

Our Ref: 48749/LG/RL

Your Ref:

13 March 2018

Mrs E Peplow
c/o Mr Jake Lambert
Bidwells
16 Upper Kings Street
Norwich
Norfolk
NR3 1HA

Dear Mr Lambert

**RE: Land at Taverham Road, Drayton -
Transportation / Highway Strategy**

We refer to your instructions to consider the transport aspects for a potential residential development off Taverham Road, Drayton. The site comprises of greenfield land and is approximately 3.2ha in size. The main multi-modal access will be off Taverham Road, with an additional access further east on Taverham Road. Our assessment for an access and the transportation elements for land at Taverham Road, Drayton has been made on the basis of the proposal of approximately 70 dwellings.

This assessment considers current policy with regards to access for the development and accessibility, which are addressed in following matters and we seek your views in the proposed mitigation for the offsite infrastructure.

1. Access and offsite assessment of highways.
2. Location and accessibility to services.
3. Transportation links including pedestrian, cycle and public transport modes.
4. Development trip generation.
5. Traffic routes towards village.
6. Highway/transportation improvements.

The site is located off Taverham Road in Drayton with a grid reference of 617500, 313350 and an approximate postcode of NR8 6RY. The site is located on the land between Taverham Road and Costessey Lane, see **Figure 1** attached. To the south of the site is Costessey Lane and beyond that agricultural fields and the River Wensum. To the east of the site, there is a small field and dwellings fronting Station Road. To the north beyond Taverham Road there are residential housing estates for Drayton. Considerably far southeast to the site is Norwich city centre, with Norwich International Airport to the east.

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Drayton resides in the suburbs of Norwich, within the Broadland District, with an approximate population of 5489 (taken from the 2011 Census data for the Drayton parish). The village is situated along Drayton High Road (A1067) which stretches to Fakenham in the northwest and Norwich to the southeast. Drayton is approximately 6.94km northwest of Norwich city centre, 19.34km east of Dereham and 13.92km northeast of Wymondham. Access to the site would be from Taverham Road with an additional smaller access further east, also onto Taverham Road.

Access and offsite assessment of highways

The access for the development includes creating a main point of access through property in control of the landowner.

The access parameters for the site have been considered for a development of approximately 70 Dwellings. The type of access required to serve the development is dictated by the Norfolk Residential Design Guide and is to be taken as a Type 3 road, which is 4.8m wide with 1.5m footways on both sides and would be taken from Taverham Road. See Drawing 48749/PP/SK01 for details.

An initial inspection of the potential access location on Taverham Road indicates that adequate visibility of up to 2.4m x 70m should be available in both east and west directions.

The northeast site boundary, is bound by Taverham Road with a width of approximately 5.1 to 5.5m and a footway on the southern side of Taverham Road. Taverham Road varies from having footways present on both sides of the road approaching the Taverham Road / Fakenham Road junction, to only on the southern side of Taverham Road further west along the road. The proposed site will be implemented on the land south of Taverham Road, the same side as the consistent footway, providing a benefit to future residents. In the northeast corner of the site an additional footway/cycleway link into the site can be made.

Location and Accessibility to Services

To assess the ability for potential residents to access services, research has been undertaken to locate the local services and facilities, which are tabulated below.

Facility/Services Table

Facility	Location	Km	Miles
School - Infant	School Road	1.85	1.14
School - Primary	Cameron Green	1.16	0.72
School - Junior	School Road	1.25	0.78
School - Junior	Taverham Road	1.60	0.99
School - Secondary	Beech Avenue	3.09	1.92
Post Office/Shop	Fakenham Road	0.67	0.42
Doctors	Manor Farm Close	1.07	0.66
Public House/s	Fakenham Road	0.68	0.42
Place of Worship	School Road	0.85	0.53
Bus Stops	Orchard Bank	0.23	0.14
	Fakenham Road	0.70	0.43
Children's Centre	School Road	1.71	1.07
Recreation Ground	School Road	0.80	0.50
Recreation Ground	King Georges Field	1.60	0.99
Recreation Ground	Sandy Lane	2.26	1.40
Airport	Norwich International Airport	4.99	3.1

The conclusions that can be drawn from the table are that most of the facilities and services are available in the local area. A key aim of the NPPF is to promote sustainable travel choices and accessibility to shops, jobs and other facilities whilst reducing the need to travel, especially by car.

Walking is identified as the most important form of transport at local level and walking offers the greatest potential to replace the car for journeys of less than 2.0km. The guidance document (NPPF) also acknowledges that cycling has the potential to replace many car trips of less than 5.0km, which may also form part of longer journeys supported by public transport.

The table above provides an indication of the distances that need to be travelled to the facilities and as a consequence the following list indicates the acceptability of the site in terms of distance, frequency of use and acceptability of need to travel.

Acceptability of Travel/Use Table

Facility	Location	Km	Likely Frequency of Use					
			Daily Km		Weekly Km		Greater than Weekly Km	
			<5.0	>5.0	<5.0	>5.0	<5.0	>5.0
School – Infant	School Road	1.85	✓					
School - Primary	Cameron Green	1.16	✓					
School - Junior	School Road	1.25	✓					
School – Junior	Taverham Road	1.60	✓					
School - Secondary	Beech Avenue	3.09	✓					
Post Office/Shop	Fakenham Road	0.67			✓			
Doctors	Manor Farm Close	1.07					✓	
Public House	Fakenham Road	0.68					✓	
Place of Worship	Front Street	1.00			✓			
Bus Stops	Orchard Bank	0.23	✓					
	Fakenham Road	0.70	✓					
Place of Worship	School Road	0.85			✓			
Children’s Centre	School Road	1.71	✓					
Recreation Ground	School Road	0.80					✓	
Recreation Ground	King Georges Field	1.60					✓	
Recreation Ground	Sandy Lane	2.26					✓	
Airport	Norwich International Airport	4.99					✓	

The conclusions of the acceptability table for distance and frequency travelled indicates that most daily activities are within 2.0km of the development.

Whilst other activities and frequency usage of facilities are likely to be weekly or greater than weekly, the table shows that all are within 5.0km of the site and also less than 2km, indicating that there is a likelihood that walking and cycling could be used to travel to and from these locations.

Transportation Links including Pedestrian, Cycle and Public Transport

As stated previously local, regional and national guidance for transportation and residential dwellings advises that proposed development should be readily accessed by all sustainable modes of transport.

Considering the different modes an assessment can be made in respect of the suitability of existing infrastructure.

Pedestrians

The routes for pedestrians are currently served well from the proposed site access to all the facilities recorded in the '*Facility/Services Table*'. All routes consist of a road with footways on at least one side of the carriageway. Further, there is a pedestrian refuge in the road to aid pedestrians when crossing the A1067, Fakenham Road, to the northwest of the junction with Taverham Road.

An initial assessment shows that school aged children presently have a safe route to school, due to the suitable footways and crossing locations on the routes to all schools.

Cyclists

The bicycle has become a much more widely used mode of transport in recent years, as promoting the healthier lifestyle and the current economic circumstances that affects the population. From assessing the locations of the facilities locally, many of them are well within the 5.0km cycling parameters that are recognised in the NPPF.

The majority of the roads in Drayton and Taverham are within a 30mph speed limit and, thus, provide an appropriate network for cycle use in the village, to access local facilities. There is a main cycling route (labelled as 1 on the cycling map of Norwich) connecting Drayton and Taverham to Norwich City Centre, following Marriotts Way. Beyond this, the route extends to Whitlingham and from here links to local villages on the Norfolk Broads such as Loddon, Beccles. Alternatively, following the northwest direct of the cycle route links Drayton to Reepham, Wells and Kings Lynn. This route is classified as a National Cycle Route. Not only is this cycle route ideal for social and fitness purposes, it further allows another form of transport for commuters providing links to areas of employment from Drayton.

Public Transport

To establish a criteria for public transport provision, guidance was sought from Norfolk County Council on the necessary bus service frequency. A benchmark guide to bus services can be found in the Norfolk Bus Strategy 2003/4 to 2008/9. Whilst this document is a few years old it has not been updated, but does give criteria for 'Target level of service in rural areas (all offering a return journey)'.

The table indicates that for a parish population of over 3000 the target service level should provide the following:

- Shopping service, five days a week;
- journey to work service;
- a Saturday service and;
- evening service;
- a Sunday service;
- a basic frequency at least hourly

The closest stops to the proposed site are 0.23km and 0.70km from the proposed access from the site.

Operator	Service	Frequency
First Buses	30 Norwich City Centre – Taverham (via Drayton)	Mon – Fri: 1000, 1200, 1330 Sat: 1000, 1200, 1400, 1530
	30 Taverham – Norwich City Centre (via Drayton)	Mon- Fri: 0855, 1055, 1255 Sat: 0855, 1055, 1255
First Buses	28 Norwich City Centre – Thorpe Marriott (via Drayton) 29 Norwich City Centre – Taverham (via Drayton)	Mon - Sat: 0655-2310 (departing every 15/20mins) Sun: 0920-2310 (departing every 30mins)
	28 Thorpe Marriott – Norwich City Centre (via Drayton) 29 Taverham – Norwich City Centre (via Drayton)	Mon - Sat: 0610 – 2235 (departing every 15/20mins) Sun: 0830-2235 (departing every 30mins)
Stage Coach	X29 King’s Lynn – Fakenham – Norwich	Mon – Fri: 0620-1737 (departing every hour) Sat: 0700-1745 (departing every hour) Sun: 0835, 0950, 1150, 1350, 1550, 1650
	X29 Norwich – Fakenham – King’s Lynn	Mon - Fri: 0735-1855 (departing every hour) Sat: 0745-1855 (departing every hour) Sun: 0905, 1025, 1225, 1425, 1625, 1750

(All main stop details included)

The bus company First Buses use the bus stop on Fakenham Road for the 28/29 services, along with the X29 service from Stage Coach. Whereas, the First Bus 30 service uses the bus stop on Orchard Bank. The closest Bus Station to the site is the Norwich Bus Station, located on Queens Road, Norwich (7.54km as the crow flies).

Services are frequent and offer good commuting and social facilities to the residents requiring access to them. The accessibility of the buses may also encourage more individuals to use public transport, rather than using their cars. Furthermore, there are sufficient footways to reach the bus stops along with a pedestrian refuge in the centre of Fakenham Road to aid pedestrian crossing to reach the bus stop on the northern side of the A1067 (Fakenham Road) also a pelican crossing point with a pedestrian phase for ease of crossing the A1067 road.

Overall, accumulatively, the bus timetables meet the Norfolk County Council village requirements for Drayton in terms of public transport availability and frequency.

Development trip generation

The proposed development site vehicle trip generation can be calculated based on similar sites and data taken from a national data base (TRICS). An assessment of the trip generation from the proposed development site could also be taken from the local trips undertaken by the occupants of the dwellings already in the village. In general, the trip generation will be up to an approximate of 0.545 trips per dwelling in the peak hour. On this basis, the development is likely to generate approximately 38 additional trips in the peak hour, for approximately 70 dwellings.

A brief review of journeys to work from the 2011 Census for Broadland 007, in which the site lies, viewed via Datashine Commute, shows that the majority of car driver trips from the area are to and from Norwich City Centre.

Traffic routes towards the village

The route from the site on Taverham Road to Norwich City Centre follows Taverham Road then the A1067 – Fakenham Road, before joining Aylsham Road and further onto St Crispins Road in Norwich. The width of the road outside of the site is approximately 5.1m to 5.5m wide.

On the Taverham Road approach to the junction of Taverham Road/Fakenham Road there is a traffic calming feature in the form of a speed table. Further west along Taverham Road there are also sections of narrowing and speed cushions as traffic calming measures

The area of Taverham Road and other roads surrounding the site are 30mph carriageways with footways on at least one side of the road.

Along Taverham Road, there have been two accidents within the last 5 years (2017-2013) one was serious with the other only slight. This number of accidents does not raise any concerns.

Highway/Transportation Improvements

It is therefore concluded that in terms of vehicular access and accessibility to services, the site meets a satisfactory level to deliver a suitable access, pedestrian links and is unlikely to be severe and the residual effect minimal.

Conclusions

To collate the issues and highlight the matters that are relevant to transportation for the proposed development at Taverham Road, Drayton, the following table shows the summary of benefits that this scheme includes:

Summary Table

Matters	Comment	Satisfactory with/out mitigation	Needs further offsite Upgrade	Not Satisfactory
Site Access	A satisfactory access with necessary visibility can be achieved with pedestrian enhancement.			
Local Junction Assessment	Based upon preliminary findings no offsite junction upgrades are required.			
Accessibility to Services	A high proportion of daily and weekly services can be accessed by pedestrian, cyclists or public transport routes all less than 2.0km.			
Pedestrian Links	Good site routes to schools and facilities.			
Cycle Facilities	There are no specific routes in the village but a 30mph speed limit is present between the site and local facilities. The locality of the Sustrans Route 1 within 350m is a major asset.			
Public Transport	The current public transport provision does meet the NCC targets and the frequency is high.			

It is therefore concluded that in terms of vehicular access, accessibility to services, other modes of transport, the site meets all the necessary criteria.

In summary, the development will generate a low level of trips in the peak hour, thus, it is concluded no offsite improvements are required and the generated traffic will not have a severe detrimental effect on the local road network.

I trust the foregoing is satisfactory, but if we can be of further assistance, please do not hesitate to contact us.

Yours sincerely,

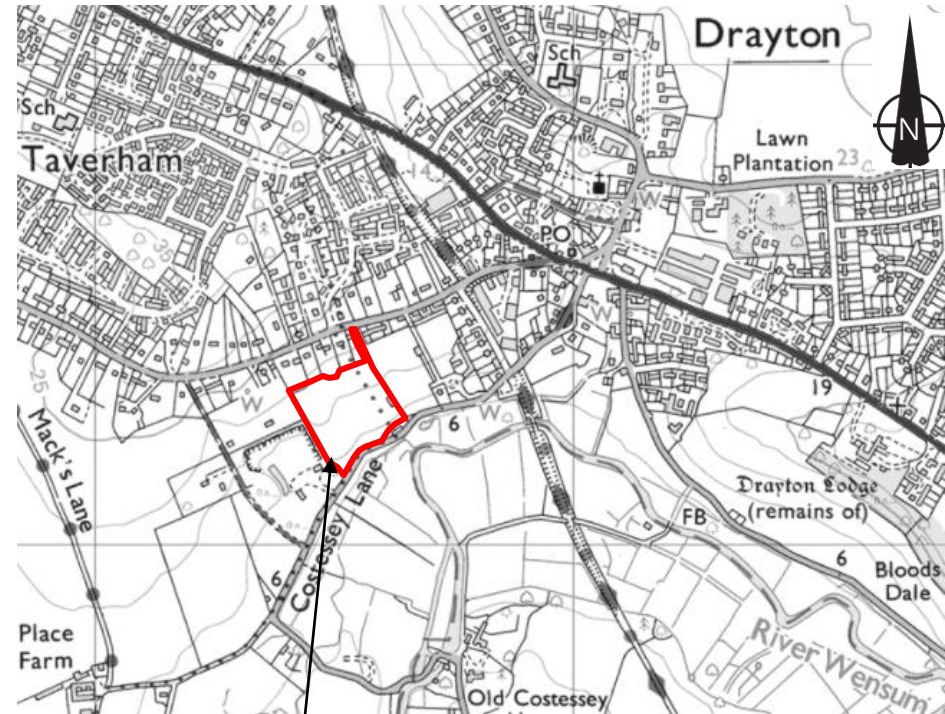
Prepared by Lauren Gray
on behalf of Richard Jackson Ltd

Checked by Raymond Long BSc (Hons) IEng MCIHT MICE
on behalf of Richard Jackson Limited

encs – Figure 1
Drawing 48749/PP/SK01



THE SITE



THE SITE

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Taverham Road, Site Location Grid Reference 617500, 313350 and Postcode NR8 6RY

Client:
Mrs E Peplow

Drawing Title:
Site Location Plan

Job Title:
Land off Taverham Road, Drayton

Date:
21.02.18

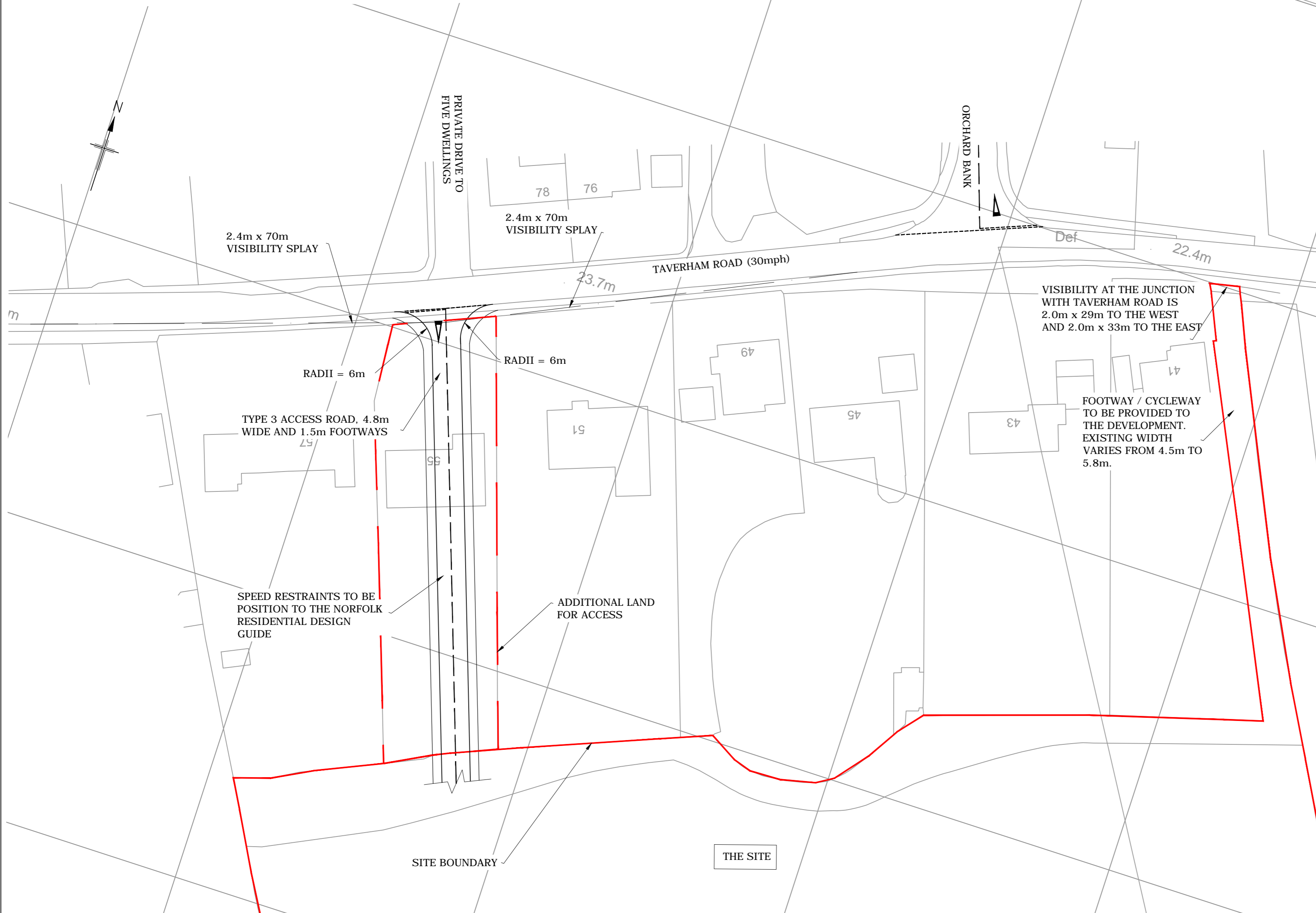
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Fig. 1



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REV	DATE	DESCRIPTION	DRAWN	CHKD
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REVISIONS

This drawing is to be read in conjunction with all other Engineer's drawings and all other project information. Any discrepancy between the Engineer's drawings and other project information is to be reported to the Engineer immediately.



Project
LAND AT TAVVERHAM ROAD, DRAYTON

Title
ACCESS PROPOSAL

Client
MRS E PELOW

Scale 1:500 @ A2	Drawn LG	Date 22/02/2018
Job Manager -	Checked DP	Approved RL

- NOTES:**
- ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
 - SURVEY INFORMATION TAKEN FROM OS DATA AND SUPPLEMENTED WITH ONSITE MEASUREMENTS. RJ LTD ACCEPT NO RESPONSIBILITY FOR ERROR OR OMISSION.
 - JUNCTION SPACING BETWEEN ORCHARD BANK AND THE PROPOSED ACCESS IS 90m.
 - VISIBILITY HAS BEEN CHECKED WITH ON SITE MEASUREMENTS, TAKEN BY RICHARD JACKSON LTD. THESE WILL NEED TO BE VERIFIED WITH A TOPOGRAPHICAL SURVEY BEFORE DETAILED DESIGN.

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Drawing Status

INFORMATION APPROVAL COSTING

TENDER CONSTRUCTION AS CONSTRUCTED