



Granny Lane, Mirfield
Proposed Residential Development

Highways & Transportation Proof of Evidence
(Text – including Summary Proof)

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On behalf of Miller Homes

Planning Application Reference – 2019/62/91467/E

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1 Qualifications and Experience

- 1.1.1 My name is Philip Maxwell Owen. I am the Director of Optima Highways and Transportation Limited, an independent consultancy based in Leeds. I was formerly an Associate Director with WSP Development and Transportation and overall have over 25 years' experience in the traffic and transportation field. During this time I have advised a variety of private sector companies on the traffic and transportation aspects of a wide range of development proposals.
- 1.1.2 I hold an honours degree in Civil Engineering and am a chartered member of the Institution of Civil Engineers (ICE). I am also a member of the Chartered Institution of Highways and Transportation (CIHT).
- 1.1.3 I have been retained by Miller Homes as an expert witness for the purposes of this appeal. This Proof of Evidence (PoE) has been prepared to consider the traffic, highway and transport related matters.
- 1.1.4 I have visited the Site and surrounding area on several occasions for the purposes of this appeal.



2 Introduction

2.1 Background

- 2.1.1 I have been appointed by Miller Homes to assist in their appeal against the refusal of a full planning application (Ref: 2019/62/91467/E) for a proposed residential development comprising 67 dwellings located on land to the south of Granny Lane, Mirfield. The location of the Site is shown on the figures in Appendix A.
- 2.1.2 The Site is allocated for residential development in the Kirklees Local Plan (Ref: HS66) with an indicative capacity of 70 dwellings.
- 2.1.3 To support the planning application, which was submitted to Kirklees Council (KC) in May 2019, a Transport Assessment (TA) and Framework Travel Plan (FTP), both dated March 2019, were prepared by the consultant Bryan G Hall (BGH).
- 2.1.4 A consultation response dated 30th August 2019 was received from Kirklees Council Highways (KCH) requiring the submission of additional information relating to junction visibility at the proposed Granny Lane Site access, parking and forward visibility within the Site as well as the clarification of some information relating to access by sustainable modes – a copy of the Council's consultation response is provided in Appendix B. All these matters were satisfactorily addressed within the BGH Technical Note (TN) dated 6th November 2019, a copy of which is contained in Appendix C.
- 2.1.5 The culmination of the work undertaken led to full agreement being reached with Kirklees Council on all highways, transportation and accessibility matters, as confirmed in the Council's 24th February 2020 Planning Committee Report and summarised as follows (my underlining):

On the matter of analysis of the local highway network the Council stated (in paragraph 10.36 of their report) - *"The analysis concludes that the proposal would not result in material impacts to the safety or operation of any of the junctions assessed and the development related trips would not have a significant impact on the operation of the local highway network"*;

With respect to highway safety the Council stated (Para 10.37) - *"The number of accidents recorded is therefore considered to be low and there is no evidence to suggest that the proposed development would unduly affect the frequency of accidents in the future"*;

On the matter of Site accessibility/sustainability the Council stated (Para's 10.39, 10.40 and 10.41) – *"It is noted that the site is accessible by means other than the private car. Mirfield Railway Station is within approximately 800m walking distance of the*



proposed site access”; and “The site is also accessible by bus”; and “The site is also in reasonably close proximity to Mirfield Town Centre, which provides a range of services and provisions. It lies approximately 1200m from the site. Whilst this is beyond the preferred maximum of 800m identified in the IHT report above, it is still less than a mile’s walk on a mostly flat route”; and “Overall, the site is within an existing residential area and it is considered to be sufficiently accessible by means other than the private car and an accessible location for development”.

On the matter of the access junction and final internal Site layout the Council stated (Para 10.38 and Chapter 8) – “Initially Officers raised concerns regarding visibility at the junction of the site with Granny Lane, off-street car parking, forward visibility on part of the estate road and anomalies in the TA. This resulted in the submission of a Technical Note (TN), which addressed the issues raised in the original consultation response. The TN provided further justification for the achievable visibility splays at the junction with Granny Lane, the proposed visitor parking arrangements and demonstrated that the levels of resident parking would be suitable for the site and consistent with other Miller Homes developments”; and “These changes are seen as a benefit to highway safety and Highways do not wish to raise any objection to the scheme”;

In summary the Council concluded on Highway grounds (Para 10.43) - “Officers therefore consider that subject to conditions and the planning obligations detailed in this report, the proposal would accord with Kirklees Local Plan Policies LP21 and LP22 with regard to its potential impact on the Local Highway network.”

- 2.1.6 For completeness, a full copy of Local Plan Policies LP21 and LP22, which the Council agree the development proposals comply with, are set out below.

Policy LP21

Highways and access

Proposals shall demonstrate that they can accommodate sustainable modes of transport and be accessed effectively and safely by all users.

New development will normally be permitted where safe and suitable access to the site can be achieved for all people and where the residual cumulative impacts of development are not severe.

Proposals shall demonstrate adequate information and mitigation measures to avoid a detrimental impact on highway safety and the local highway network. Proposals shall also consider any impacts on the Strategic Road Network.



All proposals shall:

- a. ensure the safe and efficient flow of traffic within the development and on the surrounding highway network;*
- b. where needed, provide new infrastructure or improvements on or off site to ensure safe access from the highway network for pedestrians, cyclists, public transport users and private vehicles;*
- c. be accompanied by a supporting Transport Assessment or Transport Statement where the development would generate significant trip generation, providing detail as to the impact on highway safety, air quality, noise and light restrictions;*
- d. take into account changes in site levels and topography to ensure the development can be accessed easily and safely by all sections of the community and by different modes of transport;*
- e. take into account the features of surrounding roads and footpaths and provide adequate layout and visibility to allow the development to be accessed safely;*
- f. take into account access for emergency, service and refuse collection vehicles;*
- g. provide on-site safe, secure and convenient cycle parking/storage facilities to encourage sustainable travel modes.*

Policy LP22

Parking

The provision of parking will be based on the following principles:

- a. in town, district and local centres, car parks close to the main shopping area will be for short-stay use and peripheral car parks for long stay use;*
- b. long stay parking in town centres will be reduced progressively in conjunction with improvements to sustainable transport opportunities, where appropriate;*
- c. provision of private non-residential parking in town centres will not be permitted unless it can be demonstrated that it is required for operational reasons. Where such provision is permitted appropriate arrangements will need to be put in place to provide management arrangements consistent with public parking in the centre;*
- d. provision of residential parking schemes within town centres for private vehicles/motorcycles/and cycles will be permitted; where appropriate and where schemes can be shown to enhance residential developments in the town centre;*



e. car parking provision in new developments will be determined by the availability of public transport, the accessibility of the site, location of the development, local car ownership levels and the type, mix and use of the development;

f. new developments will incorporate flexibly designed minimum parking spaces for private cars, considering a range of solutions, to provide the most efficient arrangement of safe, secure, convenient and visually unobtrusive car parking within the site including a mix of on and off street parking in accordance with current guidance;

g. provision will be made to meet the needs of cyclists for cycling parking in new developments;

h. provision will be made to accommodate the needs of disabled people for the parking of vehicles.

All proposals shall provide full details of the design and levels of proposed parking provision. They should demonstrate how the design and amount of parking proposed is the most efficient use of land within the development as part of encouraging sustainable travel.

2.1.7 Notwithstanding the agreement reached on highways matters the Council refused the application and a Decision Notice dated 12th March 2021 was issued with the following single reason for refusal which relates to flooding:

1. The position of part of the main vehicular and pedestrian access and egress into the site within Flood Zone 3 would result in the failure of the scheme to deliver safe access and escape routes for all future occupiers of the development at all times. It therefore cannot be demonstrated that the proposal would be safe throughout the lifetime of the development, taking account of climate change. For these reasons, it would be contrary to Policy LP27 of the Kirklees Local Plan and guidance within the National Planning Policy Framework

2.1.8 There are no highway reasons for refusal (RfR) and this PoE has therefore been prepared to ensure the previous BGH work remains up to date and address any potential comments raised by third parties including local residents.

2.2 Statement of Common Ground

2.2.1 A draft Statement of Common Ground (SoCG) has been prepared on behalf of the Appellant (Miller Homes) and this will be issued to Kirklees Council for comment. At the time of writing this PoE the draft SoCG is therefore not yet agreed with Kirklees Council, but based on the agreement that was reached with the Council on highways/transport matters during the planning process, it currently states that:



- The Site is in an accessible location by means other than the private car;
- The proposed Granny Lane Site Access arrangements accord with appropriate highway standards and the junction will operate safely and satisfactorily;
- The proposed internal Site layout, including parking provision, accords with appropriate highway standards and will operate safely and satisfactorily;
- Safe and satisfactory construction access arrangements can be provided to the Appeal Site subject to suitable controls in the Construction Management Plan.
- Development traffic will not have a material impact on the operation of the local highway network and no off-site highway mitigation works are necessary or required. The cumulative impact of development trips can therefore be satisfactorily and safely accommodated on the highway network;
- The cumulative impact of development traffic is not considered to be severe, in accordance with paragraph 109 of the NPPF; and consequently
- There is no highway or transport related reason why the appeal site should not be allowed.

2.3 Structure of Evidence

2.3.1 The remainder of my evidence is structured as follows:

- Chapter 3 describes the site location, the development proposals and the means of access to the Site;
- In Chapter 4 the accessibility of the site by non-car modes is described;
- Chapter 5 sets out the base traffic data, details of the traffic generated and the distribution of that traffic on the highway network;
- Chapter 6 describes the capacity analysis undertaken for the key junctions on the highway network;
- Chapter 7 summarises and addresses the key highways related concerns of local residents; and finally
- In Chapter 8, I summarise the highways/transportation matters and detail my conclusions.



3 The Site, Development Proposals and Highway Safety

3.1 Introduction

- 3.1.1 This chapter describes the Site and the development proposals including the means of access.

3.2 The Site and Adjacent Highway Network

The Site

- 3.2.1 The Site is situated to the south of Mirfield and is bound by Granny Lane to the north, open agricultural land to the south and residential properties to the west and east (including Sheep Ings Farm which lies adjacent to Granny Lane).
- 3.2.2 The Site, which extends to approximately 2.2 hectares, currently comprises paddocks and some outbuildings surrounded by an area of hardstanding. Vehicular access to these outbuildings is taken from an existing junction onto Granny Lane, situated approximately mid-way along the northern Site boundary. There are no Public Rights of Way that cross the Site. A Site Boundary plan is provided in Appendix D.

Local Highway Network

- 3.2.3 Granny Lane is a lit, single carriageway two-way road with a speed limit of 30mph. It typically carries some 375 to 485 two-way vehicle movements during the weekday morning and evening commuter peak hour periods. This is a relatively low flow and the recorded volume of Heavy Goods Vehicles (HGV's) is very small at only 2 to 3 per hour.
- 3.2.4 Adjacent to the Site frontage the carriageway width on Granny Lane varies between 6.3m and 7.3m and footways are provided to both sides – typically measuring 1.4m to 1.6m on the southern (Site) side and 1.2m to 2.7m on the northern side.
- 3.2.5 The majority of development traffic (as well as the vast proportion of pedestrian movements walking to/from Mirfield town centre and public transport facilities) will head west along Granny Lane, which continues for some 370m from the Site to meet Hopton New Road and Four Acres at a four-arm mini-roundabout. Over this length Granny Lane:
- Has a relatively straight alignment over much of its length, save for a bend some 70m east of the Hopton New Road junction, which has the effect of further reducing vehicle speeds;
 - The carriageway width is typically 5.4m to 5.6m, reducing to 5.3m over a short length adjacent to the Gregory Springs Road junction. Through the bend which lies to the east of the Hopton New Road mini-roundabout junction, the carriageway width increases to between 6.75m and 8.25m;



- Maintains a continuous footway on its southern side which varies in width between 1.2m and 2.7m but is typically 1.5m on average. The northern footway ceases shortly beyond the Site boundary and is picked up again on the last 70m approach to the Hopton New Road mini-roundabout (where it measures between 2.1m and 3.5m in width).
- 3.2.6 From the mini-roundabout junction Hopton New Road extends northwards towards Mirfield town centre, initially crossing the River Calder on a bridge with a 7.5T weight restriction. Just beyond the bridge Hopton New Road has a carriageway width of some 7.0m with 2.1m footways to both sides. After just over 300m, Hopton New Road passes beneath the Huddersfield railway line in an underpass which has a height restriction of 3.2m (10'6"). Beyond this, the road becomes known as Station Road and continues northwards for a further 270m where it meets the A644 Huddersfield Road and Queen Street at a four-arm signalised junction within the centre of Mirfield.
- 3.2.7 Heading east from the development Site, Granny Lane becomes known as Steanard Lane from the point where Hagg Lane adjoins to form a priority junction. Steanard Lane continues in a north-easterly direction, passing the Boathouse Lane junction after approximately 280m and then passing beneath the Huddersfield railway line after a further 340m. Beneath the railway line overbridge, which has a 3.7m (12' 3") height restriction, Steanard Lane operates on a one-way priority basis, with northbound vehicles having the right of way and southbound drivers being required to give-way if necessary. At this location Steanard Lane typically carries some 375 to 485 two-way vehicle movements during the weekday morning and evening commuter peak hour periods. This is a relatively low flow and the recorded volume of HGV's is very small at only 2 to 3 per hour.
- 3.2.8 Beyond the railway bridge Steanard Lane continues in a northerly direction for a further 410m, before heading west to cross over the River Calder at a signalised 'one-way' bridge and then, shortly beyond, meeting the A644 Huddersfield Road to form a ghost island priority junction.
- 3.2.9 Steanard Lane has the following typical geometries along its length:
- Between the Hagg Lane and Boathouse Lane junctions - carriageway width generally 6.9m to 7.0m with a single southern sided footway of 1.5m;
 - Between the Boathouse Lane junction and the railway overbridge (over this length southbound drivers are required to 'give-way' to northbound vehicles if necessary) - carriageway width generally 4.8m to 5.2m with a single eastern sided footway of 1.0m to 1.2m;
 - Between the railway overbridge and the River Calder signalised bridge (over this length southbound drivers are required to 'give-way' to northbound vehicles if



necessary) - carriageway width generally 4.8m to 5.0m reducing to 4.6m over a short section. The single eastern sided footway measures around 1.0m; and

- Between the River Calder signalised bridge and the A644 Huddersfield Road junction - carriageway width of 6.2m with a 1.8m footway to the west and 1.25m to the east.

3.3 Development Proposals

3.3.1 The development proposals, which are shown on the Site layout drawing contained in Appendix E, comprise the following:

- 67 residential dwellings; and
- Associated parking, landscaping and infrastructure works.

Vehicular Means of Access

3.3.2 The proposed vehicular access to the Site will be provided by a simple priority 'T' junction onto Granny Lane, approximately mid-way along the Site frontage in a very similar location to the existing gated access. The proposed vehicular Site access arrangement accords with relevant design standards including visibility splays and is shown on the drawing in Appendix F.

3.3.3 The proposed Site Access layout, which is the same drawing included in the Nov 2019 BGH Technical Note and which has been reviewed and approved by Kirklees Council (as referenced at paragraph 10.38 of the Feb 2021 Committee report), demonstrates that 2.4m x 48m and 2.4 x 52.5m visibility splays are achievable to the east and west of the junction respectively. It is noted that the 48m visibility to the east of the proposed Site Access junction:

- Has been measured 1.0m into the carriageway from the kerb line. This is a correct application of highway standards, perhaps best put at paragraph 10.5.3 of MfS2 (extract in Appendix H) where it states that *"for simplicity it [the distance along the major road] has previously been measured along the nearside kerb line of the main arm, although vehicles will normally be travelling at a distance from the kerb. Therefore a more accurate assessment of visibility splay is made by measuring to the nearside edge of the vehicle track"* (my underlining); and
- Has been measured by BGH along the straight line of the splay as opposed to along the curved channel/kerb line of Granny Lane. The latter is the correct methodology in accordance with highways design guidance including MfS and when measured along the channel/kerb line of Granny Lane the achievable visibility to the east is 0.5m greater at 2.4m x 48.5m.



- 3.3.4 In accordance with the formula set out at paragraph 7.5.3 of Manual for Streets (contained in Appendix H) visibility splays of 48.5m and 52.5m equate to speeds of 33.8mph and 35.5mph for westbound and eastbound traffic respectively.
- 3.3.5 In their 2019 Transport Assessment BGH confirmed that a speed survey had been undertaken on Granny Lane on 12th December 2018 at the location of the proposed Site access, which recorded westbound and eastbound 85th percentile wet weather speeds of 32.5mph and 34.5mph respectively. In accordance with MfS these speeds require visibility splays of 2.4m x 45.7m and 2.4m x 50.1m to the east and west respectively i.e. 2.8m and 2.4m less than is provided.
- 3.3.6 To verify the December 2018 speed survey undertaken by BGH two further surveys have been undertaken on Granny Lane adjacent to the location of the proposed Site Access junction. These surveys were completed on the 26th May and the 8th June 2021 and the data sheets are provided in Appendix G. A summary of the survey results is provided in table 3.1 alongside the findings of the original BGH survey.

Table 3.1 – Granny Lane Speed Surveys

Speed Survey		85 th Percentile Wet Weather Speed		Required Visibility Splay Major Road Distance	
Commissioned by	Date	Westbound	Eastbound	To East of Junction	To West of Junction
Bryan G Hall	12/12/18	32.5mph	34.5mph	45.7m	50.1m
Optima	26/05/21	29.5mph	31.0mph	39.5m	42.6m
Optima	08/06/21	30.0mph	30.0mph	40.5m	40.5m

- 3.3.7 As shown in table 3.1 the recently completed May and June 2021 surveys provide lower speeds and therefore the 2018 speed survey on Granny Lane is robust. Furthermore, the proposed visibility splays of 2.4m x 48m (48.5m measured along the kerb line) and 2.4m x 52.5m shown on the agreed drawing in Appendix F are even greater than the splays required by the worst case 2018 speed survey. The proposed visibility splays are therefore robust and slightly exceed what is required in accordance with MfS standards.
- 3.3.8 The proposed access into the Site is provided with a 5.5m carriageway with 2.0m wide footways to both sides. In accordance with the Council's November 2019 Highway Design Guide SPD (extract in Appendix H) this geometry complies with a Type B Local residential street which is capable of serving up to 300 dwellings i.e. significantly more than the 67 proposed.



- 3.3.9 The gradient of the Site Access on the approach to the proposed Granny Lane junction will be 1 in 33 which is less than the 1:25 maximum permissible in the Kirklees Highway Design Guide (para 3.46 – extract in Appendix H) and therefore accords with standards.
- 3.3.10 It is therefore agreed with KC that the form and layout of the vehicular Site access proposed is acceptable and the junction would safely and satisfactorily accommodate vehicles generated by the proposed development.
- 3.3.11 In addition to the permanent vehicular access it is also proposed to provide an emergency access which would only come into use during times when the primary access is flooded. This 3.7m wide emergency access is located some 23m west of the main access junction, at the western extremity of the Granny Lane frontage – as shown on the drawing in Appendix F. Its use by vehicles (other than in times of flooding) would be prohibited by the installation of removable bollards – further details of the management of the emergency access are provided in the RMG (Managing Agent for the Site) Statement contained in Appendix F.
- 3.3.12 Beyond the Site Access junction the majority of vehicular trips generated by the development will travel west along Granny Lane and Hopton Lane/Hopton New Road beyond. Granny Lane provides a satisfactory and safe vehicular route with acceptable carriageway widths which are typically 5.4m to 5.6m, reducing to 5.3m over a short length. Figure 7.1 in MfS (extract in Appendix H) illustrates that a 5.5m carriageway can accommodate two opposing HGV's passing and a 4.8m carriageway can accommodate an HGV passing an opposing car. Notwithstanding the acceptable carriageway geometry on Granny Lane it is also the case that:
- The existing (and proposed) vehicle movements are low;
 - The composition of traffic is such that large HGV movements are very minimal and the vast majority of passing/opposing vehicles are cars or Light Goods Vehicles (LGV's);
 - Vehicular speeds are low; and
 - Accident records (see section 3.4) demonstrate that within the most recently available 5-year period there has been just one personal injury accident on Granny Lane which resulted in a slight injury only and the cause of this accident was the driver using a mobile phone i.e. highway layout/geometry was not a factor.
- 3.3.13 Some development traffic (predicted to be just 19 two-way movements during the busiest peak hours – see Section 5.7 and 5.8 for further details) will route east from the Site along Steanard Lane towards the A644 Huddersfield Road. The first section of this route between the Hagg Lane and Boathouse Lane junctions has a generous 6.9m to



7.0m carriageway width. From the Boathouse Lane junction up to the signalised bridge over the River Calder the carriageway width reduces, generally varying between 4.8m and 5.2m with a couple of short 4.6m sections - over this approximate 750m length southbound drivers on Steanard Lane are required to 'give-way' to northbound vehicles if necessary.

3.3.14 Whilst acknowledging that Steanard Lane has some reduced carriageway widths in places it still provides a safe and satisfactory vehicular route for the following reasons:

- The existing (and proposed) vehicle movements are low;
- The composition of traffic is such that large HGV movements are very minimal and the vast majority of passing/opposing vehicles are cars or Light Goods Vehicles;
- Figure 7.1 in MfS (extract in Appendix H) illustrates that a 4.8m carriageway can accommodate a HGV passing an opposing car and 4.1m is sufficient to permit two cars to pass. These widths are equivalent to or less than the 4.8m to 5.2m generally provided or the short lengths of 4.6m width;
- A 'priority' operation is in place whereby southbound drivers are required to give-way to northbound vehicles if necessary and on the occasions when two opposing vehicles meet;
- Vehicular speeds are low and are positively influenced by the reduced carriageway widths (and priority system), which in accordance with MfS, has one of the greatest effects on successfully reducing driver speeds;
- Accident records (see section 3.4) demonstrate that within the most recently available 5-year period there has been no personal injury accidents at all along the full length of Steanard Lane; and
- As advised in Manual for Streets 2 (MfS2 – extract in Appendix H) at paragraphs 2.7.4 and 2.8.2 many historic and semi-rural settlements location, have existed for centuries and the roads “do not conform to present guidance on highway standards. Indeed to attempt to do so could be to the detriment of local character”. Furthermore, “carriageways are often narrow, and footways may be narrow or non-existent and as a result speeds can be low”. Steanard Lane can be considered to fall within these descriptions contained within MfS2 and whilst it does not provide a standard carriageway width throughout its length it does not need to and is acceptable for all of the above reasons.



- 3.3.15 In summary the existing vehicle access routes to/from the Site are safe and satisfactory. Furthermore, the same conclusion was reached by the Local Highway Authority in their support of the application.

Pedestrian/Cycle Means of Access

- 3.3.16 Pedestrian and cycle access to the development Site will also take place from the proposed vehicular priority 'T' junction onto Granny Lane. Footways of minimum width 2.0m will be provided along the Granny Lane frontage and into the Site on both sides of the carriageway – the footway on the eastern side of the Granny Lane frontage is wider, varying from 2.0m up to 3.0m to facilitate the junction visibility splay/sightline.
- 3.3.17 In summary safe and satisfactory access is provided to and within the development Site for pedestrians and cyclists.

Internal Layout

- 3.3.18 The proposed internal Site layout, as shown on the drawing in Appendix E, has been agreed with the Local Highway Authority.
- 3.3.19 Kirklees Highways Officers had initially raised comments regarding the off-street car parking provision and forward visibility along part of the estate road. However, as confirmed at paragraph 10.38 of the February 2021 Committee report, these matters were satisfactorily resolved within the submitted BGH Technical Note (copy in Appendix C).

3.4 Highway Safety

- 3.4.1 Personal injury accident data for the local highway network has been obtained from Leeds City Council (who are the recording authority for West Yorkshire) for the most recently available five-year period up to the 11th June 2021. The area extends to include the Granny Lane/Steand Lane corridor, the Steand Lane/Huddersfield Road junction, the Hopton New Road/Station Road corridor and the Station Road/Huddersfield Road junction. The accident data including a location plan as well as a detailed tabular breakdown are provided in Appendix I.
- 3.4.2 The accident data shows that during the five-year period there have been a total of 11 personal injury accidents recorded within the study area. Of the 11 incidents, 8 were classed as slight in nature and 3 were classed as serious. There were no fatal collisions recorded on the highway network within the study area.



Station Road/Huddersfield Road/Queen Street Junction

- 3.4.3 The data shows that during the five-year period there has been a total of six accidents at, or on the approaches to, the signalised Station Road/Huddersfield Road/Queen Street junction.
- 3.4.4 Of the six accidents, five were classified as slight and one as serious. The serious collision occurred when an articulated LGV driver travelling westbound along Huddersfield Road failed to see/react to the red light signal, colliding with two vehicles which had just set off from Station Road and Queen Street.
- 3.4.5 Three of the slight accidents were caused by drivers failing to look properly or pay attention to other road users and pedestrians; one was caused by a misuse of the pedestrian crossing facility, with a teenage pedestrian not waiting for the pedestrian sequence; and the final slight accident was caused by a pedal cyclist travelling along the pavement and against the flow of traffic colliding into a car.

Hopton New Road/Station Road Corridor

- 3.4.6 There has been a total of three accidents along the Hopton New Road/Station Road Corridor, with two occurring at the Station Road/Back Station Road junction.
- 3.4.7 Of the three accidents, two were slight and one serious. The serious accident was caused by a young pedal cyclist losing control of his bicycle and falling into the road. The remaining two slight accidents were caused by drivers performing poor turns/manoeuvres and not paying attention to other road users.

Huddersfield Road/Steand Lane Junction

- 3.4.8 During the five-year period there have been no recorded personal injury accidents at the Huddersfield Road/Steand Lane priority junction.
- 3.4.9 The data shows that one accident occurred on Huddersfield Road to the east but this was not related to the Steand Lane junction and involved a motorcyclist colliding with the back of a car which was waiting to turn left into a private driveway.

Granny Lane/Hopton New Road Junction

- 3.4.10 During the five-year period there have been no recorded personal injury accidents at the Granny Lane/Hopton New Road mini-roundabout junction.
- 3.4.11 The data shows that one accident occurred on Granny Lane to the east but this was not related to the Hopton New Road junction and instead involved a vehicle colliding with a parked car due to the driver using their mobile phone.



Granny Lane Site Frontage and Steanard Lane Corridor

- 3.4.12 During the five-year period there have been no recorded personal injury accidents along the Granny Lane/Steand Lane corridor including along the Site frontage.

Summary

- 3.4.13 It can be concluded from the low incidence of recorded personal injury accidents over an extended study area and five-year period, that there are no specific causes for concern relating to existing or future highway safety.

3.5 Construction Access

- 3.5.1 During the construction phase a Construction Management Plan (CMP) will be implemented which will address any potential impacts arising from the construction of the development and ensure that the Site operates efficiently and safely. For example the CMP will address construction hours of operation, treatment of delivery vehicles (wheel washing requirements, sheeting etc), unloading and turning areas, contractor/workforce parking and access routes to/from the Site taking into account local constraints including bridges. The CMP will be secured by planning condition.
- 3.5.2 It is proposed that the construction access point into the development will be from Granny Lane. This access route can safely and satisfactorily accommodate the movement of construction HGV's subject to suitable controls in the CMP.



4 Site Accessibility and Sustainability

4.1 Introduction

4.1.1 This chapter describes the accessibility and sustainability of the Site by non-car modes.

4.2 Accessibility by Foot

Standards and Guidance

4.2.1 The 2000 IHT document 'Providing for Journeys on Foot' (extract in Appendix H) states at paragraph 3.30 that 80% of walk journeys in urban areas are less than 1 mile (1.6km) and that on average people are prepared to walk 1.0km with this figure differing little by age or sex, remaining constant since 1975. Table 3.2 of the document goes on to suggest some desirable, acceptable and preferred maximum walking distances to 'town centres', 'commuting/schools' and 'elsewhere'. No specific studies are referenced to support these 'suggested' distances and it is not clear when the 'preferred maximum' distances should be applied as opposed to the shorter 'acceptable' distances. Notwithstanding this, the suggested preferred maximum walking distances are shown in table 4.1.

Table 4.1 – IHT 'Providing for Journeys on Foot' Walk Distances

Suggested Preferred Maximum Walk Distances		
Town Centres (m)	Commuting/School /Sight-seeing (m)	Elsewhere (m)
800	2,000	1,200

4.2.2 The acceptability of walking trips up to 2km (an approximate 25 minute walk time) was also supported in the withdrawn Planning Policy Guidance (PPG) Note 13 which advised that *"walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly under 2km"*.

4.2.3 In 2015 the Chartered Institution of Highways and Transportation (CIHT) published the document 'Planning for Walking' (extract in Appendix H) which states in chapter 6.3 that *"most people will only walk if their destination is less than 1 mile away"* i.e. some 1.6km. It goes on to say in Section 6.4 that *"walking neighbourhoods are typically characterised as having a range of facilities within 10 minutes' walking distance (around 800 metres). However, the propensity to walk or cycle is not only influenced by distance but also the quality of the experience; people may be willing to walk or cycle further where their surroundings are more attractive, safe and stimulating"*.



- 4.2.4 This advice i.e. that ‘people may be willing to walk further’ is echoed in the residential design guide ‘Manual for Streets’ (MfS) (extract in Appendix H) which suggests that a “*comfortable*” walking distance to local facilities is up to about 800m (para 4.4.1) but also goes on to state that this is “*not an upper limit*” and reference is made to walking offering “*the greatest potential to replace short car trips, particularly those under 2km*” – as summarised in table 4.2. In this respect MfS aligns with the upper limit of 2km referenced in ‘Providing for Journeys on Foot’ as well as the language contained in the now withdrawn PPG13 document.

Table 4.2 – ‘Manual for Streets’ Walk Distances to Local Facilities

‘Comfortable’ Walk Distance (m)	‘Preferred Maximum’ Walk Distance (m)
800	2,000

- 4.2.5 The July 2014 Department for Education (DfE) ‘Home to School Travel and Transport’ statutory guidance document (extract in Appendix H) defines an even greater maximum walking distance to schools of 2 miles (3.2km) and 3 miles (4.8km) for children under and over 8 years old respectively – as summarised in table 4.3.

Table 4.3 – DfE Walk Distances to Schools

Children under 8 Walk Distance (m)	Children over 8 Walk Distance (m)
3,200	4,800

- 4.2.6 Additional evidence that people will walk further than the suggested preferred maximums of 800m to town centres and 1,200m to ‘elsewhere’ in ‘Providing for Journeys on Foot’ is obtained from an interrogation of data obtained from the National Travel Survey (NTS) and as described in the WYG report titled ‘Accessibility – How far do People Walk and Cycle’ (copy in Appendix J). The report shows that from an analysis of the NTS data, for the UK as a whole (excluding London) that the 85th percentile walk distance for:

- All journey purposes is 1.93km;
- Commuting is 2.4km;
- Shopping is 1.6km;
- Education is 1.6km; and
- Personal business is 1.6km.



- 4.2.7 Overall the report concludes from the NTS data that “*for accessibility planning purposes a 2km walk distance would be appropriate*”. A summary of the NTS findings is given in table 4.4.

Table 4.4 – NTS Data/WYG Report Walk Distances

85 th Percentile Walk Distances					Overall Recommended 'Preferred Max' Walk Distance (m)
All Journeys (m)	Commuting (m)	Shopping (m)	Education (m)	Personal Business (m)	
1,930	2,400	1,600	1,600	1,600	2,000

- 4.2.8 In summary, taking into account all of the guidance and evidence, I consider that 2km represents an acceptable maximum walk distance for the majority of land uses, noting that DfE guidance refers to up to 3.2km for school trips.

Walk Distances

- 4.2.9 The walk distances from the centre of the Site (and associated journey times) to the nearest key local facilities and services are summarised in table 4.5.

Table 4.5 – Walk Distances/Journey Times between Site & Nearest Local Facilities

Nearest Facility	Name	* Walk Distance(m)	** Walk Time (mins)	Compliance
Primary School	Hopton Primary School	1,200	15	- Complies with IHT 2km preferred maximum - Complies with DfE 3.2km maximum - Complies with NTS Education distance of 1.6km - Complies with MfS 'preferred max' 2km walk distance
Local Foodstore	Lidl (Station Road)	880	11	- Complies with IHT 1.2km preferred maximum - Complies with NTS Shopping distance of 1.6km - Marginally exceeds MfS 'comfortable' 800m walk distance
Post Office	Mirfield Post Office (Huddersfield Road)	1,280	16	- Very marginally exceeds IHT 1.2km preferred maximum - Complies with NTS distance of 1.6km - Complies with MfS 'preferred max' 2km walk distance
Doctors	Mirfield Health Centre (Doctor Lane)	1,520	19	- Exceeds IHT 1.2km preferred maximum - Complies with NTS distance of 1.6km - Complies with MfS 'preferred max' 2km walk distance
Dentist	Wood Dental (Huddersfield Road)	1,280	16	- Very marginally exceeds IHT 1.2km preferred maximum - Complies with NTS distance of 1.6km - Complies with MfS 'preferred max' 2km walk distance
Pharmacy	Boots (Doctor Lane)	1,520	19	- Exceeds IHT 1.2km preferred maximum - Complies with NTS distance of 1.6km - Complies with MfS 'preferred max' 2km walk distance
Pub	The Flowerpot (Hopton Lane)	560	7	- Complies with IHT 1.2km preferred maximum - Complies with NTS Shopping distance of 1.6km - Complies with MfS 'comfortable' 800m walk distance
Town Centre	Mirfield Town Centre (Station Rd/Huddersfield Rd Junction)	1,120	14	- Exceeds IHT 0.8km preferred maximum - Complies with NTS distance of 1.6km - Complies with MfS 'preferred max' 2km walk distance

* to/from centre of Appeal Site (distances rounded to nearest 10m)

** based on typical, average walk speed of 400m in 5 mins (or 80m per min) as advised at para 3.30 in IHT document 'Providing for Journeys on Foot' (times rounded to nearest half minute)



4.2.10 Using GIS Network Analyst software the walk times given in table 4.5 are illustrated on Figure 4 in Appendix K. The figures demonstrate that:

- The location of the nearest primary school (Hopton) lies within a comfortable 15 minute walk which complies with IHT/DfE national guidance and NTS data;
- There are several foodstores within an acceptable walking distance of the Site including a Lidl, Premier, Tesco and Co-Op. The nearest of these (Lidl) is situated on Station Road and can be reached within an 11 minute walk thereby complying with IHT national guidance and NTS data;
- The nearest doctors, dentist, pharmacy and town centre as a whole all lie within a 14 to 19 minute walk (1,120m to 1,520m) and whilst this exceeds (slightly for some uses) the preferred maximum IHT distances it does comply with the 1.6km NTS data and is well within the overall 2.0km preferred maximum in MfS. The location of these facilities and many others within the town centre are further considered to be acceptable for the following reasons:
 - The walking route to the services is well lit, well overlooked and generally flat;
 - The walking distances are all less than 1,600m which the IHT document (extract in Appendix H) states is the distance covered by 80% of all walk journeys in urban areas and the CIHT document (extract in Appendix H) states is the distance that “*most people will walk*”. Furthermore, the IHT document recognises and accepts that walking distances will vary between individuals and circumstances taking into account many factors including fitness, journey purpose, walking route etc; and
 - Visits to uses such as the dentist, doctors and pharmacy are not regular and are often undertaken as part of another journey i.e. travelling to/from work.
- The nearest public house, The Flowerpot, is highly accessible being just a 7 minute walk.

Walking Routes

4.2.11 All of the local facilities described above (as well as the nearest bus stops and Mirfield Rail Station) are accessed by walking west from the Site along Granny Lane and then northwards along Hopton New Road/Station Road or Calder Road.

4.2.12 As described in Chapter 3, Granny Lane to the west of the Site maintains a continuous footway on its southern side with two separate short sections provided on the northern side. The southern footway is surfaced, lit, generally flat and has a typical/average width of 1.5m. As identified in Figure 6.8 of MfS (extract in Appendix H) a width of 1.2m



provides sufficient room for an adult to walk alongside a child and 1.5m is also sufficient for two adults to walk alongside each other with one pushing a child buggy.

4.2.13 Modern, new build developments generally install footways at 2.0m width but this does not mean that it is either appropriate or necessary for all the existing highway network to increase its footway width to 2.0m. As advised in Manual for Streets 2 (MfS2 – extract in Appendix H) at paragraphs 2.7.4 and 2.8.2 many historic and semi-rural settlements location, have existed for centuries and the roads “*do not conform to present guidance on highway standards. Indeed to attempt to do so could be to the detriment of local character*”. The Appeal Site is such a location and whilst the existing footway width along Granny Lane is not a standard 2.0m throughout, it does not need to be and is acceptable for the following reasons:

- The existing 1.5m width can safely and satisfactorily accommodate pedestrian movements including adults walking with children, adults walking with a child buggy and people passing each other (as shown on Figure 6.8 of MfS);
- The observed existing pedestrian movements are relatively low thereby minimising occasions when opposing pedestrians meet;
- The relatively small-scale nature of the development proposals will increase pedestrian movements by a small amount;
- Traffic movements and speeds are relatively low; and
- Within the most recently available 5-year period no personal injury accidents involving pedestrians have been recorded along the entire length of the Granny Lane corridor (nor indeed anywhere along Steanard Lane).

4.2.14 Beyond Granny Lane the Hopton New Road/Station Road corridor and the Calder Road route provide footways to both sides of varying width but typically 2.1m. All of the footways are surfaced, lit and generally flat and provide good pedestrian routes to/from Mirfield town centre.

Summary

4.2.15 Based on the distances and journey times in table 4.5, as well as the quality of the walking routes available, it is concluded that the Appeal Site will provide very good and safe accessibility by foot to a vast range of services and facilities within an acceptable walking time in accordance with national guidance.

4.3 Accessibility by Cycle

4.3.1 An acceptable and comfortable distance for general cycling trips is considered to be up to 5 kilometres as referred to in the DfT Local Transport Note 2/08 (extract in Appendix



H). However, the same guidance also refers to commuting cycle trips of up to 8km (a 30 minute cycle travelling at 16kmph on average).

- 4.3.2 Whilst Local Transport Note 1/20 'Cycle Infrastructure Design' has replaced Local Transport Note 2/08, Local Transport Note 1/20 does not contain definitive recommended maximum cycling distances and therefore there is no reason to suggest that these distances are not still applicable.
- 4.3.3 Further evidence regarding the distances people cycle is obtained from data obtained from the National Travel Survey (NTS) and as described in the WYG report titled 'Accessibility – How far do People Walk and Cycle' (copy in Appendix J). The report shows that from an analysis of the NTS data the 85th percentile cycle distance is 7.24km for the UK as a whole. Overall the report concludes from the NTS data that *"for accessibility planning purposes a 7km cycle distance would be appropriate"*.
- 4.3.4 Using GIS Network Analyst software the cycle times to local facilities within Mirfield, as well as destinations beyond, are illustrated on Figure 4 in Appendix K. The figure demonstrates that:
- All of the facilities within Mirfield including schools, shops, health care and leisure facilities can be cycled within 5 minutes of the Appeal Site;
 - Mirfield Rail Station can be cycled within less than 5 minutes; and
 - Many significant employment opportunities can be cycled within 20 to 30 minutes including jobs in Dewsbury and Huddersfield.
- 4.3.5 It is concluded that the Appeal Site will provide a good level of accessibility by cycle to a significant range of key services/facilities/employment opportunities and complies with DfT guidance as well as the NTS data.

4.4 Accessibility by Bus

- 4.4.1 The nearest bus stops to the appeal Site are located on Calder Road, some 560m to the west of the centre of the Site walking along Granny Lane. The southbound bus stop on Calder Road (Ref: 45017564) is provided with a shelter and raised kerbing for ease of access. The northbound stop (Ref: 45017563) is attached to a light column.
- 4.4.2 The bus stops are served by the 261 service which operates in both directions between Huddersfield and Cleckheaton and the route also incorporates Mirfield, Heckmondwike and Liversedge town centres. Bus frequency is one per hour in each direction Monday to Saturday and the service commences from early in the morning (06:27) into the evening (up to 19:42). On a Sunday there are four services in each direction between 10:31 and 17:43. The 261 service details are summarised in table 4.6.



Table 4.6 – Calder Road Bus Service

Service	Route	Days of Operation	Approx. Frequency in each direction	Time of operation
261	Huddersfield – Mirfield - Cleckheaton	Mon-Fri	1 per hour	06:34 - 19:42
		Sat	1 per hour	07:44 - 19:53
		Sun	4 per day	11:43 – 17:43
	Cleckheaton – Mirfield - Huddersfield	Mon-Fri	1 per hour	06:27 – 18:27
		Sat	1 per hour	06:27 – 18:37
		Sun	4 per day	10:31 – 16:31

- 4.4.3 The 261 bus service provides regular connections to Huddersfield, Cleckheaton, Mirfield, Heckmondwike and Liversedge and typical journey times to these locations are provided in table 4.7.

Table 4.7 – Bus Service 261 Typical Journey Times from Calder Road, Mirfield

Service	Destination	Journey Time*
261	Huddersfield Bus Station	38 mins
	Cleckheaton Bus Station	43 mins
	Mirfield Centre	4 mins
	Heckmondwike Centre	33 mins
	Liversedge Centre	33 mins

* times taken from bus timetable and subject to time of travel

- 4.4.4 As shown in table 4.7 (and in accordance with published timetabled information) Mirfield town centre can typically be reached within a short 4 minute journey time. Huddersfield and Cleckheaton can be reached within a satisfactory 38 and 43 minute journey time respectively, subject to the time of day.
- 4.4.5 Some local authorities quote a desire for houses to be no more than 5 minutes walking time i.e. 400m from a bus stop. Whilst the precise source of the 400m requirement is not clear it is likely that it has been obtained from the document entitled 'Guidelines for Planning for Public Transport in Developments' (extract in Appendix H) published in 1999 by The Institution of Highways and Transportation (IHT) where at paragraph 6.20 it states that "*the maximum walking distance to a bus stop should not exceed 400m and preferably be no more than 300m.*" However it should be noted that the document also makes it clear that these walk distances are not fixed, stating that:



“These distances are quoted for guidance, and should not be followed slavishly if that would lead to complex or indirect bus routes” (paragraph 6.20)

“If bus stops can be located at local centres, the network of footpaths and cycle routes can serve both the stop and the centre” (paragraph 6.20)

“Bus stops should, ideally, be located to minimise walking distances, yet maximise the potential catchment areas” (paragraph 6.26).

- 4.4.6 Furthermore there appears to be no reference to any research or empirical evidence within ‘Planning for Public Transport in Developments’ to back up the suggestion that the maximum walk distance to a bus stop should be 400m and I am not aware of any other document that does this.
- 4.4.7 By contrast, the IHT document, ‘Guidelines for Providing for Journeys on Foot’ (extract in Appendix H), does provide some empirical evidence stating that on average people are prepared to walk 1.0km (paragraph 3.30) and that this figure differs little by age or sex, remaining constant since 1975. In the same section of the document Table 3.2 goes on to suggest that the same 1.0km distance is an acceptable walking distance for commuters.
- 4.4.8 The two IHT documents do not appear to ‘marry up’. The more recent document suggests 1km, not 400m. In comparing the two, the 400m maximum walking distance in ‘Planning for Public Transport in Developments’ is introduced with no apparent research/evidence and in any event the document describes that it *“should not be followed slavishly”*. In contrast ‘Providing for Journeys on Foot’ does provide evidence to suggest that people, on average, are prepared to walk much further than 400m, indeed up to 1,000m. Additionally by providing a range of distances in Table 3.2, this IHT document implies that people are prepared to walk greater distances to different land uses and their associated ‘attractiveness’.
- 4.4.9 This is further evidenced by an interrogation of data obtained from the National Travel Survey (NTS) and as described in the WYG report titled ‘Accessibility – How far do People Walk and Cycle’ (copy in Appendix J). The report shows that from an analysis of the NTS data, for the UK as a whole (excluding London):
- The 85th percentile walk distance for all journey purposes is 1.93km which is very similar to the 2.0km figure referenced in the IHT document ‘Guidelines for Providing for Journeys on Foot’;
 - The 85th percentile walk distance specifically for commuting was found to be greater at 2.4km; and
 - The 85th percentile walk distance to a bus stop is 970m and the average is 640m.



4.4.10 The report concludes from the NTS data that:

- more than 50% of people are prepared to walk up to 640m to a bus stop which is 240m greater than the 400m figure referred to in 'Planning for Public Transport in Developments';
- 85% of people are prepared to walk up to 970m to a bus stop which is 570m greater (more than double) than the 400m figure referred to in 'Planning for Public Transport in Developments'; and
- The average walk distance i.e. 640m should be used as the desirable walk distance to public transport and the 85th percentile walk distance i.e. 970m as the limit of accessibility.

4.4.11 The centre of the Appeal Site is some 560m from the Calder Road bus stops and therefore lies comfortably within the average walk distance of 640m evidenced by the NTS data and substantially below (almost half) the acceptable 1.0km surveyed figure provided in IHT guidance. Based on walking distance alone, it is therefore concluded that residents within the Appeal Site will have good accessibility to the local bus stops and services.

4.4.12 Notwithstanding this, the attractiveness of using public transport is not just a factor of distance to bus stops. It is also a factor of destination, journey time and having a regular service that operates throughout the day - all of which will in turn influence the walking distance to bus stops deemed acceptable.

4.4.13 With respect to the first point, paragraph 3.30 of 'Providing for Journeys on Foot' states that the main aspects that influence walking distance appear to be the size of the city (i.e. the destination), the shape/quality of the pedestrianised area, the type of shops and number of activities. This is logical and clearly nearby, major destinations such as Huddersfield and other towns offer significant employment, retail and leisure opportunities, ensuring that the development Site meets this measure of bus service attractiveness.

4.4.14 Furthermore, funding of £10,000 has been agreed to provide a real time information display at the Calder Road southbound bus stop as well £33,533.50 to provide Residential Metrocards to new home owners.

4.4.15 In summary it is concluded that the Appeal Site will provide a good level of accessibility by bus to a vast range of local services, facilities and employment opportunities. The Council also concur that "*the Site is accessible by bus*" (Para 10.40 of Committee report).



4.5 Accessibility by Rail

- 4.5.1 The nearest rail station to the Site is Mirfield Railway Station which is located some 840m walking distance to the north-west of the centre of the Appel Site. The station is managed by Northern and facilities at the station include CCTV, cycle parking (4 lockers and 20 stands), a 35 space car park and ticket machine.
- 4.5.2 Table 4.8 shows the available services from Mirfield Station. The services provide access to multiple destinations including Leeds, Huddersfield and Bradford which can typically be reached within an approximate 30, 11 and 35 minute journey time respectively.

Table 4.8 – Mirfield Station Rail Service Summary

Route	Journey Length	Weekday Frequency (one-way)
Mirfield - Leeds	27 – 32 Minutes	2 per hour
Mirfield - Huddersfield	11 Minutes	1 per hour
Mirfield – Bradford Interchange	35 Minutes	2 to 3 per day

- 4.5.3 Mirfield station is some 840m from the centre of the Site and is accessible by cycle within 3½ minutes and can be walked within 10½ minutes. The Appel Site therefore provides a very good level of accessibility by rail, being only very marginally above the 800m walking distance figure provided in the IHT document ‘Guidelines for Planning for Public Transport’ (extract in Appendix H).
- 4.5.4 Furthermore the data obtained from the National Travel Survey (NTS) and as described in the WYG report titled ‘Accessibility – How far do People Walk and Cycle’ demonstrates that people will walk much further than 800m to rail stations. Indeed the average walk distance to a surface railway station (outside London) is 1.03km and the 85th percentile walk distance is 1.6km – the WYG document recommends that these values should be adopted as the ‘desirable’ and ‘limit of accessibility’ values respectively. Clearly at 840m away from the Site, Mirfield Station falls well within both categories and will therefore be highly accessible to residents of the development Site.
- 4.5.5 In the February 2021 Committee Report the Council also conclude that “*the Site is accessible by means other than the private car. Mirfield Railway Station is within approximately 800m walking distance of the proposed site access.*” (Para 10.39).

4.6 Travel Plan and Additional Measures

- 4.6.1 A Framework Travel Plan (FTP) dated March 2019 was prepared by BGH and reviewed by Kirklees Council. As advised in the February 2021 Committee Report (para 10.86) the FTP, which includes measures to discourage vehicle use and encourage modal shift (to



public transport, walking and cycling) will be secured via a S106 Agreement. Specific measures that have been agreed with the Council include:

- A contribution of £10,000 to provide a real time information display at the southbound Calder Road bus stop situated close to Granny Lane (Stop Ref: 45017564);
- A Residential Metrocard contribution figure of £33,533.50; and
- £10,000 to fund other future sustainable measures which may be required by the Travel Plan.

4.7 Summary

- 4.7.1 The Site provides a very good level of accessibility by foot, cycle and public transport to a significant range of services, facilities and employment opportunities including within Mirfield town centre and Huddersfield. Regular bus services are located within a 7 minute walk and Mirfield railway station can be cycled within 3½ minutes and walked within 10½ minutes. As such the Site will minimise vehicular journeys, both short distance local trips within Mirfield as well as longer trips.
- 4.7.2 In summary it is concluded that the proposed development Site provides very good accessibility by foot, cycle and public transport - as such it is in a very sustainable location and is fully compliant with local policy as well as the NPPF.
- 4.7.3 As stated in the February 2021 Committee report Kirklees Council also agree that *“the site is within an existing residential area and it is considered to be sufficiently accessible by means other than the private car and an accessible location for development”*.



5 Traffic Flows

5.1 Introduction

- 5.1.1 This chapter describes the traffic surveys, trip generations, trip distributions and growth assumptions used in the assessment of the local highway network.

5.2 Extent of Capacity Assessments

- 5.2.1 Based on the level of predicted development impact it was agreed with Kirklees Council (KC) that the extent of the highway network to be assessed within the 2019 BGH Transport Assessment should include the following junctions (as referenced in Paragraph 10.36 of the February 2021 Committee report):

- A644 Huddersfield Road/Station Road/Queen Street – Signalised Junction;
- A644 Huddersfield Road/Steand Lane – Priority Junction; and
- Steand Lane – Signalised Bridge (over River Calder).

- 5.2.2 The DfT's 2007 "Guidance on Transport Assessment" (GTA) document (now withdrawn) suggested that a development traffic generation of 30 two-way trips represented a reasonable threshold figure above which further assessment may be required but below which the impact could be considered non-material. Whilst the Government's current Planning Practice Guidance (PPG), which supports the National Planning Policy Framework (NPPF), does not specifically refer to 30 trips, this remains a starting threshold which is generally applied within the industry including by many Local Highway Authorities and Highways England.

- 5.2.3 It is noted that, even when applying a very high trip rate requested by the Council (see Section 5.6 of this PoE), the proposed development will generate less than 30 two-way trips at each of the above three junctions. The capacity assessment of these three junctions is therefore robust.

- 5.2.4 The 2019 BGH Transport Assessment did not assess the development impact at the Granny Lane/Hopton New Road/Four Acres mini-roundabout junction to the west of the Site and it is understood that KC did not require it to be modelled either. Notwithstanding this, for robustness and in consideration that the development does generate slightly more than 30 two-way trips at this location (applying the Council's high trip rate), the Granny Lane/Hopton New Road/Four Acres mini-roundabout junction has also been modelled in this PoE.



5.2.5 In summary, the extent of the existing highway network assessed within Chapter 6 this PoE covers the following four junctions:

- A644 Huddersfield Road/Station Road/Queen Street – Signalised Junction;
- A644 Huddersfield Road/Steand Lane – Priority Junction;
- Steand Lane – Signalised Bridge (over River Calder); and
- Granny Lane/Hopton New Road/Four Acres - Mini-roundabout junction.

5.2.6 In addition to the above four existing off-site junctions, Chapter 6 also includes an assessment of the proposed Granny Lane/Site Access junction.

5.3 Traffic Survey Flows

5.3.1 The junction traffic surveys which informed the 2019 BGH Transport Assessment and were accepted by Kirklees Council, were undertaken on Thursday 1st February 2018. With little change to the local highway network in the three year period since, I consider that the 2018 traffic surveys remain sufficiently representative.

5.3.2 Notwithstanding this and acknowledging that Covid-19 lockdown measures have not yet been fully lifted in line with the Government's roadmap, the key central A644 Huddersfield Road/Station Road/Queen Street junction within Mirfield has been re-counted to ensure that the 2018 traffic flows have not been exceeded and remain valid. Additionally, the Granny Lane/Hopton New Road junction was counted as it had not been surveyed in 2018.

5.3.3 A summary of the surveys is provided in table 5.1 and the data is provided in Appendix L. The location of the surveys is shown on the plan also in Appendix L.

Table 5.1 – Junction Traffic Surveys

Location	Type	Date Undertaken	Assessment Periods
A644 Huddersfield Rd/Station Rd/Queen Street	Fully Classified Manual Turning Count	Thursday 1 st February 2018 & Tuesday 8 th June 2021	07:00-10:00 & 16:00-19:00*
A644 Huddersfield Road/Steand Lane	Fully Classified Manual Turning Count	Thursday 1 st February 2018 & Tuesday 8 th June 2021	07:00-10:00 & 16:00-19:00*
Steand Lane Signalised Bridge	Fully Classified Manual Turning Count	Thursday 1 st February 2018 & Tuesday 8 th June 2021	07:00-10:00 & 16:00-19:00*
Granny Lane/Hopton New Road/Four Acres	Fully Classified Manual Turning Count	Thursday 1 st February 2018 & Tuesday 8 th June 2021	07:00-10:00 & 16:00-19:00*

*2018 survey period was 15:30 to 18:30



5.3.4 Both the 2018 and 2021 traffic surveys identified the following weekday morning and evening peak hour periods:

- Weekday AM Peak Hour – 07:45 to 08:45; and
- Weekday PM Peak Hour – 16:15 to 17:15.

5.3.5 A comparison has been undertaken of the 2018 and 2021 counts at the A644 Huddersfield Rd/Station Rd/Queen Street junction and the results are summarised in table 5.2.

Table 5.2 – Comparison of Huddersfield Road/Station Road Junction Traffic Surveys

	Total Junction Approach Traffic/Hour (Vehicles)	
	AM Peak Hour	PM Peak Hour
2018 Survey	1,519	1,817
2021 Survey	1,334	1,586
2021 to 2018 Flow Difference	+185	+231
2021 to 2018 Percentage Change	+13.87%	+14.56%

5.3.6 As shown in table 5.2 the 2021 count at the A644 Huddersfield Road/Station Road/Queen Street junction recorded 185 and 231 less approaching vehicles in the morning and evening peak hours respectively. It is therefore concluded that the 2018 traffic flows have not been exceeded and remain valid at the following junctions:

- A644 Huddersfield Road/Station Road/Queen Street;
- A644 Huddersfield Road/Steand Lane; and
- Steand Lane – Signalised Bridge.

5.3.7 The 2018 junction traffic flows for the above junctions are shown on Figures 100 and 101 (contained in Appendix M) for the weekday morning and evening peak hours respectively.

5.3.8 The recorded 2021 traffic flows at the Granny Lane/Hopton New Road/Four Acres mini-roundabout junction are shown on Figures 102 and 103 (contained in Appendix M). The approaching and departing traffic flows at this junction have also been utilised to show the two-way flows on Granny Lane across the Site frontage.

5.3.9 For robustness, in order to obtain an equivalent 2018 flow at Granny Lane/Hopton New Road, the flows at the junction have been increased by 13.87% and 14.56% during the morning and evening peak hours respectively i.e. replicating the flow change recorded at the Huddersfield Road/Station Road junction between 2021 and 2018 (shown in table



5.2). The resulting '2018 equivalent' flows at the Granny Lane/Hopton New Road mini-roundabout and on Granny Lane adjacent to the Site are shown on Figures 104 and 105 (contained in Appendix M).

- 5.3.10 The 2018 traffic flows for all of the assessed junctions are shown on Figures 106 and 107 (contained in Appendix M) for the weekday AM and PM peak hours respectively.

5.4 Traffic Growth, Consented Development and Base Flows

Consented Development Sites

- 5.4.1 As requested by Kirklees Council the following two consented development Sites were included in the 2019 BGH Transport Assessment that supported the planning application:
- Station Road, Mirfield (former Lidl Site) – proposal for 70 residential apartments (Planning Ref: 2017/92997); and
 - Calder View, Lower Hopton, Mirfield – proposal for 99 affordable dwellings (Planning Ref: 2017/90557).
- 5.4.2 Both of the above planning applications were supported by Transport Statements which indicated expected levels of traffic generation but did not distribute these trips across the local highway network because the trip generations were so low and the negligible impact they would have.
- 5.4.3 Based on the traffic distribution predicted for the proposed Appeal site, the trips generated by both consented development sites have been distributed across the local highway network (the same methodology undertaken by BGH in their 2019 TA which was assessed by the Council). The resulting morning and evening peak hour flows are shown on Figures 112 and 113 for the Calder View site and Figures 114 and 115 for the Station Road Site – all of these Figures are provided in Appendix N.
- 5.4.4 During the preparation of this PoE discussions held with Highways Officers at the Council confirmed that the above Station Road and Calder View consented schemes should be included in the updated assessment of the local highway network. The Council Officer did refer to one further consented scheme which has been approved since the completion of the 2019 BGH Transport Assessment and that is the proposal for a relatively small (1,890sq.m) food retail unit to be provided on the former Kenmore Caravans site on Huddersfield Road, Mirfield.



- 5.4.5 However, it was discussed and agreed with Kirklees Council that if anything, the new retail unit would benefit traffic flows at the nearby Huddersfield Road/Station Road/Queen Street junction because new foodstores do not generate 'new' trips. The vast majority of trips already exist on the local highway network and instead they just transfer from other locations thereby reducing trips to/from existing foodstores most of which lie to the east of the Kenmore Caravans site i.e. such as the existing Lidl on Station Road.

Traffic Growth

- 5.4.6 Traffic growth is predicted based on a combination of proposed future development, car ownership and changing attitudes to the way people use and have access to their vehicles. Background traffic growth rates for the local area surrounding the Site have been determined using Temprow 7.2c for the 2024 base year. The resulting growth values for the AM and PM peak hours are provided in Appendix O and summarised as follows:

- AM Peak growth 2018 to 2024 – 5.21%; and
- PM Peak growth 2018 to 2024 – 5.24%.

- 5.4.7 The peak growth rates already include for some level of residential development and to avoid 'double counting' it is usual practice to adjust the Temprow growth rates down by removing any consented development sites which have been separately allowed for e.g. Station Road and Calder View in this instance. However, this has not been done and therefore the 2024 Growthed traffic flows, which are shown on Figures 110 and 111 contained in Appendix N, are robust.

Base Traffic Flows

- 5.4.8 Combining the consented development flows (Figures 112 to 115) with the growthed traffic counts (Figures 110 and 111), produces the 2024 Base traffic flows for the weekday AM and PM peak hours - as shown on Figures 116 and 117 in Appendix N.

5.5 Development Build Out

- 5.5.1 Based on receiving planning consent in early 2022 it has been confirmed by Miller Homes that all 67 dwellings would be constructed by the end of 2024.

5.6 Development Trip Rates

- 5.6.1 The standard industry practice for determining development trip rates is to utilise surveyed information of other similar sites within the TRICS (Trip Rate Information Computer System) database. This has been undertaken for the proposed residential development and survey sites within the TRICS database (Version 7.8.2) have been chosen using the following parameters:



- Land use: 03 Residential; A - Houses Privately Owned
- Calculation options: Vehicular trip rates selected;
- Regions selected: All except Greater London, Ireland and Northern Ireland;
- Trip Rate Parameters: Number of dwellings;
- Parameter range: 30 - 100 selected;
- Date range: 1st January 2013 and 20th October 2020;
- Days included: Monday to Friday; and
- Location Type: Edge of Town, Suburban Area.

5.6.2 The resulting TRICS outputs are contained within Appendix P, with a summary of the trip rates shown in table 5.3.

Table 5.3 – TRICS Residential Vehicular Trip Rates

Time Period	Vehicular Trip Rate per Dwelling		
	Arrivals	Departures	Total Two-way
AM Peak Hour	0.128	0.372	0.500
PM Peak Hour	0.331	0.149	0.480

5.6.3 In their 2019 Transport Assessment BGH undertook a similar TRICS exercise which resulted in the slightly higher (but not too dissimilar) trip rates shown in table 5.4.

Table 5.4 – BGH TRICS Residential Vehicular Trip Rates

Time Period	Vehicular Trip Rate per Dwelling		
	Arrivals	Departures	Total Two-way
AM Peak Hour	0.154	0.42	0.574
PM Peak Hour	0.351	0.167	0.516

5.6.4 Notwithstanding the TRICS trip rate determined by BGH for their 2019 TA (as shown in table 5.4) Kirklees Council Highway Officers requested that a two-way trip of 0.8 per dwelling was utilised (0.2 arrivals and 0.6 departures in the morning peak hour and vice-versa in the evening peak hour). There is no justification or evidence to support utilising such a high trip rate but for robustness BGH applied this higher trip rate within their 2019 Transport Assessment which supported the planning application.

5.6.5 Therefore, whilst I do not agree with such a high residential trip rate, for consistency with what was previously agreed, I have applied the previously requested Council trip



rates shown in table 5.5. As such, these trip rates are regarded as very high and extremely robust.

Table 5.5 – Requested Kirklees Council Residential Vehicular Trip Rates

Time Period	Vehicular Trip Rate per Dwelling		
	Arrivals	Departures	Total Two-way
AM Peak Hour	0.2	0.6	0.8
PM Peak Hour	0.6	0.2	0.8

5.7 Development Trip Generations

5.7.1 Applying the vehicular trip rates in table 5.5 to 67 units, results in the vehicular peak hour trip generations shown in table 5.6.

Table 5.6 – Development Vehicular Trip Generations

Time Period	Vehicular Trip Generations (for 67 dwellings)		
	Arrivals	Departures	Total Two-way
AM Peak Hour	13	40	53
PM Peak Hour	40	13	53

5.7.2 Applying the very high Council requested trip rates results in two-way morning and evening peak hour development trips of 53 vehicles. In comparison, applying the TRICS trip rates in table 5.3, would result in 34 vehicle movements i.e. 19 less trips which equates to a 36% reduction.

5.7.3 It is concluded that the addition of 53 development trips during both weekday peak hour periods represents a very robust assessment of development impact.

5.8 Development Trip Distribution

5.8.1 In their 2019 Transport Assessment BGH undertook a development traffic distribution exercise based on 2011 Census data 'journey to work' information. This exercise, which informed the junction assessments reviewed by and agreed with the Council, produced the following key traffic distributions:

- Hopton Lane (west of the site towards Huddersfield): 15%
- Steanard Lane/Huddersfield Road (east of Site towards Dewsbury): 34%
- Station Road/Huddersfield Road (west of Site towards Cooper Bridge): 51%



-
- 5.8.2 The application of Census 'journey to work' data is a standard approach which I have regularly used. I have reviewed the distribution undertaken by BGH (and also reviewed by Kirklees Council) and concur with its findings. The proposed traffic distributions are shown diagrammatically on Figure 120 in Appendix Q.
- 5.8.3 Multiplying the trip generations in table 5.6 by the distributions on Figure 120 gives the AM and PM development trips on the local highway network – as shown on Figures 121 and 122 in Appendix Q.

5.9 Design Traffic Flows

- 5.9.1 Adding the proposed development trips (Figures 121 and 122) to the 2024 Base traffic flows (Figures 116 and 117) produces the 2024 Design traffic flows, as shown on the figures in Appendix Q.



6 Highway Capacity Assessments

6.1 Introduction

6.1.1 This chapter describes the capacity analysis undertaken for the relevant junctions on the highway network.

6.2 Proposed Granny Lane/Site Access

6.2.1 As described in Chapter 3 the means of access to the development Site is proposed from a new priority junction on Granny Lane (as shown on the drawing in Appendix F). The PICADY function of the Junctions 9 software has been used to assess the operation of this junction in the 2024 Design traffic flow scenario. The results of the AM and PM peak hours are summarised in table 6.1 and a full print out of the software analysis is provided in Appendix R.

Table 6.1 – Proposed Granny Lane/Site Access: 2024 Design

Movement	AM Peak Hour			PM Peak Hour		
	RFC	Delay/pcu (secs)	Mean Q (pcu's)	RFC	Delay/pcu (secs)	Mean Q (pcu's)
Site Access	0.09	8	0	0.03	8	0
Granny Lane West (Right Turn)	0.02	5	0	0.06	6	0

6.2.2 A Ratio of Flow to Capacity (RFC) value below 0.85 indicates that a priority junction is operating within its desirable practical capacity. An RFC value between 0.85 and 1.00 indicates that there are likely to be occasions during the period modelled when queues will develop and delays will occur. An RFC value greater than 1.00 indicates that the junction or arm operates beyond its theoretical capacity with an associated increase in queuing and delay within that specified time period.

6.2.3 The results in table 6.1 demonstrate that the proposed Granny Lane priority junction is predicted to operate comfortably within desirable practical capacity i.e. an RFC significantly less than 0.85. All movements experience negligible delays with no queuing predicted.

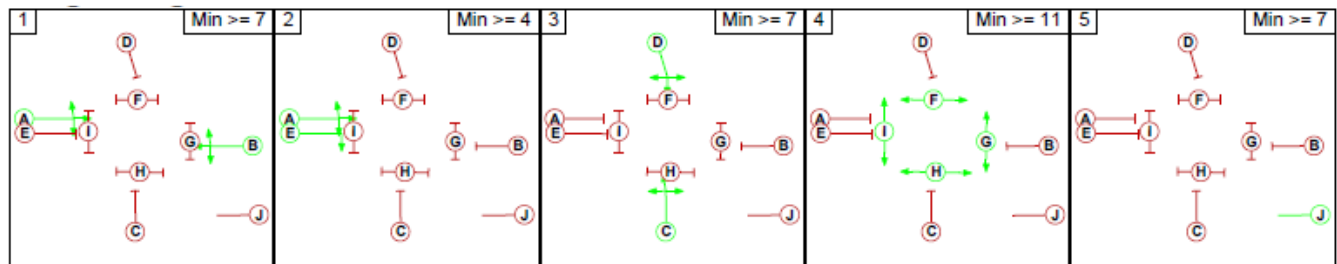
6.3 Existing A644 Huddersfield Road/Station Road/Queen Street

6.3.1 The existing layout of the A644 Huddersfield Road/Station Road/Queen Street Signalised Crossroads, which is shown on the figure in Appendix S, has been modelled using Linsig Version 3.2.40 software.



- 6.3.2 The model has been calibrated using Council signal information and on-site observations. The signals have been modelled based on the existing cycle times of 96 seconds in the AM and 112 seconds in the PM weekday peak hours.
- 6.3.3 Stage 4 includes an all red for pedestrians and a survey has been undertaken to determine the demand of the 'all red' pedestrian stage on Tuesday 8th June 2021 - the results are attached at Appendix S. Over the surveyed three hour morning and three hour evening peak period the all red pedestrian stage was demanded on average once every two cycles. In the Linsig model the 'all red' pedestrian stage has therefore been modelled as being demanded once every two cycles. The overall staging of the junction is shown in Image 6.1.

Image 6.1 A644 Huddersfield Road/Station Road/Queen Street Signal Staging



- 6.3.4 The phases shown in the staging diagram are as follows:

- Phase A – A644 Huddersfield Road (W);
- Phase B- A644 Huddersfield (E);
- Phase C – Station Road; and
- Phase D – Queen Street; and
- Phase E – A644 Huddersfield Road (W) Right Turn.

- 6.3.5 The junction has initially been modelled for the AM and PM peak hours with the 2018 count traffic flows and the results are summarised in Table 6.2. A full print out of the software analysis is provided in Appendix S.

Table 6.2 – Existing A644 Huddersfield Rd/Station Rd/Queen Street: 2018 Count Flows

Lane	Lane Description	AM Peak Hour			PM Peak Hour		
		D.o.S (%)	Delay (s)	Q (PCU)	D.o.S (%)	Delay (s)	Q (PCU)
1/1	Queen Street	3.7%	44.1	0	5.1%	44.8	0
2/1	A644 Huddersfield Road (E)	69.6%	26.1	14	82.5%	33.7	23
3/1	Station Road	70.4%	55.8	4	81.2%	66.0	8
4/1	A644 Huddersfield Road (W)	70.1%	18.1	15	69.6%	19.5	17



- 6.3.6 A Degree of Saturation (DoS) value below 90% indicates that a signalised junction is operating within its desirable practical capacity. A DoS value between 90% and 100% indicates that there are likely to be occasions during the period modelled when queues will develop, and delays will occur. A DoS value greater than 100% indicates that the junction or arm operates beyond its theoretical capacity with an associated increase in queuing and delay within the specific period.
- 6.3.7 The results in table 6.2 reflect on-site observations and show that the junction currently operates within desirable practical capacity, with a maximum DoS of 82.5% on the A644 Huddersfield Road east arm during the PM peak hour.
- 6.3.8 The junction has then been modelled for the 2024 Base traffic flow scenario i.e. with background growth and consented development traffic but without the proposed development trips and the results, which show that the junction will continue to operate within a desirable practical capacity of 90%, are summarised in table 6.3.

Table 6.3 – Existing A644 Huddersfield Rd/Station Rd/Queen St: 2024 Base Flows

Lane	Lane Description	AM Peak Hour			PM Peak Hour		
		D.o.S (%)	Delay (s)	Q (PCU)	D.o.S (%)	Delay (s)	Q (PCU)
1/1	Queen Street	3.7%	44.1	0	5.1%	44.8	0
2/1	A644 Huddersfield Road (E)	73.6%	27.6	16	87.7%	38.8	26
3/1	Station Road	74.9%	59.3	4	86.3%	74.3	9
4/1	A644 Huddersfield Road (W)	74.4%	19.6	17	73.9%	21.1	19

- 6.3.9 Finally, the junction has been modelled for the 2024 ‘with development’ design scenario, which includes traffic growth, committed development and the proposed development trips. The results of this assessment are shown in table 6.4.

Table 6.4 – Existing A644 Huddersfield Rd/Station Rd/Queen St: 2024 Design Flows

Lane	Lane Description	AM Peak Hour			PM Peak Hour		
		D.o.S (%)	Delay (s)	Q (PCU)	D.o.S (%)	Delay (s)	Q (PCU)
1/1	Queen Street	3.5%	43.8	0	5.1%	45.1	0
2/1	A644 Huddersfield Road (E)	74.6%	28.4	16	87.7%	38.8	26
3/1	Station Road	74.7%	56.7	5	87.3%	76.0	10
4/1	A644 Huddersfield Road (W)	75.7%	20.3	17	75.5%	21.6	20

- 6.3.10 Table 6.4 demonstrates that the addition of the Appeal Site development trips can satisfactorily be accommodated and the A644 Huddersfield Road/Station Road/Queen Street junction continues to operate within desirable practical capacity with a maximum



DoS of 87.7% on the Huddersfield Road East approach. The development proposals have a minimal impact on the operation of the junction.

- 6.3.11 Furthermore the most recently available accident data (described in Chapter 3) confirms that there are no specific highway safety concerns at the junction. No mitigation is therefore justified or required from either a highway safety or a capacity perspective.

6.4 Existing A644 Huddersfield Road/Steand Lane

- 6.4.1 The existing layout of the A644 Huddersfield Road/Steand Lane ghost island priority 'T' junction, which is shown on the figure in Appendix T, has been modelled using the PICADY function within the Junctions 9 software. The junction has initially been modelled for the AM and PM peak hours with the 2018 count traffic flows and the results are summarised in Table 6.5. A full print out of the software analysis is provided in Appendix T.

Table 6.5 – Existing Huddersfield Road/Steand Lane: 2018 Count Flows

Movement	AM Peak Hour			PM Peak Hour		
	RFC	Delay/pcu (secs)	Mean Q (pcu's)	RFC	Delay/pcu (secs)	Mean Q (pcu's)
Steand Lane	0.48	21	1	0.56	29	1
Huddersfield Road West (Right Turn)	0.14	9	0	0.17	9	0

- 6.4.2 The results in table 6.5 reflect on-site observations and show that the junction currently comfortably operates within desirable practical capacity with a maximum RFC of 0.56 during the PM peak hour period.
- 6.4.3 The junction has then been modelled for the 2024 Base traffic flow scenario i.e. with background growth and consented site traffic but without the proposed development trips and the results, which show that the junction will continue to operate within desirable practical capacity, are summarised in table 6.6.

Table 6.6 – Existing Huddersfield Road/Steand Lane: 2024 Base Flows

Movement	AM Peak Hour			PM Peak Hour		
	RFC	Delay/pcu (secs)	Mean Q (pcu's)	RFC	Delay/pcu (secs)	Mean Q (pcu's)
Steand Lane	0.53	25	1	0.64	38	2
Huddersfield Road West (Right Turn)	0.15	9	0	0.18	10	0



- 6.4.4 Finally, the junction has been modelled for the 2024 ‘with development’ design scenario, which includes traffic growth, committed development and the proposed development trips. The results of this assessment are shown in table 6.7.

Table 6.7 – Existing Huddersfield Road/Steand Lane: 2024 Design Flows

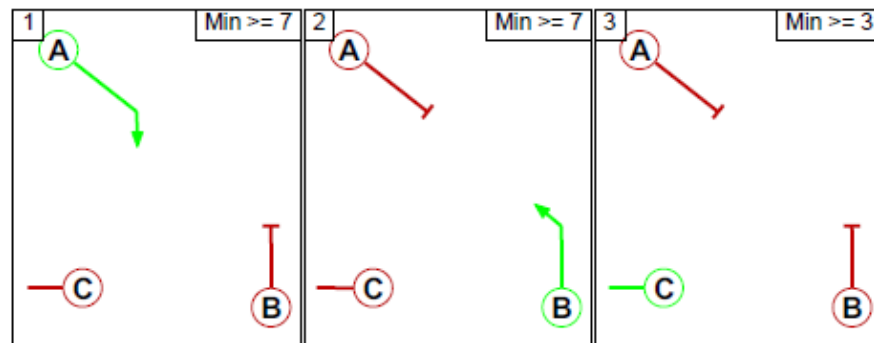
Movement	AM Peak Hour			PM Peak Hour		
	RFC	Delay/pcu (secs)	Mean Q (pcu's)	RFC	Delay/pcu (secs)	Mean Q (pcu's)
Steand Lane	0.60	30	1	0.68	42	2
Huddersfield Road West (Right Turn)	0.15	9	0	0.18	10	0

- 6.4.5 Table 6.7 demonstrates that the addition of the Appeal Site development trips can satisfactorily be accommodated and the A644 Huddersfield Road/Steand Lane junction continues to operate within desirable practical capacity. The development proposals have a minimal impact on the operation of the junction.
- 6.4.6 Furthermore the most recently available accident data (described in Chapter 3) confirms that there are no specific concerns at the junction. No mitigation is therefore justified or required from either a highway safety or a capacity perspective.

6.5 Existing Steand Lane Signalised Bridge

- 6.5.1 The existing layout of the Steand Lane Signalised Bridge, which is shown on the figure in Appendix U, has been modelled using Linsig Version 3.2.40 software.
- 6.5.2 The model has been calibrated using Council signal information and on-site observations. The signals have been modelled based on the existing cycle time of 112 seconds in both the AM and PM peak hours. The overall staging of the junction is shown in Image 6.2.

Image 6.2 Steand Lane Signalised Bridge Staging



- 6.5.3 The phases shown in the staging diagram are as follows:



- Phase A – Steanard Lane (NW); and
- Phase B- Steanard Lane (S).

6.5.4 The junction has initially been modelled for the AM and PM peak hours with the 2018 count traffic flows and the results are summarised in Table 6.8. A full print out of the software analysis is provided in Appendix U.

Table 6.8 – Existing Steanard Lane Signalised Bridge: 2018 Count Flows

Lane	Lane Description	AM Peak Hour			PM Peak Hour		
		D.o.S (%)	Delay (s)	Q (PCU)	D.o.S (%)	Delay (s)	Q (PCU)
1/1	Steanard Lane NW	23.1%	25.7	3	23.3%	25.8	3
2/1	Steanard Lane S	22.6%	28.3	3	23.6%	28.4	3

6.5.5 The results in table 6.8 reflect on-site observations and show that the junction currently comfortably operates significantly below the desirable practical capacity with a maximum DoS of 22.6% to 23.6% during both peak hour periods.

6.5.6 The junction has then been modelled for the 2024 Base traffic flow scenario i.e. with background growth and consented site traffic but without the proposed development trips and the results, which show that the junction will continue to operate significantly within desirable practical capacity, are summarised in table 6.9.

Table 6.9 – Existing Steanard Lane Signalised Bridge: 2024 Base Flows

Lane	Lane Description	AM Peak Hour			PM Peak Hour		
		D.o.S (%)	Delay (s)	Q (PCU)	D.o.S (%)	Delay (s)	Q (PCU)
1/1	Steanard Lane NW	23.9%	25.2	3	24.5%	25.9	3
2/1	Steanard Lane S	24.4%	29.3	3	24.7%	28.6	4

6.5.7 Finally, the junction has been modelled for the 2024 ‘with development’ design scenario, which includes traffic growth, committed development and the proposed development trips. The results of this assessment are shown in table 6.10.

Table 6.10 – Existing Steanard Lane Signalised Bridge: 2024 Design Flows

Lane	Lane Description	AM Peak Hour			PM Peak Hour		
		D.o.S (%)	Delay (s)	Q (PCU)	D.o.S (%)	Delay (s)	Q (PCU)
1/1	Steanard Lane NW	25.6%	26.8	4	26.0%	25.5	4
2/1	Steanard Lane S	25.4%	28.0	4	26.2%	29.6	4



- 6.5.8 Table 6.10 demonstrates that the addition of the Appeal Site development trips can satisfactorily be accommodated and the signalised Steanard Lane bridge continues to operate significantly below desirable practical capacity. The development proposals have a minimal impact on the operation of the junction.
- 6.5.9 Furthermore the most recently available accident data (described in Chapter 3) confirms that there are no concerns with no accidents recorded during the period. No mitigation is therefore justified or required from either a highway safety or a capacity perspective.

6.6 Existing Granny Lane/Hopton New Road/Four Acres

- 6.6.1 The existing layout of the Granny Lane/Hopton New Road mini-roundabout junction, which is shown on the figure in Appendix V, has been modelled using the ARCADY function within the Junctions 9 software. The junction has initially been modelled for the AM and PM peak hours with the 2018 count traffic flows and the results are summarised in Table 6.11. A full print out of the software analysis is provided in Appendix V.

Table 6.11 – Existing Granny Lane/Hopton New Road: 2018 Count Flows

Movement	AM Peak Hour			PM Peak Hour		
	RFC	Delay/pcu (secs)	Mean Q (pcu's)	RFC	Delay/pcu (secs)	Mean Q (pcu's)
Hopton New Road	0.19	5	0	0.30	6	0
Granny Lane (East)	0.20	4	0	0.37	6	1
Four Acres	0.00	0	0	0.00	0	0
Granny Lane (West)	0.40	5	1	0.36	5	1

- 6.6.2 The results in table 6.11 reflect on-site observations and show that the junction currently comfortably operates within desirable practical capacity with a maximum RFC of 0.4 during the morning peak hour period.
- 6.6.3 The junction has then been modelled for the 2024 Base traffic flow scenario i.e. with background growth and consented site traffic but without the proposed development trips and the results, which show that the junction will continue to operate within desirable practical capacity, are summarised in table 6.12.



Table 6.12 – Existing Granny Lane/Hopton New Road: 2024 Base Flows

Movement	AM Peak Hour			PM Peak Hour		
	RFC	Delay/pcu (secs)	Mean Q (pcu's)	RFC	Delay/pcu (secs)	Mean Q (pcu's)
Hopton New Road	0.20	5	0	0.31	6	1
Granny Lane (East)	0.21	4	0	0.39	6	1
Four Acres	0.00	0	0	0.00	0	0
Granny Lane (West)	0.42	6	1	0.38	5	1

6.6.4 Finally, the junction has been modelled for the 2024 'with development' design scenario, which includes traffic growth, committed development and the proposed development trips. The results of this assessment are shown in table 6.13.

Table 6.13 – Existing Granny Lane/Hopton New Road: 2024 Design Flows

Movement	AM Peak Hour			PM Peak Hour		
	RFC	Delay/pcu (secs)	Mean Q (pcu's)	RFC	Delay/pcu (secs)	Mean Q (pcu's)
Hopton New Road	0.21	5	0	0.34	6	1
Granny Lane (East)	0.24	5	0	0.40	6	1
Four Acres	0.00	0	0	0.00	0	0
Granny Lane (West)	0.43	6	1	0.39	5	1

6.6.5 Table 6.13 demonstrates that the addition of the Appeal Site development trips can satisfactorily be accommodated and the Granny Lane/Hopton New Road junction continues to operate well within desirable practical capacity. The development proposals have a minimal impact on the operation of the junction.

6.6.6 Furthermore the most recently available accident data (described in Chapter 3) confirms that there are no concerns at the junction with no accidents recorded during the period. No mitigation is therefore justified or required from either a highway safety or a capacity perspective.

6.7 Summary

6.7.1 It has been demonstrated that the proposed development can be safely and satisfactorily accommodated on the existing local highway network and no mitigation is therefore justified or required from either a highway safety or a capacity perspective.

6.7.2 The development proposals have a minimal impact on the operation of local junctions and falls well below the threshold test of having a 'severe' impact, as set out in paragraph 109 of the NPPF.



-
- 6.7.3 Furthermore, the assessment of the local highway network is very robust because it incorporates a very high development trip rate (as requested by Kirklees Council) and also allows for an element of double counting by considering the traffic generated by consented development sites as well as applying background traffic growth.



7 Local Residents Comments

7.1 Introduction

7.1.1 This chapter addresses and summarises the primary highways related concerns raised by local residents during the planning process.

7.2 Existing Highway Infrastructure

7.2.1 Comments were received to the planning application raising concerns that the existing local highway infrastructure (carriageways and footways) is not to a sufficient standard.

7.2.2 I have addressed this fully in Chapters 3 and 4 of this PoE with the key points being:

- The majority of vehicular trips generated by the development will travel west along Granny Lane which provides a satisfactory and safe vehicular route with acceptable carriageway widths which are typically 5.4m to 5.6m, reducing to 5.3m over a short length.
- Some development traffic will route east from the Site along Steanard Lane. It is acknowledged that Steanard Lane has some reduced carriageway widths in places but it still provides a safe and satisfactory vehicular route for the following reasons:
 - The existing (and proposed) vehicle movements are low and the composition of traffic is such that large HGV movements are very minimal and the vast majority of passing/opposing vehicles are cars or Light Goods Vehicles;
 - MfS illustrates that a 4.8m carriageway can accommodate an HGV passing an opposing car and 4.1m is sufficient to permit two cars to pass. These widths are equivalent to or less than the 4.8m to 5.2m generally provided or the short lengths of 4.6m width;
 - A 'priority' operation is in place whereby southbound drivers are required to give-way to northbound vehicles if necessary and on the occasions when two opposing vehicles meet;
 - Vehicular speeds are low and are positively influenced by the reduced carriageway widths (and priority system), which in accordance with MfS, has one of the greatest effects on successfully reducing driver speeds; and
 - Accident records demonstrate that within the most recently available 5-year period there has been no personal injury accidents at all along the full length of Steanard Lane.



- All of the local facilities (as well as the nearest bus stops and Mirfield Rail Station) are accessed by walking west from the Site along Granny Lane and then northwards along Hopton New Road/Station Road or Calder Road. Granny Lane to the west of the Site maintains a continuous footway on its southern side which is surfaced, lit, generally flat and has a typical/average width of 1.5m. Granny Lane provides a safe and satisfactory pedestrian route for the following reasons:
 - As identified in MfS a width of 1.2m provides sufficient room for an adult to walk alongside a child and 1.5m is also sufficient for two adults to walk alongside each other with one pushing a child buggy.
 - The observed existing pedestrian movements are relatively low thereby minimising occasions when opposing pedestrians meet;
 - The relatively small-scale nature of the development proposals will increase pedestrian movements by a small amount;
 - Traffic movements and speeds are relatively low;
 - The composition of traffic is such that large HGV movements are very minimal and the vast majority of passing/opposing vehicles are cars or Light Goods Vehicles; and
 - Within the most recently available 5-year period no personal injury accidents involving pedestrians have been recorded along the entire length of the Granny Lane corridor.

7.2.3 In summary the existing vehicular and pedestrian access routes to/from the Site are safe and satisfactory. Furthermore, the same conclusion was reached by the Local Highway Authority in their support of the application.

7.3 Proposed Site Access Arrangements

7.3.1 Comments were received raising concerns regarding visibility and gradients at the proposed Site Access junction on Granny Lane.

7.3.2 I have addressed this matter fully in Chapter 3 of this PoE with the key points being:

- The proposed Site Access layout demonstrates that 2.4m x 48m (48.5m along the kerb line) and 2.4 x 52.5m visibility splays are achievable to the east and west of the junction respectively.



- Two further speed surveys have been undertaken on Granny Lane which demonstrate that the proposed Site Access visibility splays are robust and slightly exceed what is required in accordance with MfS standards.
- The proposed access is provided with a 5.5m carriageway with 2.0m wide footways to both sides. In accordance with the Council's Highway Design Guide SPD this geometry complies with a Type B Local residential street which is capable of serving up to 300 dwellings - significantly more than the 67 proposed.
- The gradient of the Site Access on the approach to the proposed Granny Lane junction will be 1 in 33 which is less than the 1:25 permissible in the Kirklees Highway Design Guide and therefore accords with standards.
- It is agreed with KC that the form and layout of the vehicular Site access proposed is acceptable and the junction would safely and satisfactorily accommodate vehicles generated by the proposed development.

7.4 Site Accessibility

7.4.1 Some local resident comments raised concerns regarding the accessibility of the Site to local facilities.

7.4.2 I have addressed this matter fully in Chapter 4 of this PoE with the key points being:

- Based on the distances and journey times to local facilities, as well as the quality of the walking routes available, it is concluded that the Appeal Site will provide very good and safe accessibility by foot to a vast range of services and facilities within an acceptable walking time in accordance with national guidance.
- The Appeal Site will provide a good level of accessibility by cycle to a significant range of key services/facilities/employment opportunities and complies with DfT guidance as well as the NTS data.
- Regular bus services are located within a 7 minute walk of the Site providing a good level of accessibility by bus to a vast range of local services, facilities and employment opportunities.
- Mirfield Rail Station is some 840m from the centre of the Site and is accessible by cycle within 3½ minutes and can be walked within 10½ minutes. The Appeal Site therefore provides a very good level of accessibility by rail, being only very marginally above the 800m walking distance figure provided in the IHT document 'Guidelines for Planning for Public Transport'.



- Notwithstanding the above additional 'sustainable travel' funding will be provided within a Section 106 agreement to encourage travel by non-car modes e.g. improvements to bus stops and the provision of Metrocards.
- Kirklees Council also concluded that *"the site is within an existing residential area and it is considered to be sufficiently accessible by means other than the private car and an accessible location for development"*.

7.4.3 In summary the proposed development Site provides very good accessibility by foot, cycle and public transport - as such it is in a very sustainable location and is fully compliant with local policy as well as the NPPF.

7.5 Impact of Generated Traffic

7.5.1 Comments were received during the planning process raising concerns regarding the capacity of the local highway network and its ability to accommodate additional trips generated by the proposed development.

7.5.2 I have addressed this matter fully in Chapter 6 of this PoE. The key junctions on the local highway network have been modelling in detail using industry standard software and it has been demonstrated that they would all continue to operate safely, satisfactorily and within capacity in the future 'with development' scenario.



8 Summary and Conclusions

8.1 Introduction

8.1.1 This chapter summarises and concludes the highways and transportation matters.

8.2 Background

8.2.1 I have been appointed by Miller Homes to assist in their appeal against the refusal of a full planning application (Ref: 2019/62/91467/E) for a proposed residential development comprising 67 dwellings located on land to the south of Granny Lane, Mirfield. The Site is allocated for residential development in the Kirklees Local Plan (Ref: HS66) with an indicative capacity of 70 dwellings.

8.2.2 The culmination of the planning application work undertaken led to full agreement being reached with Kirklees Council on all highways, transportation and accessibility matters, as confirmed in the Council's 24th February 2020 Planning Committee Report.

8.2.3 Notwithstanding the agreement reached on highways matters the Council refused the application and a Decision Notice dated 12th March 2021 was issued with the following single reason for refusal which relates to flooding:

1. *The position of part of the main vehicular and pedestrian access and egress into the site within Flood Zone 3 would result in the failure of the scheme to deliver safe access and escape routes for all future occupiers of the development at all times. It therefore cannot be demonstrated that the proposal would be safe throughout the lifetime of the development, taking account of climate change. For these reasons, it would be contrary to Policy LP27 of the Kirklees Local Plan and guidance within the National Planning Policy Framework*

8.2.4 There are no highway reasons for refusal (RfR) and this proof has therefore been prepared to ensure the previous planning application work remains up to date and address any potential comments raised by third parties including local residents.

8.3 Development Proposals

8.3.1 The development proposals comprise the following:

- 67 residential dwellings; and
- Associated parking, landscaping and infrastructure works.

Vehicular Means of Access

8.3.2 The proposed vehicular access to the Site will be provided by a simple priority 'T' junction onto Granny Lane, approximately mid-way along the Site frontage in a very



similar location to the existing gated access. The proposed vehicular Site access arrangement accords with relevant design standards including visibility splays.

- 8.3.3 In addition to the permanent vehicular access it is also proposed to provide an emergency access which would only come into use during times when the primary access is flooded.
- 8.3.4 The existing vehicle access routes to/from the Site are safe and satisfactory - the same conclusion was reached by the Local Highway Authority in their support of the application.

Pedestrian/Cycle Means of Access

- 8.3.5 Pedestrian and cycle access to the development Site will also take place from the proposed vehicular priority 'T' junction onto Granny Lane. Footways of minimum width 2.0m will be provided along the Granny Lane frontage and into the Site on both sides of the carriageway.
- 8.3.6 Safe and satisfactory access is provided to and within the development Site for pedestrians and cyclists.

Construction Access

- 8.3.7 During the construction phase a Construction Management Plan (CMP) will be implemented which will address any potential impacts arising from the construction of the development and ensure that the Site operates efficiently and safely.
- 8.3.8 It is proposed that the construction access point into the development will be from Granny Lane. This access route can safely and satisfactorily accommodate the movement of construction HGV's subject to suitable controls in the CMP.

8.4 Site Accessibility and Sustainability

- 8.4.1 The Site provides a very good level of accessibility by foot, cycle and public transport to a significant range of services, facilities and employment opportunities including within Mirfield town centre and Huddersfield. Regular bus services are located within a 7 minute walk and Mirfield railway station can be cycled within 3½ minutes and walked within 10½ minutes. As such the Site will minimise vehicular journeys, both short distance local trips within Mirfield as well as longer trips.
- 8.4.2 It is concluded that the proposed development Site provides very good accessibility by foot, cycle and public transport - as such it is in a very sustainable location and is fully compliant with local policy as well as the NPPF.



- 8.4.3 As stated in the February 2021 Committee report Kirklees Council also agree that *“the site is within an existing residential area and it is considered to be sufficiently accessible by means other than the private car and an accessible location for development”*.

8.5 Traffic Flows & Highway Capacity Assessments

- 8.5.1 The extent of the existing highway network assessed covers the following four junctions:
- A644 Huddersfield Road/Station Road/Queen Street – Signalised Junction;
 - A644 Huddersfield Road/Steand Lane – Priority Junction;
 - Steand Lane – Signalised Bridge (over River Calder); and
 - Granny Lane/Hopton New Road/Four Acres - Mini-roundabout junction.
- 8.5.2 In addition to the above four existing junctions, an assessment of the proposed Granny Lane/Site Access junction has also been undertaken.
- 8.5.3 It has been demonstrated that the proposed development can be safely and satisfactorily accommodated on the local highway network and no mitigation is therefore justified or required from either a highway safety or a capacity perspective.
- 8.5.4 The development proposals have a minimal impact on the operation of local junctions, which will continue to operate within capacity, and falls well below the threshold test of having a ‘severe’ impact, as set out in paragraph 109 of the NPPF.
- 8.5.5 Furthermore, the assessment of the local highway network is very robust because it incorporates a very high development trip rate (as requested by Kirklees Council) and also allows for an element of double counting by considering the traffic generated by consented development sites as well as applying background traffic growth.

8.6 Local Residents Comments

- 8.6.1 The following key highways related concerns raised by local residents during the planning process have been addressed:
- Existing Highway Infrastructure;
 - Proposed Site Access Arrangements;
 - Site Accessibility; and
 - Impact of Generated Traffic.



8.7 Overall Summary and Conclusion

- 8.7.1 I conclude that the proposed development fully accords with the NPPF and local transport policies and there is no reason on highway, transport or accessibility grounds why the Appeal Site should not be granted full planning permission.

