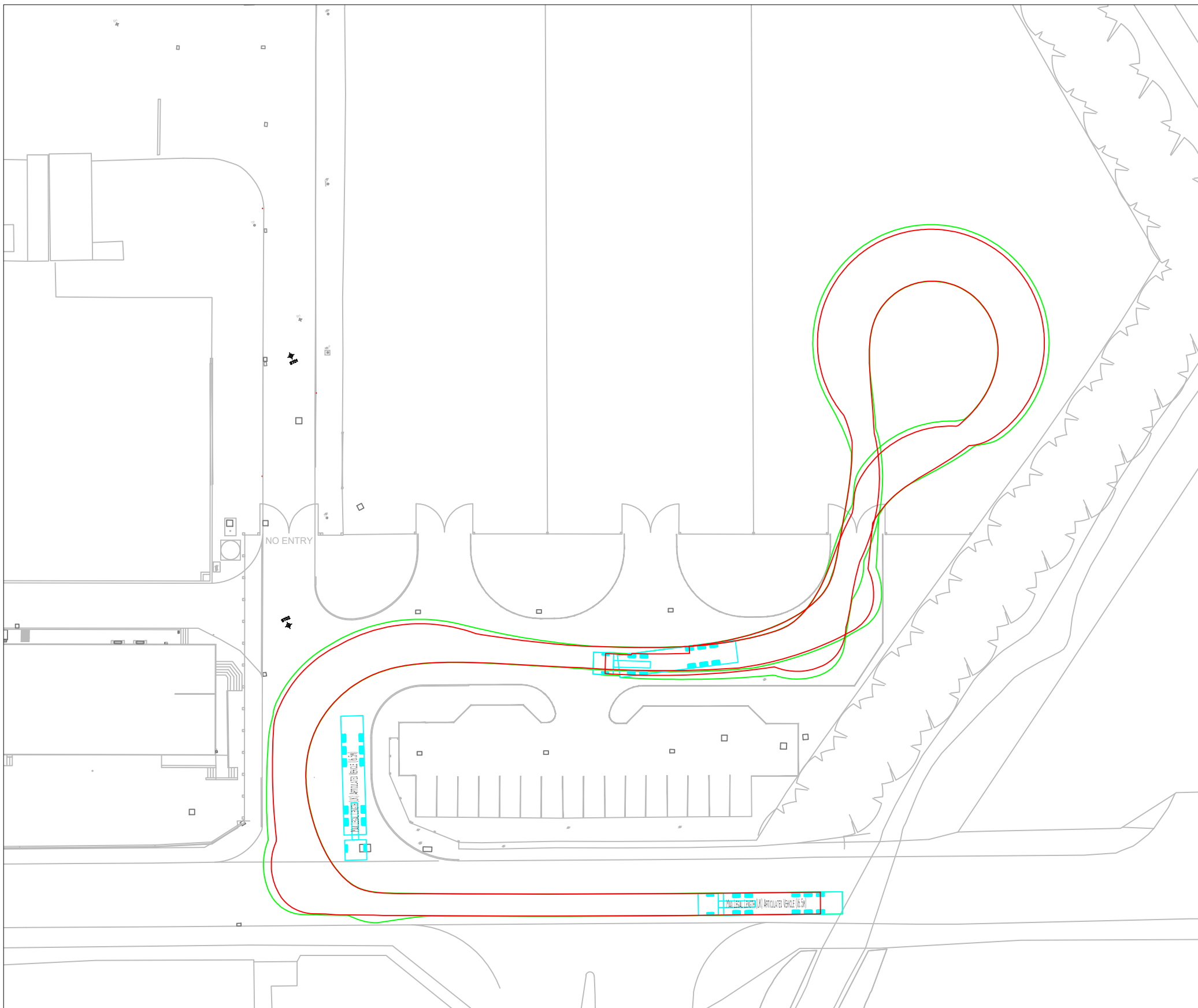
drawing number
FCL0101-01

rev.

Appendix B: Drawing FCL 101-02

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scale 1:500 @A1 drawn by JL checked by -

date MARCH 2022 cad file FCL0101-01.DWG

title
Preliminary Vehicle Access Junction Design
& Vehicle Tracking (16.5m Artic Lorry)

drawing number FCL0101-02 rev.

Appendix C: TRICS Output

Calculation Reference: AUDIT-508501-220325-0317

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
 Category : F - WAREHOUSING (COMMERCIAL)
TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	EX ESSEX	1 days
	HC HAMPSHIRE	1 days
	KC KENT	1 days
04	EAST ANGLIA	
	SF SUFFOLK	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
10	WALES	
	BG BRIDGEND	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: 3050 to 13200 (units: sqm)
 Range Selected by User: 3000 to 15000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 25/11/20

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
Thursday	1 days
Friday	3 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:

Suburban Area (PPS6 Out of Centre)	1
Edge of Town	5

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	4
Commercial 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.

Secondary Filtering selection:

Use Class:

n/a	1 days
B8	5 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®.

Filter by Site Operations Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,000 or Less	1 days
5,001 to 10,000	1 days
10,001 to 15,000	1 days
15,001 to 20,000	1 days
20,001 to 25,000	1 days
25,001 to 50,000	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
75,001 to 100,000	1 days
125,001 to 250,000	3 days
500,001 or More	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	2 days
1.1 to 1.5	4 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
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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	6 days
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This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	BG-02-F-01	LOGISTICS COMPANY	BRIDGEND
	PARC CRESCENT		
	BRIDGEND		
	WATERTON IND. EST.		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	3050 sqm	
	Survey date: MONDAY	13/10/14	Survey Type: MANUAL
2	EX-02-F-01	SPORTS SUPPLEMENTS	ESSEX
	BRUNEL WAY		
	COLCHESTER		
	SEVERALLS INDUSTRIAL PK		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	6560 sqm	
	Survey date: FRIDAY	18/05/18	Survey Type: MANUAL
3	HC-02-F-02	LOGISTICS	HAMPSHIRE
	RUTHERFORD ROAD		
	BASINGSTOKE		
	Suburban Area (PPS6 Out of Centre)		
	Commercial Zone		
	Total Gross floor area:	13200 sqm	
	Survey date: THURSDAY	16/06/16	Survey Type: MANUAL
4	KC-02-F-02	COMMERCIAL WAREHOUSING	KENT
	MILLS ROAD		
	AYLESFORD		
	QUARRY WOOD		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	11200 sqm	
	Survey date: FRIDAY	22/09/17	Survey Type: MANUAL
5	SF-02-F-03	ROAD HAULAGE	SUFFOLK
	CENTRAL AVENUE		
	IPSWICH		
	WARREN HEATH		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	4700 sqm	
	Survey date: FRIDAY	18/09/15	Survey Type: MANUAL
6	WM-02-F-02	LOGISTICS FIRM	WEST MIDLANDS
	SOVEREIGN ROAD		
	BIRMINGHAM		
	KINGS NORTON		
	Edge of Town		
	Commercial Zone		
	Total Gross floor area:	3625 sqm	
	Survey date: MONDAY	09/11/15	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
BD-02-F-02	not representative
NW-02-F-02	not representative
WY-02-F-02	not representative

FLOW CONSULT GIBB STREET BIRMINGHAM

Licence No: 508501

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	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	7056	0.239	6	7056	0.116	6	7056	0.355
08:00 - 09:00	6	7056	0.260	6	7056	0.128	6	7056	0.388
09:00 - 10:00	6	7056	0.236	6	7056	0.120	6	7056	0.356
10:00 - 11:00	6	7056	0.175	6	7056	0.142	6	7056	0.317
11:00 - 12:00	6	7056	0.168	6	7056	0.189	6	7056	0.357
12:00 - 13:00	6	7056	0.158	6	7056	0.123	6	7056	0.281
13:00 - 14:00	6	7056	0.187	6	7056	0.215	6	7056	0.402
14:00 - 15:00	6	7056	0.156	6	7056	0.206	6	7056	0.362
15:00 - 16:00	6	7056	0.125	6	7056	0.203	6	7056	0.328
16:00 - 17:00	6	7056	0.116	6	7056	0.210	6	7056	0.326
17:00 - 18:00	6	7056	0.078	6	7056	0.213	6	7056	0.291
18:00 - 19:00	6	7056	0.052	6	7056	0.156	6	7056	0.208
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.950			2.021			3.971

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:	3050 - 13200 (units: sqm)
Survey date range:	01/01/13 - 25/11/20
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:	3

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.