

Regeneration Of Crouchlands Farm
Whole Farm Scheme

Planning Application Ref: 22/01735/FULEIA

Technical Note

Review of Transport Impacts

Plaistow and Ifold Parish Council

October 2022



1 INTRODUCTION

- 1.1 This technical note considers the transport impacts of the proposed Whole Farm development scheme at Crouchlands Farm. It has been produced following a review of the transportation documents submitted in support of the planning application and independent research.
- 1.2 It is considered that there are a number of areas where insufficient information and analysis has been provided and that some of the underlying assumptions used in the assessment are incorrect, meaning that impacts have been under reported.
- 1.3 This note focusses primarily on the trip generation and traffic distribution assumptions which underpin the applicants Transport Assessment (TA) and the Transport Chapter of the Environmental Impact Assessment (EIA). The Parish Council's concerns regarding other transport matters, including transport sustainability and conflicts with local and national transport policies are set out in other submissions.
- 1.4 Reference is also made to the recent planning application (Ref 22/02346/OUT) for the redevelopment of the former Golf Club site in Foxbridge Lane for leisure facilities including a spa, gym, restaurant and holiday accommodation. This proposal lies within approximately 500m of Crouchlands Farm and will impact the same rural road network but has not been considered within the TA or EIA.

2 TRIP GENERATION

2.1 Trip Generation

- 2.1.1 The TA provides estimates of traffic generation for each of the following elements of the proposed development.
- Rural Enterprise Centre (Office and Light Industry)
 - Rural Food and Retail
 - Equestrian Centre
 - Glamping
- 2.1.2 The refurbishment of the current farming/livestock operation is assumed to fall within the permitted use of the farm and its trip generation has not been considered further in the TA.
- 2.1.3 Trip generation rates for the Rural Enterprise Centre and the Rural Food and Retail Centre have been derived from the TRICS database. Trip rates for the Cookery School, Glamping and Equestrian Centre have been derived from first principles.

Rural Enterprise Centre

- 2.1.4 The TRICS trip rates for the Rural Enterprise Centre have been calculated from a number of 'office' and 'light industry' sites across England, Scotland and Ireland (details are in Appendix K of the TA). A limitation of TRICS is that there is no specific category for rural locations so the rates have been averaged from mainly edge of town industrial zones which are likely to have higher levels of accessibility by walking, cycling and public transport than is the case for Crouchlands Farm. This indicates that vehicle trip generation for the proposed development is likely to be higher than stated in the TA. In addition, the use of 'average' rates means that the actual trip generation from the site could vary significantly from the rates quoted.
- 2.1.5 A further consideration is that the resulting vehicle trip forecasts do not specifically identify service vehicles. Given the multiple separate units and diverse range of end users, the amount of servicing activity is a material consideration, but has not been quantified within the TA.

Farm Shop

- 2.1.6 The selection of TRICS sites for the Farm Shop involved the exclusion of several unsuitable sites whose characteristics were materially different from the application site. A consequence of this is that the selected rates have been averaged from only three sites. This small sample size and the high degree of variability between different farm shops, means that the resulting trip rates should be treated with some caution. As with the rural enterprise centre, the actual trip generation from the farm shop could vary significantly from the rates quoted in the TA.
- 2.1.7 Once again, the amount of service vehicle traffic has not been quantified.

Cookery School

- 2.1.8 Trip generation estimates for the Cookery School have been derived from first principles, based on anticipated staff and visitor numbers. No assessment of servicing or deliveries has been provided and such trips are therefore excluded from the overall trip forecasts for the development.

Glamping

- 2.1.9 Glamping trip generation has been assessed for changeover days plus a small allowance for other ad-hoc journeys in the evening by visitors. There is no allowance for day trips by campers or for staff or maintenance trips. The resultant trip forecasts are therefore considered to be low.

Hardnip's Barn Weddings

- 2.1.10 The use of Hardnip's Barn for weddings and events is discussed in section 8.5 of the TA, with the expectation this would be linked to use of the Glamping rather than a free-standing event venue. As such events are assumed to be 'relatively infrequent', the trips associated with such usage have been discussed in the text but excluded from the combined trip generation analysis within the TA.

- 2.1.11 In the absence of any use restrictions, events such as weddings, birthday parties and other group social activities could be relatively frequent on both weekdays and weekends, during both daytime and evening periods. The exclusion of this element from the overall traffic impact assessment is a significant omission within the TA.
- 2.1.12 With an estimated 15 staff and 100 guests (TA para 8.5.7), parties could generate 130 vehicle movements (based on guests 2 per car and staff 1 per car as assumed in the TA). Potentially there could two or more such events per day (for example, a childrens party and other social group event in the daytime and an adult social gathering in the evening). The exclusion of traffic associated with such events means that the overall traffic forecasts for the development are understated in the TA.

Equestrian Centre

- 2.1.13 Trip generation for differing activities on weekdays and weekends, has been derived from first principles within the TA.
- 2.1.14 Typical weekday use is based on lessons and practice with an estimated 20 vehicle movements per day (10 arrivals and 10 departures). These trips are assumed to be spread evenly across the day from 8am to 6pm.
- 2.1.15 Weekend trip generation forecasts have been based on an 'eventing show'. The Indicative Show Calendar at Table 7-1 of the TA indicates several eventing shows, show jumping events, dressage shows and cross-country events throughout the year. Typically, there are between 1 and 3 events per week between March and October. The calendar also shows multiple 'Arena Hire' and 'External Event' bookings throughout the year but these are not explained or quantified in terms of trip generation.
- 2.1.16 Table 8-10 of the TA shows that eventing shows are expected to generate 400 vehicle movements per day (200 arrivals and 200 departures) of which 160 would be horse boxes or trailers. The table indicates there would be a constant flow of traffic totalling 40 vehicle movements per hour from 8am to 6pm, but in practice it is more likely that the 200 arrivals and 200 departures would be more concentrated around the start and end times for the event, meaning that the hourly traffic totals, during peak arrival and departure periods, could be significantly higher than the claimed 40 vehicle movements per hour.
- 2.1.17 Major events such as Gala Evenings are expected to draw bigger crowds but are expected to be limited to one or two events per year. Based on that assumption, the traffic impacts of such events are not assessed in the TA. The Applicant says they would be controlled by 'event traffic management' but no further details are offered.

Combined Trip Generation

- 2.1.18 The combined traffic forecasts, for all proposed land use, are shown in Tables 8-11 and 8-12 and Appendix J of the TA. These indicates a net increase of 757 (including 29 HGV) vehicle movements per day, with around 80 vehicle movements per hour during peak periods on weekdays. For weekends the equivalent figures are 1084 (including 320 HGV) vehicle movements per day, with 156 vehicle movements per hour during the afternoon peak period.
- 2.1.19 Given the exclusion of Hardnip's Barn traffic in the above forecasts, together with the underestimation of servicing trips and glamping day-trips, plus the concerns about the robustness of the TRICS rates, it is concluded that the combined trip generation estimates used within the TA and EIA are low and do not provide a robust basis for impact assessment.

3 TRAFFIC DISTRIBUTION

3.1 Trip Distribution

- 3.1.1 The Applicant's methodology for traffic distribution and assignment is set out in section 8.9 of the TA. The approach used has been to utilise the turning proportions from the various traffic counts at junctions within the study area.
- 3.1.2 This approach is simplistic and is considered inappropriate in this case as it assumes existing turning proportions at existing junctions will remain constant over time. In practice, the provision of a new major traffic attractor at the site would draw traffic from a wide catchment area and result in changes in traffic patterns.
- 3.1.3 An alternative assessment of traffic distribution has been undertaken using Google route planning software for a range of potential trip origins from areas surrounding the site. Visitors from outside the local area, attending equestrian events, weddings, glamping etc are likely to use similar route navigation aids or satellite navigation systems. The results of this analysis are set out in Appendix 1 of this technical note.
- 3.1.4 The results show that route choice is determined by two main catchment areas. These are identified as Zone 1 to the east of the site, travelling via the B2133, Plaistow Road and Foxbridge Lane; and Zone 2 to the west, travelling from the A3 direction via Plaistow village and Rickman's Lane. There is a small third catchment area, Zone 3, which attracts traffic from the south of the site, travelling through Kirdford village.
- 3.1.5 Based on the geographical extents of the catchment areas and the density of population centres within each zone (as indicated in Appendix 1), it is assessed that 50% of traffic will travel to and from the east, with 40% to the west and 10% to the south.

3.1.6 This contrasts significantly with the Applicant's forecasts which present different values for weekday AM and PM peak hours and Saturday afternoons, varying from 5% to 13% to the east, 35% to 55% to the west and 33% to 60% to the south. [Note that the percentages quoted here are calculated from the two-way development trips shown in the traffic flow diagrams in Appendix E of the TA rather than relying on the percentages for individual turning movements shown in the diagrams.]

4 ASSESSMENT OF TRAFFIC IMPACTS

4.1 Introduction

4.1.1 The underestimation of trip generation and inaccuracies in the traffic distribution assumptions identified above will have implications for the results and conclusions presented in the applicants TA and EIA reports.

4.2 Implications for the TA Results and Conclusions

4.2.1 The TA focusses on peak hour junction capacity assessments at various junctions surrounding the site. These are set out in Chapter 9 of the Applicant's TA.

4.2.2 The junction modelling should be repeated using corrected trip generation and distribution assumptions. This will identify if any junction capacity issues arise and if any mitigation measures are needed.

4.3 Implications for the EIA Results and Conclusions

4.3.1 Similar comments apply to the traffic impact analyses contained in the EIA, which are also based on incorrect trip generation and distribution assumptions.

4.3.2 Of particular concern is the under reporting of traffic increases on Foxbridge Lane which is a narrow country lane but will act as the main traffic route to and from the development (see revised trip distribution analysis above). Once trip generation and distribution corrections are made to the analysis, the impacts on routes east of the site, including Foxbridge Lane will be much greater than reported in the EIA.

Traffic Impact Results as Currently Reported in the EIA

4.3.3 Chapter 8 of the EIA sets out the results of the Applicant's impact assessment. This includes a summary of changes in traffic flows and HGV flows, shown in Table 8-10, for a typical Weekday and Table 8-11, for a typical Saturday. For ease of reference, copies of these tables are reproduced below.

Table 8-10 Link screening (typical weekday)

Link ID	Link description	Link Sensitivity	2027 Baseline Traffic (AADT)		Development Traffic (AADT)		% change	
			All vehicles	Large vehicles	All vehicles	Large vehicles	All vehicles	Large vehicles
1	Rickman's Lane	High	769	9	729	29	95%	328%
2	Foxbridge Lane	Low	826	12	49	2	6%	17%
3	Plaistow Lane (Ifold)	High	3,561	35	106	4	3%	12%
4	Dunsfold (Plaistow) Road	High	3,245	51	239	10	7%	19%
5	Loxwood (Plaistow) Road	High	3,605	55	60	2	2%	4%
6	Plaistow (Kirdford) Road	Low	1,364	30	382	15	28%	51%
7	Village (Kirdford) Road	High	1,358	68	191	8	14%	11%
Links likely to exceed GEART screening thresholds.								

4.3.4 The results show some significant changes in traffic conditions on many parts of the network on weekdays, but relatively minor changes on Foxbridge Lane.

4.3.5 Forecasts for a typical Saturday are shown EIA Table 8-11 and show that impacts are significantly higher at weekends.

Table 8-11 Link screening (typical Saturday)

Link ID	Link description	Link Sensitivity	2027 Baseline Traffic (AADT)		Development Traffic (AADT)		% Impact	
			All vehicles	Large vehicles	All vehicles	Large vehicles	All vehicles	Large vehicles
1	Rickman's Lane	High	769	9	1060	320	138%	3621%
2	Foxbridge Lane	Low	826	12	72	22	9%	188%
3	Plaistow Lane (Ifold)	High	3,561	35	154	46	4%	135%
4	Dunsfold (Plaistow) Road	High	3,245	51	348	105	11%	207%
5	Loxwood (Plaistow) Road	High	3,605	55	87	26	2%	48%
6	Plaistow (Kirdford) Road	Low	1,364	30	556	168	41%	560%
7	Village (Kirdford) Road	High	1,358	68	278	84	20%	124%
Links likely to exceed GEART screening thresholds.								

4.3.6 During subsequent analysis in Chapter 8 of the EIA, the Applicant goes on to assess the significance of these changes as either 'Negligible' or 'Minor'. This conclusion is not accepted.

4.3.7 The baseline traffic flows used in the above tables are expressed as AADT (Annual Average Daily Traffic). This means that the baseline traffic flows for weekdays and weekends are identical in both tables. This will not be the case in practice as weekend flows are lower than weekdays.

4.3.8 A revised analysis of traffic impacts, using corrected traffic distribution assumptions and taking account of Saturday and Sunday baseline traffic flows is set out below.

Traffic Impact Results Based on Revised Trip Distribution Analysis

- 4.3.9 As set out in Section 3, it is conservatively estimated that at least 60% of the traffic generated by the development will travel to the east and south of the site via Rickman’s Lane (East) with 50% using Foxbridge Lane. The impacts of this revised distribution are assessed below.
- 4.3.10 Note that for the purposes of this exercise, the Applicant’s trip generation forecasts have been adopted without adjustment, notwithstanding the concerns set out in Section 2 about the omission of certain trips and underestimation of others.
- 4.3.11 In place of the Applicant’s AADT traffic flows, the following weekday and weekend baseline traffic flows are considered more relevant for environmental impact assessment.

Table 1 – Baseline Traffic Flows

Day	Rickman's Lane				Foxbridge Lane			
	Existing 2018		Future Base 2027		Existing 2018		Future Base 2027	
	All Veh	HGV	All Veh	HGV	All Veh	HGV	All Veh	HGV
Mon	763	6	788	6	804	8	831	8
Tue	782	13	808	13	931	10	962	10
Wed	773	14	799	14	847	21	875	22
Thur	759	11	784	11	784	20	810	21
Fri	810	10	837	10	888	10	917	10
Weekday Average	777	11	803	11	851	14	879	14
7 Day Average	721	9	745	9	775	10	800	11
Sat	617	4	637	4	585	3	604	3
Sun	546	2	564	2	583	1	602	1

(Source: June 2018 ATC data from TA)

- 4.3.12 The 2018 flows have been extracted from the Appellant’s ATC data for Rickman’s Lane and Foxbridge Lane. These have been factored to 2027 using the growth factor of 1.0331 as set out in Section 8.6.6 of the Appellant’s EIA.
- 4.3.13 Using the above baseline flows, the Appellant’s trip generation forecasts and the revised traffic distribution assumptions in Section 3, the following traffic impacts have been established.

Table 2 – Traffic Impacts Rickman’s Lane

Day	2027 Base		Development		% Change	
	All Veh	HGV	All Veh	HGV	All Veh	HGV
Weekday	803	11	454	18	57%	161%
Saturday	637	4	650	192	102%	4647%
Sunday	564	2	650	192	115%	9293%

Table 3 – Traffic Impacts Foxbridge Lane

Day	2027 Base		Development		% Change	
	All Veh	HGV	All Veh	HGV	All Veh	HGV
Weekday	879	14	379	15	43%	105%
Saturday	604	3	542	160	90%	5163%
Sunday	602	1	542	160	90%	15489%

4.3.14 As equestrian events typically take place on either a Saturday or a Sunday (sometimes both), the Applicants Saturday trip generation forecasts have been used for both days.

4.3.15 Based on the above traffic increases and using the ‘magnitude’ and ‘significance’ criteria as set out in the Applicant’s EIA, the following environmental impacts are calculated.

Rickman’s Lane

4.3.16 The daily traffic increases on Rickman’s Lane (all vehicles) range from 57% on weekdays to more than 100% at weekends. Within the EIA, when considering ‘severance’ effects, changes between 30-60% are deemed to be ‘low’ magnitude with changes above 90% deemed ‘high’. Rickman’s Lane is categorised as ‘high sensitivity’, meaning that the overall impact is ‘Moderate’ on weekdays and ‘Major’ at weekends. The EIA seeks to downgrade the overall impact to ‘Minor’ on the grounds that flows are spread out across several hours – that analysis is not accepted.

4.3.17 The approach adopted in the EIA excludes the impacts of HGV’s when considering severance effects but such vehicles have a disproportionate adverse impact where background levels are relatively low and the net changes are high, as in this case. Given the very substantial increases in HGV’s, particularly at weekends (4,647% to 9,293%), it is considered the overall severance impacts on Rickman’s Lane would be ‘Major’.

4.3.18 When considering ‘pedestrian and cycle amenity’ the EIA considers changes in traffic flows below 100% to be ‘very low’ but sets no other ‘magnitude’ criteria for higher levels of change, opting instead to argue that horse boxes are synonymous with rural areas with the conclusion that pedestrian and cycle amenity impacts will be ‘Minor’ – again that analysis is not accepted.

4.3.19 As noted above, the increases in HGV numbers are very substantial and will have a very noticeable impact on pedestrians, cyclists and horse riders using Rickman’s Lane, particularly due to the absence of footways. Close proximity to large vehicles, whether horse boxes or other HGV’s is intimidating to vulnerable road users and creates a sense of danger. In view of this and the very large increases in HGVs, it is considered there will be a ‘Major’ adverse impact in terms of pedestrian and cycle amenity.

Foxbridge Lane

- 4.3.20 The daily traffic increases on Foxbridge Lane (all vehicles) range from 43% to 90% indicating a 'low' to 'moderate' magnitude of change. Within the EIA Foxbridge Lane is categorised incorrectly as 'low' sensitivity'. The presence of and frequent use of the Scout Hut, the regular use of the lane by walkers and riders and the absence of footways makes it a 'high sensitivity' location. This would imply a 'Moderate' to 'Major' impact in terms of severance effects based on the EIA criteria, if HGV's are ignored.
- 4.3.21 However, as noted above in relation to Rickman's Lane, the presence of HGV's is a material consideration and given the very substantial increases in HGV flows, particularly at weekends (5,163% to 15,489%), it is considered the overall severance impacts on Foxbridge Lane would be 'Major'.
- 4.3.22 With regard to 'pedestrian and cycle amenity', again the impact of HGV's is a material consideration due to the disproportionate effect such vehicles have on the perception of fear and intimidation for non-motorised road users. Given the very high increases in HGVs, it is considered there will be a 'Major' adverse impact in terms of pedestrian and cycle amenity in Foxbridge Lane. The same impacts would apply to recreational the horse riders and horse drawn carriages which frequent the lane.
- 4.3.23 A further consideration is the ability of vehicles to pass one another on narrow lanes like Foxbridge Lane and to negotiate junctions. This is particularly relevant to horseboxes and other large vehicles. Historically this has led to verge erosion and damage to the carriageway edges making conditions for pedestrians and riders even more challenging. Previous experience associated with the unauthorised Biogas plant highlighted the difficulty of passing, with one lorry driving into the ditch and vehicles regularly needing to reverse to make space.
- 4.3.24 It is also noted that large vehicles using the junctions at either end of Foxbridge Lane need to cross into opposing traffic lanes when turning. In addition to the adverse impacts this creates for the amenity of pedestrians, cyclists and horse riders, these issues also represent an increased risk to the safety of other all highway users.

5 FORMER GOLF CLUB SITE FOXBRIDGE LANE

- 5.1 The proposed redevelopment of the former Golf Club site in Foxbridge Lane is currently under consideration following the submission of a planning application to Chichester District Council (Ref 22/02346/OUT).
- 5.2 The proposals comprise a 60 acre leisure development including the following facilities.
- 121 Holiday Units
 - Health Spa with Gym, Swimming Pool and 50 bed accommodation

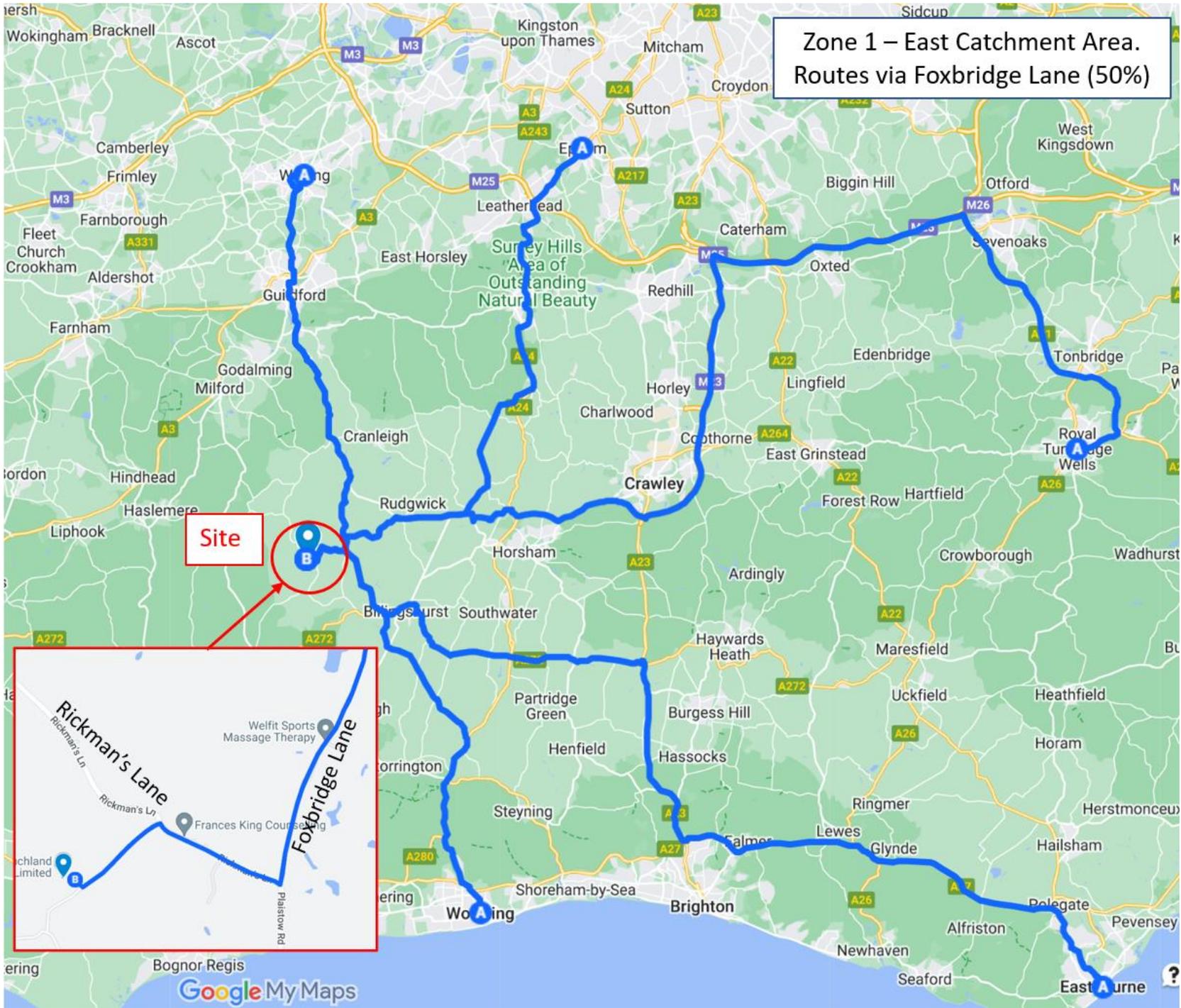


- Farm Shop and Restaurant
- Woodland Trails
- Fishing Lakes

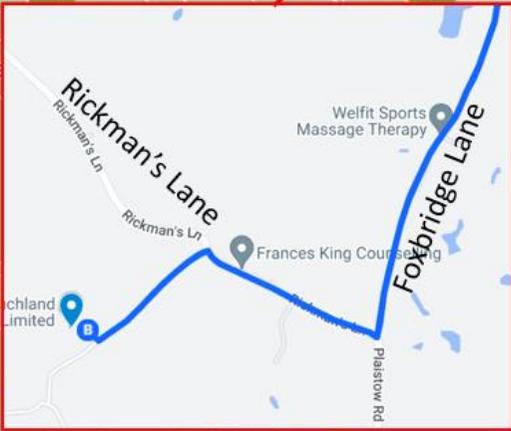
5.3 The site lies within 500m of the Crouchlands Farm development and will utilise the same road network for access. The Transport Assessment accompanying the application states that the daily trip generation is expected to be 667 vehicle movements per day on weekdays and 737 vehicle movements per day at weekends. This represents a very significant increase in traffic in Foxbridge Lane and other routes serving both this and the proposed Crouchlands Farm development. The cumulative impact of the two proposals is a material consideration for the determination of both applications, yet no such assessment has been provided by either developer.

Appendix 1

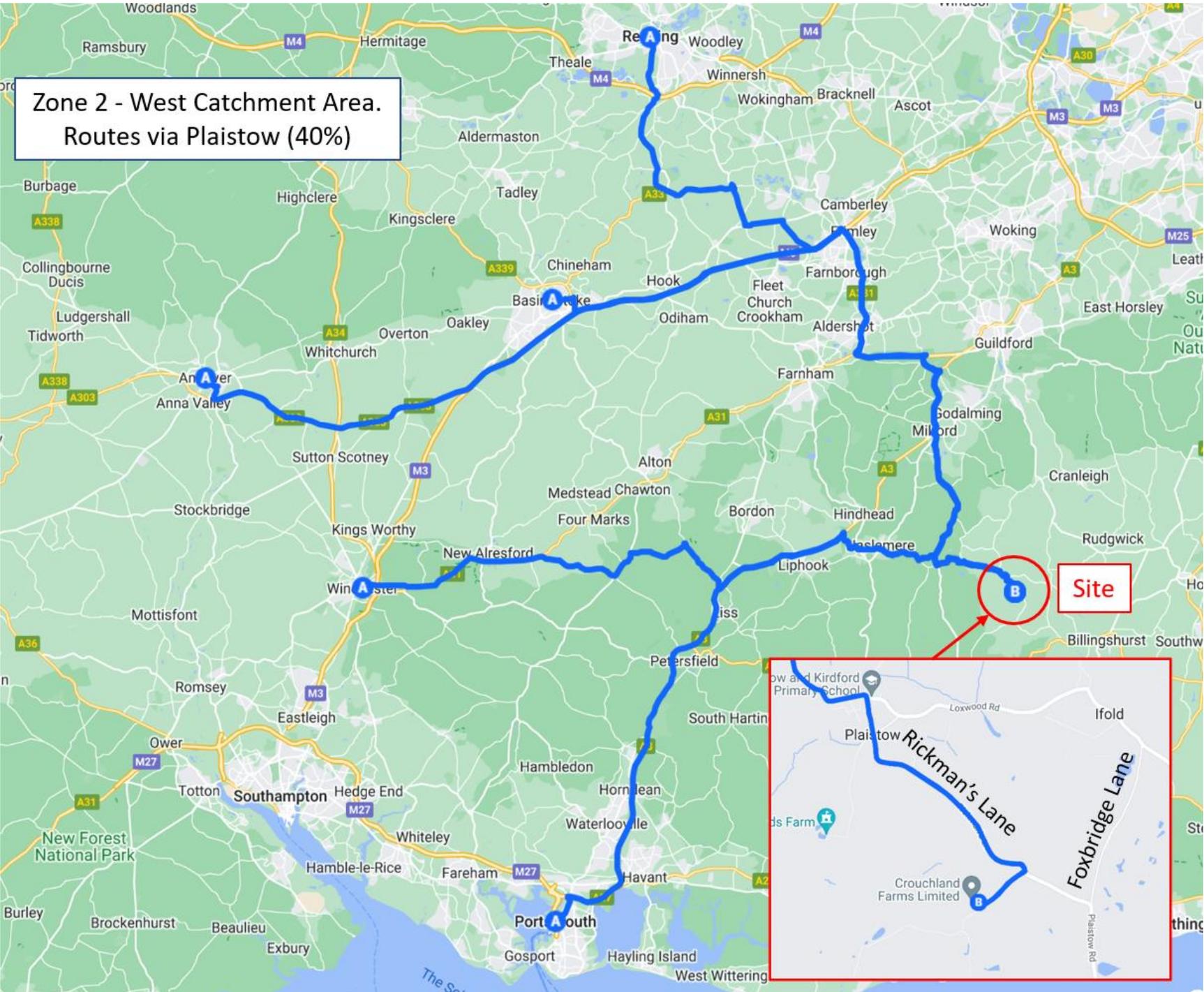
Zone 1 – East Catchment Area.
Routes via Foxbridge Lane (50%)



Site



Zone 2 - West Catchment Area.
Routes via Plaistow (40%)



Zone 3 – South Catchment Area.
Routes via Kirdford (10%)

Site

