The Drax Power (Generating Stations) Order

Land at, and in the vicinity of, Drax Power Station, near Selby, North Yorkshire

Environmental Statement
17 – Cumulative Assessment

The Planning Act 2008
The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 – Regulation 5(2)(a)

Drax Power Limited

Drax Repower Project

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17 CUMULATIVE ASSESSMENT

17.1 Introduction

17.1.1. This Chapter reports the outcome of the assessment of likely significant effects arising from interactions (i) between the different effects of the Proposed Scheme and (ii) between other development in combination with the Proposed Scheme. It will assess the potential for significant cumulative environmental effects to occur as a result of the Proposed Scheme and other existing and approved projects, which are significant effects that are new or greater significant effects than would otherwise occur as a result of the Proposed Scheme on its own.

17.1.2. In accordance with the EIA Regulations 2017 and best practice guidance, the following types of cumulative effects are assessed in this Chapter:

- Effect interactions (combined effects) - the interaction and combination of environmental effects of the Proposed Scheme affecting the same receptor.
- In-combination interactions (cumulative effects) - the interaction and combination of environmental effects of the Proposed Scheme with 'other development' affecting the same receptor.

17.1.3. The cumulative effects assessment, therefore, considers other proposed developments that are in the public domain, such as planning applications registered with the local planning authorities / Planning Inspectorate and / or already consented developments, but not yet constructed or operational. There are a number of proposed developments considered for which applications have been submitted but are not yet determined.

17.1.4. This Chapter (and its associated figures and appendices) is intended to be read as part of the wider ES. A qualitative cumulative effects assessment has been undertaken for the majority of the environmental topics considered. Quantitative assessments have been undertaken for traffic-related air quality effects, for air quality impacts arising due to stack emissions and for construction and operational noise impacts.

17.1.5. The Chapter describes the cumulative assessment methodology, the baseline conditions (e.g. the short list of other projects to be considered cumulatively with the Proposed Scheme), a summary of the likely significant effects taking into account national legislation, the further mitigation measures required to prevent, reduce or offset any significant negative effects, and the likely residual effects after these measures have been employed.

17.1.6. This Chapter is supported by Figure 17.1, which shows "other development" considered within the cumulative assessment.

17.2 Policy, Legislation and Guidance

Legislation

17.2.1. The following European Directive and domestic legislation set the policy framework for the assessment of cumulative and combined impact assessments:

17.2.2. European Directive 2011/92/EU (as amended by Directive 2014/52/EU) (Ref 17.1) on the assessments of effects of certain public and private projects on the environment requires an assessment of "the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long term, permanent and temporary, positive and negative effects of the project".

17.2.3. The Overarching NPS for Energy (EN-1) (Ref 17.2) paragraph 4.2.5 states that "*When considering cumulative effects, the ES should provide information on how the effects of the applicant's proposal would combine and interact with the effects of other development (including projects for which consent has been sought or granted, as well as those already in existence)*".

17.2.4. The applicable legislative framework is summarised as follows:

17.2.5. Paragraph 5, Schedule 4 of The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (EIA Regulations 2017) (Ref 17.3) requires that an environmental statement includes:

> "*A description of the likely significant effects of the development on the environment resulting from, inter alia –*
> *…*
> *e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources;*
> *…*
> *The description of the likely significant effects on the factors specified in regulation 5(2) should cover the direct effects of any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the development".*

17.2.6. The EIA Regulations 2017 require that EIAs include population and human health when assessing the direct and indirect significant effects of a proposed development.

17.3 Guidance

17.3.1. The Planning Inspectorate's Advice Note 17 "Cumulative Effects Assessment" (AN17) (Ref 17.4) has no statutory status but sets out a staged process for applicants to adopt in cumulative effects assessment for NSIPs in the absence of a single, agreed industry standard method.

17.4 Scoping Opinion and Consultation

Scope of the Assessment

17.4.1. An EIA Scoping Report was submitted to the SoS in September 2017, as presented in Appendix 1.1. A Scoping Opinion was received by the Applicant from the Planning Inspectorate (PINS) (on behalf of the SoS) on 23 October 2017, including formal responses from statutory consultees. The responses from the PINS/SoS in relation to combined effects and cumulative effects, and how those requirements should be addressed by the applicant, are set out in Table 17-1 below. Table 17-2 presents the statutory consultee comments received on the PEIR report in relation to combined and cumulative effects during the statutory consultation, and how those responses have been considered by the Applicant.

Table 17-1 - Scoping Opinion Summary Table (Cumulative Assessment)

Section of Scoping Report	Applicant's Proposed Matter	Planning Inspectorate's Comments	Summary of Response
2.3.1	N/A	The Scoping Report states that it is not yet determined whether the works to the National Grid substation and the gas supply pipeline would comprise part of the authorised development within the DCO. It is expected that this will be determined by the time the application is made. However, the Scoping Report has at this stage presented these elements as forming part of the Proposed Scheme and therefore they have been considered as part of this Scoping Opinion. If the works do not form part of the DCO, the Inspectorate would expect to see consideration of these works within the	A description of the Proposed Scheme is included in Chapter 3 (Site and Project Description). The Proposed Scheme includes the Gas Pipeline and works to the National Grid substation within the Existing Drax Power Station Complex, and the assessment has therefore taken account of any effects arising from those elements of the Proposed Scheme. These works are therefore not assessed as separate cumulative projects.

		cumulative effects assessment.	
7.2.1 and 7.2.4	Impacts on ecological sites resulting from nitrogen and acid deposition	The Inspectorate notes the potential for changes in emissions to air from operation of the Proposed Scheme to impact on ecological sites. The Applicant is advised to also assess the effects of the Proposed Scheme cumulatively with other relevant plans and projects.	The in-combination (or cumulative) and combined effects on ecological sites from air quality are assessed in this Chapter of the ES.
7.5.2	Construction phase air quality impacts on designated sites	In particular, the Applicant should consider the potential for cumulative impacts with other plans or projects.	The in-combination and combined effects on air quality at designated sites are considered within this Chapter of the ES.
8.2.2	Assessment methodology	The Inspectorate notes the overarching approach suggested by the Applicant. Whilst this does not mirror exactly the suggested approach set out in AN17, the principles appear to be broadly in line with these recommendations.	Methodology has been updated and is broadly in accordance with AN17.
8.2.2	Identification and evaluation of projects for consideration	The Inspectorate recommends that the list of plans and projects to be considered within the assessment is agreed with the local authority.	A longlist of "other developments" was first identified, following by a short list of developments (which are summarised in Appendix 17.1), in accordance with AN17. This is detailed in Appendix 17.1. The long list and proposed short list were included in the PEIR for comment from statutory consultees and submitted to them for comment. NYCC and

			SDC did not request any further additions or amendments to the short list following consultation.
8.2.2	Identification and evaluation of projects for consideration	The ES should set out and justify what geographical boundary has been used to identify other plans or projects.	Zones of Influence (ZOI) have been identified in accordance with AN17 and are outlined in Table 17.3.
8.2.2	Identification and evaluation of projects for consideration	In order to determine whether the Proposed Scheme shares common sensitive receptors with other projects, it is recommended that the ES establishes zones of influence for each topic, as detailed in AN17.	ZOI have been identified in accordance with AN17 and are outlined in Table 17.3.

Table 17-2 - Statutory Consultation Table (Cumulative Assessment)

Body/Organisation	Comments	Response
Historic England	The PEIR has identified the potential for harm to the setting, and therefore the significance, of a number of designated heritage assets within the vicinity. We recommend that this is fully assessed in the Environmental Statement. Where harm is identified to highly graded assets (Scheduled Monuments, Grade I and Grade II* listed buildings) we recommend wireframes and photomontages are produced to show the cumulative impact of the proposed stacks with the existing power station.	The impact of the proposed stacks with the existing power station on the setting of Designated Heritage Assets is assessed in Chapter 8 (Historic Environment). The assessment of the effects of the proposed stacks on the setting of Designated Heritage Assets has taken into account the Existing Drax Power Station Complex, as it forms part of the baseline." It is considered that due to its close proximity to Units X and Y, the setting of Drax Augustinian Priory will be slightly degraded (although "less than substantial harm") as a result of the combined effect of the

		Existing Drax Power Station Complex and the new structures as part of the Proposed Scheme.
Public Health England	Nitrogen oxides (NOx) abatement technology for the proposed plant and the subsequent levels of NOx from the installation currently remain unresolved; the applicant notes that key outstanding component of the risk assessment process is the decision on the proposed abatement technology for the plant. We note that the preliminary emission modelling has been therefore carried out at emission rates that reflect SCR in operation as well as emissions from the gas turbines without abatement. We await the final decision regarding the abatement technology and relevant review of the emission modelling if SCR is not selected. Given the concerns set-out above and that a decision is required over abatement technology for NOx emissions which will influence emission levels; emissions to air from the new generators still require combined, cumulative assessment in conjunction with other local power generation and the wider area	Chapter 6 (Air Quality) has considered potential impacts with and without additional NOx abatement in place (that includes a combination of SCR with an annualised ammonia 'budget' on emissions). In combination effects have been considered for both options (with and without abatement) thus demonstrating that the worst case emissions have been considered. Further discussions with the EA during the permitting process will be undertaken to determine whether abatement is required or considered BAT for the proposed Units.
NYCC	Cumulative Landscape and Visual Effects Chapter 15 considers the combined effects of the proposed scheme and other developments within the	Consideration has been given to the gradual build up and accumulation of development at the Existing Drax Power Station Complex (Appendix 17.3)

	wider study area. However, the implications of a gradual build up and accumulation of development on the Drax Power Station site should also be considered. The Councils are very happy to help to reduce the long and short cumulative impacts lists and presently does not have any objection to the short lists. However, the specific identified projects should have site addresses or more description added to the schedule so that a reader might understand what/ where they are without having to do intensive planning register searches.	and in Chapter 10 (Landscape and Visual Impact). More information on the applicants and nature of the developments considered within the cumulative assessment has been provided within Table 17-4 and Appendix 17.1.
MMO	Further to our comments made above in relation to the jetty and supporting activities, if other works are required within the UK marine area, the ES should include but not be limited to assessment and consideration of: • Socio-economic impacts (e.g. river navigation and other users of the marine environment such as recreational fishermen/women); • Marine ecology, Nature conservation and hydrodynamic impacts; • Cumulative Impact Assessment (i.e. with other marine projects locally); • Fisheries impacts;	The jetty is no longer considered as a means of delivery to site during the construction works and therefore impacts in relation to this have not been considered within the ES.

	• Ornithology; • Visual impacts; • The Waste Framework Directive; and • The Water Framework Directive.	
Environment Agency	A meeting held with the EA on 05/03/18 concluded that Drax should consider emissions from the Thorpe Marsh CCGT and Knottingley Power Project – both have planning approval and an EPR permit. Drax should also consider emissions from the proposed CCGT projects at Eggborough and Ferrybridge. The EA stated that Drax does not need to consider emissions from Ferrybridge 'C' power station (the coal plant) as that is closed. Nor should they consider emissions from Eggborough (coal plant) as they have now ceased generating.	Emissions from Eggborough and Thorpe Marsh CCGT were considered quantitatively as part of the cumulative assessment and are reported in Chapter 6 (Air Quality). Knottingley Power Project and Ferrybridge D CCGT are located more than 15 km away from the Project and from the ecological receptors, and therefore any impacts are likely to be imperceptible. In addition any predicted concentrations on receptors from these projects using dispersion modelling will likely overestimate impacts due to inherent limitations in Gaussian dispersion models and the how they disperse emissions with distance from the source, with predicted concentrations becoming more conservative with distance from the source.
NYCC & SDC	Shortlist of documents was sent to both NYCC and SDC on 26 March 2018 for further comment following submission of PEIR. No further comments were received.	The short list of developments (identified for Stage 4 assessment as per AN17 guidance) has been updated with new projects in the planning system since the submission of the PEIR, for inclusion in the ES. No further projects have been identified as Tier

		3 (for the purposes of Advice Note 17) for inclusion in the cumulative assessment.

17.5 Insignificant Effects

Cumulative Effects

17.5.1. As part of the process of identifying the 'other developments' with the potential to result in new or greater significant effects in cumulation with the Proposed Scheme, some projects identified as being within 15 km of the Proposed Scheme were discounted from the assessment as it was considered they would have insignificant effects in cumulation with the Proposed Scheme. The methodology by which the other projects for the purposes of the cumulative assessment were identified is set out below, and for projects where insignificant effects were anticipated, Appendix 17.1 provides justification for not progressing assessment of those projects beyond Stage 2.

Combined Effects

17.5.2. Insignificant combined effects are identified in Table 17.5.

Potentially Significant Effects

Cumulative Effects

17.5.3. Potentially significant cumulative effects have been identified per topic and are outlined in Table 17.4 and Appendix 17.3, and are summarised in Table 17.6.

17.5.4. The only significant residual effects identified are on landscape character and visual amenity. The landscape and visual assessment has identified the potential for a number of temporary, medium and long term significant impacts during construction for residents and recreational users on PRoW. A number of permanent significant effects have also been identified during operation on landscape receptors (residents and recreational users of the TPT and PRoW). No significant effects on landscape and visual amenity are anticipated during Stage 0.

Combined Effects

17.5.5. No significant combined effects have been identified.

17.6 Assessment Methodology and Significance Criteria

Scenarios Assessed

17.6.1. Cumulative assessment of the Proposed Scheme has been undertaken on a worst case basis and therefore assumes the following (unless otherwise stated for individual topics), in line with the Stages outlined in Chapter 3 (Site and Project Description):

- Site Reconfiguration Works are included as part of the Proposed Scheme.

- The maximum parameters for the Proposed Scheme as set out in Chapter 3 (Site and Project Description).
- Both Units X and Y would be constructed.
- The assumptions for the cumulative (worst case) assessment in relation to scenarios for: the two options for the electrical connection from Unit Y to the existing National Grid substation and the two options for control of NOx emissions (low NOx emissions from combustion control, or SCR with an ammonia budget (as explained in Chapter 6 (Air quality) are as detailed in Chapters 5 to 16.
- All measures identified as embedded mitigation in Chapters 5 to 16 are implemented / delivered.
- The construction programme will be as follows:
  - Unit X and Unit Y will be constructed in phases, with construction of each taking approximately 34 months followed by commissioning. It is anticipated that the two construction periods will be separated by 12 months, with the overall programme lasting approximately 83 months including commissioning of Unit Y. The Gas Pipeline and the building to house the battery storage facilities (in connection with Units X and Y) will be constructed within the first half of this programme (Stage 1). The battery storage would be installed within the building in two phases of 100 MW as each unit is repowered (that is, up to 100 MW of battery energy storage during Stage 1 in connection with Unit X, and up to 100 MW of battery energy storage during Stage 2 in connection with Unit Y).
  - Construction of the first unit will commence in 2019/2020 with OCGT capability by 2021/2022 and CCGT ready by 2022/2023. The construction of the second unit would commence in 2024 and be completed in 2027.

Embedded Mitigation

17.6.2. When considering cumulative and combined effects, the mitigation measures as set out in Chapters 5 to 16 have been taken into account i.e. only residual (following mitigation) effects are discussed in this chapter.

17.6.3. Embedded mitigation is as detailed within Chapters 5 to 16.

Impact Assessment and Significance Criteria

17.6.4. There is no standard prescriptive method for assessing combined and cumulative effects and the extent to which the effects of other developments can be assessed quantitatively depends on the level of information available about the other developments. Such effects are, therefore, assessed by professional judgment, although matrices and modelling are used where appropriate and where enough information regarding the other developments exists. Where environmental assessment information regarding other developments is not available or is uncertain, the assessment is necessarily qualitative.

17.6.5. Combined and cumulative effects are assessed to be neutral, minor, moderate or major. Moderate or major effects are considered to be significant, using the methodologies outlined in each technical chapter (Chapters 5 to 16), with exception for the assessment of landscape and visual in combination effects. Significance for

these effects is as outlined within Chapter 10 (Landscape and Visual), which refers to a matrix for determining the significance of effects which is used as a framework for the assessment.

Effect Significance

17.6.6. The following terms have been used to define the significance of the effects identified:

- Major effect: where the Proposed Scheme, when considered in combination with another scheme or schemes or in combination with another project effect, could be expected to have a very significant effect (either positive or negative) on receptors;
- Moderate effect: where the Proposed Scheme, when considered in combination with another scheme or schemes or in combination with another project effect, could be expected to have a noticeable effect (either positive or negative) on receptors;
- Minor effect: where the Proposed Scheme, when considered in combination with another scheme or schemes or in combination with another project effect, could be expected to result in a small, barely noticeable effect (either positive or negative) on receptors; and
- Negligible: where no discernible effect is expected as a result of the Proposed Scheme, when considered in combination with another scheme or schemes or in combination with another project effect, on receptors.

Assessment Approach

In-combination (Cumulative) Effects

17.6.7. Cumulative effects are those that accrue over time and space from a number of developments.

17.6.8. The Planning Inspectorate Advice Note 17 'Cumulative effects assessment relevant to nationally significant infrastructure projects' (Ref 17.4) sets out a four stage approach to assessment of cumulative effects:

- Stage 1: identify the Zone of Influence and identify long list of "other developments".
- Stage 2: identify short list of "other development" for cumulative assessment.
- Stage 3: information gathering for "other development".
- Stage 4: assessment.

17.6.9. This approach has been broadly followed in undertaking the cumulative effects assessment presented in this chapter, and further detail is provided below.

17.6.10. The Zone of Influence (ZOI) for each environmental topic is discussed in the study area section of this Chapter below and outlined in Table 17-3. A long list of developments was identified following the submission of the EIA Scoping Report and reduced to an initial short list for consideration in the PEIR. Following the PEIR, this short list was updated with new developments in the planning system and reviewed in line with comments received from the local planning authorities and other statutory bodies for final consideration within the EIA (as detailed in Table

17-2). The final shortlist is outlined in Appendix 17.1 and Table 17-4. Developments removed from this list due to an updated planning status are detailed within Appendix 17.2.

17.6.11. In order to assess the potential for cumulative effects to arise in relation to these developments, where an application for planning permission or development consent has been made, information presented within the ES or environmental reports for the development has been gathered. A preliminary assessment was carried out for the PEIR based on scale, nature and location of development. A full review of publicly available information has been carried out and used to inform the assessment within the ES. For developments that are known to be proposed (either via screening or scoping opinion requests submitted to the local authority / Planning Inspectorate or following presentation of information in the public domain) but where an ES (or other environmental reports) has not yet been prepared or submitted, any readily available information has been utilised.

17.6.12. Following identification of the short list of other projects or developments and information gathering from available sources, an assessment of the effects of the Proposed Scheme have been considered in conjunction with the likely potential effects from other projects or activities that are both reasonably foreseeable in terms of delivery (e.g. have planning consent or are in the planning process) and are geographically located in a position where environmental impacts could act together to create an effect that is more (or less) significant overall than the effect of individual developments alone.

17.6.13. Operational impacts are generally long-term; whilst construction impacts are often short-term and temporary, they can potentially be of a large magnitude. Consequently, when cumulative effects that could be associated with construction at one site and operation at another are considered, the difference in duration and reversibility has been considered within the assessment.

17.6.14. In assessing cumulative effects, it is appropriate to also acknowledge the relative contributions that different projects make to a cumulative effect, and carefully consider whether a cumulative effect occurs at all. For example, effects associated with a large scale project may be significant, and whilst a smaller project may contribute to this effect, the cumulative effect of the smaller project and the larger project is only considered to be significant if it is of greater significance than the effect of either project in isolation.

17.6.15. Where applicable, the assessment considers all other known developments that have potential for significant cumulative effects with the Proposed Scheme together, as a worst case. Regard is also given to any existing environmental problems relating to areas of particular importance likely to be affected or the use of natural resources, as required under Schedule 4, paragraph 5(e) of the EIA Regulations 2017 (Ref 17.1). Environmental effects from existing developments are generally included in the baseline environment assessments in Chapters 5 to 16.

Stage 1 – Long List and Zone of Influence

17.6.16. An initial screening exercise (Stage 1 of the cumulative effects assessment) was undertaken to identify potential "other developments" within a 15 km radius to create an initial long list for consideration.

17.6.17. The long list of 'other developments' was filtered on the basis of planning status as well as:

- Applications that are of a suitable equivalent (i.e. applications for residential development of 10 or more homes; industrial, commercial or retail based applications over 500 m^2; and significant infrastructure based applications).
- Common receptors, only those applications with identifiable common receptors.

17.6.18. Following identification of other developments within 15 km, the study area for each environmental assessment topic (referred to as a zone of influence (ZOI) for the purpose of this Chapter, in accordance with guidance note AN17) has been defined for construction and operation, based on the predicted extent of impacts associated with the Proposed Scheme. The ZOI for each environmental assessment topic is documented in Table 17.3. Where the ZOI are different for construction and operational impacts, the largest has been used when sifting projects from Stage 1 to Stage 3.

Table 17-3 - Zone of Influence for each Environmental Topic

Environmental Topic	Zone of Influence
Traffic and Transport	Construction / Decommissioning – the following local junctions may be impacted during the construction and decommissioning phases by workforce vehicle movements and vehicles transporting plant and materials: • M62 Dumbbell junction (Junction 36). • A645 / A1041 3 arm roundabout. • A1041 / A63 4 arm roundabout. • A63 / A19 4 arm roundabout. • A63 /A1238 3 arm roundabout. • A63 / A162 4 arm roundabout. Preliminary AIL routes (by highway) are shown in Figure 5.2. The likely HGV Route is shown in Figure 5.3 Operation – Neutral (no additional traffic impact during operation ZOI only for Construction/decommissioning phases)
Air Quality	Construction / Decommissioning – ZOI, following IAQM guidance (Ref 17.6), includes human receptors within 350 m from the Site from dust sources and ecological

Environmental Topic	Zone of Influence
	receptors within 50 m from the Site. It also includes roads within 500 m from the Site. Operation – ZOI, defined by air dispersion modelling and extends 15 km from the proposed stacks. For the purposes of the cumulative assessment, the developments within the ZOI that are considered relevant are developments with relevant stack emissions, or associated with significant vehicle emissions. In addition, the air quality assessment has also considered Ferrybridge D CCGT (ID 50) and Knottingley Power Project (ID 49) which lie beyond the 15 km ZOI, due to their nature and scale and potential for combined effects on Natura 2000 sites.
Noise and Vibration	Construction activity / plant noise - ZOI is 5 km from the Site defined by noise propagation modelling Decommissioning activity / plant noise – ZOI is 5 km from the Site defined by noise propagation modelling Operational plant noise – ZOI is 5 km from the Site as defined by noise propagation modelling
Historic Environment	Construction / Decommissioning – ZOI is 300 m from the Site and is defined by professional judgement and experience from similar projects. Operation – ZOI is 10 km from the Site as recommended by Historic England during a project meeting.
Biodiversity	Construction / Decommissioning – ZOI is 10 km from the Site, based on professional judgement and anticipated likely effects identified by other topics with the potential to affect biodiversity. Operation – For the purposes of the cumulative assessment, the developments within the ZOI are those within 15 km with relevant stack emissions and considered by the air quality cumulative assessment. In addition, the air quality assessment has also considered Ferrybridge D CCGT (ID 50) and Knottingley Power Project (ID 49) which lie beyond the 15 km ZOI, due to their nature and scale and potential for combined effects on Natura 2000 sites.
Landscape and Visual	Construction / Decommissioning / Operation - cumulative effects will be considered on receptors located within a ZOI of 10 km from the Site (as previously defined in

Environmental Topic	Zone of Influence
	Chapter 10) however the area considered for the purposes of identifying "other development" for the assessment of a cumulative effect will extend to a 15 km radius from the Site). This includes developments in the field of vision of receptors within the ZOI including Ferrybridge CCGT (ID 50) and Knottingley Power Stations (ID 49).
Ground Conditions and Contamination	Construction / Decommissioning – ZOI is 250 m from the Site. This distance, which is considered typical at the hazard identification stage of site assessment, is referenced by Guidance for the Safe Development of Housing on Land Affected by Contamination: R&D Publication 66 (Ref 17.8). Operation – ZOI is 250 m from the Site. This distance, which is considered typical at the hazard identification stage of site assessment, is referenced by Guidance for the Safe Development of Housing on Land Affected by Contamination: R&D Publication 66 (Ref 17.8).
Water Resource, Quality and Hydrology	Construction / Decommissioning – cumulative impacts will be considered within a ZOI for surface water features of 0.5 km from the Site, 1 km for surface water features in hydraulic connectivity and 1 km for groundwater features. Operation – cumulative impacts will be considered within a ZOI for surface water features of 0.5 km from the Site, 1 km for surface water features in hydraulic connectivity and 1 km for groundwater features. The ZOI study area has been determined based on professional judgement as detailed in DMRB, Volume 11, Section 2, HA202/08, Assessment and Management of Environmental Effects (Ref 17.9). This distance is considered appropriate for the assessment of the surface water, groundwater and flood risk. This has been confirmed with EA, and Selby Area Internal Drainage Board (IDB) who is responsible for the management of flood risk and ordinary watercourses in the area of the Proposed Scheme.
Waste	Construction / Decommissioning – the ZOI for the cumulative effects on waste receiving facilities is Regional (North Yorkshire and Humber region) which comprises South Yorkshire, West Yorkshire, the East Riding of

Environmental Topic	Zone of Influence
	Yorkshire, Hull, North Yorkshire and the City of York, alongside North Lincolnshire and North East Lincolnshire. Operation – Assessment of the impacts operational waste has been scoped out of the assessment The ZOI is regional as it is unknown at this stage where waste will be taken to, and so waste could be taken to waste infrastructure anywhere within the region.
Socio-economics	Construction - For the purposes of the assessment of cumulative effects, the ZOI has been restricted to the 15 km ZOI used for other environmental topics (informed by the air quality ZOI). Whilst it is acknowledged that there are cumulative effects with developments beyond this study area, the cumulative effects assessment has been restricted in order to allow a meaningful assessment. These effects are primarily associated with direct, indirect and induced employment opportunities generated during the demolition and construction phases (Stages 0 – 2) and changes in accessibility / amenity value of PROW (Stage 1). Operation – During operation (Stage 3), there is anticipated to be a reduction in operational staff within the Drax Power Station site. Operational job losses within similarly natured schemes will be considered within 15 km. It is considered that only those from similarly natured schemes have a mutual receptor during operation.
Climate	It is not considered appropriate to include climate within the cumulative assessment. As detailed within Chapter 15 (Climate), GHG emissions are not restricted to a geographical area and are considered on a national level.
Major Accidents and Natural Disasters	It is not considered appropriate to include major accidents and disasters within the cumulative assessment as risk events are likely to be a one off event and are assessed in isolation.

Stages 2 & 3 – Short List and Information Gathering

17.6.19. The long list (defined at Stage 1 and provided in Appendix 17.2) was subsequently screened based on the potential for significant cumulative impact per environmental topic and temporal scope and a short list was produced for further, more detailed consideration under Stage 4 of the cumulative effects assessment.

17.6.20. The short list is presented in Appendix 17.1, with details of each project's current status, justification for consideration by topic and comments regarding their temporal scope in relation to the temporal scope of the Proposed Scheme. All the developments identified in Appendix 17.1 to be taken from Stage 2 to Stages 3 and 4 of the assessment are considered to be of such a nature and proximity to the Proposed Scheme to have the potential to generate significant cumulative effects when considered in context with the Proposed Scheme.

17.6.21. For the purposes of the ES, the short list of developments includes developments which have been submitted into the planning or DCO system, but that are awaiting a decision (classified as Tier 1 developments within AN17, as there is likely to be the most amount of detail about these developments). There is one nationally significant infrastructure project (NSIP) within 15 km for which a scoping report has been submitted, but no planning application has been made (classified as Tier 2 developments within AN17). Following consultation with the relevant local authorities (NYCC and SDC), no developments which would be classified as Tier 3 under AN17 were identified for inclusion within the cumulative assessment.

17.6.22. A summary of those identified per topic is provided in Section 17.7 below. The location of the short list of "other developments" in relation to the Proposed Scheme is shown in Figure 17.1.

Stage 4 – Assessment

17.6.23. For each topic assessment, the short list of developments identified within 15 km of the Proposed Scheme have been filtered to identify those schemes as being within the ZOI, and having the potential to cause cumulative effects. These are detailed by topic below and outlined in Appendix 17.1.

17.6.24. Additional to those short listed developments within 15 km, due to their scale and nature, Knottingley Power Project and Ferrybridge D CCGT have been considered within the air quality and landscape and visual cumulative assessments. Their effect has also been considered where appropriate by the biodiversity assessment in regards to emissions and impacts on Natura 2000 sites.

17.6.25. Cumulative effects which have been identified as being caused by activities during the construction, operation and decommissioning of the Proposed Scheme are identified for each environmental topic in Appendix 17.2. Cumulative effects identified by the landscape and visual assessment are identified in Appendix 17.3 and summarised in the Chapter below.

17.6.26. For some of the committed developments, relevant information to inform this assessment has not been available or has been limited in nature. As a result, some assessment considerations have been based upon assumptions and professional judgement. Where there is insufficient information, the significance of the cumulative effect can only be determined as being of 'greater' or 'lesser' than that assessed for the Proposed Scheme, i.e. at the project level.

17.6.27. Significance of effects on landscape character and visual amenity (summarised in this Chapter and in Appendix 17.3) is as per the criteria outlined within Chapter 10 (Landscape and Visual).

17.7 Assessment of Likely Significant Impacts and Effects

17.7.1. The following sections outline the other developments which fall within each topic's ZOI and have the potential to provide significant cumulative effects. The assessment of cumulative effects for each topic for the relevant other developments is provided in Table 17.4 below.

Traffic and Transport

17.7.2. None of the developments in the short list in Appendix 17.1 were identified during Stage 2 as having the potential to provide cumulative effects, when considered in the context of the Proposed Scheme, and taken forward to Stage 4 assessment. This is based on the assumption that the other developments will generate less than 30 vehicles at the in-scope junctions during the peak hour and are therefore not likely to have a significant cumulative effect during construction

17.7.3. TEMPRO (Car Drivers) and NRTF (LGV's and HGVs) growth factors have been applied to the 2018 base traffic flows to account for future growth and increased vehicle numbers on the road network.

Air Quality

17.7.4. The following developments are within the ZOI and were identified during Stage 2 as having the potential to provide cumulative effects, when considered in the context of the Proposed Scheme, and were therefore taken forward to Stage 4 assessment:

- ID 3: 2017/1018/FULM – A 40 MW battery energy storage barn to provide back-up electricity services to the National Grid for a period of 25 years.
- ID 4: 2015/1405/OUT – Outline application including access for the erection of up to 45 dwellings.
- ID 6:2017/0822/FULM –New energy centre comprising of new main energy centre building and ancillary tanks, containers and services buildings.
- ID 47: Eggborough CCGT – Operation of new CCGT generation station.
- ID 52: Thorpe Marsh CCGT– Operation of CCGT power station of up to 1500 MW

Noise and Vibration

17.7.5. The following development is within the ZOI and was identified during Stage 2 as having the potential to provide cumulative effects, when considered in the context of the Proposed Scheme, and was therefore taken forward to Stage 4 assessment:

- ID 3: 2017/1018/FULM - Construction of 40 MW battery energy storage barn to provide back-up electricity services to the National Grid for a period of 25 years from the date of commissioning and retention of building thereafter

Historic Environment

17.7.6. The following development is within the ZOI and was identified during Stage 2 as having the potential to provide cumulative effects, when considered in the context of the Proposed Scheme, and was therefore taken forward to Stage 4 assessment:

- The construction of 40 MW battery energy storage barn (ID 3: 2017/1018/FULM)

17.7.7. The historic environment cumulative assessment assesses the cumulative effects on the identified hstoric environment resource within the ZOI. Those Designated Heritage Assets that have been assessed as experiencing negligible effects have not been included in the assessment of cumulative effects. It is considered unlikely that the addition of a negligible effect to the cumulative effects of other developments within the ZOI would lead to a significant cumulative effect, therefore only the setting of Drax Augustinian Priory and Scurff Hall Moated Sites scheduled monuments have been assessed in this Chapter.

- Due to distance and intervening development, developments ID 3: 2017/1018/FULM, ID 6: 2017/0822/FULM, ID 30: 17/03450/CM, and ID 47: Eggborough CCGT will not be visible from the site of the Drax Augustinian Priory, therefore these developments in combination with the Proposed Scheme will not change the degree of harm resulting from the Proposed Scheme in isolation.

Biodiversity

17.7.8. The following developments are within the ZOI and were identified during Stage 2 as having the potential to provide cumulative effects, when considered in the context of the Proposed Scheme, and were therefore taken forward to Stage 4 assessment:

- ID 3: 2017/1018/FULM, comprising construction and operation of a 40 MW battery storage facility at the eastern end of the Gas Pipeline.
- ID 6: 2017/0822/FULM, comprising construction and operation of a new energy centre at the English Salads horticultural facility 465 m SW of the Site.
- ID 30: 17/03450/CM, comprising construction and operation of Anaerobic Digestion (AD) Plant, approximately 7800 m NE of the Site.
- ID 47: Eggborough CCGT comprising the construction and operation of a new CCGT generating station with capacity of up to 2,500 MW.
- ID 49: Knottingley Power Project – Operation of a 1500 MW CCGT power station.
- ID 50: Ferrybridge D CCGT – Operation of 2 GW CCGT generation station (located beyond the 15 km ZOI but has been included given its size and the potential in-combination effects on ecological receptors from emissions of NO_x/NH3).

Landscape and Visual

17.7.9. The following developments are within the ZOI and were identified during Stage 2 as having the potential to provide cumulative effects when considered in the context of the Proposed Scheme, and were therefore taken forward to Stage 4 assessment:

- ID 3: 2017/1018/FULM - Construction of 40 MW battery energy storage barn to provide back-up electricity services to the National Grid for a period of 25 years from the date of commissioning and retention of building thereafter. This lies in close proximity to the Proposed Scheme's Gas Pipeline and AGIs, and forms a large structure (45 m x 25 m).
- ID 10: 2015/1392/EIA - Erection of a new single storey production facility for the manufacture of insulation boarding together with associated vehicle movement and parking areas. The structure lies close to Eggborough Power Station and could be perceived to be part of the overall mass associated with power station covering 19,995 m 2.
- ID 47: Eggborough CCGT - The construction and operation of a new CCGT generating station with a capacity of up to 2,500 MW which would include new stacks, new gas pipeline to the NTS and other associated development.
- ID 48: Thorpe Marsh Gas Pipeline - The proposed gas pipeline would be a continuously welded buried steel pipeline of approximately 18 km in length. Effects associated with the 30 m working corridor during construction which spans from Thorne across to Burn would be noticeable.

17.7.10. It should be noted that whilst the developments outlined below lie outside the ZOI, they do fall within the field of vision and are therefore considered in the assessment:

- ID 49: Knottingley Power Project - A 1500 MW combined cycle gas turbine (CCGT) power station which would include new stacks, and associated infrastructure.
- ID 50: Ferrybridge D CCGT Power Station - A new CCGT power station which would include stacks, electricity and water connections and access points and a new gas pipeline.

17.7.11. The cumulative assessment focused on the additional effect of the Proposed Scheme in conjunction with other developments of the same type, scale, mass and height as referred to under GLVIA 3 (paragraph 7.10 – 7.11) (Ref 17.10).

17.7.12. The assessment did not consider residential developments, conversions or extensions, storage and distribution, waste management and holiday and recreational facilities due to their overall size, scale and height. The majority of such developments lie within or adjacent to settlements within the ZOI predominately Selby, Thorne, Goole, Howden and Eggborough and therefore should be integrated by the built form or intervening vegetation.

17.7.13. The LVIA considered cumulative effects on receptors within a 10 km ZOI from the Site as previously defined, and gave due consideration to "other developments" viewed from within a 15 km radius from the Site and within 360 degree views.

Ground Conditions

17.7.14. The following development is within the ZOI and was identified during Stage 2 as having the potential to provide cumulative effects when considered in the context of the Proposed Scheme, and was therefore taken forward to Stage 4 assessment:

- ID 3: 2017/1018/FULM comprising construction of 40 MW battery energy storage facility to provide backup electricity services to National Grid, located within the red line boundary for the Proposed Scheme in proximity to the Gas Pipeline.

17.7.15. All other developments identified within the short list fall outside of the ZOI for ground conditions and will not be considered further.

Water Resource, Quality and Hydrology

17.7.16. The following developments are within the ZOI and were identified during Stage 2 as having the potential to provide cumulative effects, when considered in the context of the Proposed Scheme, and were therefore taken forward to Stage 4 assessment:

- ID 1: 2016/0401/REM comprising construction of 14 dwellings located approximately 550m to the east of the Existing Drax Power Station Complex.
- ID 3: 2017/1018/FULM comprising construction of 40 MW battery energy storage facility to provide backup electricity services to National Grid, located within the red line boundary for the Proposed Scheme in proximity to the Gas Pipeline.
- ID 6: 2017/0822/FULM comprising construction of a new energy centre located approximately 550m to the south-west of the Existing Drax Power Station Complex.

17.7.17. The assessment looked at the following aspect when considering the potential for cumulative effects:

- Whether developments are hydraulically linked.
- Potential downstream receptors.
- Construction happening at the same time / period.
- Any loss of floodplain storage.

Waste

17.7.18. The following developments are within the ZOI and were identified during Stage 2 as having the potential to provide cumulative effects, when considered in the context of the Proposed Scheme, and were therefore taken forward to Stage 4 assessment:

- ID 1: 2016/0401/REM
- ID 3: 2017/1018/FULM
- ID 4: 2015/1405/OUT
- ID 6: 2017/0822/FULM
- ID 7: 2017/0272/FUL
- ID 8: 2016/0875/FUL
- ID 9: 2017/0542/OUTM
- ID 10: 2015/1392/EIA
- ID 11: 2015/0367/FUL
- ID 12: 2016/0978/FULM
- ID 13: 2015/0389/FUL
- ID 14: 2017/0577/OUTM

- ID 15: 2015/0105/OUT
- ID 16: 2014/1028/OUT
- ID 17: 2015/0333/FUL
- ID 18: 2015/0676/FUL
- ID 19: 2015/0007/FUL
- ID 21: 2014/0202/OUT
- ID 22: 2015/0517/OUT
- ID 23: 2017/1055/COD
- ID 24: 2016/1408/FULM
- ID 25: 2015/0341/OUT
- ID 26: 2016/0178/FUL
- ID 27: 2016/0528/FUL
- ID 28: 17/01720/STPLF
- ID 29: 17/02265/STOUT
- ID 30: 17/03450/CM
- ID 31: 16/01584/STPLF
- ID 32: 16/00528/PLF
- ID 33: 16/02460/OUT
- ID 34: 15/03487/STPLF
- ID 35: 17/03359/STPLF
- ID 36: 17/00144/STREM
- ID 37: 16/04220/STREM
- ID 38: 17/00508/STPLF
- ID 39: 14/01833/OUTM
- ID 40: 15/02275/OUTM
- ID 41: 17/01021/FULM
- ID 42: 16/02438/FUL
- ID 43: 16/01934/MAT
- ID 44: 16/00898/FULM
- ID 45: 16/00771/FULM
- ID 46: 15/03006/FULM
- ID 47: Eggborough CCGT
- ID 48: Thorpe Marsh Gas Pipeline
- ID 49: Knottingley Power Project
- ID 50: Ferrybridge D CCGT Power Station Project
- ID 51: 2016/0401/REM
- ID 52: Thorpe Marsh CCGT

Socio-Economics

17.7.19. All developments listed within Appendix 17.1 are within the ZOI and were identified during Stage 2 as having the potential to provide cumulative effects, when considered in the context of the Proposed Scheme, and were therefore taken forward to Stage 4 assessment.

Table 17-4 - Cumulative Assessment Matrix

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
1	1	2016/0401/REM	Applicant: Willow Developments Reserved matters approval is sought for the scale, layout, external appearance and landscaping of 14 dwellings, means of access was approved at outline stage	Water Resources	No expectation of cumulative effects during construction is envisaged on the basis that construction of the developments will be undertaken in accordance with a robust CEMP. The Proposed Scheme is located in the area defended by the existing flood defences for up to the 1 in 200 year. The results of the hydraulic model undertaken as part of the Proposed Scheme shows that the construction of the Proposed Scheme is unlikely to increase risk of flooding in the area during the 1 in 200 year breach scenario. Therefore, construction of the Proposed Scheme is unlikely to increase risk of flooding to the proposed 14 dwellings. It is uncertain what the potential impact of the construction of the proposed 14 dwelling is on the risk of flooding in the area. However, it is likely that the EA reviewed the application and if required, appropriate flood compensation measures were requested. No combined hydraulic modelling of the Proposed Scheme and the proposed 14 dwellings was undertaken. However, considering that both proposals were reviewed by the EA, it is likely that appropriate flood compensation measures were implemented, and it is therefore unlikely that construction of these proposed developments will increase risk of flooding in the area or elsewhere. No cumulative impacts are envisaged during operational phase due to operation of the developments will be in accordance with planning guidance and will therefore have minimal or no operational impacts.	Embedded mitigation (CEMP and flood relief channel) No further mitigation proposed	No residual cumulative effect (Neutral)
				Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
					developments are decommissioned cannot be defined.	minimisation and sustainable management of construction waste.	
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. Due to the proximity of the committed development to the Pipeline Construction Area and potential concurrent construction activities, there is anticipated to be cumulative changes in accessibility and amenity value for Public Rights of Way over a wider area than for the Proposed Scheme in isolation. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance). There is considered to be a cumulative effect in relation to changes in accessibility and amenity value of greater negative significance than that concluded for the Proposed Scheme.
2	1	2016/1124/COU	Applicant: Mr Dean Howsam Change of use of land to 20 pitch caravan park and camping area with conversion of existing outbuildings into shower and toilet facilities	Waste	Due to nature of the development it is likely the volume of construction waste generated will be minor to none.	N/A	N/A
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
3	1	2017/1018/FULM	Applicant: Green Hedge Energy Barn 2 Limited Construction of 40 MW battery energy storage barn to provide back-up electricity services to the National Grid for a period of 25 years from the date of commissioning and retention of building thereafter, infrastructure, bund and landscaping on paddock and field	Air Quality	Construction Effects Potential to increase traffic flows in the area– minor adverse effect Combination of: ID 3: 2017/1018/FULM ID 4: 2015/1405/OUT Construction Effects Potential to increase traffic flows in the area – minor adverse effect Operational Effects Potential to increase emissions of NO2 at sensitive human receptors and Natura 2000 Sites from increased traffic	In the event that construction phases run in parallel, scheduling of deliveries and a CEMP will ensure that any potential impacts are minimised.	Neutral – Minor Adverse Neutral – Minor Adverse as construction traffic is expected to be 1-two-way HGV movements per day for the 5.5 day construction week. Neutral - Minor Adverse as the proposed operational traffic is expected to be 1-two-way HGV movement per month.
				Historic Environment	The combined impact of the construction of the development and the Pipeline could generate temporary cumulative effects on the setting of Scurff Hall Moated Site	None recommended	Minor Adverse
				Biodiversity	No significant cumulative effects predicted. The Preliminary Ecological Appraisal prepared for the development (Acorn Ecology, 2017) predicts no significant effects on ecological resources and that the development will be located within an area of limited ecological interest. Combination of: ID 3: 2017/1018/FULM ID 6: 2017/0822/FULM ID 30: 17/03450/CM ID 47: Eggborough CCGT		
				Landscape and Visual	Proximity of development adjacent to Above Ground Works associated with Route Option A, height 7.5m to ridge, 45m x 25m could generate significant cumulative effects on adjacent visual receptors	Mitigation works associated with Proposed Scheme AGIs would provide some visual screening from certain angles of ID No 3.	Negligible adverse (considered in combination with other development refer to Appendix 17.3)
				Water Resources	No expectation of cumulative effects during construction is envisaged on the basis that construction of the developments will be	Embedded mitigation (CEMP)	(Neutral).

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
					undertaken in accordance with a robust CEMP. The Proposed Scheme is located in the area defended by the existing flood defences for up to the 1 in 200 year. The results of the hydraulic model undertaken as part of the Proposed Scheme shows that the construction of the Proposed Scheme is unlikely to increase risk of flooding in the area during the 1 in 200 year breach scenario. Therefore, construction of the Proposed Scheme is unlikely to increase risk of flooding to the proposed energy storage. It is uncertain what the potential impact of the construction of the proposed energy barn is on the risk of flooding in the area. However, it is likely that the EA reviewed the application and if required, appropriate flood compensation measures were requested. No combined hydraulic modelling of the Proposed Scheme and the proposed energy barn was undertaken. However, considering that both proposals were reviewed by the EA, it is likely that appropriate flood compensation measures were implemented if required, and it is therefore unlikely that construction of these proposed developments will increase risk of flooding in the area or elsewhere. No cumulative impacts are envisaged during operational phase due to operation of the developments will be in accordance with planning guidance and will therefore have minimal or no operational impacts.	No further mitigation proposed	
				Waste	Based on BRE benchmarks for calculating construction waste (12.6 tonnes per 100 m^2) and the proposed floor area of the development (1,125m^2) it is estimated that approximately 142 tonnes of construction waste from this development will be generated. The construction phasing of this development is unknown at this stage therefore for the purpose of this assessment and to provide a worst case scenario it has been assumed that the estimated volume of construction waste will be generated in one year. On this basis, the sensitivity of the local waste treatment and disposal facilities is neutral as the waste generated comprises no or negligible volumes of hazardous waste, or minor	In terms of waste generation and disposal, this development, in addition to the Proposed Scheme, will implement SWMPs which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
					volumes of non-hazardous or inert waste and local waste facilities are unrestricted (i.e. there are more than 20 facilities in the study area). It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.		
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
4	1	2015/1405/OUT	Applicant: Treadstone Holdings Outline application including access for the erection of up to 45 dwellings	Air Quality	<u>Construction Effects</u> Potential to increase traffic flows in the area – minor adverse effect <u>Combination of:</u> ID 3: 2017/1018/FULM ID 4: 2015/1405/OUT Construction Effects Potential to increase traffic flows in the area – minor adverse effect <u>Operational Effects</u> Potential to increase emissions of NO_2 at sensitive human receptors and Natura 2000 Sites from increased traffic	In the event that construction phases run in parallel, scheduling of deliveries and a CEMP will ensure that any potential impacts are minimised In the event that construction phases run in parallel, scheduling of deliveries and a CEMP will ensure that any potential impacts are minimised	Neutral – Minor Adverse Neutral – Minor Adverse Neutral - Minor Adverse as the proposed operational traffic in combination with operational traffic from the Proposed Scheme along the A645 Drax Road East and A1041 (North and South) is below the DMRB criteria of what is considered an "affected road" and therefore given existing baseline air quality no significant effects are anticipated.
				Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
5	1	2017/0261/FULM	Applicant: Environment Agency Proposed engineering operation comprising the construction of flood alleviation embankment, land engineering works, alteration and partial removal of existing flood embankment and creation of temporary construction access at land north of Temple Hirst flood defences at Street Record Main Road, Temple Hirst	Waste	Due to the nature of the development it is likely demolition and construction waste will be generated albeit in small volumes. It is envisaged materials will be reused on-site	N/A	N/A
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
6	1	2017/0822/FULM	Applicant: P3P Brigg Lane Limited Proposed construction of new energy centre comprising of new main energy centre building and ancillary tanks, containers and services buildings	Air Quality	<u>Construction Effects</u> Potential to increase traffic flows in the area <u>Operational Effects</u> Potential to increase emissions of NO2 at sensitive human receptors Impacts on Biodiversity receptors covered in relevant rows below. <u>Combination of:</u> ID 6: 2017/0822/FULM ID 47: Eggborough CCGT Potential to increase traffic flows in the area Note that the planning application is not associated with new emission sources to air (i.e. stacks).	In the event that construction phases run in parallel, scheduling of deliveries and a CEMP will ensure that any potential impacts are minimised Design, layout and location of stacks to ensure adequate air dispersion and minimise impacts. Design, layout and location of stacks to ensure adequate air dispersion and minimise impacts.	Neutral – Minor Adverse Neutral – Minor Adverse Neutral – Minor Adverse.
				Water Resources	No expectation of cumulative effects during construction is envisaged on the basis that construction of the developments will be undertaken in accordance with a robust CEMP. The Proposed Scheme is located in the area defended by the existing flood defences for up to the 1 in 200 year. The results of the hydraulic model undertaken as part of the Proposed Scheme shows that the construction of the Proposed Scheme is unlikely to increase risk of flooding in the area during the 1 in 200 year breach scenario. Therefore, construction of the Proposed Scheme is unlikely to increase risk of flooding to the proposed energy centre. It is uncertain what the potential impact of the construction of the proposed energy centre is on the risk of flooding in the area. However, it is likely that the EA reviewed the application and if required, appropriate flood compensation measures were requested. No combined hydraulic modelling of the Proposed Scheme and the proposed energy centre was undertaken. However, considering that both proposals were reviewed by the EA, it is likely that appropriate flood compensation measures were implemented,	Embedded mitigation (CEMP) No further mitigation proposed	No residual cumulative effect (Neutral)

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
					and it is therefore unlikely that construction of these proposed developments will increase risk of flooding in the area or elsewhere. No cumulative impacts are envisaged during operational phase due to operation of the developments will be in accordance with planning guidance and will therefore have minimal or no operational impacts.		
				Waste	Based on BRE benchmarks for calculating construction waste (12.6 tonnes per 100 m^2) and the proposed floor area of the development (1,404 m^2) it is estimated that approximately 178 tonnes of construction waste from this development will be generated. The construction phasing of this development is unknown at this stage therefore for the purpose of this assessment and to provide a worst case scenario it has been assumed that the estimated volume of construction waste will be generated in one year. On this basis, the sensitivity of the local waste treatment and disposal facilities is neutral as the waste generated comprises no or negligible volumes of hazardous waste, or minor volumes of non-hazardous or inert waste and local waste facilities are unrestricted (i.e. there are more than 20 facilities in the study area). It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, this development, in addition to the Proposed Scheme, will implement SWMPs which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
7	1	2017/0272/FUL	Applicant: Mr Hardeep Singh Proposed erection of apartments on brownfield site	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
8	1	2016/0875/FUL	Applicant: Mr Stuart Sharpley Proposed Erection of 54 units	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
					It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	sustainable management of construction waste.	
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
9	1	2017/0542/OUTM	Applicant: Jas Bowman And Sons Ltd Outline to include access (all other matters reserved) for erection of up to 120 dwellings and associated car parking, garages, landscaping, open space and details of including demolition and removal of all structures, buildings and hard standing to facilitate future development	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
10	1	2015/1392/EIA	Applicant: Mr Scott Appleyard Erection of a new single storey production facility for the manufacture of insulation boarding together with associated vehicle movement and parking areas.	Landscape and Visual	Sited within Eggborough and close to the Power Station and existing Saint Gobian Glass. The structure covers 19,9995 m^2 and is a large structure in terms of mass and extent - overall height will be a maximum of 13.4 m	NA	NA
				Waste	Based on BRE benchmarks for calculating construction waste (12.6 tonnes per 100 m^2) and the proposed floor area of the development (19,995 m^2) it is estimated that approximately 2,519 tonnes of construction waste from this development will be generated. The construction phasing of this development is unknown at this stage therefore for the purpose of this assessment and to provide a worst case scenario it has been assumed that the estimated volume of construction waste will be generated in one year. On this basis, the sensitivity of the local waste treatment and disposal facilities is negligible to minor as the waste generated comprises small volumes of hazardous, non-hazardous or inert waste and local waste facilities are unrestricted (i.e. there are more than 20 facilities in the study area). It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, this development, in addition to the Proposed Scheme, will implement SWMPs which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
11	1	2015/0367/FUL	Applicant: KCS Development Ltd Proposed development of 125 no. dwellings with associated access from Barff Lane, landscaping, new footpath and drainage pond	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
12	1	2016/0978/FULM	Applicant: Barratt David Wilson Homes Proposed residential development of 53 dwellings including access and associated infrastructure	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
13	1	2015/0389/FUL	Applicant: Barratt Homes Proposed erection of 52 residential dwellings including site access	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
					It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	management of construction waste.	
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
14	1	2017/0577/OUTM	Applicant: JSR Farms Ltd Outline application for residential development for up to 68 No. dwellings with all matters reserved	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
15	1	2015/0105/OUT	Applicant: H And I Lister Outline application with all matters reserved for the erection of residential development 119 dwellings	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
16	1	2014/1028/OUT	Applicant: Mr Sherwood Outline planning permission for residential development including access. All other matters are reserved for future consideration 276 dwellings	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
17	1	2015/0333/FUL	Applicant: Berkeley DeVeer Erection of 22 No. dwellings with associated access and landscaping	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
					It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	sustainable management of construction waste.	
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
18	1	2015/0676/FUL	Applicant: Mackinder Farms Accommodation LLP Proposed installation of 960 ground mounted PV panels	Waste	Due to the nature of the development it is likely earthworks will be generated albeit in small volumes. It is envisaged materials will be reused on-site	N/A	N/A
				Socio-economics	It is assumed that there will be further direct employment opportunities associated with all of the committed developments in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. However, at this stage, there is insufficient information available to quantify the cumulative effect associated with direct employment opportunities. It is assumed that there will be further indirect and induced employment opportunities generated associated with the relevant committed developments in conjunction with the Proposed Development assuming that the construction stage are concurrent. However, at this stage, there is insufficient information available to quantify the cumulative effect associated with indirect and induced employment opportunities.	N/A	It is considered that there is likely to a cumulative effect in relation to direct employment opportunities of greater positive significance than that concluded for the Proposed Scheme. It is considered that there is likely to be a cumulative effect in relation to indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme.
19	1	2015/0007/FUL	Applicant: Mr James Foley	Waste	It has not been possible to estimate the volume of construction waste arising from the development as the overall construction floor area is unknown.	In terms of waste generation and disposal, this	Considering these mitigation factors, the resulting cumulative effects

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
			Erection of a two storey building to accommodate new social and leisure facilities including; ten-pin bowling, adventure play, high ropes, recreational skiing, skate/BMX park and restaurant/cafe facility, complete with associated external soft and hard landscaping		Based on our professional judgement, the sensitivity of the local waste treatment and disposal facilities is negligible as the waste generated comprises no or negligible volumes of hazardous waste, or minor volumes of non-hazardous or inert waste and local waste facilities are unrestricted (i.e. there are more than 20 facilities in the study area). It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	development, in addition to the Proposed Scheme, will implement SWMPs which incorporate measures for the minimisation and sustainable management of construction waste.	on existing waste management infrastructure are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
20	1	2016/0140/REM	Applicant: Heselwood Bros Reserved matters application relating to appearance, landscaping and scale for buildings C,D,E,F and farmhouse of approval 2012/0485/OUT Outline application to include access and layout for the erection of agricultural buildings to form a pig breeding, rearing and finishing unit and associated agricultural workers dwelling on land to the west of Thorpe Hall	Waste	It has not been possible to estimate the volume of construction waste arising from the development as the overall construction floor area is unknown. Based on our professional judgement, the sensitivity of the local waste treatment and disposal facilities is negligible as the waste generated comprises no or negligible volumes of hazardous waste, or minor volumes of non-hazardous or inert waste and local waste facilities are unrestricted (i.e. there are more than 20 facilities in the study area). It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste	In terms of waste generation and disposal, this development, in addition to the Proposed Scheme, will implement SWMPs which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

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					infrastructure in the region at the time when these developments are decommissioned cannot be defined.		
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
21	1	2014/0202/OUT	Applicant: Enterprise Inns Outline application including access for the erection of 13 No. Dwellings	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
22	1	2015/0517/OUT	Applicant: The York Road Landowners Outline application to include access and layout for residential and associated development (35 dwellings) on land to the west of York Road (The Paddocks)	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).

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23	1	2017/1055/COD	Applicant: Devonshires LLP Request for written confirmation of compliance of conditions of planning approval CO/2012/1185 (8/19/1011C/PA) for outline application for the erection of 1200 dwellings (4 existing to be demolished), employment, public open space, shopping and community facilities (including up to 2,000m^2. of shops), together with associated footpaths, cycle ways, roads, engineering	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
24	1	2016/1408/FULM	Applicant: Mr R Harrison Conversion of former courthouse building to form 16No. flats with associated management suite/office, external works including works to windows and doors including new openings with associated vehicular and cycle parking	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

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					It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	sustainable management of construction waste.	
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
25	1	2015/0341/OUT	Applicant: Hallam Land Management Hybrid application comprising outline proposals for the erection of circa 200 new dwellings including the construction of a new junction onto Flaxley Road, the laying out of open space and children's play area, pumping station, siting of electricity substation, landscaping and creation of areas for sustainable drainage including connection to water course and detailed proposals for the conversion of agricultural buildings to form 2 dwellings together with associated	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

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			works including the creation of curtilages and areas of driveways/hardstanding (including external areas relating to the existing farm house) and demolition at Hempbridge Farm and land	Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
26	1	2016/0178/FUL	Applicant: Mr Giorgio Crosetto Construction of an new glucose syrup plant and associated storage tanks, pipe bridges, roads and hardstandings within an existing industrial site	Waste	It has not been possible to estimated the volume of construction waste arising from the development as the overall construction floor area is unknown. Based on our professional judgement, the sensitivity of the local waste treatment and disposal facilities is negligible as the waste generated comprises no or negligible volumes of hazardous waste, or minor volumes of non-hazardous or inert waste and local waste facilities are unrestricted (i.e. there are more than 20 facilities in the study area). It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, this development, in addition to the Proposed Scheme, will implement SWMPs which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
27	1	2016/0528/FUL	Applicant: Mr Ian Wotton Section 73 application to vary condition 05 (plans) of planning permission 2014/0685/FUL Proposed installation of 4 x 18 m high floodlights onto existing rugby pitch and training area	Waste	Due to the nature of the development it is likely demolition and construction waste will be generated albeit in small volumes. It is envisaged materials will be reused on-site	N/A	N/A
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
28	1	17/01720/STPLF	Applicant: Bellway Homes Limited (Yorkshire Division) Erection of 300 dwellings with associated access, open space, landscaping and infrastructure	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
29	1	17/02265/STOUT	Applicant: Mr Jonathan Hick OUTLINE - Erection of Residential Development (up to 175 dwellings) (Access to be considered)	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
30	1	17/03450/CM	Applicant: R100 Energy Limited Installation of an Anaerobic Digestion (AD) Plant including; AD Digester tanks; a biomethane gas to grid plant; CHP (Combined Heat and Power) unit; flare; buffer and treatment tanks; and a digestate storage lagoon with associated works	Biodiversity	No significant cumulative effects predicted. The development is located in excess of 2 km from any Natura 2000 Sites and in excess of 7.5 km from the Site. It is therefore considered unlikely to contribute significantly to air quality impacts on Natura 2000 Sites (the only effect which is considered potentially significant in-combination with the Proposed Scheme). <u>Combination of:</u> ID 3: 2017/1018/FULM ID 6: 2017/0822/FULM ID 30: 17/03450/CM ID 47: Eggborough CCGT	N/A	Negligible contribution to potential effects from the Proposed Scheme and hence a neutral level of effect is anticipated.
				Waste	It has not been possible to estimated the volume of construction waste arising from the development as the overall construction floor area is unknown. Based on our professional judgement, the sensitivity of the local waste treatment and disposal facilities is negligible as the waste generated comprises no or negligible volumes of hazardous waste, or minor volumes of non-hazardous or inert waste and local waste facilities are unrestricted (i.e. there are more than 20 facilities in the study area). It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, this development, in addition to the Proposed Scheme, will implement SWMPs which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
31	1	16/01584/STPLF	Applicant: The Real Aeroplane Company Limited Erection of a building consisting of 6 aircraft hangers and storage following demolition of existing buildings and creation of a new vehicular access road	Waste	Based on BRE benchmarks for calculating construction waste (12.6 tonnes per 100 m^2) and the proposed floor area of the development (1,886 m^2) it is estimated that approximately 238 tonnes of construction waste from this development will be generated. The construction phasing of this development is unknown at this stage therefore for the purpose of this assessment and to provide a worst case scenario it has been assumed that the estimated volume of construction waste will be generated in one year. On this basis, the sensitivity of the local waste treatment and disposal facilities is negligible to minor as the waste generated comprises small volumes of hazardous waste, or minor volumes of non-hazardous or inert waste and local waste facilities are unrestricted (i.e. there are more than 20 facilities in the study area). It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, this development, in addition to the Proposed Scheme, will implement SWMPs which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
32	1	16/00528/PLF	Applicant: Hoveden Homes Erection of 17 dwellings and associated surface water drainage	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme,	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
					developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
33	1	16/02460/OUT	Applicant: Furrward Homes Outline - Erection of 10 dwellings with associated access and parking (access and layout to be considered)	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
					developments are decommissioned cannot be defined.		
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
34	1	15/03487/STPLF	Applicant: Harron Homes Ltd Erection of 94 dwellings with associated open space, drainage infrastructure and landscaping	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
					No cumulative effects are anticipated during operation.		insignificant (of negligible to minor significance).
35	1	17/03359/STPLF	Applicant: Peter Ward Homes Erection of 92 dwellings with associated parking (with access from adopted road for Phase 1)	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
36	1	17/00144/STREM	Applicant: Mr Kevin Pullan Erection of 138 dwellings following outline permission 13/00931/STOUT (All matters to be considered)	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs)	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

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					residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	which incorporate measures for the minimisation and sustainable management of construction waste.	
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
37	1	16/04220/STREM	Applicant: McGrory Trust Erection of 30 dwellings following Outline planning permission 12/04725/STOUT (Appearance, Landscaping and Scale to be considered)	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

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				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
38	1	17/00508/STPLF	Applicant: Gleeson Regeneration Erection of 53 dwellings with associated garages, infrastructure and access	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).

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39	1	14/01833/OUTM	Applicant: Mr Alex Cutts Outline application for the erection of 28 dwellings on 0.72 ha of land with associated access roads, footpaths and landscaping (Some matters reserved - approval being sought for layout)	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
40	1	15/02275/OUTM	Applicant: Jo Steel Consulting Outline application for the erection of 79 dwellings and construction of access roads on approx. 2.48 ha of land (Approval being sought for access, layout and scale)	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

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					It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	management of construction waste.	
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
41	1	17/01021/FULM	Applicant: Mr Graham McDarby Proposed erection of 67 dwelling apartments with associated ancillary and parking following the demolition of the former NHS clinic	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

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				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
42	1	16/02438/FUL	Applicant: Marston's Inns And Taverns Erection of a 27 bedroom hotel with associated car parking and landscaping	Waste	It has not been possible to estimate the volume of construction waste arising from the development as the overall construction floor area is unknown. Based on our professional judgement, the sensitivity of the local waste treatment and disposal facilities is negligible as the waste generated comprises no or negligible volumes of hazardous waste, or minor volumes of non-hazardous or inert waste and local waste facilities are unrestricted (i.e. there are more than 20 facilities in the study area). It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, this development, in addition to the Proposed Scheme, will implement SWMPs which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).

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43	1	16/01934/MAT	Applicant: Technical Services - Mr Matthew Clarkson Erection of 35 affordable houses on approx. 1.17 ha of land (Being Application under Regulation 4 Town and Country Planning (General) Regulations 1992)	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
44	1	16/00898/FULM	Applicant: Housing And Care 21 Extra Care Development comprising of 72 flats, communal areas and associated parking and landscaping	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

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					It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	sustainable management of construction waste.	
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
45	1	16/00771/FULM	Applicant: Expression Homes Limited (Mr J Heslop) Erection of 17 semi-detached and terrace houses on approx. 0.47ha of land	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
46	1	15/03006/FULM 17/01583/MAT	Applicant: McDonalds Restaurants Ltd Erection of two retail units (Class A1), one drive-thru restaurant (Class A3/A5) and one commercial unit (Class A1, A2, A3, A4, A5) with associated landscaping and car parking	Waste	It has not been possible to estimated the volume of construction waste arising from the development as the overall construction floor area is unknown. Based on our professional judgement, the sensitivity of the local waste treatment and disposal facilities is negligible as the waste generated comprises no or negligible volumes of hazardous waste, or minor volumes of non-hazardous or inert waste and local waste facilities are unrestricted (i.e. there are more than 20 facilities in the study area). It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, this development, in addition to the Proposed Scheme, will implement SWMPs which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
37	1	Eggborough CCGT	Applicant: Eggborough Power Ltd Eggborough CCGT - The construction and operation of a new CCGT generating station with a capacity of up to 2,500 megawatts, new gas pipeline to the NTS and other associated development	Air Quality	<u>Construction Effects</u> No in-combination construction effects given the distance between Eggborough and the Proposed Scheme <u>Operational Effects</u> Potential to increase emissions of NO2 at sensitive human receptors and Natura 2000 Sites. Potential for likely significant effects as a result of nitrogen deposition onto Natura 2000 Sites arising from the developments operational emissions. These effects could combine with potential likely significant effects arising from the Proposed Scheme, increasing the overall magnitude of the impact. Combination of: ID 47: Eggborough CCGT ID 49: Knottingley CCGT ID 50: Ferrybridge CCGT ID 52: Thorpe Marsh CCGT	In the event that construction phases run in parallel, scheduling of deliveries and a CEMP will ensure that any potential impacts are minimised Design, layout and location of stacks to ensure adequate air dispersion and minimise impacts.	N/A Neutral – Minor Adverse Neutral - Minor Adverse impacts on sensitive human receptors (refer to detailed modelling results in Chapter 6 - Air Quality). The potential effects of cumulative air quality impacts were assessed in Chapter 6 (Air Quality) and Chapter 9 (Biodiversity), and in the Habitats Regulations Assessment Report (Doc Ref 6.6) in relation to Natura 2000 Sites. It was concluded that there would be no significant effects on ecological receptors.
				Biodiversity	Potential for likely significant effects as a result of nitrogen deposition onto Natura 2000 Sites arising from the developments operational emissions. These effects could combine with potential likely significant effects arising from the Proposed Scheme, increasing the overall magnitude of the impact. <u>Combination of:</u> ID 3: 2017/1018/FULM ID 6: 2017/0822/FULM ID 30: 17/03450/CM ID 47: Eggborough CCGT	The emissions parameters of the Proposed Scheme have been modified to minimise impacts on ecological receptors and avoid adverse effects on the integrity of European Sites.	No significant cumulative effects identified.
				Landscape and Visual	Significant impacts in terms of extent, scale, overall mass and proximity - Eggborough	N/A	Considered in combination with other development, refer to Appendix 17.3.
				Waste	Eggborough CCGT Environmental Statement: Volume 1 estimates approximately 7,940 tonnes of construction waste will be generated. The sensitivity of the local waste treatment and disposal facilities is negligible as the waste generated comprises medium volumes of	In terms of waste generation and disposal, this development, in addition to the	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
					hazardous waste, or medium volumes of non-hazardous or inert waste and local waste facilities are unrestricted (i.e. there are more than 20 facilities in the study area). It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	Proposed Scheme, will implement SWMPs which incorporate measures for the minimisation and sustainable management of construction waste.	are anticipated to be of minor significance.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No adverse cumulative effects on employment opportunities are anticipated during operation as it is anticipated that any reduction in operational staff from the existing site will be occur prior to or during construction.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
48	1	Thorpe Marsh Gas Pipeline	Applicant: Thorpe Marsh Power Ltd Thorpe Marsh Gas Pipeline - The Proposed Gas Pipeline will be a continuously welded buried steel pipeline of approximately 18 km in length	Landscape and Visual	Significant impacts in terms of extent though limited to construction and temporary in nature	N/A	Considered in combination with other development, refer to Appendix 17.3.
				Waste	Due to the nature of the development it is likely earthworks will be generated albeit in small volumes. It is envisaged materials will be reused on-site		Negligible effect anticipated.
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
					No cumulative effects are anticipated during operation.		insignificant (of negligible to minor significance).
49	1	Knottingley Power Project	Applicant: Knottingley Power Ltd Knottingley Power Project - A 1500 MW Combined Cycle Gas Turbine (CCGT) power station and associated infrastructure.	Air Quality	<u>Construction Effects</u> No in-combination construction effects given the distance between Knottingley and the Proposed Scheme <u>Operational Effects</u> Potential to increase emissions of NO_2/NO_x at sensitive human receptors and Natura 2000 Sites. However given the distance to sensitive human receptors and Natura 2000 Sites, impacts are likely to be imperceptible and therefore no cumulative impacts are anticipated.	In the event that construction phases run in parallel, scheduling of deliveries and a CEMP will ensure that any potential impacts are minimised	N/A Neutral – Minor Adverse Neutral - Minor Adverse
				Landscape and Visual	Significant impacts in terms of extent, scale, overall mass and proximity - Knottingley	N/A	Considered in combination with other development, refer to Appendix 17.3
				Waste	It has not been possible to estimate the volume of construction waste arising from the development as the overall construction floor area is unknown. As the development is similar in nature and size to that of Eggborough CCGT, our professional judgment is to assume that the sensitivity of the local waste treatment and disposal facilities is negligible as the waste generated comprises medium volumes of hazardous waste, or medium volumes of non-hazardous or inert waste and local waste facilities are unrestricted (i.e. there are more than 20 facilities in the study area). It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, this development, in addition to the Proposed Scheme, will implement SWMPs which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
50	2	Ferrybridge D CCGT Power Station Project	Applicant: SSE A new CCGT generating station of circa 2000 MW output capacity and associated development including a gas supply pipeline to the NTS for gas.	Air Quality	<u>Construction Effects</u> No in-combination construction effects given the distance between Ferrybridge and the Proposed Scheme <u>Operational Effects</u> Potential to increase emissions of NO_2/NO_x at sensitive human receptors and Natura 2000 Sites. However given the distance to sensitive human receptors and Natura 2000 Sites, impacts are likely to be imperceptible and therefore no cumulative impacts are anticipated.	In the event that construction phases run in parallel, scheduling of deliveries and a CEMP will ensure that any potential impacts are minimised	N/A Neutral – Minor Adverse Neutral - Minor Adverse
				Landscape and Visual	Significant impacts in terms of extent, scale and overall mass	N/A	Considered in combination with other development, refer to Appendix 17.3.
				Waste	It has not been possible to estimate the volume of construction waste arising from the development as the overall construction floor area is unknown. As the development is similar in nature and size to that of Eggborough CCGT, our professional judgment is to assume that the sensitivity of the local waste treatment and disposal facilities is negligible as the waste generated comprises medium volumes of hazardous waste, or medium volumes of non-hazardous or inert waste and local waste facilities are unrestricted (i.e. there are more than 20 facilities in the study area). It is not possible to assess the decommissioning effects of these developments at this stage as a	In terms of waste generation and disposal, this development, in addition to the Proposed Scheme, will implement SWMPs which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
					baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.		
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
51	1	2018/0051/FULM Selby	Applicant: Willow Developments Erection of 14 dwellings with associated access, garages and parking	Waste	The volume of waste generated from the construction of this individual development is likely to be minor. Subsequently the effects on existing waste management infrastructure are likely to be insignificant. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant cumulative effect. For this reason all residential developments identified in other developments have also been assessed collectively in this Chapter below. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	In terms of waste generation and disposal, these developments, in addition to the Proposed Scheme, will implement Site Waste Management Plans (SWMPs) which incorporate measures for the minimisation and sustainable management of construction waste.	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).
52	1	Thorpe Marsh CCGT	Applicant: Thorpe Marsh Power Ltd Thorpe Marsh Power Ltd received a Section 36 Consent from the DECC to construct a 1,500MW, with a tolerance of up to 5 per cent, gas-fired power station to be known as Thorpe Marsh Power Station on the former coal-fired Thorpe Marsh Power Station site in October 2011. Under the current Section 36 consent for the project the plant will comprise three CCGT units constructed in two separate phases. Due to improvements in the proposed 'H' class machines technology, the plant will be varied to comprise two units with an output of up to 1575 MW in total. The efficiency of the plant has improved to 61.6 per cent. This would make Thorpe Marsh one of the most efficient and cleanest gas-fired power stations in the world. As part of this	Air Quality	<u>Construction Effects</u> No in-combination construction effects given the distance between Thorpe Marsh and the Proposed Scheme. <u>Operational Effects</u> Potential to increase emissions of NO2 at sensitive human receptors and Natura 2000 Sites. Potential for likely significant effects as a result of nitrogen deposition onto Natura 2000 Sites arising from the developments operational emissions. These effects could combine with potential likely significant effects arising from the Proposed Scheme, increasing the overall magnitude of the impact. Combination of: ID 47: Eggborough CCGT ID 49: Knottingley CCGT ID 50: Ferrybridge CCGT ID 52: Thorpe Marsh CCGT	In the event that construction phases run in parallel, scheduling of deliveries and a CEMP will ensure that any potential impacts are minimised Design, layout and location of stacks to ensure adequate air dispersion and minimise impacts.	N/A Neutral – Minor Adverse Neutral - Minor Adverse impacts on sensitive human receptors (refer to detailed modelling results in Chapter 6 (Air Quality)). Potentially significant (Moderate – Major) on Natura 2000 sites, detailed description of potential significant effect presented on Chapter 9 (Biodiversity).
				Landscape and Visual	Significant impacts in terms of extent, scale and overall mass.	N/A	Considered in combination with other development, refer to Appendix 17.3.
				Waste	It has not been possible to estimated the volume of construction waste arising from the development as the overall construction floor area is unknown. As the development is similar in nature and size to that of Eggborough CCGT, our professional judgment is to assume that the sensitivity of the local waste treatment and disposal facilities is negligible as the waste	In terms of waste generation and disposal, this development, in addition to the Proposed Scheme, will implement SWMPs which	Considering these mitigation factors, the resulting cumulative effects on existing waste management infrastructure are anticipated to be of minor significance.

ID	Tier	Application Reference	Applicant for 'other development' and brief description	Topic	Assessment of cumulative effect with NSIP	Proposed mitigation applicable to NSIP including any apportionment	Residual cumulative effect
			variation, the plans for open cycle gas turbines (OCGT) are now withdrawn. The overall capacity of the site will therefore remain within the limits of the current Section 36 consent.		generated comprises medium volumes of hazardous waste, or medium volumes of non-hazardous or inert waste and local waste facilities are unrestricted (i.e. there are more than 20 facilities in the study area). It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.	incorporate measures for the minimisation and sustainable management of construction waste.	
				Socio-economics	It is assumed that there will be further direct, indirect and induced employment opportunities generated associated with this development in conjunction with the Proposed Scheme assuming that the construction stage are concurrent. Based on professional judgement, it is anticipated that the effect on the local economy and employment market will be positive negligible to minor significance. No cumulative effects are anticipated during operation.	N/A	It is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme, but will be insignificant (of negligible to minor significance).

Worst Case Assessment of All Other Developments

17.7.20. The following effects have been identified where multiple or all other developments are considered in combination as a worst case assessment. This is relevant for the following topics:

- Landscape character and amenity.
- Waste.
- Socio-economics.

17.7.21. The assessment of effects for traffic against each development on its own has already considered growth factors from TEMPRO and therefore a worst case assessment of traffic has not been included here.

Landscape Character

17.7.22. The landscape cumulative assessment assessed the cumulative effects on the identified landscape resource within the ZOI. Landscape resource that have been assessed as experiencing negligible effects have not been included in the assessment of cumulative effects. It is considered unlikely that the addition of a negligible effect to the cumulative effects of other developments within the ZOI would lead to a significant cumulative effect.

17.7.23. The majority of other developments listed in Appendix 17.1 lie within the Farmed Lowland and Valley Landscape LCT referred to within the North Yorkshire and York Landscape Characterisation Project, (Ref 17.11). LCTs likely to be affected by cumulative effects include:

- 23 Levels Farmland (North Yorkshire and York Landscape Characterisation).
- 24 River Floodplain (North Yorkshire and York Landscape Characterisation).

17.7.24. Development IDs 3: 2017/1018/FULM, 10: 2015/1392/EIA and 47: Eggborough CCGT sits within 24 River Floodplain whilst Development ID 48: Thorpe Marsh Gas Pipeline and 49: Knottingley Power Project sits within 23 Levels Farmland.

17.7.25. Development ID 50 Ferrybridge D CCGT sits within the Limestone Escarpment Local LCT (Ref 17.12).

17.7.26. Other development lies in close proximity to LCT 4 River Corridors which was also considered in the cumulative assessment and is referred to within the East Riding of Yorkshire Landscape Character Assessment. Consideration was also given to River Derwent; a Local Important Landscape Area.

17.7.27. Cumulative effects associated with on-site landscape features were not considered as such effects are localised and limited to the extent of the development taking place within the Site. The cumulative landscape effects are summarised in this Chapter below and outlined in Appendix 17.3. Cumulative landscape effects are considered for Stages 1 to 3 and decommissioning. Since effects on Landscape Character Types and Areas from the Proposed Scheme was negligible for Stage 0 (Site Reconfiguration Works), it is considered unlikely that the addition of a negligible effect

to the cumulative effects of other developments within the ZOI would lead to a significant cumulative impact.

17.7.28. In summary, it is considered that for each of the LCTs (and associated LCAs) and based on the existing presence of large scale power, industrial and infrastructure development there would only be a small to medium magnitude of cumulative change in addition to the Proposed Scheme during Stages 1, 2, 3 and decommissioning. The built form of such structures would change with the introduction of stacks associated with Eggborough CCGT and demolition of part of Eggborough Power Station as well as the introduction of new CCGT stacks associated with both Ferrybridge D CCGT Power Station Project and Knottingley Power Project.

17.7.29. This would lead to a perceptible change in landscape character; the large structures associated with Eggborough Power Station (and what people have been accustomed to as iconic features) would be replaced with a number of narrow vertical structures, similar in width to many of the wind farm developments which already exist. Changes are not just associated with ground features but also the relative position of stack emissions in the sky.

Visual Amenity

17.7.30. Visual receptors within the ZOI would experience a range of views from full, partial to oblique with some views filtered / obscured by the built form and intervening vegetation. Views may be in combination (within the observer's arc of vision at the same time without moving his/her head) or in succession (where the observer has to turn his/ her head to see the various developments). It is assumed for the purposes of this assessment that construction and operation of the proposed developments would run concurrently with the Proposed Scheme to enable an assessment to be made of activities undertaken at similar time. To explain the nature of cumulative visual effects, the ZOI has been divided into four zones and the findings are outlined in full in Appendix 17.3, for each stage of the Proposed Scheme. The four zones cover:

- Receptors within 1 km of the Proposed Scheme.
- Receptors between 1 km and 3 km of the Proposed Scheme.
- Receptors between 3 and 10 km of the Proposed Scheme.
- Receptors between 10 to 15 km of the Proposed Scheme.

17.7.31. It should be noted that visual receptors include different groups of people who may experience views of the Proposed Scheme and other developments, refer to Chapter 10 (Landscape and Visual) for further details.

17.7.32. Visual receptors that have been assessed as experiencing a negligible effect due to the Proposed Scheme have not been included in the assessment of cumulative visual effects. It is considered unlikely that the addition of a negligible effect to the cumulative effects of other developments within the ZOI would lead to a significant cumulative impact.

Receptors within 1 km of the Proposed Scheme

17.7.33. Receptors within 1 km of the Proposed Scheme would experience a neutral effect (neither positive nor negative) as a consequence of Stage 0 (Site Reconfiguration Works). View of the works would be limited to the immediate vicinity of the Site due to the proximity of receptors to the Proposed Scheme, intervening vegetation and the built form.

17.7.34. During Stage 1 (construction of Unit X) and Stage 2 (construction of Unit Y and operation of Unit X) receptors within 1 km would experience cumulative effects associated with the construction of a Battery storage barn (ID 3: 2017/1018/FULM). Taking a worst case scenario and subject to the type of receptor and their sensitivity, the significance of effects would range from minor – moderate adverse (not significant) to negligible adverse.

17.7.35. During Stage 3 (operation of Unit Y and Unit X) receptors within 1 km would experience cumulative effects associated with ID 3: 2017/1018/FULM. Taking a worst-case scenario and subject to the type of receptor and their sensitivity, the significance of effects would range from minor – moderate adverse (not significant) to negligible adverse.

17.7.36. During decommissioning of Units X and Y, receptors would experience neutral effects in combination with ID 3: 2017/1018/FULM. Mitigation measures associated with both the Proposed Scheme and ID 3 (a combination of bunding and planting) would have matured.

Receptors between 1 and 3 km of the Proposed Scheme

17.7.37. Receptors between 1 and 3 km of the Proposed Scheme would experience a neutral effect (neither positive nor negative) as a consequence of Stage 0 (Site Reconfiguration Works). View of the works would be limited to the immediate vicinity of the Site.

17.7.38. During Stages 1 and 2, receptors between 1 km and 3 km of the Proposed Scheme would experience views associated with ID 47: demolition and construction of Eggborough CCGT, ID 50: Ferrybridge CCGT and ID 49: Knottingley Power Project as well as works associated with ID 3 Battery storage barn. Taking a worst case scenario and subject to the type of receptor and their sensitivity, cumulative effects would range from moderate to major adverse to negligible adverse. Effects of moderate - major adverse and moderate would be significant. Significant effects would be localised, occupy a small proportion of the view (to the west / south west of the Proposed Scheme) but would alter the visual composition of the view.

17.7.39. During Stage 3, receptors between 1 km and 3 km of the Proposed Scheme would experience views associated with ID 47: demolition and construction of Eggborough CCGT, ID 50: Ferrybridge CCGT and ID 49: Knottingley Power Project as well as works associated with ID 3: Battery storage barn. Taking a worst case scenario and subject to the type of receptor and their sensitivity, cumulative effects would range from moderate to major adverse to negligible adverse. Effects of moderate - major

adverse and moderate would be significant. Significant effects would be localised, occupy a small proportion of the view (to the west / south west of the Proposed Scheme) but would alter the visual composition of the view.

17.7.40. During decommissioning of Units X and Y cumulative effects on receptors would be the same as for Stages 1, 2 and 3, however such effects cumulatively with the Proposed Scheme would be temporary. Mitigation measures associated with both the Proposed Scheme and ID 3 (a combination of bunding and planting) would have matured.

Receptors between 3 km and 10 km of the Proposed Scheme

17.7.41. Receptors within 1 km of the Proposed Scheme would experience a neutral effect (neither positive nor negative) as a consequence of Stage 0 (Site Reconfiguration Works). View of the works would be limited to the immediate vicinity of the Site.

17.7.42. During Stages 1, 2 and 3, receptors between 3 km and 10 km would experience views associated with ID 10: St Gobain, ID 47: demolition and construction of Eggborough CCGT, ID 50: Ferrybridge CCGT and ID 49: Knottingley Power Project. Works associated with ID 3: Battery storage barn would be screened by intervening vegetation and the built form. Taking a worst case scenario and subject to the type of receptor and their sensitivity, cumulative effects would range from moderate to major adverse to negligible adverse. Effects of moderate - major adverse and moderate would be significant. Significant effects would be localised, occupy a small proportion of the view (to the west / south west of the Proposed Scheme) but would alter the visual composition of the view. Some receptors between 3 km and 10 km would be in close proximity to other proposed developments with the Proposed Scheme seen at a distance.

17.7.43. Receptors would also experience views associated with ID 48: the construction of the Thorpe Marsh Pipeline during Stage 1 and 2 subject to the timing of construction works with both the Proposed Scheme and ID 48 running concurrently.

17.7.44. During decommissioning of Units X and Y cumulative effects on receptors would be the same as for Stage 1, 2 and 3 however such effects cumulatively with the Proposed Scheme would be temporary.

Receptors between 10 km to 15 km of the Proposed Scheme

17.7.45. Receptors between 10 km and 15 km of the Proposed Scheme would experience a neutral effect (neither positive nor negative) as a consequence of Stage 0 (Site Reconfiguration Works). View of the works would be limited to the immediate vicinity of the Site.

17.7.46. During Stages 1, 2 and 3, receptors between 3 km and 10 km would experience views associated with ID 10: St Gobians, ID 47: demolition and construction of Eggborough CCGT, ID 50: Ferrybridge CCGT and ID 49: Knottingley Power Project. Works associated with ID 3: Battery storage barn would be screened by intervening vegetation and the built form. Taking a worst case scenario and subject to the type of receptor and their sensitivity, cumulative effects would range from moderate to

major adverse to negligible adverse. Effects of moderate - major adverse and moderate would be significant. Significant effects would be localised, occupy a small proportion of the view (to the west / south west of the Proposed Scheme) but would alter the visual composition of the view. Some receptors between 3 km and 10 km would be in close proximity to other proposed developments, with the Proposed Scheme seen at a distance.

17.7.47. Receptors would also experience views associated with ID 48: the construction of the Thorpe Marsh Pipeline during Stages 1 and 2 subject to the timing of construction works with both the Proposed Scheme and ID 48 running concurrently.

17.7.48. During decommissioning of Units X and Y cumulative effects on receptors would be the same as for Stage 1, 2 and 3; however, such effects cumulatively with the Proposed Scheme would be temporary.

17.7.49. Views of the Proposed Scheme during decommissioning in combination with other developments within the ZOI would be noticeable, generating significant effects (moderate to major adverse). Such effects however would be localised and limited to specific orientations of the view namely towards the west / south west of the Proposed Scheme. It is considered that whilst the depth of field would remain unaltered, the visual composition would change. From specific locations throughout the ZOI, intervening vegetation and built form would screen views and as mitigation measures including planting matures such effects would diminish for some visual receptors.

Waste

17.7.50. Should all of the residential developments identified in other developments be constructed however, the collective volume of waste could have a significant adverse cumulative effect on waste treatment and disposal facilities in the region. For this reason all residential developments identified in other developments have been assessed collectively. For the purposes of estimating construction waste generation, it has been assumed that each of the proposed residential units will have a Gross Internal Area (GIA) of 105 m2; this is the average size of an owner-occupied home in the UK. Based on this assumption, the total number of proposed households identified within ‘other developments’ (3,693) and BRE benchmark for calculating construction waste (16.8 tonnes per 100 m2) it is estimated that approximately 65,145 tonnes of construction waste from these developments will be generated. The construction phasing of these developments is unknown at this stage therefore for the purpose of this assessment and to provide a worst case scenario it has been assumed that this estimated volume of construction waste will be generated in one year. On this basis, the sensitivity of the local waste treatment and disposal facilities is moderate to major as the waste generated comprises large volumes of hazardous, non-hazardous or inert waste and local waste facilities are unrestricted (i.e. there are more than 20 facilities in the study area).

17.7.51. It is not possible to assess the decommissioning effects of these developments at this stage as a baseline which takes into consideration the types, quantum and

capacity availability of waste infrastructure in the region at the time when these developments are decommissioned cannot be defined.

Socio-Economics

17.7.52. It is assumed that there will be further direct employment opportunities associated with all of the committed developments in conjunction with the Proposed Scheme assuming that the construction stages are concurrent. However, at this stage, there is insufficient information available to quantify the cumulative effect associated with direct employment opportunities. As such, it is considered that there is likely to a cumulative effect in relation to direct employment opportunities of greater positive significance than that concluded for the Proposed Scheme.

17.7.53. It is assumed that there will be further indirect and induced employment opportunities generated associated with the relevant committed developments in conjunction with the Proposed Development assuming that the construction stage are concurrent. However, at this stage, there is insufficient information available to quantify the cumulative effect associated with indirect and induced employment opportunities. It is considered that there is likely to be a cumulative effect in relation to indirect and induced employment opportunities of greater positive significance than that concluded for the Proposed Scheme.

17.7.54. If all committed developments and the Proposed Scheme are constructed concurrently, there is anticipated to be a cumulative effect on the construction workforce in terms of resource to deliver each development. This cannot be quantified at this stage. As such, it is considered that there is a potential effect of greater negative significance than that concluded for the Proposed Scheme in isolation in relation to constraints on the resource of the construction workforce at the local and regional level.

17.8 Combined Effects Assessment

17.8.1. Table 17-5 below identifies where in the ES combined effects are considered in further detail with regard to the Proposed Scheme, and considers other combined effects that are not discussed elsewhere.

17.8.2. Combined effects are defined as the interaction and combination of environmental effects of the Proposed Scheme affecting the same receptor.

Table 17-5 - Summary of Effect Interactions (Combined Effects)

Chapter	Combined Effects Considered in Technical Chapter	Other Combined Effects to be Considered
Traffic and Transport	No combined effects have been identified.	There is potential for receptors located close to the road network to experience combined effects from traffic (severance, pedestrian amenity, highway safety etc.) and associated noise,

Chapter	Combined Effects Considered in Technical Chapter	Other Combined Effects to be Considered
		vibration and air emissions during construction of the Proposed Scheme. The traffic, air quality and noise assessments do not identify any significant effects on sensitive receptors due to construction traffic and the combined effect is also considered to be not significant.
Air Quality	Chapter 6 (Air Quality) considers air quality effects of stack emissions and road traffic emissions. As the receptors of these two types of air quality effects are in different locations and the main road traffic emissions will occur before the plant is operational, it is anticipated that there is no potential for significant combined effects on a single receptor.	There is potential for dust effects, combining with noise & visual effects reducing amenity for human receptors. No significant adverse effects are predicted. Impacts on ecological receptors from combined stack emissions are presented in Chapter 6 (Air Quality) and discussed in detail in Chapter 9 (Biodiversity).
Noise and Vibration	No combined effects have been identified.	Impacts on ecological receptors are considered in Chapter 9 (Biodiversity) No combined effects have been identified.
Historic Environment	No combined effects have been identified.	No combined effects have been identified.
Biodiversity	No combined effects identified.	Chapter 9 (Biodiversity) considers the combined effects of noise, air quality, disturbance, water contamination and ground contamination on ecological receptors in the vicinity of the Site. No other combined effects identified.
Landscape and visual	No combined effects are anticipated for landscape and visual.	There is potential for dust effects, combining with noise & visual effects reducing

Chapter	Combined Effects Considered in Technical Chapter	Other Combined Effects to be Considered
	The LVIA considers that there has been an erosion of Weddle's original design through incremental development on site prior to this application including the introduction of the biomass co-firing units and the biomass storage domes as well as the more recent Lytag plant to the north west of the Existing Drax Power Station Complex. This has resulted in the erosion of the original symmetry and a widening of the original footprint increasing visual coalescence from some elevations and increasing visual clutter through an intensification of land use. The LVIA considers that cumulatively additional on site development over time has resulted in an adverse effect on local landscape character and local visual amenity.	amenity and levels of tranquillity for human receptors.
Ground Conditions and Contamination	No combined effects have been identified.	Impacts on ecological receptors are considered in the Chapter 9 (Biodiversity). No other combined effects identified.
Water Resource, quality and hydrology	No combined effects have been identified.	Impacts on ecological receptors are considered in the Biodiversity Chapter No other combined effects identified.
Waste	No other combined effects have been identified	The increases in traffic, dust, noise and visual intrusion associated with the transportation of construction materials to the Site and the transportation of demolition

Chapter	Combined Effects Considered in Technical Chapter	Other Combined Effects to be Considered
		(where necessary) and construction waste to waste treatment and disposal facilities have been assessed appropriately within Chapter 5 (Traffic and Transport); Chapter 6 (Air Quality); Chapter 7 (Noise and Vibration) and Chapter 10 (Landscape and Visual Impact). Best practice measures for the storage of waste on Site and appropriate drainage systems and bunding of storage areas as necessary will avoid impacts on water or land quality.
Socio-economics	The assessment set out within Chapter 14 (Socio-economics) considers the changes in visual amenity and noise as part of the assessment of effects on amenity value.	There is potential for dust effects, combining with noise & visual effects reducing amenity for PRoW users.
Major Accidents and Disasters	No combined effects are considered within the major accidents and disasters technical chapter	No other combined effects identified.
Climate Change	No combined effects identified.	No other combined effects identified.
Health	Impacts on human health have been considered within the following chapters: Chapter 6 (Air Quality) Chapter 7 (Noise and Vibration) Chapter 11 (Ground Conditions) Chapter 12 (Water Resources, Quality and Hydrology) Chapter 16 (Major Accidents and Disasters)	It is not anticipated that there will be any other in combination effects on human health for any one receptor.

Chapter	Combined Effects Considered in Technical Chapter	Other Combined Effects to be Considered
	No combined effects within are anticipated on human receptors within any of these topics.	

17.9 Mitigation and Enhancement Measures

17.9.1. Proposed mitigation measures, further to embedded mitigation measures, are identified in Table 17-4 and Appendix 17-3.

17.10 Residual Effects

17.10.1. Residual effects are identified in Table 17-4 and Table 17-5.

17.11 Limitations and Assumptions

17.11.1. Limitations encountered during individual assessments are detailed within Chapters 5 to 16.

17.11.2. The cumulative assessment is based on publicly available information.

17.11.3. The shortlist of developments was finalised in March 2018 to allow for assessment within the ES. Any planning applications, status updates or additional information published since March 2018 have not been included within the assessment.

17.12 Summary

Cumulative Effects

17.12.1. The following chapters have identified that no significant cumulative effects are anticipated as a result of the Proposed Scheme:

- Chapter 5 (Traffic and Transport).
- Chapter 7 (Noise and Vibration).
- Chapter 8 (Historic Environment).
- Chapter 9 (Biodiversity).
- Chapter 11 (Ground Conditions and Contamination).
- Chapter 12 (Water Resource, Quality and Hydrology).

17.12.2. The landscape and visual assessment of cumulative effects has identified the potential for a number of temporary significant impacts during construction for residents and recreational users on PRoW. A number of permanent significant effects have also been identified during operation on landscape receptors (residents and recreational users of the TPT and PRoW).

17.12.3. It is concluded that the Proposed Scheme in conjunction with any one of the “other developments” would not have a significant cumulative effect on waste disposal facilities in the region. However, should all of the other residential developments identified be constructed in conjunction, the collective volume of waste could have a

significant adverse cumulative effect on waste treatment and disposal facilities in the region.

17.12.4. It is concluded that the Proposed Scheme in conjunction with any one of the “other developments” would not have a significant cumulative effect on direct, indirect and induced employment opportunities and the local economy. However, it is considered that there is likely to be a cumulative effect in relation to direct, indirect and induced employment opportunities during construction of greater positive significance than that concluded for the Proposed Scheme, although this cannot be quantified at this time.

17.12.5. Cumulative effects are not considered under the topic of Climate as GHG emissions are not restricted to a geographical area and are considered on a national level.

17.12.6. Cumulative effects are not considered under the topic of Major Accidents and Disasters as risk events are likely to be a one off event and are assessed in isolation.

Combined Effects

17.12.7. No significant effects have been identified when considering combined effects for any in topic or across topic effects from within the Proposed Scheme itself.

Table 17-6 - Summary of Effects Table for Cumulative Effects

Description of Effects	Receptor	Significance and Nature of Effects Prior to Mitigation / Enhancement	Summary of Mitigation / Enhancement	Significance and Nature of Effects Following Mitigation / Enhancement (Residual)
Stage 0 - Reconfiguration Works				
No significant effects during Stage 1 are expected.				
Stage 1 - Construction of Unit X and Stage 2 - Construction of Unit Y				
Views associated with the demolition of the Eggborough Power Station and construction of stacks associated with Eggborough Power Station CCGT, the installation of the proposed building at the St Gobian factory site and beyond stacks associated with Ferrybridge D CCGT. There may be distant views across to the construction of stacks associated with Knottingley CCGT and more immediate views of the erection of 40MW 7.5 m high battery energy storage barn which lies close to the AGIs and would be noticeable within a very flat landscape. Views would not alter the depth of field but would alter the visual composition.	Recreational users using the TPT / NCN and PRoW Network within 1-15 km of the Proposed Scheme	Moderate - major / - / T / I / MT	N/A	Moderate -major / - / T / I / MT
Views which may be experienced by users are of the construction of the	Local residents between 3-15 km	Moderate-major /- / T / /I / LT	N/A	Moderate-major /-/ T / I / LT

Description of Effects	Receptor	Significance and Nature of Effects Prior to Mitigation / Enhancement	Summary of Mitigation / Enhancement	Significance and Nature of Effects Following Mitigation / Enhancement (Residual)
Thorpe Marsh Pipeline, the demolition of Eggborough Power Station and construction of proposed CCGT, St Gobian factory site. There may be views across to the construction of stacks associated with Knottingley CCGT and Ferrybridge CCGTs. The proposed development would not alter the depth of field, however the visual composition will change within a small proportion of the overall view. Users would be in closer proximity to some of the other major developments with the Proposed Scheme seen at a distance. Views of the 40MW 7.5 m high battery energy storage barn would not be discernible due to intervening vegetation / built form.	of the Proposed Scheme			
Stage 3 – Operation of Units X and Y				
Views which may be experienced by users are of the construction of the Thorpe Marsh Pipeline, the demolition of Eggborough Power	Local residents between 1-15 km of the Proposed Scheme	Moderate - major / - / P / I / LT	N/A	Moderate -major / - / P / I / LT

Description of Effects	Receptor	Significance and Nature of Effects Prior to Mitigation / Enhancement	Summary of Mitigation / Enhancement	Significance and Nature of Effects Following Mitigation / Enhancement (Residual)
Station and construction of proposed CCGT, St Gobian factory site. There may be views across to the construction of stacks associated with Knottingley CCGT and Ferrybridge CCGTs. The proposed development would not alter the depth of field, however the visual composition will change within a small proportion of the overall view. Users would be in closer proximity to some of the other major developments with the Proposed Scheme seen at a distance. Views of the 40MW 7.5 m high battery energy storage barn would not be discernible due to intervening vegetation / built form.				
Views associated with the demolition of the Eggborough Power Station and construction of stacks associated with Eggborough Power Station CCGT, the installation of the proposed building at the St Gobian factory site	Recreational users using the TPT / NCN and PRoW Network within 1-15 km of the Proposed Scheme	Moderate-major/ - / P / I / LT	N/A	Moderate- major / - / P / I / LT

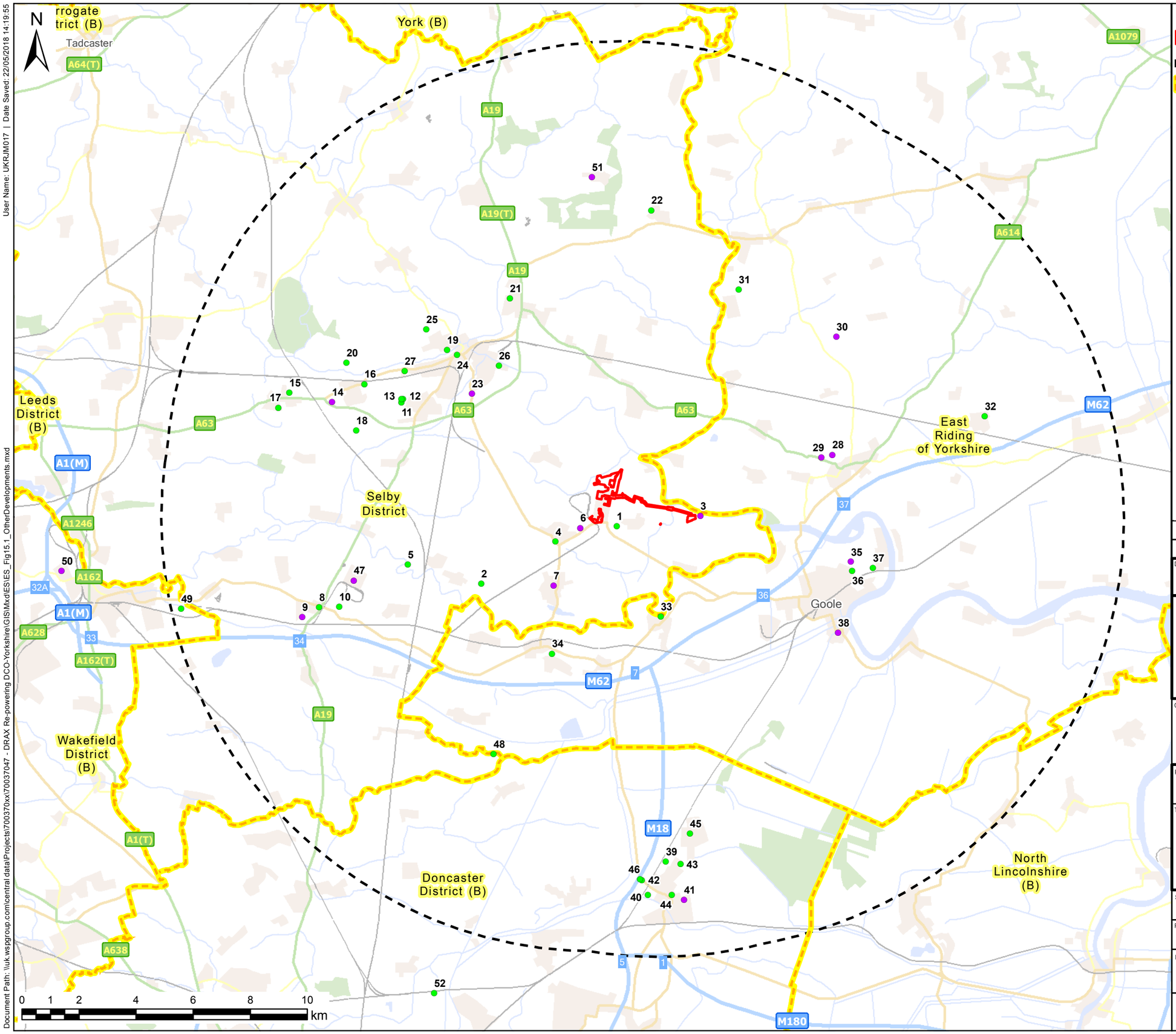
Description of Effects	Receptor	Significance and Nature of Effects Prior to Mitigation / Enhancement	Summary of Mitigation / Enhancement	Significance and Nature of Effects Following Mitigation / Enhancement (Residual)
and beyond stacks associated with Ferrybridge D CCGT. There may be distant views across to the construction of stacks associated with Knottingley CCGT and more immediate views of the erection of 40MW 7.5 m high battery energy storage barn which lies close to the AGIs and would be noticeable within a very flat landscape. Views would not alter the depth of field but would alter the visual composition.				
Decommissioning				
Views which may be experienced by users are of the construction of the Thorpe Marsh Pipeline, the demolition of Eggborough Power Station and construction of proposed CCGT, St Gobian factory site. There may be views across to the construction of stacks associated with Knottingley CCGT and Ferrybridge CCGTs. The proposed development would not alter the depth of field, however the visual composition will	Local residents between 1-15 km of the Proposed Scheme	Moderate-major - / P / I / LT	N/A	Moderate-major - / P / I / LT

Description of Effects	Receptor	Significance and Nature of Effects Prior to Mitigation / Enhancement	Summary of Mitigation / Enhancement	Significance and Nature of Effects Following Mitigation / Enhancement (Residual)
change within a small proportion of the overall view. Users would be in closer proximity to some of the other major developments with the Proposed Scheme seen at a distance. Views of the 40MW 7.5 m high battery energy storage barn would not be discernible due to intervening vegetation / built form.				
Views associated with the demolition of the Eggborough Power Station and construction of stacks associated with Eggborough Power Station CCGT, the installation of the proposed building at the St Gobian factory site and beyond stacks associated with Ferrybridge D CCGT. There may be distant views across to the construction of stacks associated with Knottingley CCGT and more immediate views of the erection of 40MW 7.5 m high battery energy storage barn which lies close to the	Recreational users using the TPT / NCN and PRoW Network within 1-15 km of the Proposed Scheme	Moderate-major - / P / I / LT	N/A	Moderate-major - / P / I / LT

Description of Effects	Receptor	Significance and Nature of Effects Prior to Mitigation / Enhancement	Summary of Mitigation / Enhancement	Significance and Nature of Effects Following Mitigation / Enhancement (Residual)
AGIs and would be noticeable within a very flat landscape. Views would not alter the depth of field but would alter the visual composition.				

NB: Aspects of the proposed scheme considered as part of the pre-mitigation scenario are summarised above in Section 1.6, and within Chapter X: Summary of Environmental Statement.

Key to table: + / - = Positive or Negative P / T = Permanent or Temporary, D / I = Direct or Indirect, ST / MT / LT = Short Term, Medium Term or Long Term N/A = Not Applicable



Key

- Site Boundary
- 15km Study Area
- District Boundary

Short List of 'Other Development'

Status

- Approved
- Awaiting Decision

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 - Regulation 5(2)(a)

REV	DATE	BY	DESCRIPTION	CHK	APP
A	23/04/2018	RMcC	FIRST ISSUE	CS	CT

DRAWING STATUS: FINAL

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CLIENT: drax

PROJECT: The Drax Power (Generating Stations) Order

TITLE: Figure 17.1
Location of Short List of
Other Developments Considered
for Cumulative Assessment

SCALE @ A3:	CHECKED:	APPROVED:
130,000 @ A3	CS	CT

PROJECT No:	DESIGNED:	DRAWN:	DATE:
70037047	WSP	RMcC	23/04/2018

DRAWING No: 70037047-17.1 REV: A

REFERENCES

- Ref 17.1 European Directive 2011/92/EU
- Ref 17.2 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017
- Ref. 17.3 Department of Energy and Climate Change, 2011. Overarching National Policy Statement for Energy (EN-1). Published July 2011. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/47854/1938-overarching-nps-for-energy-en1.pdf (accessed 04 April 2018).
- Ref 17.4 The Planning Inspectorate's Advice Note 17 "Cumulative Effects Assessment"
- Ref 17.5 Institute of Air Quality Management (Version 1.1 Updated June 2016). Guidance on the Assessment of Dust from Demolition and Construction.
- Ref 17.6 Guidance for the Safe Development of Housing on Land Affected by Contamination: R&D Publication 66 (National House Building Council. 2008).
- Ref 17.7 DMRB, Volume 11, Section 2, HA202/08, Assessment and Management of Environmental Effects.
- Ref 17.8 Landscape Institute and Institute of Environmental Management and Assessment, 2013, Guidelines for Landscape and Visual Assessment, Third Edition.
- Ref 17.9 North Yorkshire and York Landscape Characterisation Project, (Chris Blandford Associates on behalf of North Yorkshire County Council, 2011).
- Ref 17.10 Wakefield Council, 2004, Local Development Framework: Landscape Character Assessment of Wakefield District).