

HARROGATE DISTRICT LOCAL PLAN:

Infrastructure Capacity Study – Draft
Infrastructure Delivery Plan

Stage 3 Report - October 2016



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1. INTRODUCTION

1.1 Harrogate Borough Council appointed a consultancy team of O'Neill Associates (now including Richard Wood Associates), Fore Consulting and Cushman & Wakefield to prepare an Infrastructure Capacity Study and Delivery Plan for the Harrogate District, as part of the evidence base for a new district-wide Local Plan that will cover the period up to 2035. The purpose of the overall study is to:

- determine the existing capacity of the District's infrastructure;
- assess the implications of different potential growth scenarios;
- inform the Council's selection of a preferred development strategy and development sites; and
- provide a detailed assessment of the requirements for, and deliverability of infrastructure necessary to support the selected strategy.

1.2 The Infrastructure Capacity Study is being undertaken in three stages to ensure that infrastructure considerations are taken into account at all stages of the Local Plan preparation process:

Stage 1 A **Baseline Report** was completed in June 2015 and provided background evidence for the Local Plan Issues and Options consultation undertaken between 17 July and 28 August 2015.

Stage 2 A **Development Options Infrastructure Appraisal Report** was prepared between April and July 2016 to inform, alongside other evidence base work, the development of the preferred growth strategy and site options for the Local Plan

Stage 3 A draft **Infrastructure Delivery Plan**, prepared July to October 2016, to set out the specific infrastructure requirements of the Council's preferred growth strategy and development site allocations in the Draft Local Plan.

1.3 The draft Infrastructure Delivery Plan (IDP) is set out in two parts. This summary draft **IDP Report** sits alongside a draft **IDP Table**, which sets out infrastructure requirements on a site by site basis (in spreadsheet form to enable future updating). Given that the Local Plan is at the Draft stage the draft IDP is a working document that will be subject to further updating as the Local Plan moves to the publication and submission stages. Areas of ongoing work are highlighted in this IDP Report. The IDP Table will remain a 'live' document as the Local Plan develops through the Examination, adoption and implementation stages.

2. LOCAL PLAN CONTEXT

2.1 Initial evidence base work on the Local Plan culminated in the publication of a Local Plan Issues and Options document. The Infrastructure Capacity Study Baseline Report formed part of the initial evidence base. Consultation on the Issues and Options document took place in July and August 2015. Five different options for accommodating growth in Harrogate district were identified:

- Option 1** Focus growth in the main urban areas
- Option 2** Focus growth in the main urban areas and surrounding settlements
- Option 3** Growth around key public transport corridors, principally to the east
- Option 4** Growth around key public transport corridors, principally to the south
- Option 5** New settlement close to the A1 (M)

2.2 Three development scenarios were developed from the five growth options. The scenarios included an overall quantum of development (621 new homes per year) and a distribution of development (to different settlements and possible sites). The three scenarios were then used as the basis for traffic modelling work and for the Development Options Infrastructure Appraisal report which involved further engagement with critical infrastructure providers. The three development scenarios¹, to a greater or lesser extent, cover all of five growth options presented in the Local Plan Issues and Options consultation.

- i. Scenario 1 is a combination of Options 1 & 2 concentrating growth in the main urban areas (and their immediate satellite settlements). This also tests Option 4 to a certain degree by placing a significant proportion of growth in Pannal along a key public transport corridor.
- ii. Scenario 2 relates to Option 3 with growth concentrated on the key public transport corridors with a major expansion around Green Hammerton on the A59 and York-Harrogate rail line, and consequentially less growth in Harrogate.
- iii. Scenario 3 reflects Option 5 with a new settlement at Flaxby, and consequentially less growth in Harrogate and Knaresborough.

2.3 Work on the Harrogate District Local Plan has now progressed to producing a Draft Local Plan, which will be issued for consultation in November and December 2016. The Draft Local Plan will include a vision and objectives, policies, allocations, designations and development/infill limits. A Publication Local Plan will then be issued for consultation in summer 2017 and submitted late 2017. Further evidence base work and the consultation responses to the Draft Local Plan will feed in to the process of producing the Publication Local Plan.

2.4 The completion of a Draft Local Plan, including draft allocated sites, is a significant milestone in the local planning process for Harrogate District. However, further work will be undertaken on preparing the Local Plan over the next nine months. The draft Infrastructure Delivery Plan reflects this situation, as further information (particularly on costs) will continue to feed in to the IDP for the Publication and Submission stages.

¹ The sites used as part of the three scenarios tested during stage 2 of the ICS were indicative only of the potential pattern and location of growth under each scenario and not an indication of the suitability or deliverability of the sites.

3. ENGAGEMENT WITH INFRASTRUCTURE & SERVICE PROVIDERS

3.1 The Stage 1 Infrastructure Baseline Report examined the following infrastructure types for the engagement of infrastructure and service providers.

Utilities & Environment	Community Services	Travel & Transport
Water supply, treatment and sewerage. Gas. Electricity. Telecommunications. Flood protection. Drainage. Waste management.	Education. Health. Emergency services. Indoor sport facilities. Libraries. Public conveniences. Cemeteries and crematoria.	Local highway network. Strategic highway network. Rail. Bus. Coach and car parking. Cycling. Walking.

3.2 The Baseline Report identified key issues and implications for the Local Plan for all the above infrastructure types. This Stage 1 work established that some infrastructure types would be a significant driver or barrier to future growth whereas as other infrastructure types and services would be more responsive to any future pattern of growth. The Stage 2 work focussed on the former infrastructure types – ‘critical’ infrastructure that will be fundamental to the delivery of the development strategy and wider plan objectives and to support the intended levels and locations of future growth.

3.3 The focus of the Stage 2 work was therefore on the following ‘critical’ infrastructure providers and types set out below. Meetings or direct discussions took place with the providers.

Infrastructure/Service Provider	Critical Infrastructure Type
Yorkshire Water	Water Supply and Sewerage
Northern Gas Networks	Gas
Northern Powergrid	Electricity
Local Education Authority (NYCC)	Education
Harrogate & District NHS Foundation Trust	Secondary Health Care
NHS Harrogate & Rural District CCG	Primary Health Care
Local Transport Authority (NYCC)	Transport

Stage 3 Engagement and Methodology

3.4 The Stage 3 draft IDP work looked at all infrastructure types – by continuing the Stage 2 consultation with ‘critical’ infrastructure providers and re-engaging with the other ‘non-critical’ infrastructure providers involved in the Stage 1 Baseline Report.

3.5 To initiate the Stage 3 consultation process, each infrastructure provider was issued with a letter requesting their further engagement on the Infrastructure Capacity Study, and providing a summary of previous consultation and work undertaken on Stages 1 and 2 of the Study. The letter outlined the Local Plan development scenarios, and explained the intention of the Stage 3 work to produce an Infrastructure Delivery Plan, detailing the specific infrastructure requirements of the Council’s preferred growth strategy and development site allocations.

- 3.6 Included with the letters were spreadsheets which outlined the site allocations being considered by Harrogate Borough Council to deliver each of the three development scenarios, and provided specific details for each of these sites, including area, housing yield² and/or employment floorspace. The allocations were grouped into settlement areas consisting of the individual main urban areas and towns as well as allocations proposed at rural settlements. Since a large number of sites were common to all three development scenarios (e.g. the amount of development proposed in places such as Masham, Boroughbridge, Pateley Bridge, and in villages), the main differences between allocations in the scenarios were highlighted in red. A PDF document containing plans of all the sites was also issued with the letter.
- 3.7 Infrastructure providers were asked to review the details, and as far as possible identify any infrastructure requirements or service delivery projects relating to the proposed site allocations in the three scenarios, either on a site-specific basis, or in a broader settlement- or district-wide context. They were also requested to identify any infrastructure investment projects and proposals programmed to come forward during the Local Plan period that would not necessarily be directly related to the allocated sites.
- 3.8 Issue of the Stage 3 consultation information to providers was followed up with direct communication via email and telephone to ensure it had been received, was with the correct point of contact and to review issues and timescales for responses. Subsequent contact has also taken place to encourage infrastructure providers to respond, answer questions and discuss requirements.

² The site yields in the draft IDP Table are indicative and reflect what was given to infrastructure providers at the time for this stage 3 work, some amendments have subsequently been made to the sites contained within the Draft Local Plan.

4. UTILITIES AND ENVIRONMENT

- 4.1 **This section examines the following infrastructure types - gas, electricity, water supply & sewerage, telecommunications, flood protection & drainage and waste management.**

Gas

- 4.2 **Northern Gas Networks (NGN)** re-confirmed through both the stage 1 and 2 reports that its investment programme is based on meeting the demand in published Local Plans (and doesn't include any speculative investment). As set out in the Baseline Report, the Gas Act 1986 sets an obligation for Gas Distribution Operators to develop an efficient and economical pipeline system and subject to that, to comply with any reasonable request to connect to premises, provided that it is economic to do so.
- 4.3 The **stage 2 Infrastructure Appraisal** identified, within the above context, specific issues and implications for each development scenario. Under Scenario 1 development around the Harrogate and Knaresborough area would be in close proximity to the Local Transmission System (LTS) to the west of Harrogate, and the existing Medium Pressure ring main serving the area. The Medium Pressure network has some existing long-term capacity to incorporate further growth, although localised infrastructure reinforcement may be required depending on specific connection loads. Overall, the network is considered by NGN to be well-set to accommodate the level of growth outlined in Scenario 1.
- 4.4 For Scenario 2, including the new settlement at Green Hammerton, major challenges were identified in relation to providing a connection to existing gas networks. Settlements to the east of the A1(M) are not currently connected to NGN's network. Major growth at Green Hammerton would therefore require either new infrastructure linking to the Intermediate Pressure Network for York to the east, or would need to connect to the Harrogate network to the west. Either approach would require the installation of significant new infrastructure over long distances and would need to overcome complex issues (such as crossing the River Nidd or the A1(M) motorway). Although the issues are not considered insurmountable by NGN, there would be very major costs, delivery challenges and long lead-in times associated with providing the gas infrastructure required to serve Scenario 2.
- 4.5 A new settlement at Flaxby would also require significant new infrastructure to provide a long-distance connection to the Harrogate network. There is an existing supply to the Flaxby site, which is less distant from the existing network and west of the A1(M). Whilst costs and deliverability issues would likely be less than for the new settlement at Green Hammerton, NGN would still anticipate significant costs, delivery challenges and lead-in times for providing the infrastructure required to serve a new settlement at Flaxby. For the above reasons the Infrastructure Appraisal preferred scenario 3/Flaxby over scenario 2/Green Hammerton. Possible investment/local reinforcement implications at Masham and Ripon were also identified at Stage 2.
- 4.6 **For this stage 3 draft IDP**, NGN have provided further site specific information which is reflected in the draft IDP Table. NGN have checked each of the allocated sites in the draft Local Plan against the capacity on their medium pressure infrastructure as to which:

- Sites have sufficient capacity on the medium pressure network
- Sites may require reinforcement to the medium pressure network
- Sites are off-gas
- Sites may require diversion of existing gas connections

4.7 The sites have not been checked against the capacity of the low-pressure network, and some sites may require localised reinforcement to this infrastructure. For the sites not currently fed by the gas network, it does not mean that they cannot be supplied, although this will require investment in new infrastructure in the form of a long feeder main to supply the site. NGN are unable to provide costs at this stage, as the only way to obtain even indicative costs for required infrastructure for new connections is via formal submission of site specific details (such as site layouts, housing mix and site gas demands) to their Connections Team. In summary, the information set out in the **IDP Table** indicates that:

- For the majority of residential and employment site allocations there is sufficient capacity on the medium pressure gas infrastructure (including all the sites at Harrogate, Knaresborough, Boroughbridge, Pateley Bridge and Ripon).
- 2 sites (M8 & M13) at Masham are noted as potentially needing reinforcement.
- There are 2 sites (in Harrogate, H16 and Birstwith, BW10) where there are medium pressure pipes within the site boundaries and either diversion works (quotations from NGN Connections Team for full gas main diversions on each site indicate costs in the region of £100,000+) or reductions in development yield may be required to accommodate the required stand-off distances from buildings.
- 1 site H49 in Harrogate potentially affects a High-Pressure Main, possibly requiring diversion – this has been referred to NGN's Major Project Team as it could run into millions of pounds.
- There are 12 sites identified as “area off gas” (sites at Green Hammerton, Kirk Hammerton, Goldsborough, Kirkby Malzeard, Marton cum Grafton, Melmerby and North Stainley).
- The new settlement site at Flaxby is identified as “sufficient capacity on medium pressure infrastructure”.
- The “off gas” new settlement site at Green Hammerton would require a long feeder main (stage 2 report findings).

Electricity

4.8 The Baseline Report established that future development proposals within the District are unlikely to have a significant effect upon **National Grid's** national electricity transmission network. **Northern Powergrid**, as the Distribution Network Operator covering Harrogate District, identified a range of recent and future network improvements at the baseline stage and confirmed that demand from development would be met which requires infrastructure work outside of their planned programme.

4.9 **The Infrastructure Appraisal report** established that development around Harrogate and Knaresborough (Scenario 1) would have significant benefits by locating growth within main urban areas already served by existing electricity infrastructure. Recent improvement works had helped ensure there is long-term capacity for growth in the Harrogate and

Knaresborough area. For the new settlement at Green Hammerton (Scenario 2) a connection to the existing Harrogate/Knaresborough network to the west would need to cross the A1(M), but Northern Powergrid indicate this may be precluded due to logistical and installation costs and associated ongoing maintenance issues. The alternative would be to connect to transmissions systems coming from the bulk supply point in York. However, this network uses a different transformer configuration/vector ratio to surrounding areas (including Harrogate district) which would raise serious practical and maintenance issues for Northern Powergrid (a key issue is 'dead' switching in the event of a fault, when usually 'live' switching can be made without loss of supply).

- 4.10 Both new settlement proposals (Scenarios 2 and 3) would require provision of wholly new infrastructure to serve the proposed growth. This would involve very significant costs, with two cables required in order to ensure a back-up supply, and due to the required connection distances to a Primary Sub-Station that would be a crucial factor to determining viability and deliverability. Northern Powergrid's average budget costs for the installation of 33kV cable is £350,000 per kilometre, this is an average cost per cable and only covers installation. This average cost does not allow for route specific costs or any additional costs required to connect to the network (e.g. switchgear/substations).
- 4.11 Both new settlement scenarios would also require the installation of a new substation within the site, costing in the region of £1.5m to £2m. The Flaxby site is located in fairly close proximity (between approximately 1.5km and 3km) to the existing sub-station at Coneythorpe. By comparison, the Green Hammerton site would be around 12km from the York Outer Ring Road/Upper Poppleton, which may be on the limit of what would be considered practically and financially viable (i.e. the consultant team noted that the above cabling cost guide would provide a figure of around £9m for cable installation alone for 12km, excluding connection costs and route specific issues such as crossing the River Nidd and its floodplain). Northern Powergrid has also indicated that the Flaxby site may be more suitable to the provision of temporary works and connections to supply the initial phases of development. For the above reasons the Infrastructure Appraisal preferred scenario 3/Flaxby over scenario 2/Green Hammerton. However, Northern Powergrid would require full assessment to provide a comprehensive assessment on viability.
- 4.12 **For this stage 3 draft IDP**, Northern Powergrid have assessed each of the allocated sites in the draft Local Plan with a view to identifying:
- Sites which can be supplied from existing infrastructure - with Low Voltage (LV) supply from existing mains.
 - Sites which require local reinforcement such as a transformer change and/or LV mains.
 - Sites which require a new or upgraded Sub Station
 - Sites which require major infrastructure works such as a High Voltage (HV) Loop into the site
- 4.13 The draft **IDP Table** includes the above information for each allocated site and includes indicative costs for the connections required at each of the sites, as provided by Northern Powergrid. These connections costs are heavily caveated by Northern Powergrid as indicative only. The provision of firmer costs would require each individual site to be

submitted for formal budget costings, which would require detailed information such as proposed layouts and the housing mix. A summary of the draft IDP Table information is set out below:

LOCATION	LV Supply from Existing Mains	Local Reinforcement	New/Upgraded Sub Station	Major Reinforcement
	Cost Estimate £20K - £400K	Cost Estimate £50K – £400K	Cost Estimate £100K - £1.5M	Cost Estimate £5M
	No. of Sites	No. of Sites	No. of Sites	No. of Sites
Harrogate	4	6	5	
Knaresborough	1	2	1	
Ripon	5		1	
Boroughbridge	3			
Masham	2			
Pateley Bridge	1		1	
Rural Settlements	25		13	
New:Gr Hammerton				1
New: Flaxby				1

Water Supply and Sewerage

- 4.14 As set out in both the Baseline and Infrastructure Appraisal reports, **Yorkshire Water** operate through Asset Management Plans for five-year periods. The current plan AMP6 runs from 2015 to 2020 (this takes into account the level and distribution of growth outlined in the Harrogate District Core Strategy (2009). Offwat regulations require Yorkshire Water to this year (2016) commence business planning for the next asset management plan cycle (AMP7) for 2020 to 2025. Investment in AMP7 will be set to maintain the existing water supply and sewerage network, and will follow demand for committed development with consideration for expected growth within published Local Plans. Yorkshire Water will have a statutory duty to serve whichever of the development scenarios is taken forward, and will comprehensively assess infrastructure implications as part of the AMP process, rather than as part of the emerging Local Plan process.
- 4.15 In terms of water supply, the stage 2 **Infrastructure Appraisal** report identified that both scenario 1 (with its focus on the urban areas of Harrogate & Knaresborough) and Scenario 2 (including the new settlement at Green Hammerton) could be served via existing water mains/supply. For scenario 3 (including a new settlement at Flaxby) the water supply would likely be from the south or east rather than Harrogate. Feasibility studies would be required for both new settlement options.
- 4.16 For sewerage, the stage 2 report established that Scenario 1 could make use of the capacity at existing Waste Water Treatment Works (WWTWs), particularly at the Harrogate South works. Some reinforcement to the Harrogate North and Knaresborough works may be required, along with sewer upgrades. For both the potential new settlements there was scope for early phases of development to be served by temporary treatment facilities. Significant new infrastructure would be required such as long new sewers to existing WWTWs or new treatment works.

4.17 For this stage 3 draft IDP, Yorkshire Water (YW) have stated that they do not have the resources to look at all sites and, as highlighted above, feasibility studies would be required to assess the infrastructure requirements of new settlements. YW assume that the Local Plan will include policies making clear that surface water should drain via sustainable solutions rather than entering the public sewer. As significant new waste water and water infrastructure will be required over the plan period it is essential that allocated sites come forward in a timely manner such that they can be properly served. YW would require certainty over the location of new development as soon as possible in order that they can ensure the necessary funding can be put in place through the next Asset Management Plan (AMP7) to commence in 2020. Further comment and information on the three development scenarios has been provided for Stage 3 as set out in the following table which serves to highlight likely key infrastructure requirements subject to further feasibility work being undertaken:

Scenario / Settlement	Issues and Likely New or Improved Water Supply and Sewerage Infrastructure
<p>Scenario 1 - Focussing growth in the main urban and surrounding settlements</p>	<p>Water Supply</p> <ul style="list-style-type: none"> • Locating large numbers of houses on the western side of Harrogate would require major reinforcement of the water supply networks (including pumping stations, storage) involving extensive work through the town centre. • Given the quantity of underground services in the town this may be problematic. The detail, including costs, of any works required would require substantial investigative work. <p>Sewerage</p> <ul style="list-style-type: none"> • The sewerage network would require significant reinforcement as sites that have gained permission over the last few years have used up much of the available capacity. As with water supply, no investigative work has been undertaken as to what works would be required. • The receiving waste water treatment works are Harrogate North and Harrogate South with the border between the two catchments roughly following the Otley Road to the west and the "loop" of the railway line to the east. • Harrogate South currently has more capacity than does Harrogate North which has had a number of planning permissions for residential development over the last few years. • For sites draining to Harrogate North waste water treatment works (WWTW) - capacity can be made available at this receiving (WWTW) but the developments should be phased to ensure that any necessary works to the works (which would be post 2020) can be undertaken in a timely way to serve the developments: <ul style="list-style-type: none"> i. H49 - no surface water may enter the local sewerage from this greenfield site. Reinforcement of the network may be required to deal with foul flows from the development. Restrictions on the rate of any pumped discharge of foul water may be required. Given the size and location of the development, a developer should be requested to undertake a feasibility study with respect to foul and surface water drainage. Depending on the timing of the development coming forward, the developer may be required to undertake sewer modelling work. ii. iH56 - Surface water should not enter the existing public sewer and an alternative outfall(s) would have to be found. iii. H63 - all surface water that currently drains to public sewer should be diverted to an alternative outfall(s). There should be a significant reduction (a minimum of 50%) of any exiting surface water run-off that

	<p>drains to public sewer in order to mitigate the risk of flooding and climate change. Restrictions on the rate of any pumped discharge of foul water are likely to be required.</p> <p>iv. H65 - any surface water that currently drains to a public sewer should be diverted to an alternative outfall(s). There should be a significant reduction (a minimum of 50%) of any exiting surface water run-off that drains to public sewer in order to mitigate the risk of flooding and climate change. Restrictions on the rate of any pumped discharge of foul water are likely to be required.</p> <ul style="list-style-type: none"> • For sites draining to Harrogate south WWTW - there is adequate capacity at the receiving waste water treatment works: <ul style="list-style-type: none"> i) PN14 - the development could cause significant capacity issues in the downstream receiving combined sewer network, potentially leading to increased flooding risk in the locality and in sub-catchments downstream. There may be additional concerns over spill frequency increase at Combined Sewer Overflows leading to associated water quality issues. The developer should be requested to undertake a feasibility study with respect to foul and surface water drainage. No surface water may enter the local sewerage from this greenfield site. The developer may be required to undertake sewer modelling work. ii) H21/H48 - Restrictions on the rate of any pumped discharge of foul water/offline storage may be required to mitigate any additional impacts on the local sewerage. Surface water should not enter the existing public sewer and an alternative outfall(s) would have to be found. iii) H36/H70 - the development could cause significant capacity issues in the downstream receiving sewer network, potentially leading to increased flooding risk in the locality and in sub-catchments downstream within Burn Bridge and possibly beyond (some 3km affected). The impacts would be linked with those rising from Sites PN14 & H36. The developer should be requested to undertake a feasibility study with respect to foul and surface water drainage. No surface water may enter the local sewerage from this greenfield site. Sewer modelling work may be required. iv) H46 - reinforcement possibly including a new/upsized sewage pumping station and upsizing of the associated rising mains could be required. v) H51 - The development would probably require the local upsizing of the receiving sewer along Cardale Park and the associated pumping infrastructure. Downstream impacts would need to be understood in more detail as additional developments as other developments (e.g. H491) could also impact on the downstream receiving sewerage. The developer should be requested to undertake a feasibility study with respect to foul and surface water drainage. No surface water may enter the local sewerage from this greenfield site. Sewer modelling work may be required. • Allocation of sites would have to be phased to allow for the required treatment capacity to be installed and we suggest that sites within the Harrogate South catchment should be developed first. • Yorkshire Water may be required to install additional treatment technology at either or both works in the future, if water quality requirements for the receiving watercourses change as a result of legislation. If so, growth within the catchment(s) would be accounted for in the design of any such scheme.
<p>Scenario 2 – including a new settlement at Green Hammerton</p>	<p>Water Supply</p> <ul style="list-style-type: none"> • The village(s) here are already served by the water and waste water infrastructure, it is far too small to serve the scale of development envisaged. Feasibility work would be required. • A new strategic water main would probably be required to transport water from

	<p>Acomb water treatment works in York.</p> <p>Sewerage</p> <ul style="list-style-type: none"> The village(s) here are already served by the water and waste water infrastructure, it is far too small to serve the scale of development envisaged. Feasibility work would be required.
Scenario 3 – including a new settlement at Flaxby	<p>Water Supply</p> <ul style="list-style-type: none"> There are two treated water mains that enter the sites but substantial reinforcement of the water supply will be required to serve a development of the size proposed. As with waste water, it is in the developer's interest for them to contact Yorkshire Water and instigate feasibility work. Yorkshire Water may be reinforcing the network into Knaresborough as part of their 20-25 investment programme and if this site goes ahead YW would look to incorporate the supply into that work. However, there is currently no certainty that the scheme will proceed into their post 20-20 business plan. <p>Sewerage</p> <ul style="list-style-type: none"> The site is remote from the public sewerage network and it is assumed that existing buildings are served by private treatment arrangements. In order to connect to public sewerage, significant reinforcement would be required. If the developer is considering this option, they should consult with YW's Developer Services Team to instigate a full feasibility study (at the developer's cost). Investigation into the means of treating waste water would also be needed as there could be several options. It is assumed that surface water would not drain to the public sewer and that sustainable solutions would be found.
Boroughbridge	<ul style="list-style-type: none"> It is likely that the WWTW and the sewerage networks will require some reinforcement.
Ripon	<ul style="list-style-type: none"> It is understood that the barracks already drains foul water to the YW system via a private network. YW would require information on the current volume of foul water that discharges from the site to assess the impact of the quantum of new development within the area. Yorkshire Water may be required to install additional treatment technology at treatment works in the future, if water quality requirements for the receiving watercourses change as a result of legislation. If so, growth within the catchment(s) would be accounted for in the design of any such scheme.
General	<ul style="list-style-type: none"> Clean water networks in all the towns will need some reinforcement Regarding small settlements, even a relatively small development could have a negative impact on existing infrastructure which currently only serves a small population. Reinforcement of waste water sewerage and treatment facilities could be required as could local reinforcement of the water supply network.

Telecommunications

- 4.18 4G mobile connectivity across the district has improved considerably since the Stage 1 **Baseline Report** in 2015, following investment by both Vodafone and EE. **For this stage 3 draft IDP report**, this is no longer an issue for the District. The Superfast North Yorkshire project will make superfast broadband (30Mbps+) services available to around 93% of Harrogate district's premises by June 2017. Another £20.5 million has been made available for Phase 3 of the rollout - that will see circa 96% of North Yorkshire's premises able to access superfast broadband speeds by 2019.

- 4.19 The sites proposed in the draft Local Plan will not be developed in time to benefit from any publicly funded broadband infrastructure. A new policy is included within the draft Local Plan on 'Broadband Access in New Developments'. This will require the developer to demonstrate the anticipated connectivity requirements of the proposed use and how the development will contribute to, and be compatible with, Next Generation Access broadband (25+ mbps download speed). It will then be the responsibility of the developer to enable the best viable broadband connection by completion. All new development will be required to enable a Next Generation Access broadband connection where viable. Where it can be demonstrated that the provision of a Next Generation Access broadband connection is not viable, proposals should provide a minimum download connection of 10Mbps and incorporate suitable infrastructure to support delivery of Next Generation Access broadband at a future date.
- 4.20 Applicants proposing major development schemes should engage with communication providers and local broadband groups to explore how Next Generation Access broadband can be provided and how the development may contribute to and integrate with active broadband projects within the local area. The developer should engage with the appropriate infrastructure provider at the earliest opportunity. There are three primary broadband infrastructure providers in Harrogate District. The most appropriate/cost effective provider for a site will depend on its location.
- 4.21 **Openreach** has the largest fibre broadband infrastructure footprint in the UK - covering urban, suburban and rural areas. Openreach is helping the Government deliver superfast broadband to 95% of the UK by 2017.
- Fibre to the Premises (FTTP) will be built for free by Openreach to housing developments with 100+ premises. For developments under 100 houses, the developer will need to apply for a connectivity assessment (CA) at the earliest opportunity (but at least nine months before the first occupancy date for the site). This will tell developers whether properties in a given development can be connected to fibre for free, or whether a contribution is needed from the developer to jointly fund the deployment of the local fibre network.
 - Openreach will provide developers with access to a 'rate card' which will detail the fixed cost contributions required in those cases where a co-funded model is required. Openreach will be making a significant contribution before seeking any funds from a developer. The co-funding scheme is entirely voluntary and if developers decide not to take up the offer the development will be connected to copper broadband for free.
- 4.22 As the second largest broadband operator in the UK, **Virgin Media** are expanding from their current footprint of around 45% of the UK (12.6 million premises) to cover 60% of the UK (17 million premises) by 2020. They currently have more of a presence in cities and suburban areas than in rural areas – only Harrogate town and Knaresborough town within Harrogate district.
- Virgin Media offer an ultrafast broadband Cable service of up to 200Mbps (residential) and up to 300Mbps (business). They have a pre-engagement process (Plant Enquiry) that should be instigated at the earliest possible opportunity.

4.23 **Boundless** (previously LN Communications) have used wireless technologies to build a network that can supply and extend from a dense urban environment, to small towns and villages and then reach out to the many sparsely populated areas within their coverage area. They are particularly active across the rural west of the district and recent investment has improved their network capacity/performance. Once again, early engagement is key to allow for a site survey and feasibility assessment.

Flood Protection

4.24 A **Level 1 SFRA Update** (September 2016) has been carried out on behalf of the council by JBA Consulting in accordance with the Government's latest development planning guidance including the National Planning Policy Framework (NPPF) and flood risk and planning guidance. It makes use of the most up-to-date flood risk datasets to assess the extent of risk, at a strategic level, to site options for future development as part of the emerging Local Plan.

4.25 The purpose of the SFRA is to consider flood risk from all sources to investigate and identify the extent and severity of flood risk throughout the district. This is important so that development can be steered away from those areas where flood risk is considered greatest, ensuring that areas allocated for development can be developed in a safe and sustainable manner. The Update also provides guidance for developers and planning officers dealing with planning applications, as well as the County Council in its role as Local Lead Flood Authority, on the potential risk of flooding associated with future planning applications and the basis for site-specific Flood Risk Assessments.

4.26 A **Flood Risk Sequential Test** (October 2016) has also been undertaken to steer new development to areas with the lowest probability of flooding. The Sequential Test uses the information provided in the Harrogate District Level 1 SFRA Update to assess whether sites that the Council is considering as draft allocations for housing and employment can be delivered on land with the lowest probability of flood risk.

4.27 The Sequential Test has shown that the majority of the sites that are being considered as sustainable options to meet the housing and employment needs of the district are wholly located in flood zone 1 (lowest probability of flood risk) and developing these sites for the proposed uses would pass the sequential test. For those sites, larger than 1 hectare a site-specific Flood Risk Assessment (FRA) would be necessary at the planning application stage to take account of flood risk from all sources including surface water flooding.

4.28 On the remaining sites that include some land within flood zones 2 and 3 (areas of higher flood risk) or that contain areas at risk from surface water flooding, the sequential test has concluded that the developable area can be adjusted to avoid areas of flood risk. Drainage strategies will be required to demonstrate the mitigation that is necessary to overcome the surface water risk. A list of these sites is provided in the table below with a brief summary (further detail is set out in the FRA).

Sites in the Draft Local Plan	SFRA/FRA Requirements
H63, Dragon Road Car Park, Harrogate	Drainage strategy required, reflecting the brownfield character of the site and including measures to mitigate the identified surface water flood risk.
K25, Land at Highfield Farm, Knaresborough	Development to be directed away from those parts of the site within medium and high flood risk areas, appropriate mitigation to enable surface water effects to be addressed and a site-specific FRA will be required at the planning application stage to demonstrate that the site can be developed safely.
FX3, New settlement option to the north of the A59, Flaxby	Very small areas of the site fall within flood zones 2 and 3a. Development of the site will be capable of being directed away from those parts of the site within medium and high flood risk areas and appropriate mitigation will enable surface water effects to be addressed. In addition, the large site size will enable the design and layout to avoid high flood risk areas and/or incorporate on-site storage into site design. A site-specific FRA will be required.
P7, Former Highway Depot, Pateley Bridge	Small parts of this site fall within flood zones 2 and 3a. This is a brownfield site within the centre of the town and the areas of flood risk are at the south of the site. Majority of the site is capable of development on land within flood zone 1 through considering the site layout and design, including access and egress to the site.
PN14, Land to the east and west of Leeds Road (smaller site), Pannal	The SFRA indicates that whilst the majority of this site is within flood zone 1, almost 20% of the site lies within medium and high risk flood zones. Development of the site will be capable of being directed away from those parts of the site. A site-specific FRA will be required.
SB1, Clough House Farm, Summerbridge	Very small parts of this site fall within flood zones 2 and 3b. Development of the site will be capable of being directed away from those parts of the site and appropriate mitigation will enable surface water effects to be addressed. A site-specific FRA will be required.
SP6, Land at Massey Fold, Spofforth	Very small parts of this site fall within flood zones 2 and 3ai. Development of the site will be capable of being directed away from those parts of the site and appropriate mitigation will enable surface water effects to be addressed. A site-specific FRA will be required.
Site DF4 - Land north east of Thornfield Avenue, Dishforth	A small area of the site falls within flood zone 2. This area lies on the north-eastern boundary of the site. Development of the site will be capable of being directed away from those parts of the site and appropriate mitigation will enable surface water effects to be addressed. A site-specific FRA will be required.
NS6, Land south of A6108 (smaller site), North Stainley	Risk of surface water flooding on the site. A drainage strategy for the site would be required, including measures to mitigate the identified surface water flood risk.
FX4, South of the A59, Flaxby Park Green	Very small areas of the site fall within flood zones 2 and 3a. Development of the site will be capable of being directed away from those parts of the site and appropriate mitigation will enable surface water effects to be addressed. A site-specific FRA will be required.

Drainage

4.29 The **Environment Agency** responded for this **Stage 3 draft IDP report**, that the comments made for the Stage 1 Baseline Report remain applicable and that the Agency had no further comments to make. The Baseline Report set out that some refurbishment of existing flood risk infrastructure had taken place, future funding for maintenance of flood defence assets was uncertain and the Agency would seek contributions from any allocations in areas protected by flood defences. Further to their input at the Baseline Report stage, the **Swale and Ure Drainage Board** have advised that in terms of the allocations in the draft Local Plan all allocations need careful attention when designing surface water drainage. NPPF hierarchy should be followed to ensure sustainability, especially on the larger sites. Flood risk should be assessed for both surface water and where appropriate fluvial risk too. Discharges should be controlled to 1.4 litres per second per hectare in most cases. More specifically:

- One or two of the larger sites may subsume land drainage infrastructure and this too should receive special attention to prevent flooding and maintain access, the Flaxby sites in particular.
- K25 encompasses two drains and arrangements for maintaining these should be preserved.
- SV1 will need careful treatment to avoid exacerbating existing flooding problems.
- DF4 lies adjacent to a substantial watercourse and the development is on the bank from which the Board gains access for maintenance.
- There is a presumption against culverting and this could influence the expected yield of some sites.

4.30 The **York Consortium of Drainage Boards** similarly advised that, wherever possible, the risk of flooding should be reduced and that, as far as is practicable, surface water arising from a developed site should be managed in a sustainable manner to mimic the surface water flows arising from the site prior to the proposed development. In an area where drainage problems could exist, development should not be allowed at any location until the Authority is satisfied that surface water drainage has been satisfactorily provided for. And any approved development should not adversely affect the surface water drainage of the area and amenity of adjacent properties. The Board does not consider that development within Flood Zone 3 is desirable or sustainable in the longer term.

Waste Management

4.31 The **Baseline Report** identified that the Allerton Waste Recovery Park (AWRP) is due to be operational in early 2018 and will receive all of North Yorkshire's (including Harrogate district) municipal residual waste. **For this stage 3 draft IDP report**, North Yorkshire County Council (NYCC), as waste disposal authority, confirmed that this position remains the same and clarified that all the permanent Household Waste and Recycling Centre (HWRCs) accept commercial waste (the two at Harrogate and one at Ripon). All customers are charged for the receipt of non-household waste (hardcore, rubble, plasterboard & plaster, tyres) brought to the 3 sites. It was also clarified that Harrogate Borough Council is responsible for recycling and NYCC is responsible for waste that cannot be recycled.

5. COMMUNITY SERVICES AND FACILITIES

- 5.1 **This section examines the infrastructure issues of health, education, emergency services and other community and recreation facilities.**

Health

Secondary Care

- 5.2 As outlined in the **Baseline Report**, the **Harrogate and District NHS Foundation Trust Hospital** site in Harrogate is restricted with no real scope for expansion, a strategic review will focus on assessing opportunities to secure operational efficiencies, and the potential for reconfiguration, reorganisation or redevelopment of accommodation to provide additional capacity within the existing footprint. Parking and transport access remain a significant problem for the hospital site. For the stage 2 **Infrastructure Appraisal**, the Trust identified advantages and disadvantages to all three development scenarios, but acknowledged each would have an impact on future provision and place additional pressure on its hospital and community health care provision.
- 5.3 **For the stage 3 draft IDP Report**, the NHS Foundation Trust reconfirmed that the potential increase in housing in Harrogate and the surrounding areas will have to be assessed to determine the likely impact on health care need in the longer term. As at September 2016, the Trust is currently reviewing its capital strategy to establish the likely areas that will require increased capacity and new facilities. The future demographics of the area will need to be considered as services are planned, along with the likely future developments that will be taken forward will be helpful. In the event that new settlements are developed the provision of a community hub facility providing primary and secondary care would be beneficial supporting the delivery of health care closer to people's homes.

Primary Care

- 5.4 The **NHS Harrogate and Rural District Clinical Commissioning Group** (HaRD CCG) covers the District of Harrogate. **For the stage 3 draft IDP Report**, the CCG confirmed that the basic Health Service needs for all 3 development scenarios will be similar (as set out in the stage 2 **Infrastructure Appraisal**). In order to cope with additional demand from both community and secondary care services the CCG have identified the need for two 'Community Hubs'. These will be a base for integrated Health and Social Care staff plus GP urgent care. This will enable the GP surgeries to cope with the increased numbers and also take pressure off Hospital services/A&E, and enable more rapid discharge from hospital and reduced admissions.
- 5.5 One Community Hub would need to be in Ripon (covering Masham, Boroughbridge, Pateley Bridge and the surrounding villages) and one in Harrogate/Knaresborough covering these towns. The number of houses in the potential new Green Hammerton or Flaxby settlements would need a new GP surgery/branch surgery. This could be accommodated within the Harrogate/Knaresborough hub but would clearly need an increase in capacity in this building.

- 5.6 As a ball park figure for a local health hub, the CCG have assumed that it would need to be 4,500sqm in size and cost around £4,000 per square metre resulting in an approximate cost of £20m per hub. At the moment, this model of care is operating in a 'virtual' way with no suitable infrastructure to support it. Plans for a hub serving Ripon are already moving forward and funding is in place. Two further hubs will be needed, and the site and size of these will be influenced by future development. If a new GP was needed to be added to meet the need from a new settlement (as would be the case if scenario 3 was chosen) there would need to be a small GP surgery in addition to the 'Hub' and would require a building of 800sqm and cost around £3,000 per square metre, an additional £2.4m.
- 5.7 The infrastructure to support the full functioning of hubs will be needed within the next 5 years. The CCG is the lead agency for bringing forward and delivering the Community Hubs. There is national funding for infrastructure through the GP Forward View. The CCG have recently been informed that this funding will only cover 20% of need, leaving a significant funding gap. Private development companies are willing to provide capital for development, but this has significant revenue consequences for the future that the CCG cannot cover. Thus, the CCG will need to find more capital at the outset of the schemes to keep future revenue needs within affordable levels. The delivery risks are therefore mainly related to infrastructure and funding. The commitment of the different partners (CCG, Harrogate District Foundation Trust, TEWV Foundation Trust, NYCC, Harrogate Borough Council, the GP Federation and the Voluntary Sector) remains strong.

Education

- 5.8 The stage 2 **Infrastructure Appraisal** report highlighted a number of issues, particularly with regard to secondary school capacities and the implications of the three development scenarios. Scenarios 1 and 3 scored higher than scenario 2 in the Infrastructure Appraisal report. **For the stage 3 draft IDP**, report **North Yorkshire County Council's Children and Young People's Service** have provided a site by site response detailing the assumed pupil yield for sites, required education infrastructure, costs and funding sources. The number of required Primary School classrooms is set out in the draft **IDP Table**. The table also includes the Secondary School classroom requirements for the two new settlement proposals. Other Secondary School classroom requirements are set out at paragraphs 5.16 and 5.17 below (these are not included in the draft IDP Table as these requirements are cumulative and have not been allocated to individual sites).

Background

- 5.9 Primary school age populations across the Harrogate District were declining for many years until around 2012. Since then the position has reversed as a result of rising birth rates and pupil numbers are forecast to continue to rise for the foreseeable future. It should be noted that changes to Office for National Statistics (ONS) birth rate forecasts have a significant impact on pupil forecasts particularly at primary phase.
- 5.10 The position with regards to primary schools is very localised. Harrogate town is divided into a series of discrete planning areas rather than one single area. This helps to highlight areas where there are issues with capacity and enables funding to be attracted from Government grant. The combination of Government grant and planning obligations are not by themselves sufficient to cover the full cost of delivering school expansions/improvements

and in recent years the County Council has had to supplement these resources to ensure it meets its statutory duty to deliver sufficient places.

Increasing the capacity of schools

- 5.11 There are a number of options available to deliver additional places in response to growth. Some additional places can be found from more effective use by schools of existing accommodation. Beyond that the options all include the provision of additional physical accommodation either on existing or new school sites. One of the challenges in Harrogate, as elsewhere, is that school sites may be confined and unable to be expanded without breaching school premises regulations and guidance. Secretary of State approval is required to build on existing school playing fields/recreational space to expand a school.
- 5.12 In some cases, existing school sites are big enough to allow additional teaching space to be provided. Where there is no surplus land available on the current school site to allow it to grow there are a number of options:
- Acquiring land adjacent to the school to enable expansion. This may be the preferred approach in some cases and NYCC is already pursuing this course in some places.
 - Where an existing school site is, land locked, technically it is possible to operate through the acquisition of detached playing fields. However, this is not ideal and brings with it a range of issues around safety, staffing and the time it takes moving pupils between locations. This is unlikely to be a preferred option.
 - Providing a replacement school within the catchment area for an enlarged school. The challenge with this option is raising the capital needed as there is no funding made available to local authorities to fund the acquisition of additional land or to fund the replacement of the existing school places. Whilst a capital receipt may be available for the disposal of the land, there is a risk that if a free school is interested in the existing school site it may be granted to them with no charge under current Academies legislation.
- 5.13 Where a school currently has historically attracted a lot of pupils from outside of its own catchment it will take time for those pupils to work their way through the school and free up capacity for children generated by new housing within the catchment. The capacity will not necessarily be freed up in time for the completion and occupation of new development in the catchment.
- 5.14 In most instances, it would be unreasonable to expect the children on a new development to have to travel significant distances to an alternative school outside of the catchment. If the alternative school was more than two miles from the child's home NYCC would be responsible for funding home to school transport from a budget which is already severely stretched. NYCC would not normally expect to provide a new primary school of less than 210 places (a one form entry school) as this is a viable model which allows single year groups. The local authority needs the agreement of governing bodies to expansion or relocation. Academy Trusts cannot be required to expand, although the local authority would work with them in the same way as with maintained schools to secure agreement to expansion.

5.15 Specific issues identified in Harrogate district are:

Primary schools

- **Killinghall Primary School** – the site is restricted. There is land to the north of the school that could enable its expansion but the landowner has not expressed interested in selling to NYCC at this stage, a potential option is to allocate land for a new school
- **Masham Primary School** – the site is restricted. In the past, there was some potential for acquiring some adjacent land but this has not proved possible to progress. The school attracts children from outside the catchment. NYCC are not looking to relocate the school from its current site due to the cost involved. Over time it may be possible to displace pupils back to other catchment areas.
- **North Stanley Primary School** – The Staveley Estate have expressed willingness to offer assistance to relocate the school. There is no potential to expand the existing school serving the village. Currently the school is losing pupils to other places. NYCC would support a relocation of the school. The current school site is owned by the diocese so there would need to be a three-way agreement.
- **Western/Beckwithshaw Primary Schools** – Western Primary School site is constrained and there is no option to expand. A new school proposed at the Cardale Park development could absorb some wider capacity issues on the western side of Harrogate but this would need to happen sooner rather than later.
- The primary school site at **Cardale Park** is currently only big enough to deliver a one form entry school. In order to cater for site H49 it would need to accommodate a two-form entry school.
- Sites H51 and H70 would effectively need a new two form entry school (requiring approximately 2 hectares).
- **Pannal Primary School** - could also need expanding as a result of site PN14 (onto Council land as part of the allocation).
- NYCC may need to review school catchment areas on the west side of Harrogate to take account of such significant development.
- **Knaresborough** – A new school (two form entry) could be a longer-term solution for Knaresborough. The current Manse Farm site provides space for a one form entry school.
- **Between 1 and 6 additional classrooms** are likely to be required at primary schools serving a significant number of the sites allocated in the draft Local Plan, with an additional classroom costing approximately £250,000
- **Both new settlement proposals** would generate a need for two new primary schools, 1 x 420 place and 1 x 630 place at Green Hammerton and 2 x 630 place at Flaxby at an approximate cost of £6-8 million for each primary school

Secondary Schools

- 5.16 There are concerns about secondary school places associated with the new settlement options which under current proposals would not generate sufficient children to require a new secondary school but would require significant expansions to existing secondary schools. 600 places is the general threshold for a small secondary school – therefore, based on the assumed ratio of 1 secondary school pupil per 8 dwellings, there would need to be a development of 4,800 houses to justify the provision of a new secondary school. There

would need to be additional land to allow the existing secondary schools at either Boroughbridge High or King James to expand further, but the King James site is landlocked. Therefore, the only realistic option to meet the need for secondary school places would be to expand Boroughbridge Secondary School.

- Based on the size of the new settlement options there could be a requirement for up to 14 or 15 new classrooms at Boroughbridge. New pupil numbers would gradually increase as the new settlement is developed over a period of time.
- The County Council may need to secure land around Green Hammerton that could potentially be used as a new school site in the future if further development was proposed in future plan periods.

5.17 The education infrastructure required for Secondary schools serving Harrogate district has been identified in a cumulative way, as opposed to being allocated to individual sites. This is summarised in the following table. Each additional secondary school classroom would cost in the region of £250,000, for example the additional classrooms for the new settlement options would result in an estimated cost of £3.5 to £3.75 million.

Secondary Schools	Number of New Secondary School Classrooms Likely to Be Required for Schools Serving Harrogate District		
	Scenario 1 – focus on Harrogate & Knaresborough	Scenario 2 – including Green Hammerton New Settlement	Scenario 3 – including Flaxby New Settlement
Bedale	0	1	1
Boroughbridge High	0	14	15
King James, Knaresborough	2	2	2
Harrogate High	16	10	10
Nidderdale High	0	0	0
Ripon	5	5	0
Thirsk	0	0	0

York College

5.18 **For the stage 3 IDP Report, York College** provided further comments on the 3 development scenarios, expressing support for the Flaxby option, as this will afford growth in the local economy and will encourage new families to settle and a strong community ethos. In relation to impact on the college it will also provide a potential source of future students seeking education and training. Moreover, during its construction/development phase it will provide opportunities for local trades and apprenticeships.

Emergency Services

Police

5.19 The **Baseline Report** identified that there were six police stations/community offices in Harrogate District and a new police station had become operational in Harrogate in 2012. **For the stage 3 draft IDP report, North Yorkshire Police** responded that new housing and business developments place additional demands on policing and police

infrastructure. North Yorkshire Police is responsible for policing any new housing and business developments in the North Yorkshire County and City of York area. North Yorkshire Police along with the Office of the Police and Crime Commissioner (OPCC) for North Yorkshire need to assess how new developments within the North Yorkshire policing area will impact upon the service they provide taking into account relevant strategies that both the Police and the OPCC have in place.

- 5.20 The growth in internet and mobile phone technology and the increase in 24:7/automated facilities has revolutionised public expectations about service. Many people now expect to access information and conduct transactions online, or by phone. The signs are that this is also true in policing, with the demand on the police's 101 line far out-stripping the number of in-person visits at police stations. The police need to consider how best they can meet these new public expectations. North Yorkshire Police are investing significantly in information and communications technology. In the near future, this investment will see the introduction of digital devices to allow a frontline officer to operate entirely from the beat, rather than returning to a station to access computer facilities. North Yorkshire Police will also be introducing agile working, which will mean they can deploy their workforce more flexibly, which has an impact on how they will provide accommodation.
- 5.21 The cost of running and maintaining the North Yorkshire Police estate is considerable; therefore, they have been reviewing the estates strategy from both an operational and corporate point of view, to see how they could take an alternative approach to their estate that would be better and more affordable whilst considering the impacts upon the services transport and Information Communications Technology (ICT) strategies. Under the new estates strategy, North Yorkshire Police will configure their estate in line with the following three strands:
- Strand 1 - core operational hubs: these will be the locations for the Force Control Room, custody suites, Investigation Hubs and facilities to store and retain property and exhibits
 - Strand 2 - partnership locations: these will be buildings that are shared with other public services, which provide North Yorkshire Police with an operational base in strategic locations, supplementing the core operational hubs
 - Strand 3 - local community "touchpoints": the operational bases will be supported by a range of mechanisms to increase and enhance the public's opportunity to engage with the police. These will include mobile police stations deployed in the community, online "real-time" contact and community-based information points.
- 5.22 In line with the review of the estates and ICT strategies, North Yorkshire Police will also be reassessing the locations and logistics of their transport facilities throughout the county.

Fire and Rescue

- 5.23 **For the stage 3 draft IDP report, the North Yorkshire Fire & Rescue Service** highlighted that the service undertakes Integrated Risk Management Planning (IRMP) to determine the level of risk within the county; and the location and amount of service resources appropriate to that risk. A Fire Cover Review Implementation is currently being undertaken which will form part of the IRMP. In terms of intervention response (i.e. emergency response to incidents), the locations of the fire stations within the Harrogate district will not be affected by

the review, nor will the number of operational units available from them. Further detail was also provided on the resources which will be in place following the implementation of the Fire Cover Review at Harrogate, Ripon, Boroughbridge / Knaresborough / Masham / Summerbridge and Lofthouse. Acomb in York is outside Harrogate district and is the next closest fire station to Green Hammerton.

- 5.24 The level of growth stated in the **Infrastructure Appraisal Report** should not affect the work of the North Yorkshire Fire & Rescue Service provided that buildings are built to modern standards and incorporate hard wired detection systems, have suitable access for emergency vehicles and water supplies/road hydrant systems. Recommending the installation of domestic sprinkler systems within residential dwellings to encourage developers to install such systems would provide an additional level of protection. Preventative work will also continue in order to reduce risk across the district which in turn reduces the incidence of intervention responses required.

Ambulance Service

- 5.25 **For the stage 3 draft IDP report, Yorkshire Ambulance Service** position has not changed or is likely to change in the short to medium term from the stage 1 Baseline Report response. There are no immediate plans for additional ambulance service facilities. The situation is under constant review.

Indoor Sports Facilities

- 5.26 **For the stage 3 draft IDP report, Harrogate Borough Council** confirmed that the level of existing Indoor Sport provision hasn't changed from the data supplied in 2015 for the baseline report as summarised below:

Harrogate

- Serviced well for swimming Pools, with provision available at the main town centre pool (the Hydro) and supported by other pools across the district at Starbeck and Knaresborough. Starbeck is an old pool and should it close in the future this may put added pressure on the Hydro and Knaresborough. There are also a number of private pools in Harrogate provided in local hotels or facilities such as The Academy.
- There was also a community usage pool on the grounds of Harrogate High School and this recently closed as the school is being re-built. The new build does not include a replacement pool so this provision will be lost from the site.
- Sports hall indoor provision is mainly done via school providers now, with changes taking affect when schools had the option to become academy's and control their own finances. There is currently community provision available at Harrogate Grammar School, Harrogate High School, Rossett High School and St John Fishers High school. These are all available for community usage but not provided by the local authority.

Green Hammerton.

- No direct indoor provision in this location. The nearest access would be Boroughbridge High School and Knaresborough King James School for Indoor sport or Knaresborough Swimming Pool.
- Any new build in this location will need to consider developer contributions in order to bridge the gap for access able indoor sport provision.

Knaresborough

- Well catered for via King James High School and Knaresborough pool with additional facilities in Boroughbridge, Starbeck and Harrogate reasonably close by.

Ripon

- Indoor sport provision is available via Ripon Leisure Centre, Ripon Grammar School and Ripon Cathedral Choir School. Swimming provision is in the form of Ripon Swimming Pool, although this pool is in a state of disrepair due to its age and HBC are committed to the provision of a new pool in Ripon to replace the existing facility. No time frame is set for the new provision, so should the existing pool close before the new one is operational then there would be a lack of swimming provision in Ripon. Would consider developer contributions in Ripon to support the provision of the new pool.

Boroughbridge

- Indoor sports provision is available through Boroughbridge High school. No direct swimming provision in this location with the nearest pools being located at Ripon or Knaresborough.

Masham

- Not aware of any indoor provision in this location although it is supported by indoor facilities in Ripon and surrounding areas.

Pateley Bridge

- Supported by indoor sport provision through Nidderdale Recreation Centre and Nidderdale Pool both of which are delivered through HBC. This provision is considered sufficient for the size of the location.

Rural

- Supported by the provision across the district as detailed above and in the Baseline Report. A development in any specific location would need to be looked at in more detail.

Libraries

- 5.27 **For the stage 3 draft IDP report** there were no comments to add to the stage 1 Baseline Report.

Public Conveniences

- 5.28 No further response was received for stage 3.

Cemeteries and Crematoria

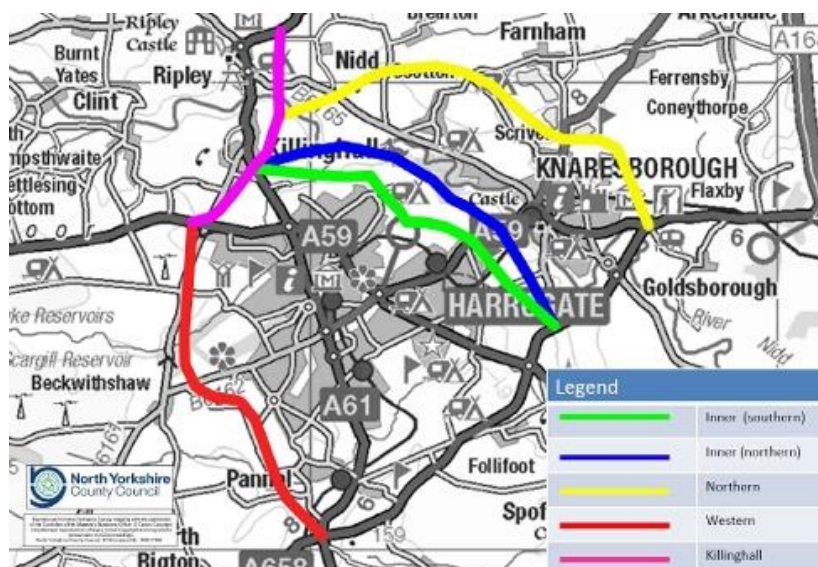
- 5.29 No further response was received for stage 3.

6. TRAVEL AND TRANSPORT

- 6.1 This section examines the critical infrastructure issues of the highway network, rail, bus network and walking & cycling.
- 6.2 This section builds on the comparison of options with the stage 2 **Infrastructure Appraisal** report, but looks more specifically at the infrastructure requirements of each of the 3 development scenarios. For highway issues, it draws on the findings of a study undertaken in partnership with **North Yorkshire County Council (NYCC)** and **Highways England**, to test the traffic impacts of Local Plan development and identify mitigation requirements using an up-to-date traffic model. For non-highway issues, it draws on further discussions with **Harrogate Borough Council (HBC)** and **NYCC** based around likely infrastructure needs.

Strategic Highways

- 6.3 On the strategic highway network, the traffic model has identified the need for further work to be undertaken to understand the impacts of local plan growth. HBC is working with Highways England and NYCC to explore the future operation of **A1(M) Junction 47** and potential solutions. The outcome of this work is expected early next year and any recommended measures will need to be incorporated within the next iteration of the IDP.
- 6.4 NYCC is using the same traffic model to look at options for a **relief road for Harrogate and Knaresborough** in the future, likely to be within the next Local Plan period. NYCC's Strategic Transport Prospectus identifies a relief road for Harrogate as a strategic priority, but NYCC also recognises that in order to address congestion levels, a relief road on its own is not the solution. Alongside a relief road, a package of complimentary sustainable transport measures will also be required. This will likely include improving passenger transport facilities, providing improved cycling and pedestrian links and exploring opportunities for park and ride.
- 6.5 The traffic model work undertaken to assess impacts of Local Plan growth and necessary mitigation does not require a relief road. However, HBC will seek to work with NYCC in the preparation of the relief road review/assessment and to understand the potential implications for this and future Local Plans. The indicative corridors that are being investigated as part of the work examining a relief road are shown on the plan below.



Local Highways

6.6 On the local highway network, the traffic model has been used to identify **junctions which will operate at over capacity**. Detailed junction modelling has been undertaken at 14 junctions and where appropriate requirements for mitigation have been identified in order to increase network capacity and ensure that future local plan growth can be accommodated. The junctions are as follows:

- Clocktower junction, Ripon;
- Low Skellgate / Water Skellgate;
- A59 / Harrogate Bypass;
- Woodlands junction;
- Leeds Road / Hookstone Road / Leadhall Lane;
- Beckwith Head Road / Otley Road;
- A61 / Otley Road, Killinghall;
- St James Retail Park / Harrogate Bypass;
- A61 Ripon Road / A59 Skipton Road;
- A59 / B6164;
- Westgate / Blossomgate;
- North Street / Coltsgate Hill;
- A658 / B6163;
- A61 Leeds Road / Follifoot Road / Pannal Bank

6.7 **Mitigation measures** have been investigated and developed for almost all of these junctions, and are summarised the table below. Many relate to traffic signal amendments, which are relatively low cost, and two include some localised widening of junctions within the highway boundary. None of the suggested local highway mitigation measures can be attributed to the allocated sites included in the draft Local Plan – the measures will be needed to address the cumulative traffic impact of the 3 development scenarios.

Junction	Suggested Mitigation Measure(s)
Clocktower junction, Ripon	Traffic signal amendments
Low Skellgate / Water Skellgate	Traffic signal amendments and minor road marking alterations
Beckwith Head Road / Otley Road	Additional capacity on Otley Road (W) arm
A61 / Otley Road, Killinghall	Prohibition of right turn movement from Otley Road
St James Retail Park / Harrogate Bypass	Capacity improvements on entries and exits

6.8 More detailed work is currently being undertaken by HBC and NYCC on the other junctions listed in paragraph 6.6 to identify appropriate mitigation measures. As noted previously, any measures that arise from this work will need to be incorporated within the next iteration of the IDP, along with costing work being undertaken for the mitigation measures.

Rail

- 6.9 For rail, a **new rail halt at Flaxby** is seen as a key element of the delivery of a new settlement in this location, and stations along the line are to be looked at following the proposed infrastructure improvements below.
- 6.10 For the option of a new settlement at Green Hammerton, there remains the potential for a **major improvement of either Cattal or Hammerton rail stations**, or indeed to provide a new combined station to serve the development itself, and offer the potential for future park and ride into both Harrogate and York.
- 6.11 As noted in the stage 2 Infrastructure Appraisal report, the long-term plan for the Leeds-Harrogate-York rail line is for a £170 million investment to bring about the electrification of the line, transformation and modernisation of Harrogate Station, double tracking all of the remaining single track sections to improve performance and resilience, and an initial proposal to remove the level crossing at Starbeck station. These works would be phased over the next 10 years and are desirable for growth all along the rail line, not just that which could result from the development scenarios considered in this study.

Bus

- 6.12 For Harrogate the **bus network** to the west of the town is dense enough to support services diverting to serve new allocated sites and/or passing them on the major bus routes, so only specific bus measures for the two new settlements are identified in the draft IDP table. To bring forward a bus network that supports future growth in the city, improved bus interchange is required in Ripon under all of the development scenarios.
- 6.13 For a **new settlement at Flaxby**, pump priming will be required to either divert the existing Harrogate to Boroughbridge bus service along the A59 in the vicinity of the site and/or extend the existing bus service 1A/B/C into the Flaxby site, until such time as the services are commercially viable.
- 6.14 For a **new settlement at Green Hammerton**, support will be needed for the existing tendered Ripon to York bus service to improve service frequencies until the service becomes commercially viable.

Walking and Cycling

- 6.15 Similarly, all of the development scenarios need to allow for online corridor and junction improvements for **pedestrians**, to better connect residents to their local facilities.
- 6.16 Where necessary, passive provision should be made through identified sites for longer terms plans to expand the **cycle** network, such as **at a new settlement at Green Hammerton**, where such an approach will allow any future Harrogate-York links to run away from the A59.
- 6.17 For a **new settlement at Flaxby**, there is the opportunity to create a footway/cycleway connection along the A59 corridor to link into existing networks in Knaresborough, as well as those planned around the housing site at Manse Farm, which combined together deliver an

eastern sector of the Harrogate and Knaresborough cycle network, alongside an off-road cycle route from Bilton Hall Drive to Long Walk

6.18 Sites within all of the development scenarios could be involved in the delivery of the **western sector of the Harrogate and Knaresborough cycle route network**, and a **Ripon cycle route network** (further work is being undertaken). The former comprises the following specific interventions:

- A61, Harrogate - on/off-road cycle route between Pannal and Hookstone Road;
- Otley Road - off road cycle route between Pot Bank and Beech Grove;
- A59 Skipton Road cycle crossing.

6.19 The latter comprises two specific interventions:

- Kirkby Road/College Road - on road cycle route between Barracks and North Street;
- Harrogate Road/Quarry Moor Lane - on road cycle route between A61 Bypass and Knaresborough Road (NCN 688).

7. FUNDING AND DELIVERY

7.1 This section outlines potential funding and delivery options for the identified infrastructure needs under the three development scenarios.

7.2 As outlined earlier in this report the development of Harrogate Borough will require considerable investment in infrastructure to mitigate and support growth. Many of the infrastructure items are strategic in nature and will require a coordinated approach to delivery and funding to ensure that the required works can be installed in a timely manner to facilitate the programme of housing delivery proposed. There are also site-specific infrastructure requirements, particularly for the large-scale land releases where substantial mitigation measures such as on and off-site highways and on-site community and green infrastructure will be required. As a result, there is a need for a comprehensive and robust infrastructure funding strategy.

Overall Funding Opportunities

7.3 There are four main categories of funding that form part of the funding strategy:

Service provider led

7.4 For many infrastructure categories, the increase in usage will create an income stream for providers which may enable direct funding of the required works. This is the case for many utility providers, although in some cases they may require additional capital contributions where upgrades and enhancements are substantial. Feedback on costs from utility service providers has been limited or indicative to date and therefore the extent to which the required enhancements can be self-funded has not been possible to determine.

Developer contributions and land value capture

7.5 Developer contributions will be secured through a combination of S106 agreements for site specific infrastructure, Section 278 for highways projects and the Community Infrastructure Levy for area wide projects.

7.6 Under the CIL regulations, S106 agreements are subject to pooling restrictions and must only be used for matters that are connected with site specific mitigation. On large scale land releases, it is considered that S106 will remain an important basis for securing funding contributions to unlock development. This is likely to include highway works, schools and other community facilities and green infrastructure. It will be important to ensure that there is a clear distinction in how the site-specific infrastructure requirements are funded on large scale sites as compared to smaller sites for which there will be a greater reliance on pooled contributions through CIL or Section 278 highway works.

7.7 The Community Infrastructure Levy (CIL) is currently being progressed alongside the Local Plan and when adopted will provide the means for securing pooled developer contributions for a wide range of area wide infrastructure projects. The Regulation 123 list which will form the basis of the infrastructure items to be funded through CIL will be developed to provide clarity over the approach taken to developer contributions. In devising CIL rates, care will be

needed to ensure that the delivery of large scale sites which carry an additional burden in terms of site specific infrastructure costs is not put at risk.

Established and emerging infrastructure funding streams

- 7.8 There are a number of established and emerging funding streams that can be drawn on in support of the growth agenda. The Local Growth Fund is the main source of capital funding for growth projects and Harrogate can access both Leeds City Region Growth Deal as well as York, North Yorkshire and East Riding. The Local Growth Fund brought together a series of funds including from the Department of Transport (see below) and is focused around works to promote growth in homes and jobs.
- 7.9 The Homes and Communities Agency offers a series of funding programme which can be deployed for infrastructure projects which unlock development. Under the recoverable investment programmes, flexible loan finance can be made available for site specific infrastructure projects which can help to alleviate cashflow pressures of developers, particularly where large scale infrastructure is needed at the outset of the development programme. These funds have recently been harmonised under the title 'Home Builders Fund' reflecting the emphasis on helping unlock housing schemes.
- 7.10 Clarification over further funding streams are expected to emerge imminently as part of the 2016 Autumn Statement which could provide other opportunities for infrastructure funding.

Locally led initiatives

- 7.11 In addition to the above we recommend that Harrogate Borough Council considers innovative measures utilising its own powers and resources to facilitate delivery of infrastructure. Examples of measures that the council could consider are:
- Use of borrowing capability to forward fund strategic infrastructure projects
 - Ring fencing of tax / incomes to enable forward funding of infrastructure (e.g. New Homes Bonus, council tax, retained business rates income)
 - Proceeds from the sale of council owned land and flexible use of council owned land on developments (for example deferring land payments, exchanging land for contributions to infrastructure works)
- 7.12 Such an approach will be particularly beneficial in delivering the strategic infrastructure projects such as major highways and rail projects, and also facilitating the delivery of large scale sites such as Flaxby.
- 7.13 In respect of **schools**, under the current arrangements the Education Funding Agency provides capital for free school trusts and therefore represents a source of funding for the development of new schools. However, there is an expectation that contributions from developers will also be needed to supplement this capital. Section 5 highlights the national funding for **health** facilities infrastructure through the GP Forward View.

Travel and Transport

- 7.14 Funding for strategic highway network improvements, where these are on the Strategic Road Network, would most likely come through Highways England as part of their five-year Roads Investment Strategy (RIS) programme. The second of these five-year settlement – RIS2 – is due to run from 2020 and 2025, and Highways England is currently developing a number of route strategies to inform the components of RIS2, which will be published in Spring 2018.
- 7.15 The RIS programme will normally consist of a series of named major projects (of which the longer-term improvement to Junction 47 of the A1(M) may well be one), but also includes ring-fenced allocation for smaller projects, usually junction improvements or new junctions, designed to facilitate growth. Depending on the final option for A1(M) Junction 47, this route may also be applicable for funding the required improvement.
- 7.16 Away from the strategic road network, large scale local transport improvements are now most likely to be funded via the DfT's Large Local Majors fund, to which NYCC has already made a bid for development funding for improvements along the A59 corridor. The fund is only open at the present time for business case development, but there is the expectation that it will be opened up in 2017 (and maybe later years, depending on future departmental funding settlements) for construction costs. Such a bid, which will most likely include an element of strategic road improvements around Harrogate and Knaresborough as part of an A59 corridor package, is currently being considered by NYCC.
- 7.17 More local highway improvements, as well as improvements to bus, walking and cycling networks, are now expected to be funded from the Local Growth Fund, as the DfT contributes a significant proportion of the overall funding pot. HBC is advised to consider putting forward packages of sustainable transport and junction improvement schemes, linked to ongoing site development, through the LGF process.
- 7.18 Like strategic highways, rail is subject to five-year funding cycles, the next one for Network Rail being Control Period 6 between 2019 and 2024. Funding for this particular five-year period is likely to be very limited given a number of delays and cost issues that will be carried over from Control Period 5. However, Network Rail is embarking on a series of route studies across the North of England which will determine future priorities, so the opportunity exists to put forward the case for the longer-term improvements to the Leeds-Harrogate-York rail line via this route.
- 7.19 The new Northern Rail franchise is now co-managed by Rail North, who themselves are looking to refresh their long-term rail strategy in the latter part of 2016, providing a further opportunity to both seek shorter term funding for ongoing improvements to the rail line, as well as the longer-term improvements required to support growth all along the line.

8. CONCLUSIONS

8.1 This section summarises key infrastructure issues, requirements and investment implications for the Draft Local Plan for Harrogate district arising from the Infrastructure Capacity Study.

8.2 The Infrastructure Capacity Study has been undertaken by way of a three-stage approach. The first stage **Baseline Report** identified a wide range of infrastructure types as set out in the table below. This stage 1 report sets out a picture of infrastructure services, networks and facilities across the district. This initial stage of work served to ensure that infrastructure considerations were taken in to account at the start of the plan preparation process.

Utilities & Environment	Community Services	Travel & Transport
Water supply, treatment and sewerage. Gas. Electricity. Telecommunications. Flood protection. Drainage. Waste management.	Education. Health. Emergency services. Indoor sport facilities. Libraries. Public conveniences. Cemeteries and crematoria.	Local highway network. Strategic highway network. Rail. Bus. Coach and car parking. Cycling. Walking.

8.3 The stage 2 **Infrastructure Appraisal** report aimed to ensure that infrastructure considerations proactively inform, alongside other evidence base work, the determination of a preferred development strategy for the Local Plan. The Stage 2 work focussed on the following 'critical' infrastructure providers and types:

Infrastructure/Service Provider	Critical Infrastructure Type
Yorkshire Water	Water Supply and Sewerage
Northern Gas Networks	Gas
Northern Powergrid	Electricity
Local Education Authority (NYCC)	Education
Harrogate & District NHS Foundation Trust	Secondary Health Care
NHS Harrogate & Rural District CCG	Primary Health Care
Local Transport Authority (NYCC)	Transport

8.4 In concluding the Infrastructure Appraisal, an 'unweighted' scoring assessment indicated a clear preference, in infrastructure terms, to locate future housing growth in line with development scenario 1 – with a focus on Harrogate and Knaresborough. This arises from the fact that such locations already have access to existing infrastructure, and that any improvements required are generally based around enhancements rather than wholly new infrastructure, particularly in relation to utilities. The exception to this is highway network infrastructure, which will need significant improvement in all three scenarios (including potential new settlements at Green Hammerton or Flaxby). There was relatively little difference in the unweighted scoring totals between the two scenarios for a new settlement – each has similar transport impacts and requires major investment in at least one of the utilities which may require crossing the A1(M).

- 8.5 Further to this, the Infrastructure Appraisal recognised that the financial viability for any new settlement is of critical importance to ensure that the development is a realistic proposition. A 'weighted' scoring approach was also applied giving equal importance to the categories of Utilities & Environment, Community Service & Facilities, Travel & Transport and the Market Commentary findings. Principally due to the additional headroom in value that the Green Hammerton new settlement scenario would likely generate, the infrastructure appraisal weighted assessment indicated a preference for any new settlement to be located here, rather than at Flaxby. A key issue though for Green Hammerton is the potentially very significant cost of providing gas and electricity supply, given the distance and complexity of the required connections to existing networks around York.
- 8.6 The Infrastructure Appraisal weighted assessment did not change the initial appraisal conclusion that concentrating future growth on the existing urban areas (Scenario 1) is preferable from an infrastructure appraisal perspective, in terms of cost, viability and delivery.

Infrastructure Delivery Plan

- 8.7 This stage 3 draft IDP Report and the draft IDP Table represent a 'work in progress' Infrastructure Delivery Plan. Prior to the publication and submission stages for the Local Plan in 2017 the information in the IDP report and table will be added to, particularly as a result of:
- The identification of costs for the transport mitigation measures identified in this report
 - Further work on the Harrogate Relief Road and on Junction 47 of the A1(M)
 - Consultation responses to the Draft Local Plan, particularly on allocated sites
 - Feasibility studies and site connection enquiries made by site developers/promoters
 - Any further information, updates or costs that infrastructure providers are able to provide
- 8.8 The information set out in this **draft IDP report** and **draft IDP table** reinforces the work undertaken at stage 2. There are five key types of infrastructure that raise the most significant delivery and funding issues for allocated sites and the growth strategy of the Draft Local Plan. The five types are transport, education, electric, gas and water/sewerage.

Key Strategic Infrastructure for Development Sites

- 8.9 On **transport**, the traffic model has identified the need for further work to be undertaken to understand the impacts of local plan growth. HBC is working with Highways England and NYCC to explore the future operation of A1(M) Junction 47 and potential solutions. The outcome of this work is expected early next year and any recommended measures will need to be incorporated within the next iteration of the IDP. NYCC is undertaking work on the options for a relief road for Harrogate and Knaresborough. However, a new relief road has not been shown to be required to deliver the level of growth identified in the Local Plan.
- 8.10 There are also a range of minor junction improvements across the local highway network that will be needed under all of the development scenarios, mainly in Harrogate. More work is being undertaken on two junctions – the Woodlands junction and the Bond End junction in Knaresborough, where more extensive improvements may be required to offset the cumulative impact of additional traffic. There are specific public transport and sustainable transport infrastructure requirements for the two scenarios where new settlements would be

provided, including the potential for a new rail halt at Flaxby, pump priming of bus services, and the connection of both sites into existing walking and cycling routes.

- 8.11 Accommodating housing growth also has very substantial delivery and cost implications for providing additional classrooms for **schools**, and in some cases for providing new primary schools. The draft IDP table highlights a range of requirements for new classrooms for existing primary schools, ranging from one to six classrooms arising from the different site allocations across the district. The two new settlements options would both generate a need for two new primary schools and fourteen/fifteen new secondary school classrooms at Boroughbridge High, for the Green Hammerton and Flaxby proposals (which would require additional land at the Boroughbridge High school site). The current new settlement proposals would not generate sufficient children to support a new secondary school.
- 8.12 The **gas network** around Harrogate and Knaresborough has some existing long-term capacity to incorporate further growth. Whilst localised infrastructure reinforcement may be required, the gas network has capacity to accommodate the development proposed in this area. Most sites in the Draft Local Plan in most settlements have sufficient capacity on the medium pressure network. There are major challenges for both new settlement options in terms of providing a connection to existing gas networks. Major growth at Green Hammerton would require either new infrastructure linking to the Intermediate Pressure Network for York to the east, or would need to connect to the Harrogate network to the west. Either approach would require the installation of significant new infrastructure over long distances. A new settlement at Flaxby would also require a long-distance connection to the Harrogate network. There is an existing gas supply to the Flaxby site, which is less distant from the existing network and west of the A1(M).
- 8.13 Development around Harrogate and Knaresborough would locate growth within main urban areas already served by existing **electricity infrastructure**. Whilst many sites in the Draft Local Plan can be served from existing transmission infrastructure, a significant number do require local re-enforcement works and/or improved sub stations. Both new settlement options would require provision of wholly new connecting infrastructure to serve the proposed growth and also the installation of a new substation within the new site. The Flaxby site is located in fairly close proximity (between approximately 1.5km and 3km) to the existing sub-station at Coneythorpe. By comparison, the Green Hammerton site would be around 12km from the York Outer Ring Road/Upper Poppleton. A full assessment is needed to provide a comprehensive viability assessment.
- 8.14 There is currently insufficient **waste water or water infrastructure** to serve a large new settlement at either Flaxby or Green Hammerton. Yorkshire Water would expect a developer to undertake a feasibility study to ascertain how the development would be served. An innovative surface water management plan to minimise the risk of flooding would also be required for a new settlement. Given the potential reinforcement of the water supply to Knaresborough (post 2020), it may be slightly easier to serve the Flaxby new settlement with regard to water supply.
- 8.15 Water supply demand in the Harrogate area is currently being reviewed to inform post 2020 reinforcement work. Capacity at the Harrogate North waste water treatment works (WWTW) can be made available but the developments should be phased to ensure that any necessary works to the works (which would be post 2020) can be undertaken in a timely way

to serve the developments. There is adequate capacity at the Harrogate south waste water treatment works. The barracks at Ripon are already on the public water supply and waste water networks. Whilst details and feasibility work would be required, the redevelopment of the barracks is unlikely to have adverse impacts and there may be opportunities to find more sustainable drainage methods and reduce existing flow rates.

Other Key Infrastructure Issues

- 8.16 There is demand and need to support integrated **health and social care ‘Community Hubs’** in the district so that GP surgeries can cope with increased numbers and pressures are reduced on hospital services. Hubs in Ripon (covering Masham, Boroughbridge, Pateley Bridge and the surrounding villages) and in Harrogate/Knaresborough would cost in the region of £20m. There is a funding gap to provide these integrated facilities to meet the needs arising from the existing population and new developments.
- 8.17 The Harrogate and District NHS Foundation Trust **Hospital site** in Harrogate is restricted with no real scope for expansion. A strategic review will focus on assessing opportunities for operational efficiencies and additional capacity within the existing footprint, as well as assessing the likely impacts of changing demographics and the increase in new homes.
- 8.18 Drainage strategies and some **flood risk** mitigation/avoidance measures will be required on a limited number of sites. New settlement options raise the need to provide access to **indoor sports provision**. Different service providers will need to respond to changes in patterns of demand that result from the location of future new development.