

Sheffield Area Geology Trust



Rotherham Local Plan

Geodiversity Scoping Study of Possible Site Allocations 2015

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**Rotherham Local Plan
Geodiversity Scoping Study of Site Allocations 2015**

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**Rotherham Local Plan
Geodiversity Scoping Study of Possible Site Allocations 2015**

Summary

Sheffield Area Geology Trust was commissioned by the Environment and Development Services team at Rotherham Metropolitan Borough Council (Rotherham MBC) to carry out a geodiversity scoping study of possible preferred allocation sites that are being considered for inclusion in Rotherham MBC's Local Plan.

Geodiversity assets including designated geodiversity sites and other geological features within and near to 28 possible preferred allocation sites have been examined to allow an assessment to be made of the impacts on geodiversity conservation upon their possible allocation. Assets have been classified according to the following criteria.

<p>Major geodiversity impacts of allocation</p>	<p>The allocation of areas assigned this category would have the potential for high impact on geodiversity.</p> <p>In the assessment of allocation sites, no (0) sites were identified as having major geodiversity impacts of allocation. Any sites in this category should be regarded as unsuitable for inclusion in the Local Plan in view of the harm the allocation would likely to inflict on geodiversity asset(s) and the risk to the development proposals. Sites of this category would be shown in RED in Table 4 (Section 4.2 Results).</p>
<p>Potential geodiversity impacts of allocation</p>	<p>The allocation of sites assigned this category would have the potential for a medium impact on geodiversity.</p> <p>Potential geodiversity impacts of allocation were noted for five (5) potential allocation sites. These sites are regarded as suitable for inclusion in the Local Plan but there is a high risk that geodiversity assets will need to be considered; it is likely that future allocation proposals will have a negative impact on their value and they may pose a risk to development proposals. Sites of this category are shown in YELLOW in Table 4 (Section 4.2 Results).</p>
<p>Uncertain geodiversity impacts of allocation</p>	<p>The allocation of sites assigned this category would have the potential for an uncertain impact on geodiversity.</p> <p>Uncertain geodiversity objections to allocation applies to no (0) sites. Such sites would be expected to contain or are close to significant Geodiversity Assets but these have not been investigated or assessed. Therefore before a planning decision can be made it would be necessary to undertake investigations to ascertain the nature and value of the Geodiversity features on the site. A site of this category would be shown in BLUE in Table 4 (Section 4.2 Results).</p>
<p>Few or no geodiversity impacts of allocation</p>	<p>The allocation of sites assigned this category would have the potential for few or no impacts on geodiversity.</p> <p>Few or no (little) geodiversity impacts of allocation applies to twenty-three (23) allocation sites. These sites are suitable for inclusion in the Local Plan as there is low risk that they contain or are close to geodiversity assets that pose a risk to development or would be</p>

affected by development. Sites of this category are shown in GREEN in Table 4 (Section 4.2 Results). There are three (3) possible development sites that contain Few or no geodiversity impacts (LDF0156, LDF0462, LDF0723), but as they also contain or are near geodiversity assets that have potential geodiversity impacts, they are included in the list of the higher category sites.
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An allocation site may fall within more than one of the above criteria categories. Should an allocation site overlap with more than one geodiversity asset areas of different significance (see Table 2) – then the overall finding for the site would be that it belongs to the highest criteria category of recommendation (further investigation of the geodiversity assets outside the scope of this study could offer a more refined approach).

The results of the assessments are presented in Table 4 in Section 4.2. The four categories of recommendation given above are discussed in Section 3. Generic planning guidance is given for each of the recommendation categories in Section 4.1. Then, where identified, potential opportunities to enhance the geodiversity resources are noted in Sections 4.2 and 4.3 for the possible allocation sites and discussed in Section 3. Individual site information is given in Section 4.3.

1. Introduction

Rotherham's Local Plan will guide future development in the Borough until 2028. The Council has prepared its Local Plan in two stages the Core Strategy (now adopted) and the Sites and Policies Document (currently under production). At the time of writing the publication version of the Sites and Policies Document is anticipated to be subject to public consultation in autumn 2015.

Decisions on planning applications will be informed by a series of environmental designations. In Rotherham there are a number of nationally important nature conservation sites; these are called Sites of Special Scientific interest (SSSI). There are also locally designated sites for geodiversity called Regionally Important Geological Sites (RIGS). The RIGS system is operated in Rotherham with the support of the Sheffield Area Geology Trust (SAGT) and the Rotherham Local Geological Sites Panel (RLGSP), where SAGT provides independent geological expertise and experience in the assessment and conservation of geodiversity assets, not available within Rotherham MBC. SAGT also administers the Rotherham Geological Record Centre.

The RIGS in Rotherham were first identified in the 1990s and incorporated into the Unitary Development Plan (Rotherham MBC 1999) through Policy ENV2.2 Interest Outside Statutorily Protected Sites. As an independent panel of geodiversity experts the RLGSP recommends the selection and deselection of RIGS to the Local Planning Authority. Backing for geodiversity is provided for in the National Planning Policy Framework (including sections 109, 110 and 113), Planning Practice Guidance notes (including 008 and 009) and the Rotherham adopted Core Strategy CS 20 Biodiversity and Geodiversity (Rotherham MBC 2014).

The RLGSP has also identified a series of likely candidate RIGS and candidate Local Geological Sites (cLGS). Candidate RIGS (cRIGS) are sites that have been identified of being of possible likely RIGS value but await survey and analysis against RIGS selection criteria (subject to

resources etc.). The cLGS are important geodiversity assets at a lower threshold of value than RIGS.

In this study RIGS are considered separately to cLGS - as only the RIGS are currently local planning designations in Rotherham, though there is an aspiration to have a local sites system in Rotherham, with Local Geological Sites (LGS) (incorporating RIGS). However, Rotherham LGS site selection criteria and documentation are still in an early stage of development. (It is noted that planning policy does make provision for the protection of geodiversity interest for sites and features of geodiversity value which are not included in designated sites (see Core Strategy CS19 bullet D, Rotherham MBC 2014 p121)).

Rotherham Local Plan site selection methodology is described in Chapter 12 of the Final Draft Sites and Policies (Rotherham 2014) which included provision for geodiversity (See S12.55 p247, S12.74 p251). The Integrated Impact Assessment (IIA) of the Sites and Policies Document (Submission version) (Jacobs 2014) included a sustainability appraisal of individual sites in Appendix E (Jacobs 2014). This identified which allocation sites:

- Overlap with RIGS
- Are within 250m of a RIGS
- Fall wholly or in part on a cRIGS / cLGS

In addition to this assessment Rotherham MBC undertook a 250 metre buffering for possible preferred site allocations to identify any sites that overlapped with RIGS/cRIGS and/or cLGS. From this 28 possible preferred site allocations were identified. These allocation sites were considered to have the greatest potential geodiversity impact so they were identified for further geodiversity impact assessment in this scoping study.

Rotherham MBC considered that a further desk study of these 28 sites should be carried out to assess the impact possible preferred site allocations may have on geodiversity interests which would help ensure robustness of the Local Plan. This geodiversity assessment will be used to inform the Publication Version of the Rotherham Local Plan Sites and Policies Document and Policies Map and guide possible future planning applications.

2. Aims and Objectives

This report has been commissioned to contribute to the preparation of Rotherham's Local Plan through the further consideration of geodiversity interests.

The study set out to:

- Provide a desk study assessment of the potential impacts on geodiversity assets for the selected possible preferred site allocations.
- Categorise the selected possible preferred site allocations according to severity of impact and, where high and medium potential impact are likely, identify suitable mitigation measures, using the following recommendation categories:
 - High Impact = Red,
 - Medium Impact = Yellow,
 - Little or No Impact = Green,
 - Uncertain Impact (where information is currently insufficient) = Blue
- Provide generic guidance to inform possible future planning applications for allocation sites that fall within each of these recommendation categories.

3. Method

SAGT was commissioned to undertake a scoping study on 28 possible preferred Site Allocations in Rotherham's Local Plan in 2015. These allocation sites include possible preferred sites for new housing and employment that will be detailed in the emerging Sites and Policies document. These 28 possible allocation sites were identified by Rotherham MBC, as the ones that overlap or are located within 250 metres of a RIGS or cRIGS or cLGS.

For each allocation site in the scoping study the potential impact on the known geodiversity assets, including SSSI, RIGS, cRIGS, cLGS and in cases sub compartments (e.g. R121, R133), has been assessed using information held by SAGT. The data sources used include records held within Rotherham Geological Records Centre, British Geological Survey Maps and Memoirs and the Rotherham MBC ROAM website, as well as publicly accessible aerial images from Bing and Google which were accessed to provide details of current land use and topography. Consideration has been given in particular to the mapped distribution of bedrock units and superficial deposits presented on 1:50,000 and 1:10,000 scales printed British Geological Survey maps.

Table 1 Rotherham RIGS selection criteria

<p>Sites may qualify if they meet one or more of the following:</p> <ul style="list-style-type: none">• Is the geological feature at the site the only one in South Yorkshire?• Is the site the best example in South Yorkshire of this particular geological or geomorphological feature?• Is the site above a threshold of local geological or geomorphological importance, or part of a series of linked sites?• Does the site have high educational value for use by schools, higher education students and researchers?• Does the site have good public access or could provision for access be made with the permission of the landowner?• Is the site linked to important advances in geological knowledge or has it other historical value?• Is the site highly valued by the community because of its amenity and / or beauty?
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(Source SAGT and Rotherham MBC (2010)).

Although care has been exercised in establishing the geological conditions, the study findings may be affected by inaccuracies due to limitations of the available data and the current state of geological knowledge and understanding. This includes sites of possible likely value for designation currently awaiting survey, and analysis (called candidate sites), using the precautionary principle, have been treated as if they were designated in assessing impacts. There are inherent assumptions in this study and insufficient resources to support the acquisition of additional data. The level of accuracy is also affected by the current state of existing knowledge, accuracy of the existing records and variations in data availability and quality. The local planning designation series of sites for geodiversity though routed in documented selection criteria (see Table 1), is not fixed: knowledge is not perfect, future decisions on candidate sites suitability may be made as data becomes available etc. (e.g. pending with the RLGSP at the time

of writing are decisions on R95 and R119 regarding suitability as a RIGS). The responsibility lies heavily with the developer to ensure that up to date information is obtained on geo assets and designations.

Data sources for the sites were assessed by virtue of the geological expertise and experience of geodiversity issues possessed by SAGT, including consideration of the likely impact of the allocations on the Rotherham RIGS selection features, which are shown in Table 1 above as well as on possible cLGS selection features. The results of the study are tabulated in Table 4, in Section 4.2. The possible allocation sites were given a geodiversity significance score. These reflect the status of geodiversity assets within 250m of the allocation site, as shown in Table 2.

A recommendation regarding the impacts on geological conservation of each site and potential impacts on other geodiversity assets was allocated one of four categories, which Tables 3 and 2 together explain.

Table 2 Explanation of geodiversity significance (National, Regional or Local) used in this study

Geodiversity Significance Score	Geodiversity Asset
National	SSSI
Regional	RIGS / cRIGS
Local	cLGS

Table 3 explanation on the recommendation categories used in Table 4, Section 4.2

Recommendation	Category	Explanation
Major geodiversity impacts of allocation	Red	Potential for serious damage to features of geodiversity interest in Rotherham; RIGS/cRIGS or to an SSSI.
Potential geodiversity impacts of allocation	Amber/ yellow	Potential for damage to regionally or locally important geodiversity asset.
Uncertain geodiversity impacts of allocation	Blue	Potential for damage to regionally or locally important geodiversity asset, where further geodiversity information is required to clarify the issue
Few / little or no geodiversity impacts of allocation	Green	Potential for little or no damage to regionally or locally important geodiversity asset where further geodiversity information may clarify the issue.

Where identified, information on “Enhancement Potential” is also included in Table 4. The Enhancement Potential gives a potential broad principle to enhance geodiversity and relates to the possible opportunities to enhance geodiversity asset(s); however some opportunities may fall outside possible future allocation sites; which will therefore influence the scope of possible planning action.

Potential for enhancement of geodiversity asset(s) within development plans and suggestions for further investigations as a requirement in planning applications are based on the knowledge of the nature of the geodiversity asset (s) and the likely impacts of allocation on the value of the

asset(s). Enhancement Potential is given without knowledge of the precise nature of the development proposed for sites and imperfect geodiversity knowledge, which may affect the suitability of the guidance. Sites will need to be considered on a site by site basis in terms of current opportunities and constraints in the light of the latest geological knowledge. With further investigation of the geodiversity assets a more refined approach may be possible.

Generic guidance to inform future possible planning applications was drawn up from the geological expertise and experience of geodiversity issues possessed by SAGT members in reference to information from the Rotherham Geological Record Centre. The guidance gives the actions to be taken for geodiversity in line with the recommendations of this report in the possible event of the site being developed. This is done without knowledge of the precise nature of the development proposed for sites, which may affect the suitability of the guidance.

4. Results

The results of the study are tabulated in Section 4.2. Relevant comments and site location plans are provided in Section 4.3. Generic guidance to inform possible planning applications is given in Section 4.1.

4.1 Generic guidance to inform future possible planning applications

Overall generic guidance to inform possible planning applications:

Local Plan policy gives provision for the protection and enhancement of geodiversity resources in terms of nationally and locally prioritised sites and features. Where opportunities for enhancement of geodiversity resources have been identified (see Table 4), this potential should be explored where possible (e.g. where appropriate by improving access or providing viewing points).

For planning applications for possible allocation sites that overlap or are adjacent to candidate geo-assets consideration should be given to data collection and analysis to establish suitability of any affected candidate site(s) for designation where possible. The responsibility lies heavily with the developer to ensure that up to date information is obtained on geo assets and designations. Although care has been exercised in establishing the geological conditions, the study findings may be affected by inaccuracies due to limitations of the available data (there may be geological assets yet to be identified that are not listed and identified in this study).

For the possible allocation sites that are likely to have an impact on geodiversity assets as indicated by this study, further geological investigation would be required prior to the submission of a planning application, to establish the presence/absence, significance and condition of geodiversity asset(s). The planning application should be supported by a Geodiversity Survey and Report that includes an assessment of the impact of the specific development proposals on the geodiversity asset(s).

The assessment should identify and describe potential development impacts likely to harm designated sites and or geodiversity features, including both direct and indirect effects both during and after construction. Where harm is likely, evidence must be submitted to show:

- How alternatives; designs or locations have been considered;
- How adverse effects will be avoided wherever possible;
- How unavoidable impacts will be mitigated or reduced;

- How impacts that cannot be avoided or mitigated will be compensated, ensuring that development decisions will safeguard the natural environment

This may require desk study, field exploration, the drilling of boreholes and excavations for the necessary data to be acquired. All data should be recorded and assessed by an appropriate expert using nationally recognised survey guidelines/methods where available. A copy of the Geodiversity Survey and Report should be deposited in the Rotherham Geological Records Centre.

Major geodiversity impacts of allocation

These are no (0) allocation sites with land in of this category

Generic guidance to inform possible planning applications: Sites in this category have potential for serious damage to geodiversity features of interest in Rotherham RIGS /cRIGS or to an SSSI. It should be noted that certain activities affecting SSSI require Natural England's consent, independent of the local planning authority.

Further geological investigation would be required prior to the submission of a planning application, to establish the presence/absence, significance and condition of geodiversity assets at the site. The planning application should be supported by a Geodiversity Survey and Report that includes an assessment of the impact of the specific development proposals on the assets.

As it is likely that development would seriously damage or destroy a significant geodiversity asset, the allocation would not be supported unless measures are enforced which will ensure that the asset is not adversely affected. This might include, for instance, providing access to exposed rock, and measures to stabilise rock faces in ways that do not impede access. There may also be the opportunity to acquire knowledge about the geodiversity asset from boreholes or excavations, including those for services and foundations before and during the construction phase and site visits for recording and assessment of relevant features by appropriate experts. The site may also require long-term management to maintain the geodiversity asset in a useful state, including the maintenance of access, and the control of vegetation and the removal of rubbish or eroded materials.

Potential geodiversity impacts of allocation

There are five (5) sites are of this category: LDF0156*, LDF0305, LDF0462*, LDF0723* and LDF0754. * Listed more than once; where the allocation site overlaps with different geodiversity asset areas the higher category applies (though with further investigation of the geodiversity assets a more refined approach, including the use of mitigation measures could be possible). LDF0156, LDF0462 and LDF0723 fall within more than one of the recommendation categories, as they overlap with more than one geodiversity asset area - here the overall recommendation of the site would be that it belongs to the highest category of recommendation.

Generic guidance to inform possible planning applications: Sites in this category have potential for damage to regionally or locally important geodiversity asset. Further geological investigation would be required prior to the submission of a planning application, to establish the presence/absence, significance and condition of geodiversity assets at the site or potentially impacted by the development. The planning application should be supported by a Geodiversity Survey and Report that includes an assessment of the impact of the specific development proposals on the geodiversity asset(s).

Development may be possible but the potential for damage to the geodiversity asset needs to be taken into account in the planning, design, construction and aftercare phases of proposed development. The design should incorporate measures to avoid damage to the geodiversity asset. This might include, for instance, providing access to exposed rock, and measures to stabilise rock faces in ways that do not impede access. There may also be the opportunity to acquire knowledge about the geodiversity asset from boreholes or excavations, including those for services and foundations before and during the construction phase and site visits for recording and assessment of relevant features by appropriate experts. This may require desk study, field exploration, the drilling of boreholes and excavations for the necessary data to be acquired. The site may also require long-term management to maintain the geodiversity asset in a useful state, including the maintenance of access and the control of vegetation and the removal of rubbish or eroded materials.

Sites Allocated for Residential and Employment Land

LDF0156 (Development Site Reference H4), LDF0305 (E23) and LDF0754 (E35).
(Gypsy/traveller site: LDF0462 (GT1)).

Uncertain geodiversity impacts of allocation

There are no (0) sites of this category.

Generic guidance to inform possible planning applications:

Sites of this category are thought to contain significant geodiversity assets that may make them worthy of designation, but further investigations should be carried out in order to determine the extent, nature and significance of the geodiversity asset, and to facilitate its designation.

Further geological investigation would be required prior to the submission of a planning application, to establish the presence/absence, significance and condition of geodiversity asset(s) at the site. The planning application should be supported by a Geodiversity Survey and Report that includes an assessment of the impact of the specific development proposals on geodiversity asset(s). Consideration should be given to: data collection and analysis to establish suitability of affected candidate site(s) for its designation as and when appropriate and measures to enhance designated sites or geodiversity features for sites identified for enhancement potential (see Table 4).

Few or no geodiversity impacts of allocation

There are twenty-three (23) sites are of this category: LDF0014, LDF0027, LDF0077, LDF0129, LDF0134, LDF0181, LDF0192, LDF0208, LDF0209, LDF0233, LDF0328, LDF0359, LDF0403, LDF0409, LDF0432, LDF0501, LDF0502, LDF0505, LDF535, LDF0709, LDF0755, LDF0761 and LDF0828. (Possible allocated sites LDF0156, LDF0462, LDF0723 contain or are within 250m of more than one geodiversity asset areas, where at least one of these assets is classified as having Potential for Geodiversity Impacts, therefore the higher category of implication for planning applies, and they are included in the list of higher category).

Generic guidance to inform possible planning applications: It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and

during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.

Sites Allocated for Residential and Employment Land

LDF0014 (Development site reference E3), LDF0027(H8), LDF0077(H24), LDF0134 (H25), LDF0181 (H7), LDF0192 (H26), LDF0208 (H82), LDF0209 (H83), LDF0233 (H34), LDF0328 (E25), LDF0359 (H58), LDF0403 (H52), LDF0409 (H68), LDF0432(E37), LDF0502(E36), LDF0505(H53),LDF535 (H54), LDF0709 (E26), LDF0755, LDF0761 (H16) and LDF0828 (H66). (Safeguarded land for residential: LDF0129 (SG3)).

4.2 Table of Results

The results of the scoping study with recommendations for each of the possible allocation sites are shown in Table 4. Some of the possible allocation sites fall within more than one geodiversity asset area where this happens the overall recommendation for the site would be the highest category of recommendation. Such sites are marked with * in Table 4 and Section 4.3. With further investigation of the geodiversity assets a more refined approach, including the use of mitigation measures could be possible.

Table 4 Likely Geodiversity Impacts on Possible Allocations

LDF ref	Geodiversity asset number and location	Geodiversity asset significance	Recommendation	Geodiversity enhancement potential
LDF0014	R26 Canklow Bridge	Regional	Few or no Geodiversity impacts of future allocation	
LDF0027	R96 Railway cutting (Rotherham mainline) nr Clough St, Mexborough	Regional	Few or no Geodiversity impacts of future development	
LDF0077	R17 Doncaster Road, Dalton	Regional	Few or no Geodiversity impacts of future development	
LDF0129	R23 Brecks Quarries	Regional	Few or no Geodiversity impacts of future development	
LDF0134	R17 Doncaster Road, Dalton	Regional	Few or no Geodiversity impacts of future development	Extension of rock exposure
LDF0156 *	R15 Bradgate Brick Pit	National	Potential geodiversity impacts of development	Information about lateral continuation of rock units and increased rock exposure
LDF0156 *	R16 Clough House	Regional	Few or no Geodiversity impacts of future development	
LDF0156 *	R121 Bradgate Brick Pits (south)	Regional	Few or no Geodiversity impacts of future development	
LDF0181	R14 Wortley Road Quarry, Bradgate	Regional	Few or no Geodiversity impacts of future development	

LDF0192	R10 Thybergh Quarry	Regional	Few or no Geodiversity impacts of future development	Acquisition of data about continuity of rock units and opportunity to increase rock exposures.
LDF0208	R115 North Anston Quarries	Regional	Few or no Geodiversity impacts of future development	
LDF0209	R51 Anston Stones Wood	National	Few or no Geodiversity impacts of future development	
LDF0233	R119 Worry Goose Lane road cutting, Whiston	Local	Few or no Geodiversity impacts of future development	Increase rock exposures within allocation site and along road cuttings as site has undulating topography.
LDF0305	R92, R92A, R92B Maltby Wood Cave	Regional	Potential geodiversity impacts of development	Acquisition of information about extent of cave systems and karst features. Also regarding continuity of rock units seen in nearby exposures, and to increase rock exposures within allocation site.
LDF0328	R134 Hellaby Brook river corridor	Regional	Few or no Geodiversity impacts of future development	Improve access to Geodiversity asset
LDF0359	R23 Brecks Quarries	Regional	Few or no Geodiversity impacts of future development	Improve access to Geodiversity asset

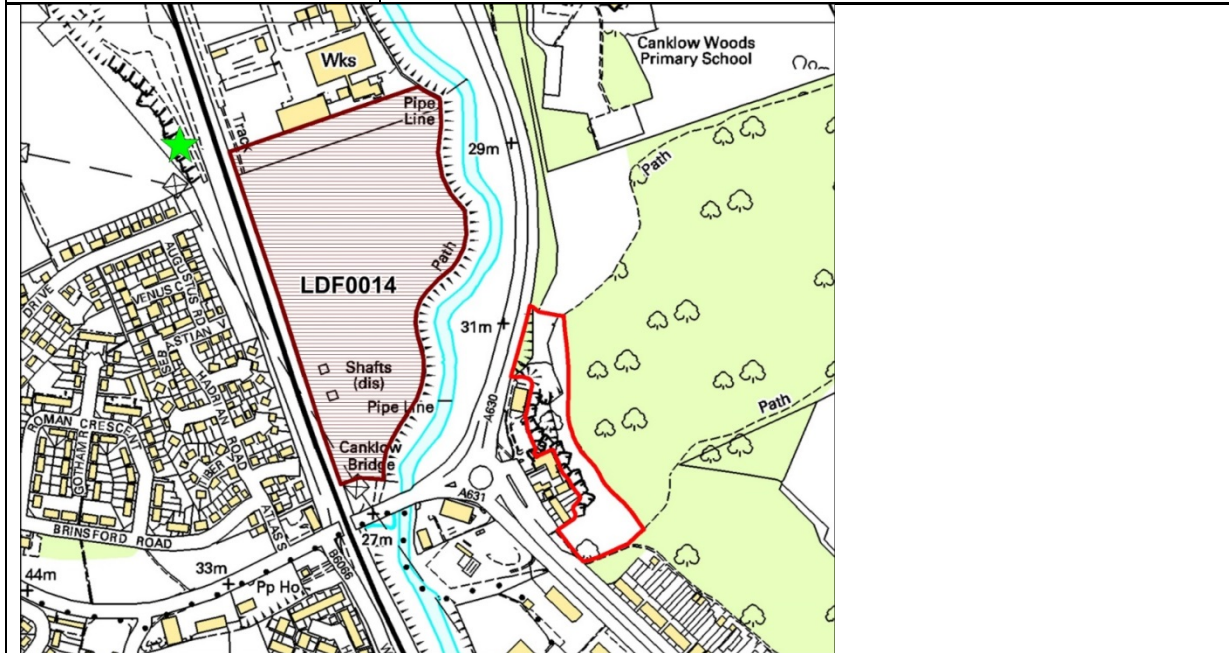
LDF0403	R4 Hermit Hill Quarry, Swinton	Regional	Few or no Geodiversity impacts of future development	Improve water course within possible allocation site.
LDF0409	R98 Maltby Dyke, Maltby	Regional	Few or no Geodiversity impacts of future development	
LDF0432	R106 M18 Road cutting, Thurcroft	Regional	Few or no Geodiversity impacts of future development	
LDF0462*	R70 Dog Kennels Quarry, Kiveton Bridge	Regional	Potential geodiversity impacts of development	Create rock exposures within the possible allocation site
LDF0462*	R66 Red Hill Quarry, Kiveton Bridge	Regional	Few or no Geodiversity impacts of future development	
LDF0462*	R67, R68 Kiveton Lodge 1 and 2, Kiveton Bridge	Regional	Few or no Geodiversity impacts of future development	
LDF0501	R107 Tinsley Marshalling Yards, Catcliffe	Regional	Few or no Geodiversity impacts of future development	
LDF0502	R107 Tinsley Marshalling Yards, Catcliffe	Regional	Few or no Geodiversity impacts of future development	
LDF0505	R107 Tinsley Marshalling Yards, Catcliffe	Regional	Few or no Geodiversity impacts of future development	
LDF0535*	R142 River Rother, Waverley	Regional	Few or no Geodiversity impacts of future development	Improvement to water course
LDF0535*	R114 Orgreave railway cutting	Regional	Few or no Geodiversity impacts of future development	
LDF0709	R134 Hellaby Brook river corridor	Regional	Few or no Geodiversity impacts of future development	

LDF0723*	R37 Wood Lee Common	Regional	Potential geodiversity impacts of development	Acquisition and conservation of information about the rock formation which would link Geodiversity sites R37 & R95.
LDF0723*	R95 Mill Farm railway cutting, Maltby	Regional	Few or no Geodiversity impacts of future development	Improve access to R95 should the railway be closed. Also acquiring and conserve information about the rock formation to link Geo-assets R37 & R95.
LDF0754	R107 Tinsley Marshalling Yards, Catcliffe	Regional	Potential geodiversity impacts of development	Extend rock exposure and improve access to geo-asset R107
LDF0755	R17 Doncaster Road, Dalton	Regional	Few or no Geodiversity impacts of future development	
LDF0761	R3 Warren House Cottages, Upper Haugh	Regional	Few or no Geodiversity impacts of future development	
LDF0828*	R128 Lilly Hall, Fordoles Head	Regional	Few or no Geodiversity impacts of future development	Provide additional access to Geo asset R128
LDF0828*	R32 Maltby Brickworks, R133 Maltby Clay Pits (north)	Regional	Few or no Geodiversity impacts of future development	

4.3 Individual site information

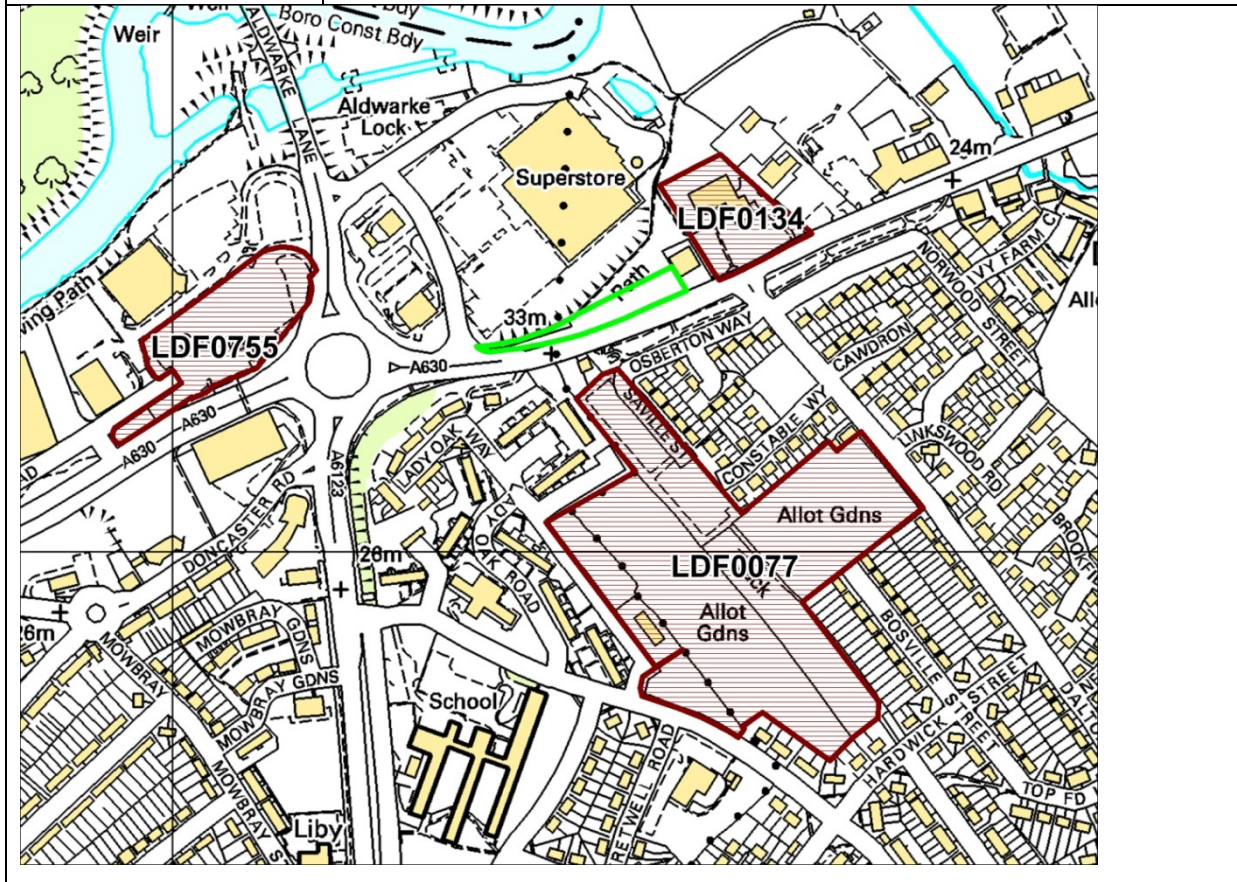
Details of each possible allocation site and the relevant geodiversity assets are given below, together with the Planning Recommendation and Planning Guidance. Note that possible allocation site numbers are marked with an * where they fall within the area of influence of more than one geodiversity asset area. In these cases the overall recommendation for the site would be that it belongs to the highest category of recommendation. With further investigation of the geodiversity assets a more refined approach, including the use of mitigation measures, could be possible.

Possible Allocation Site Number	LDF0014
Geodiversity Asset Number and Location	R26 Canklow Bridge
Geodiversity Asset Significance	Regional
Site Comment	Allocation is on River Rotherham floodplain in alluvium, RIGS within Mexborough Rock
Recommendation	Few or no geodiversity impacts of future development
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Possible Allocation Location and Geodiversity Asset Map	See below Map Key: <ul style="list-style-type: none"> • Possible Allocation Site = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red



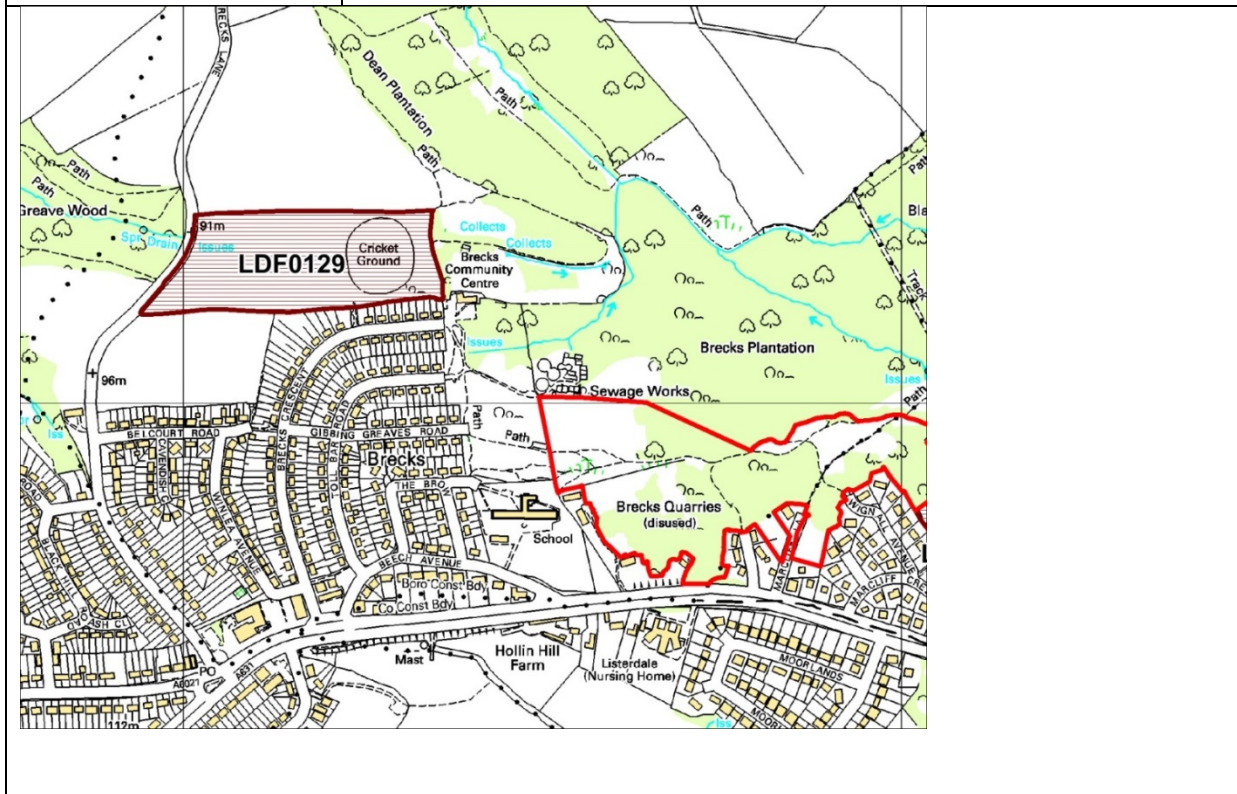
Possible Allocation Site Number	LDF0027
Geodiversity Asset Number and Location	R96 Railway cutting (Rotherham mainline) near Clough St, Mexborough
Geodiversity Asset Significance	Regional
Site Comment	Allocation without significant topography
Recommendation	Few or no geodiversity impacts of future development
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Possible Allocation Location and Geodiversity Asset Map	<p>See below</p> <p>Map Key:</p> <ul style="list-style-type: none"> • Possible Allocation Site = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red

Possible Allocation Site Number	LDF0077
Geodiversity Asset Number and Location	R17 Doncaster Road, Dalton
Geodiversity Asset Significance	Regional
Recommendation	Few or no geodiversity impacts of future development
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Possible Allocation Location and Geodiversity Asset Map	See below - Map Key: <ul style="list-style-type: none"> • Possible Allocation Site(s) = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red

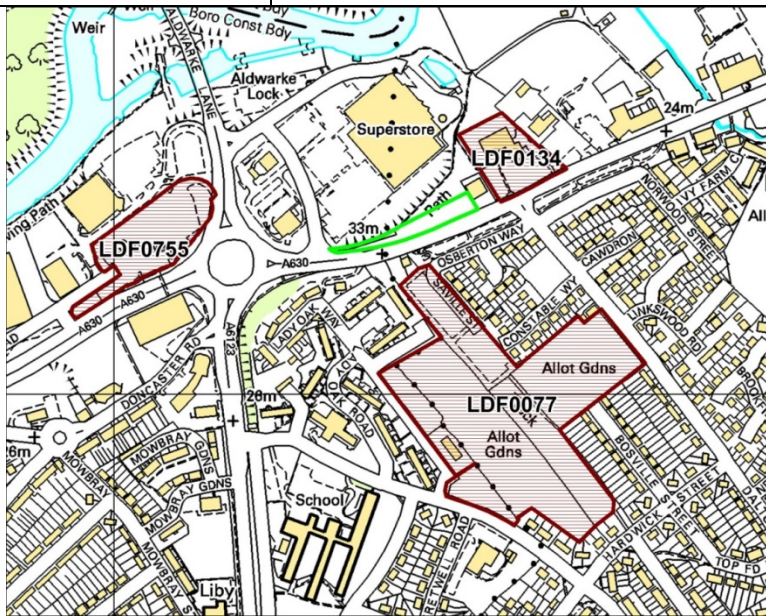


Possible Allocation Site Number	LDF0129
Geodiversity Asset Number and Location	R23 Brecks Quarries
Geodiversity Asset Significance	Regional
Site Comment	Allocation not in area of former quarry activity in Wickersley Rock.
Recommendation	Few or no geodiversity impacts of future development
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.

Possible Allocation Location and Geodiversity Asset Map	<p>See below</p> <p>Map Key:</p> <ul style="list-style-type: none"> • Possible Allocation Site= Brown • cLGS = Green • cRIGS = Blue • RIGS = Red
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Possible Allocation Site Number	LDF0134
Geodiversity Asset Number and Location	R17 Doncaster Road, Dalton
Geodiversity Asset Significance	Regional
Site Comment	May have potential to increase rock exposure
Recommendation	Few or no geodiversity impacts of future development
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Geodiversity Enhancement Potential	Extension of rock exposure
Possible Allocation Location and Geodiversity Asset Map	See below Map Key: <ul style="list-style-type: none"> • Possible Allocation Site(s) = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red



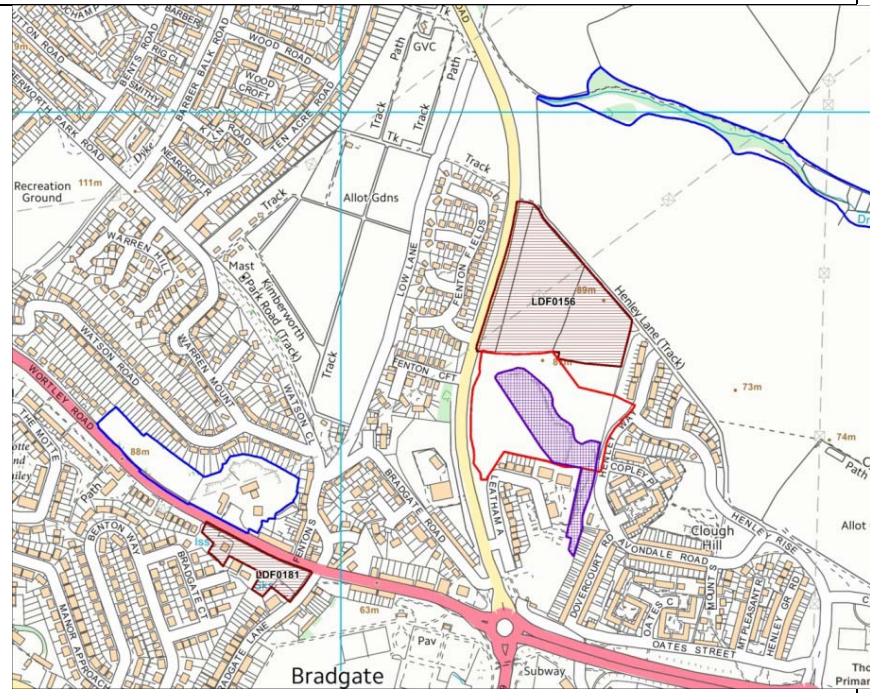
Possible Allocation Site Number	LDF0156*
Geodiversity Asset Number and Location	R15 Bradgate Brick Pit
Geodiversity Asset Significance	National
Site Comment	Allocation has similar stratigraphy to RIGS-geological SSSI area. Layout needs to consider appropriate access to adjacent RIGS.
Recommendation	Potential geodiversity impacts
Planning Guidance	<p>Further geological investigation would be required prior to the submission of a planning application, to establish the presence/absence, Significance and condition of geodiversity assets at the site or potentially impacted by the development. The planning application should be supported by a Geodiversity Survey and Report that includes an assessment of the impact of the specific development proposals on the geodiversity asset(s).</p> <p>Development may be possible but the potential for damage to the geodiversity asset needs to be taken into account in the planning, design, construction and aftercare phases of proposed development. The design should incorporate measures to avoid damage to the geodiversity asset. This might include, for instance, providing access to exposed rock, and measures to stabilise rock faces in ways that do not impede access. There may also be the opportunity to acquire knowledge about the geodiversity asset from boreholes or excavations, including those for services and foundations before and during the construction phase and site visits for recording and assessment of relevant features by appropriate experts. This may require desk study, field exploration, the drilling of boreholes and excavations for the necessary data to be acquired. The site may also require long-term management to maintain the geodiversity asset in a useful state, including the maintenance of access and the control of vegetation and the removal of rubbish or eroded materials.</p>
Geodiversity Enhancement Potential	Information about lateral continuation of rock units and increased rock exposure

Possible Allocation Location and Geodiversity Asset Map

See below

Map Key:

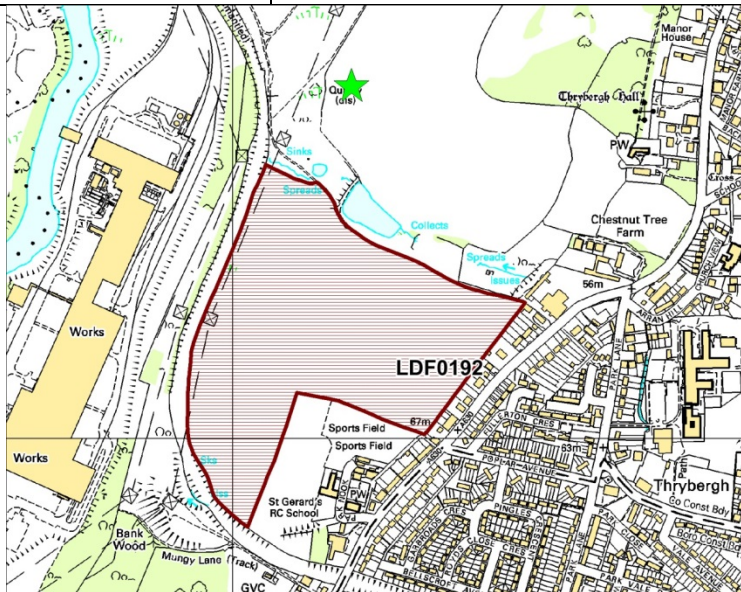
- Possible Allocation Site(s) = Brown
- cLGS = Green
- cRIGS = Blue
- RIGS = Red boundary
- SSSI (Earth heritage) = Purple cross hatch



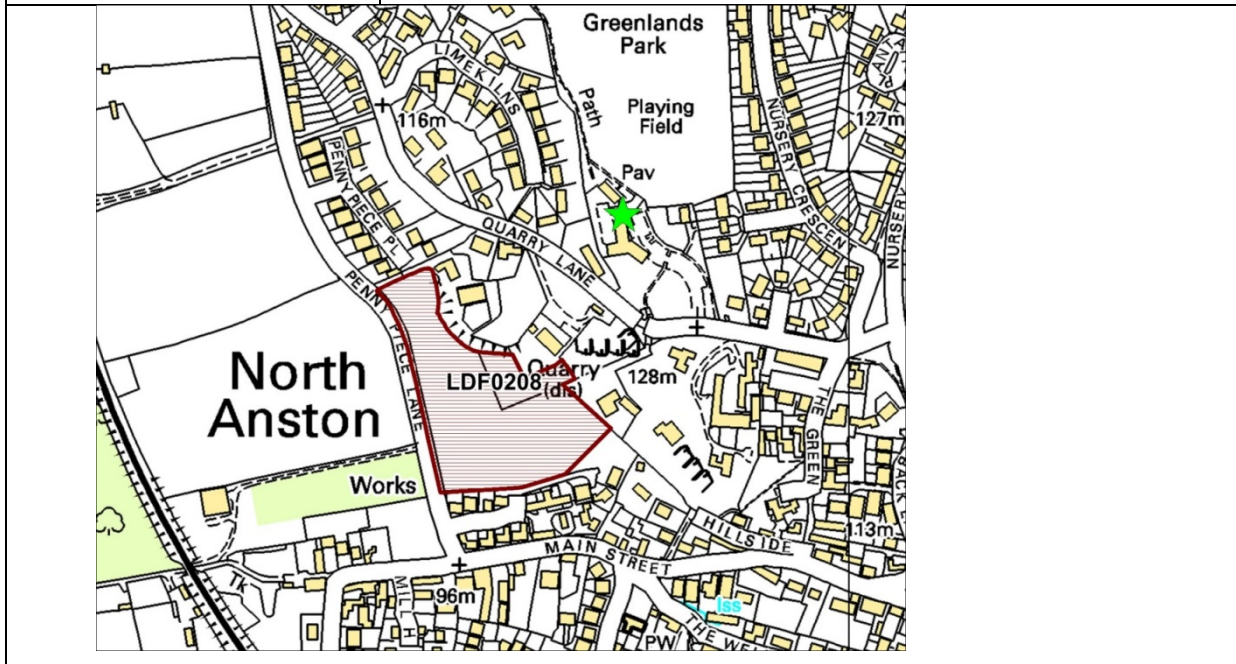
Possible Allocation Site Number	LDF0156*
Geodiversity Asset Number and Location	R16 Clough House (Streamside)
Geodiversity Asset Significance	Regional
Site Comment	Clough Streamside exposures unlikely to be affected by development, as surface water drainage from allocation site flows to the south
Recommendation	Few or no geodiversity impacts of future development
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Possible Allocation Location and Geodiversity Asset Map	See below Map Key: <ul style="list-style-type: none"> • Possible Allocation Site(s) = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red boundary • SSSI (Earth heritage) = Purple cross hatch

Possible Allocation Site Number	LDF0181
Geodiversity Asset Number and Location	R14 Wortley Road Quarry, Bradgate
Geodiversity Asset Significance	Regional
Site Comment	Allocation site lies topographically below road and quarry is above road
Recommendation	Few or no geodiversity impacts of future development
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Possible Allocation Location and Geodiversity Asset Map	<p>See below</p> <p>Map Key:</p> <ul style="list-style-type: none"> • Possible Allocation Site = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red

Possible Allocation Site Number	LDF0192
Geodiversity Asset Number and Location	R10 Thrybergh Quarry
Geodiversity Asset Significance	Regional
Site Comment	Thrybergh Quarry. No direct impact, though potential to create exposures on and off allocation site. Quarry at edge of scarp, with small valley, and with ponds between.
Recommendation	Few or no geodiversity impacts of future development
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Geodiversity Enhancement Potential	Acquisition of data about continuity of rock units and opportunity to increase rock exposures.
Possible Allocation Location and Geodiversity Asset Map	See below Map Key: <ul style="list-style-type: none"> • Possible Allocation Site = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red



Possible Allocation Site Number	LDF0208
Geodiversity Asset Number and Location	R115 North Anston Quarries
Geodiversity Asset Significance	Regional
Site Comment	Site of quarries of historical interest. SAGT carried out a site assessment of R115 on 15 July 2015
Recommendation	Few or no geodiversity impacts of future development
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Possible Allocation Location and Geodiversity Asset Map	See below Map Key: <ul style="list-style-type: none"> • Possible Allocation Site = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red

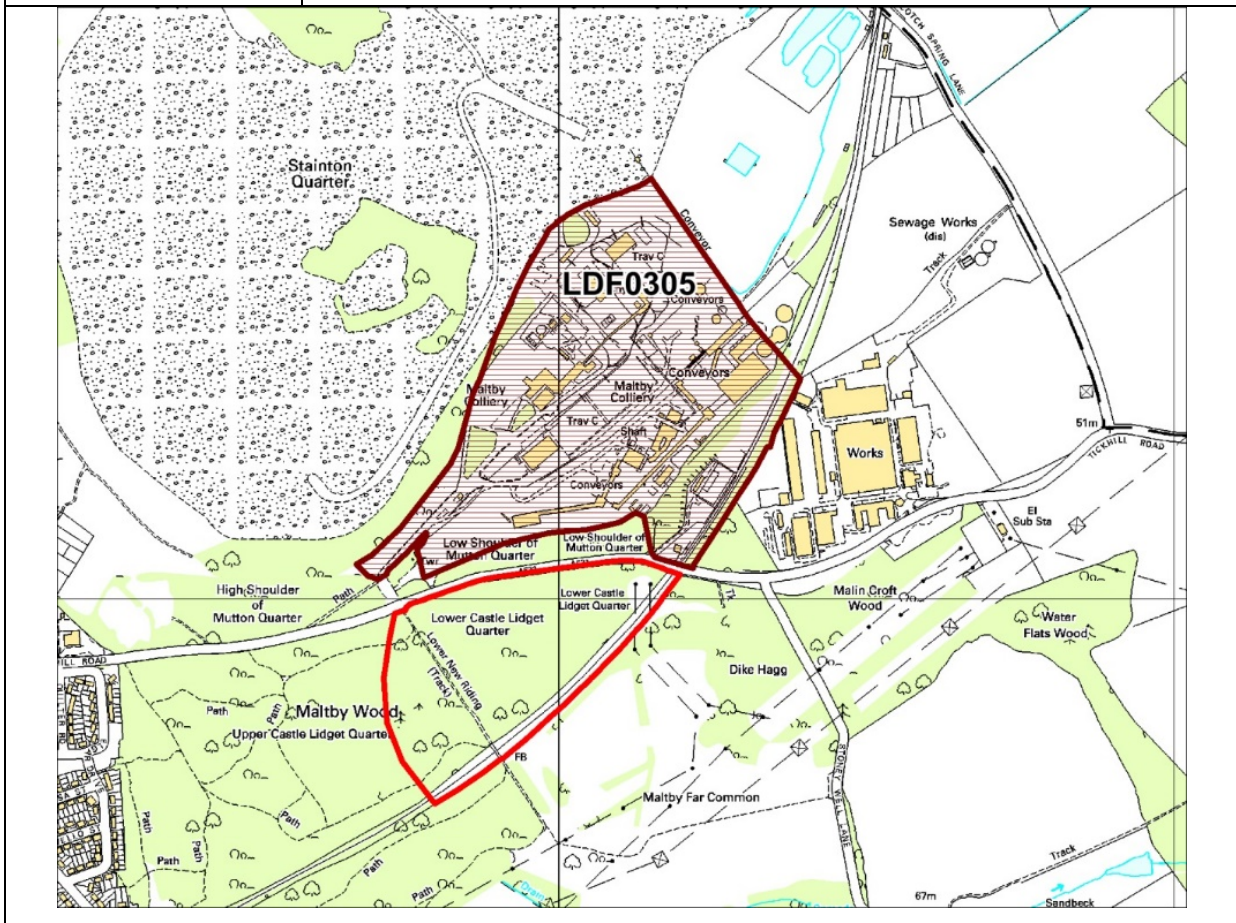


Possible Allocation Site Number	LDF0209
Geodiversity Asset Number and Location	R51 Anston Stones Wood
Geodiversity Asset Significance	National
Site Comment	Anston Stones Wood. Allocation site within Pennine Coal Measures, while RIGS interest in Magnesian Limestone
Recommendation	Few or no geodiversity impacts of future development
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Possible Allocation Location and Geodiversity Asset Map	<p>See below</p> <p>Map Key:</p> <ul style="list-style-type: none"> • Possible Allocation Site = Brown • cLGS = Green star • cRIGS = Blue • RIGS = Red • SSSI (Biological) = Purple stripes

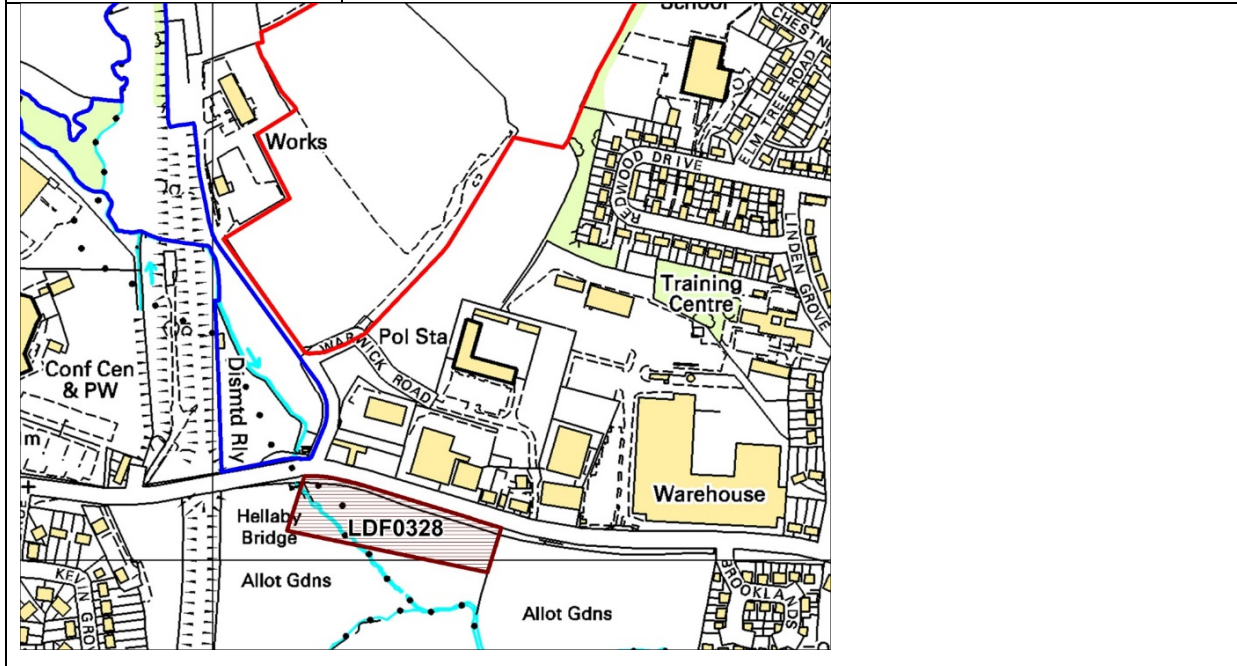
Possible Allocation Site Number	LDF0305
Geodiversity Asset Number and Location	R92, R92A, R92B Maltby Wood Cave
Geodiversity Asset Significance	Regional
Site Comment	Extent of cave systems underlying Maltby Wood are unknown, and may extent northwards under allocation site
Recommendation	Potential geodiversity impacts of future allocation
Planning Guidance	<p>Further geological investigation would be required prior to the submission of a planning application, to establish the presence/absence, significance and condition of geodiversity assets at the site or potentially impacted by the development. The planning application should be supported by a Geodiversity Survey and Report that includes an assessment of the impact of the specific development proposals on the geodiversity asset(s).</p> <p>Development may be possible but the potential for damage to the geodiversity asset(s) needs to be taken into account in the planning, design, construction and aftercare phases of proposed development. The design should incorporate measures to avoid damage to the geodiversity asset(s). This might include, for instance, providing access to exposed rock, and measures to stabilise rock faces in ways that do not impede access. There may also be the opportunity to acquire knowledge about the geodiversity asset(s) from boreholes or excavations, including those for services and foundations before and during the construction phase and site visits for recording and assessment of relevant features by appropriate experts. This may require desk study, field exploration, the drilling of boreholes and excavations for the necessary data to be acquired. The site may also require long-term management to maintain the geodiversity asset in a useful state, including the maintenance of access and the control of vegetation and the removal of rubbish or eroded materials.</p>

<p>Geodiversity Enhancement Potential</p>	<p>Acquisition of information about extent of cave systems and karst features. Also regarding continuity of rock units seen in near-by exposures, and to increase rock exposures within allocation site.</p>
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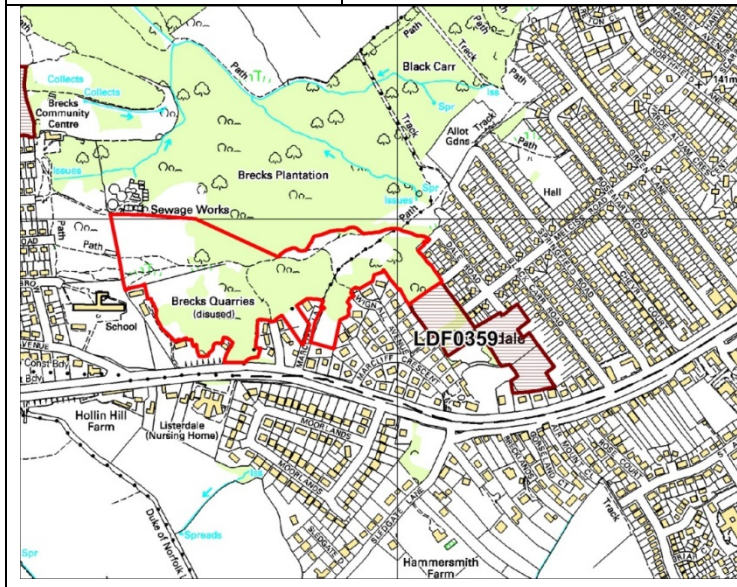
<p>Possible Allocation Location and Geodiversity Asset Map</p>	<p>See below</p> <p>Map Key:</p> <ul style="list-style-type: none"> • Possible Allocation Site = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red
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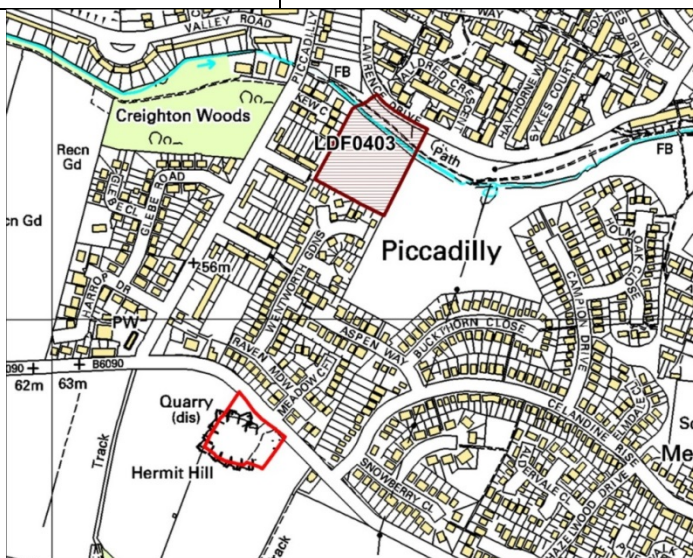
Possible Allocation Site Number	LDF0328
Geodiversity Asset Number and Location	R134 Hellaby Brook river corridor
Geodiversity Asset Significance	Regional
Site Comment	No impact on Hellaby Brook upstream of allocation.
Recommendation	Few or no geodiversity impacts of future allocation
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Geodiversity Enhancement Potential	Improve access to Geodiversity asset.
Possible Allocation Location and Geodiversity Asset Map	See below Map Key: <ul style="list-style-type: none"> • Possible Allocation Site = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red



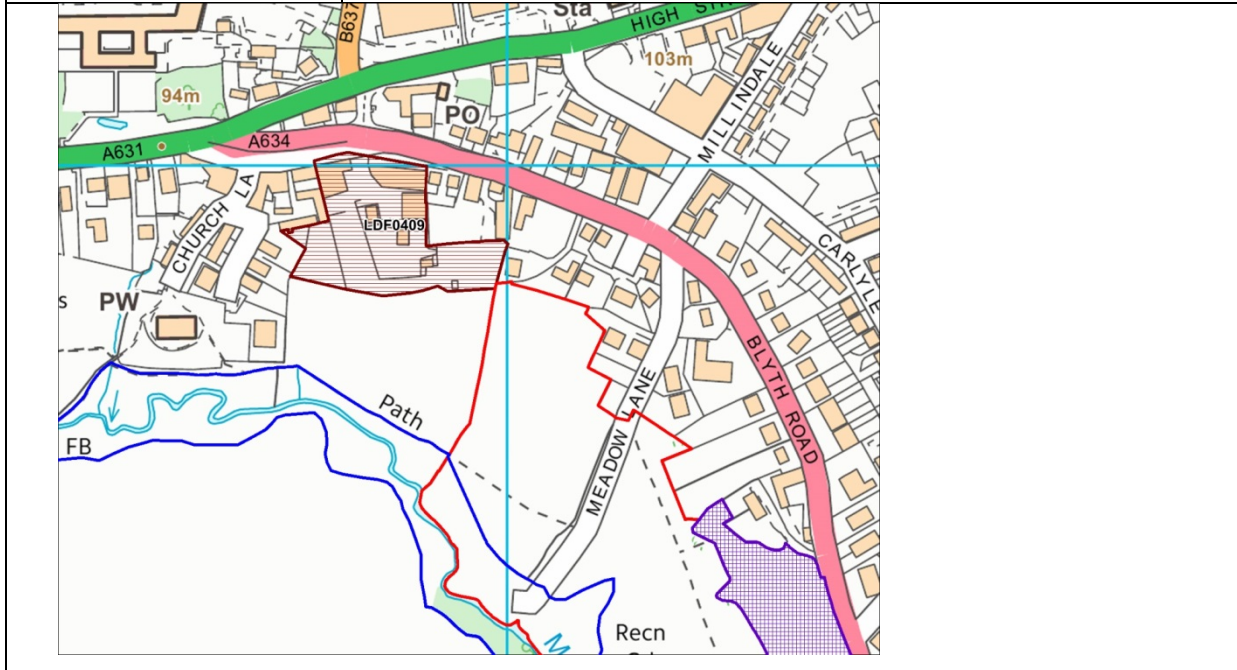
Possible Allocation Site Number	LDF0359
Geodiversity Asset Number and Location	R23 Brecks Quarries
Geodiversity Asset Significance	Regional
Site Comment	Allocation site is without significant topography. Surface water drainage may need to consider possible impacts on nearby deep quarries. SAGT carried out a site assessment on 6 th August 2015.
Recommendation	Few or no geodiversity impacts of future allocation
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Geodiversity Enhancement Potential	Potential for improvement of access to Geodiversity Asset
Possible Allocation Location and Geodiversity Asset Map	See below Map Key: <ul style="list-style-type: none"> • Possible Allocation Site = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red



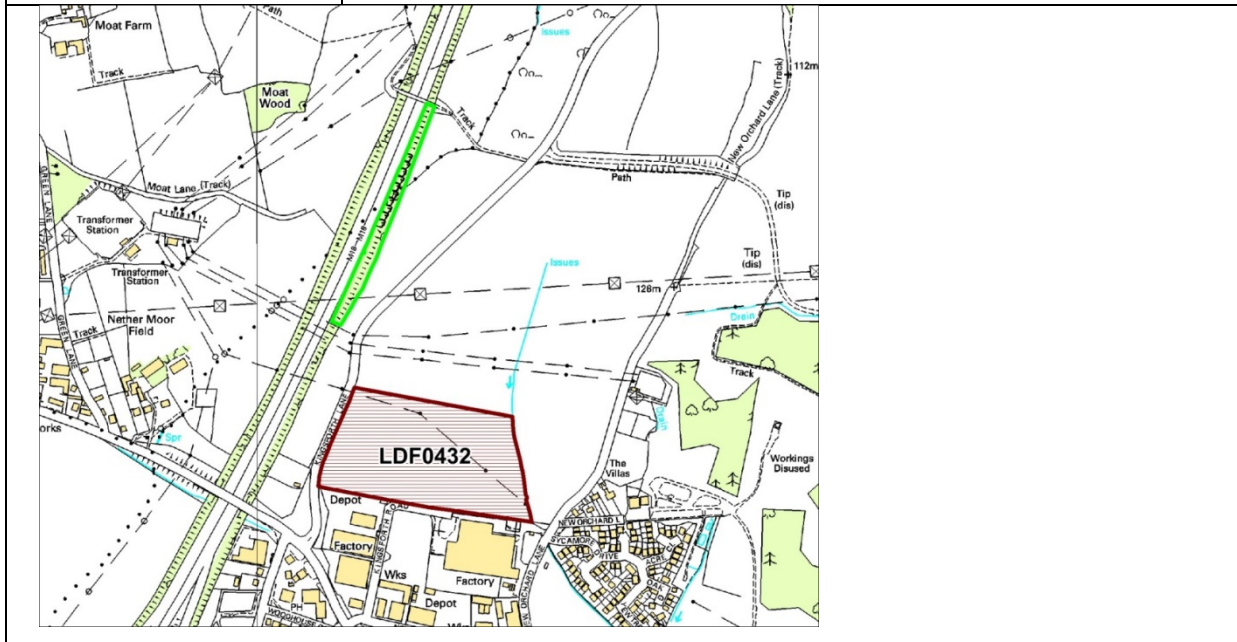
Possible Allocation Site Number	LDF0403
Geodiversity Asset Number and Location	R4 Hermit Hill Quarry, Swinton
Geodiversity Asset Significance	Regional
Site Comment	Allocation site has different stratigraphy to RIGS at R4, but possible allocation site includes watercourse.
Recommendation	Few or no geodiversity impacts of future development
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Geodiversity Enhancement Potential	There is potential for improvement to water course within possible allocation site.
Possible Allocation Location and Geodiversity Asset Map	See below Map Key: <ul style="list-style-type: none"> • Possible Allocation Site = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red



Possible Allocation Site Number	LDF0409
Geodiversity Asset Number and Location	R98 Maltby Dyke, Maltby
Geodiversity Asset Significance	Regional
Site Comment	Surface water drainage from site may impact on minor watercourse that runs from south of allocation site into Maltby Dyke
Recommendation	Few or no geodiversity impacts of future allocation
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Possible Allocation Location and Geodiversity Asset Map	See below Map Key: <ul style="list-style-type: none"> • Possible Allocation Site = Brown • cRIGS = Blue • RIGS = Red boundary • SSSI (Earth heritage) = Purple cross hatch



Possible Allocation Site Number	LDF0432
Geodiversity Asset Number and Location	R106 M18 Road cutting, Thurcroft
Geodiversity Asset Significance	Regional
Site Comment	Allocation site does not have sufficient topography to create geodiversity assets
Recommendation	Few or no geodiversity impacts of future allocation
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Possible Allocation Location and Geodiversity Asset Map	See below Map Key: <ul style="list-style-type: none"> • Possible Allocation Site = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red

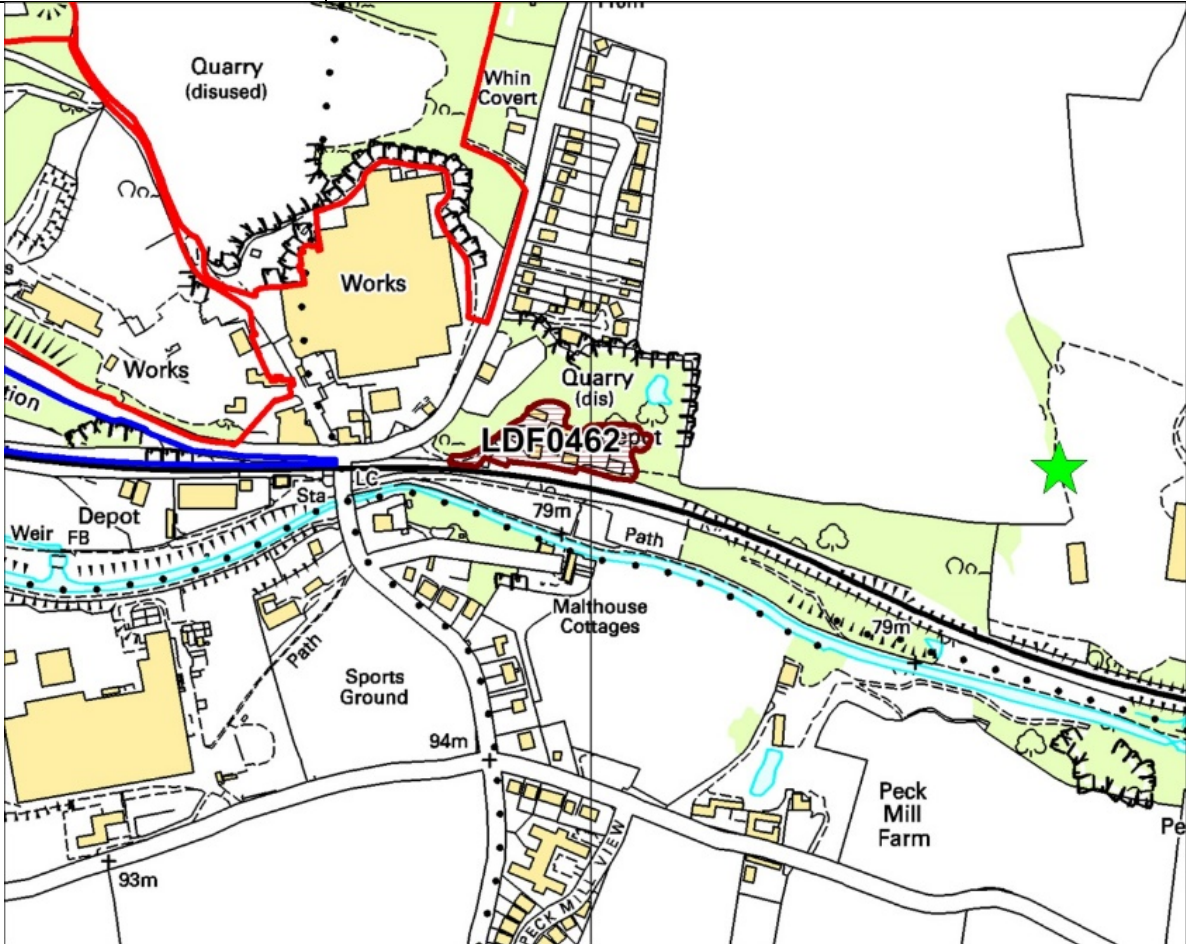


Possible Allocation Site Number	LDF0462*
Geodiversity Asset Number and Location	R70 Kiveton Quarries, Dog Kennels Lane, Kiveton Bridge
Geodiversity Asset Significance	Regional
Site Comment	Dog Kennels Quarry faces north of allocation totally obscured in 2010. Potential risk of increase in fly tipping from allocation site.
Recommendation	Potential geodiversity impacts of development
Planning Guidance	<p>Further geological investigation would be required prior to the submission of a planning application, to establish the presence/absence, significance and condition of geodiversity assets at the site or potentially impacted by the development. The planning application should be supported by a Geodiversity Survey and Report that includes an assessment of the impact of the specific development proposals on the geodiversity asset(s).</p> <p>Development may be possible but the potential for damage to the geodiversity asset needs to be taken into account in the planning, design, construction and aftercare phases of proposed development. The design should incorporate measures to avoid damage to the geodiversity asset. This might include, for instance, providing access to exposed rock, and measures to stabilise rock faces in ways that do not impede access. There may also be the opportunity to acquire knowledge about the geodiversity asset from boreholes or excavations, including those for services and foundations before and during the construction phase and site visits for recording and assessment of relevant features by appropriate experts. This may require desk study, field exploration, the drilling of boreholes and excavations for the necessary data to be acquired. The site may also require long-term management to maintain the geodiversity asset in a useful state, including the maintenance of access and the control of vegetation and the removal of rubbish or eroded materials.</p>
Geodiversity Asset Enhancement Potential	There is potential for creating rock exposures within the possible allocation site.
Possible Allocation Location and Geodiversity Asset	See below

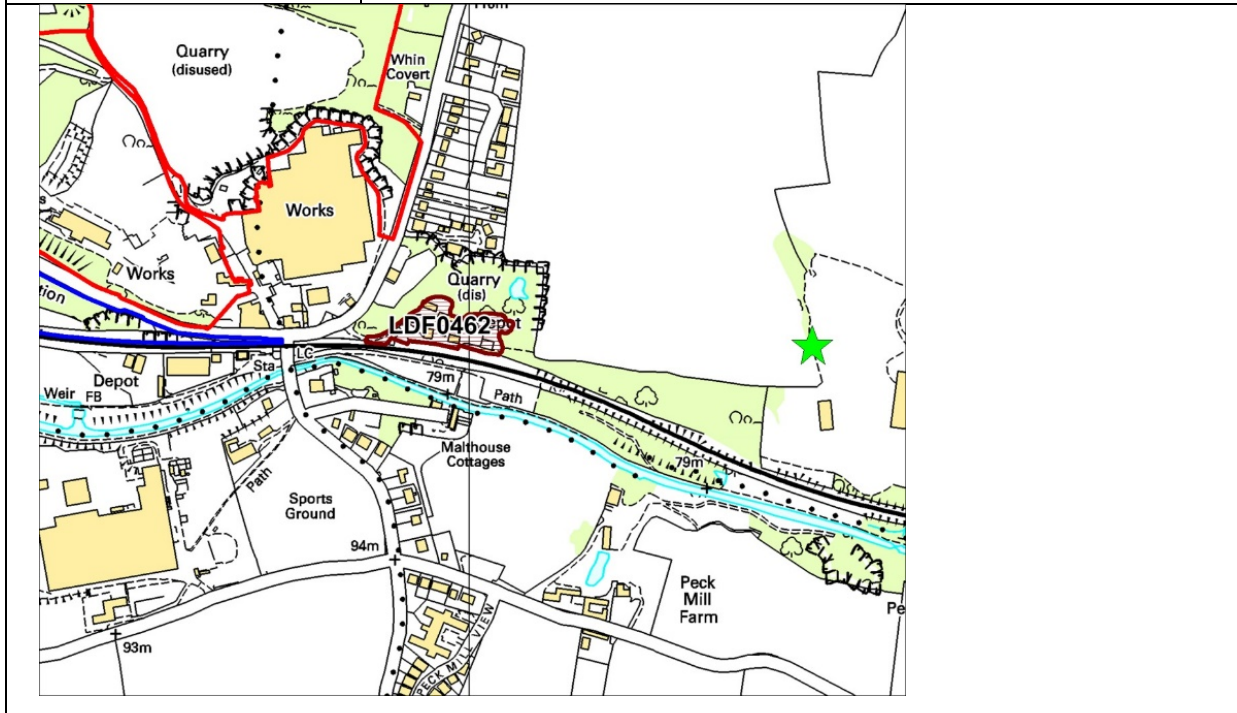
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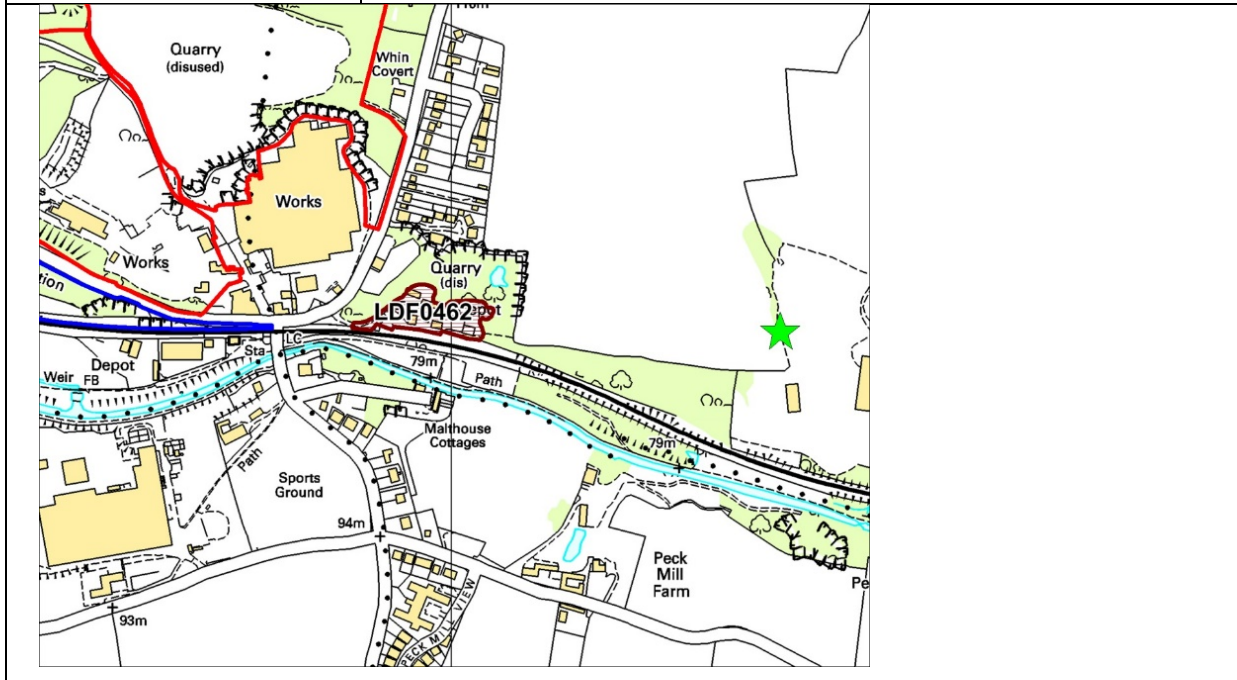
- Possible Allocation Site = Brown
- cLGS = Green
- cRIGS = Blue
- RIGS = Red



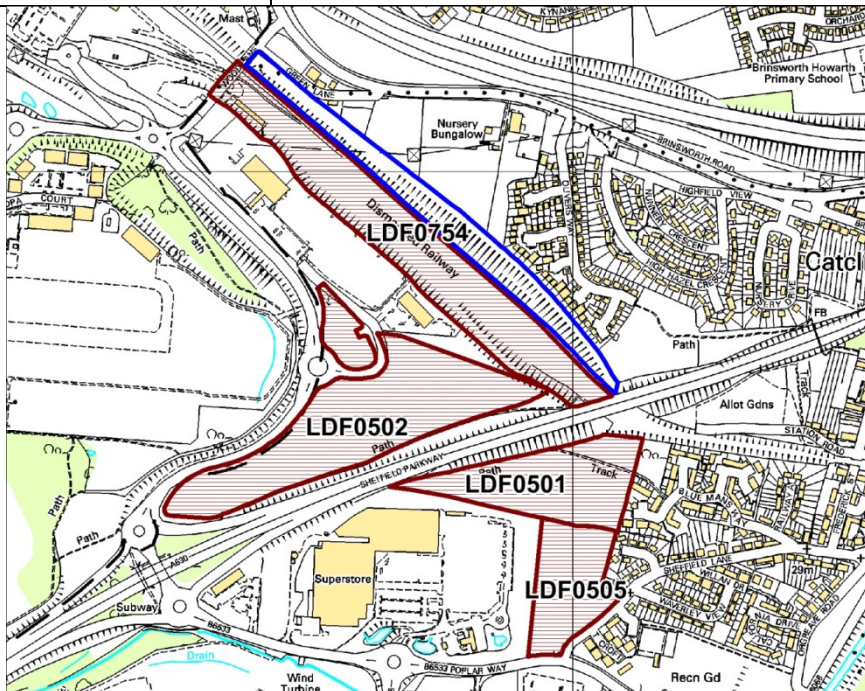
Possible Allocation Site Number	LDF0462*
Geodiversity Asset Number and Location	R66 Red Hill Quarry, Kiveton Bridge
Geodiversity Asset Significance	Regional
Recommendation	Few or no geodiversity impacts of future development
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Possible Allocation Location and Geodiversity Asset Map	See below Map Key: <ul style="list-style-type: none"> • Possible Allocation Site = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red



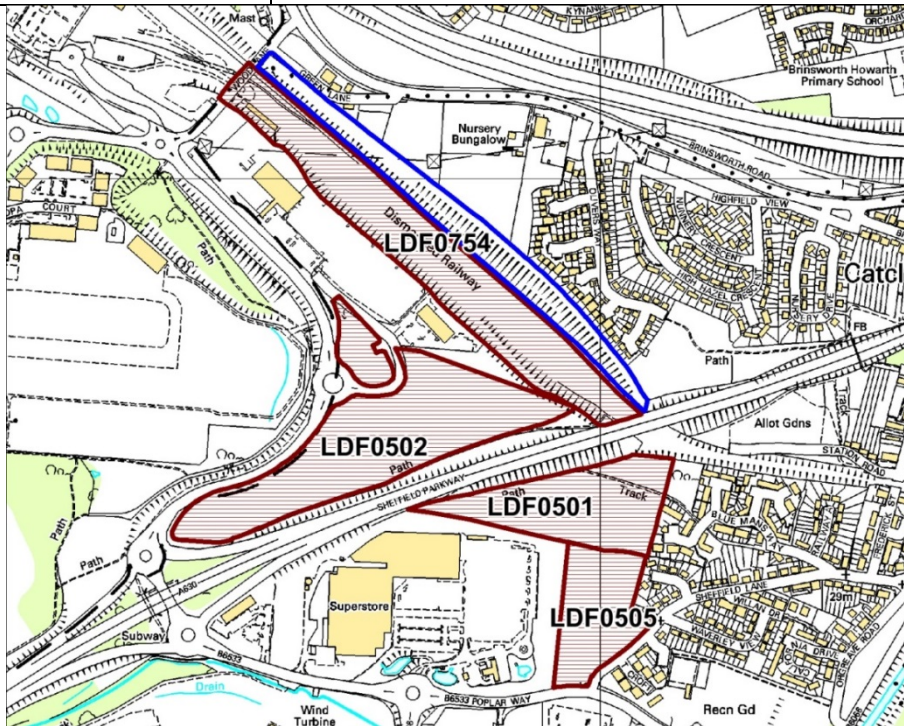
Possible Allocation Site Number	LDF0462*
Geodiversity Asset Number and Location	R67 Kiveton Lodge 1 and R68 Kiveton Lodge 2, Kiveton Bridge
Geodiversity Asset Significance	Regional
Recommendation	Few or no geodiversity impacts of future development
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Possible Allocation Location and Geodiversity Asset Map	See below Map Key: <ul style="list-style-type: none"> • Possible Allocation Site = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red



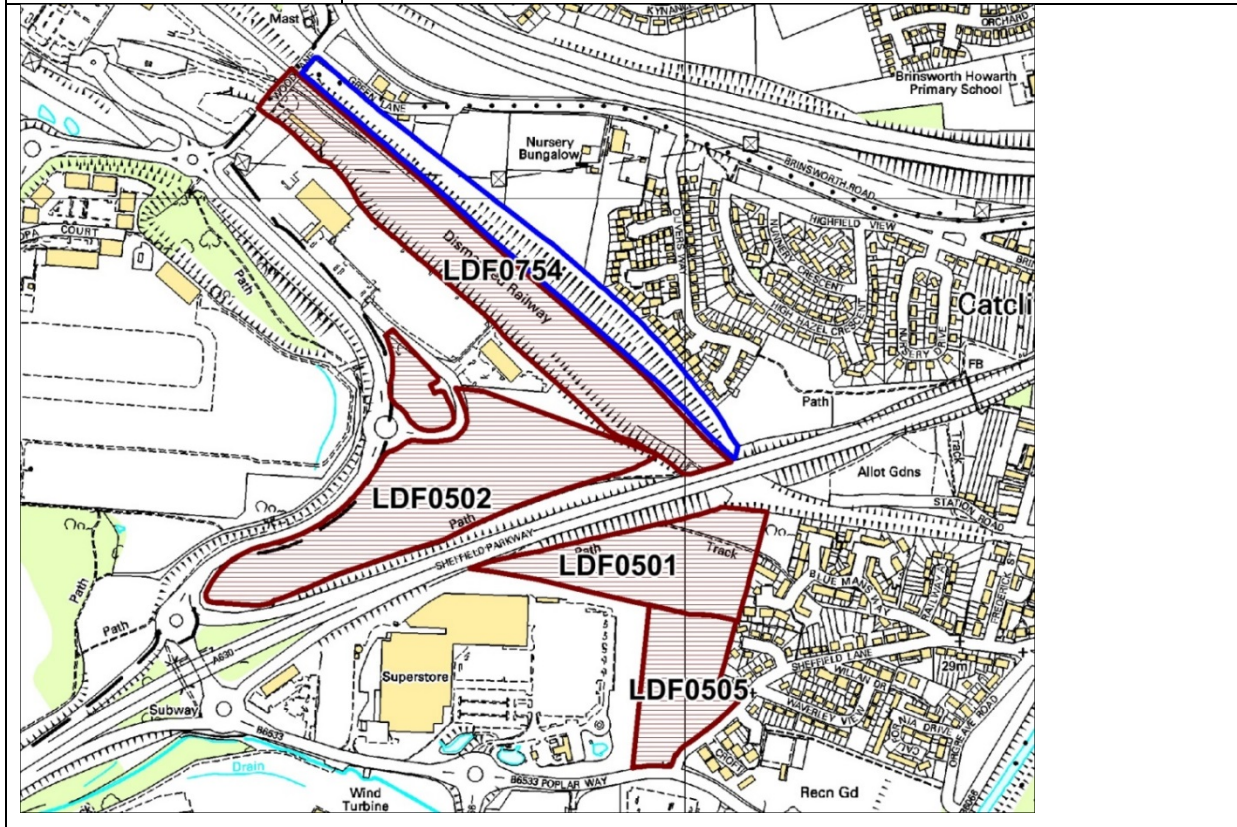
Possible Allocation Site Number	LDF0501
Geodiversity Asset Number and Location	R107 Tinsley Marshalling Yards, Catcliffe
Geodiversity Asset Significance	Regional
Recommendation	Few or no geodiversity impacts of future development
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Possible Allocation Location and Geodiversity Asset Map	See below Map Key: <ul style="list-style-type: none"> • Possible Allocation Site(s) = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red



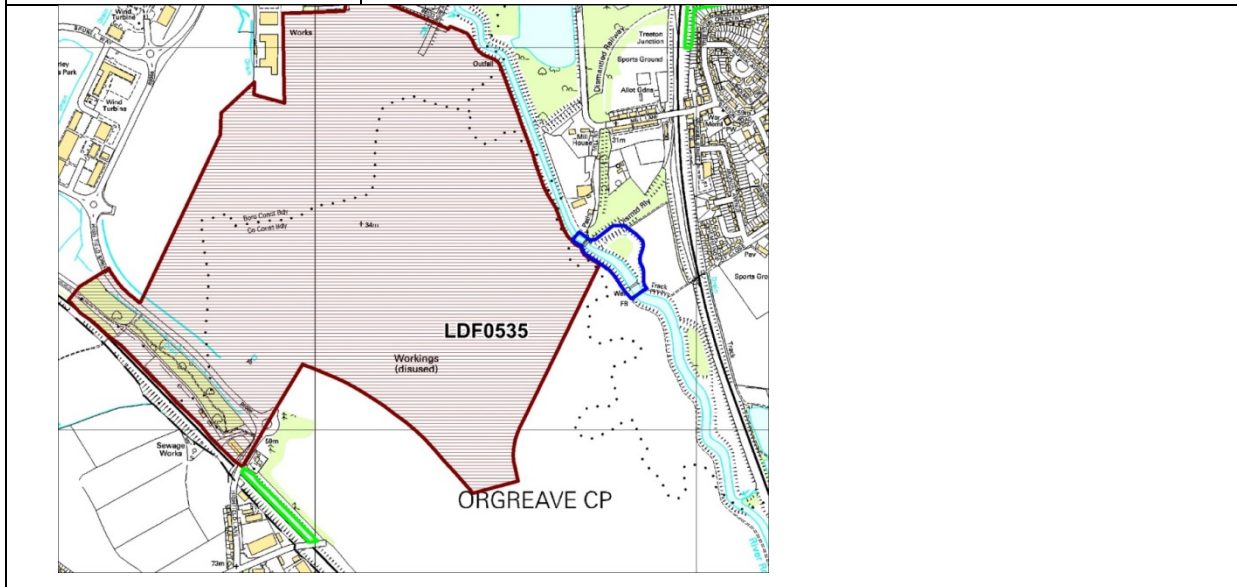
Possible Allocation Site Number	LDF0502
Geodiversity Asset Number and Location	R107 Tinsley Marshalling Yards, Catcliffe
Geodiversity Asset Significance	Regional
Recommendation	Few or no geodiversity impacts of future development
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Possible Allocation Location and Geodiversity Asset Map	See below Map Key: <ul style="list-style-type: none"> • Possible Allocation Site(s) = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red



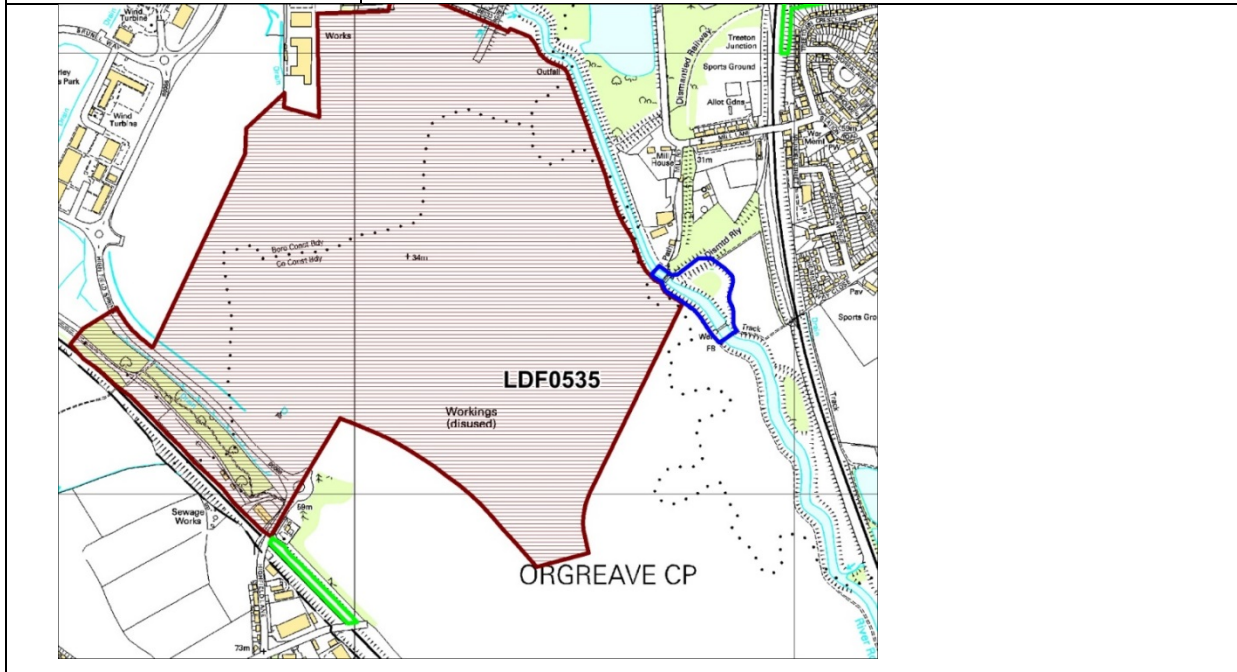
Possible Allocation Site Number	LDF0505
Geodiversity Asset Number and Location	R107 Tinsley Marshalling Yards, Catcliffe
Geodiversity Asset Significance	Regional
Recommendation	Few or no geodiversity impacts of future development
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Possible Allocation Location and Geodiversity Asset Map	See below Map Key: <ul style="list-style-type: none"> • Possible Allocation Site(s) = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red



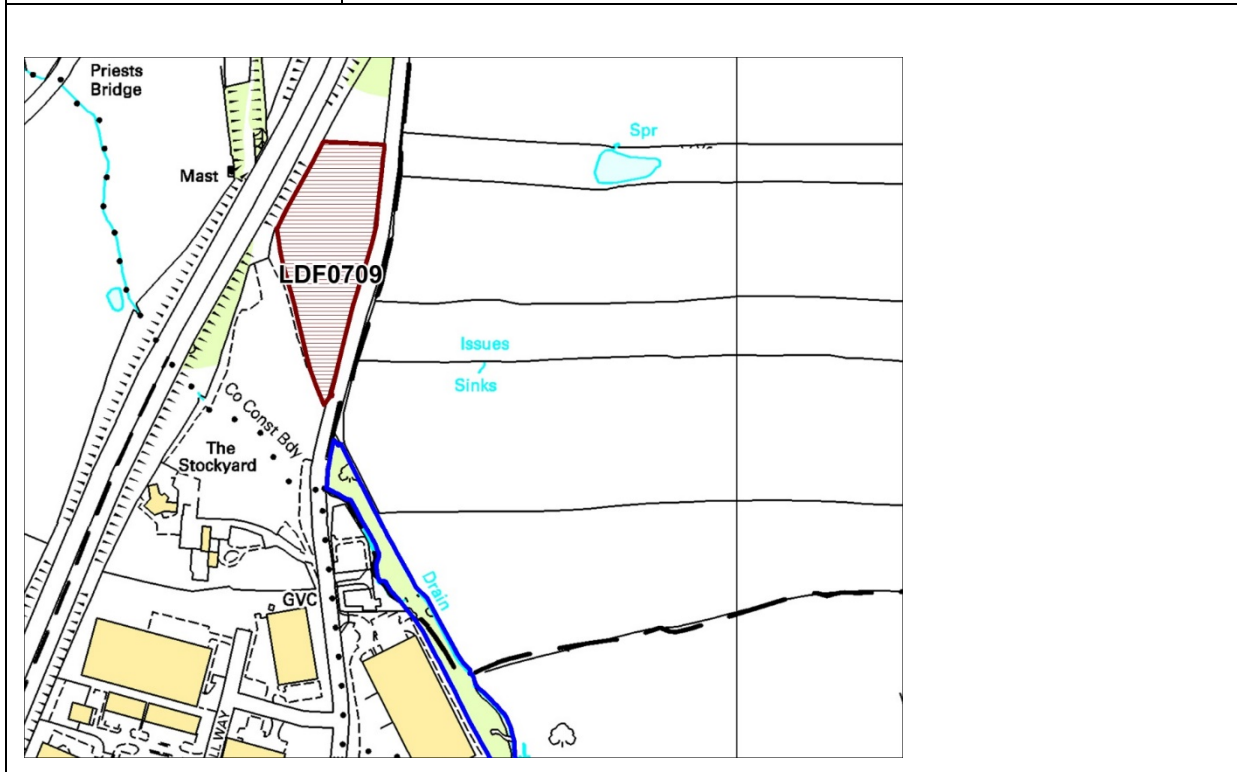
Possible Allocation Site Number	LDF0535*
Geodiversity Asset Number and Location	R142 Orgreave Weir, River Rother, Waverley
Geodiversity Asset Significance	Regional
Site Comment	The allocation will result in increase in public use of area, though proposed HS2 route is likely to intersect allocation site and may change the suitability for allocation of particular types
Recommendation	Few or no geodiversity impacts of future development
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Geodiversity Enhancement Potential	There is potential for improving the water course.
Possible Allocation Location and Geodiversity Asset Map	See below Map Key: <ul style="list-style-type: none"> • Possible Allocation Site = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red



Possible Allocation Site Number	LDF0535*
Geodiversity Asset Number and Location	R142 Orgreave Weir, River Rother, Waverley
Geodiversity Asset Significance	Regional
Recommendation	Few or no geodiversity impacts of future development
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Possible Allocation Location and Geodiversity Asset Map	See below Map Key: <ul style="list-style-type: none"> ● Possible Allocation Site = Brown ● cLGS = Green ● cRIGS = Blue ● RIGS = Red



Possible Allocation Site Number	LDF0709
Geodiversity Asset Number and Location	R134 Hellaby Brook river corridor
Geodiversity Asset Significance	Regional
Site Comment	Surface water drainage from site is likely to feed into Hellaby Brook
Recommendation	Few or no geodiversity impacts of future development
Planning guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Possible Allocation Location and Geodiversity Asset Map	See below Map Key: <ul style="list-style-type: none"> • Possible Allocation Site = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red



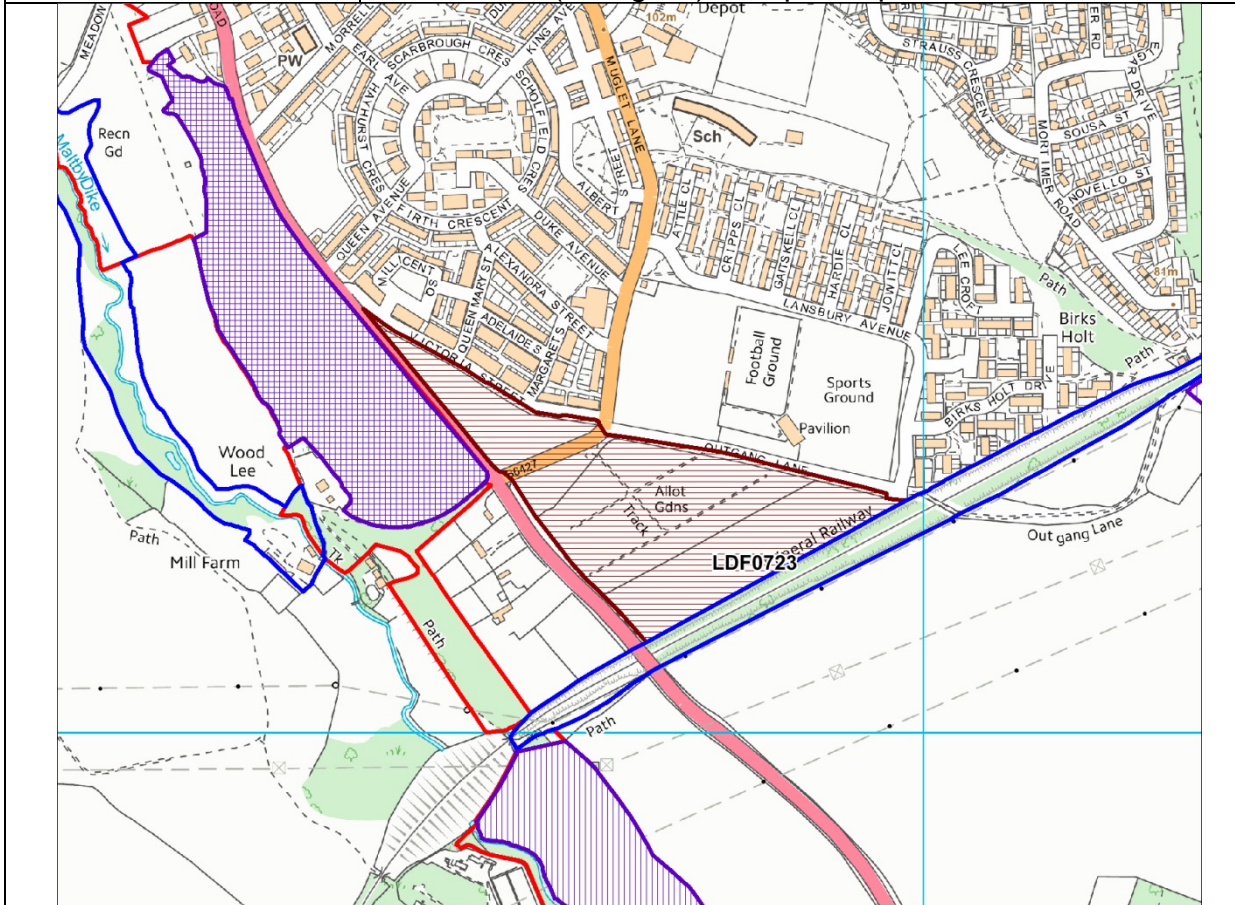
Possible Allocation Site Number	LDF0723*
Geodiversity Asset Number and Location	R37 Wood Lee Common
Geodiversity Asset Significance	National
Site Comment	The area of common land NE of Blyth Road, together with the area of allotments, should be excluded from the mapped allocation area. The opportunity should be taken to acquire information about the geological conditions of this site and to conserve these as it is very likely they will enhance the value of Geodiversity assets R37 and R95
Recommendation	Potential geodiversity impacts of development
Planning guidance	<p>Further geological investigation would be required prior to the submission of a planning application, to establish the presence/absence, Significance and condition of geodiversity assets at the site or potentially impacted by the development. The planning application should be supported by a Geodiversity Survey and Report that includes an assessment of the impact of the specific development proposals on the geodiversity asset(s).</p> <p>Development may be possible but the potential for damage to the geodiversity asset needs to be taken into account in the planning, design, construction and aftercare phases of proposed development. The design should incorporate measures to avoid damage to the geodiversity asset. This might include, for instance, providing access to exposed rock, and measures to stabilise rock faces in ways that do not impede access. There may also be the opportunity to acquire knowledge about the geodiversity asset from boreholes or excavations, including those for services and foundations before and during the construction phase and site visits for recording and assessment of relevant features by appropriate experts. This may require desk study, field exploration, the drilling of boreholes and excavations for the necessary data to be acquired. The site may also require long-term management to maintain the geodiversity asset in a useful state, including the maintenance of access and the control of vegetation and the removal of rubbish or eroded materials.</p>
Geodiversity Enhancement Potential	Improve access to R95 should the railway be closed. Also acquiring and conserve information about the rock formation to link Geodiversity sites R37 & R95.

Possible Allocation Location and Geodiversity Asset Map

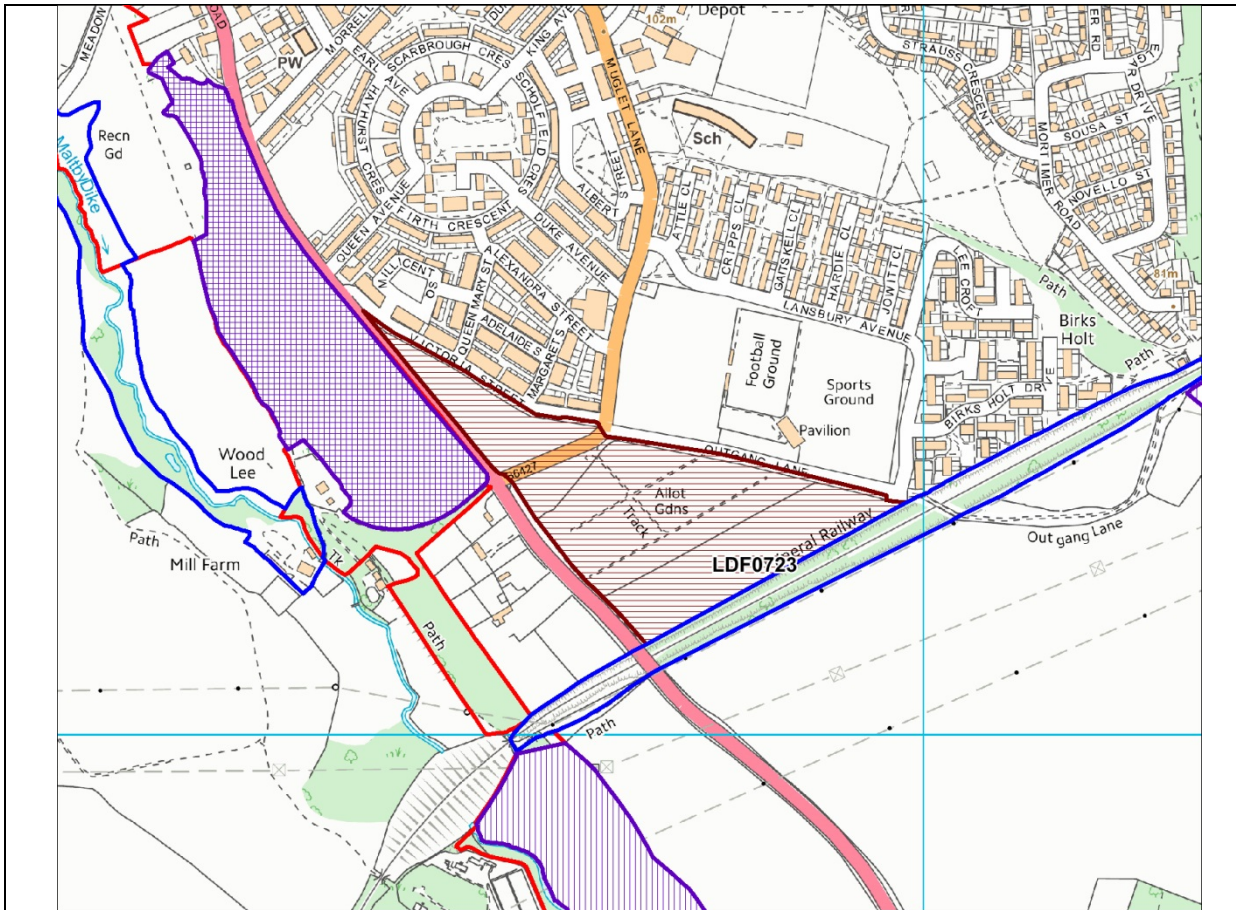
See below

Map Key:

- Possible Allocation Site = Brown
- cLGS = Green
- cRIGS = Blue
- RIGS = Red
- SSSI (earth heritage) = Purple cross hatch
- SSSI (biological)= Purple stripes



Possible Allocation Site Number	LDF0723 *
Geodiversity Asset Number and Location	R95 Mill Farm Railway Cutting, Maltby
Geodiversity Asset Significance	Regional
Site Comment	<p>The area of common land NE of Blyth Road, together with the area of allotments, should be excluded from the mapped allocation area.</p> <p>SAGT carried out a site survey and assessment of geodiversity site R95 on 15th July 2015. At the time of writing the site is being considered by RLGSP for designation as a RIGS.</p> <p>The opportunity should be taken to acquire information about the geological conditions of this site and to conserve these as it is very likely they will enhance the value of Geodiversity assets R37 and R95</p>
Recommendation	Few or no geodiversity impacts of future development
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Geodiversity Enhancement Potential	Improve access to R95 should the railway be closed. Also acquiring and conserve information about the rock formation to link geo assets R37 and R95.
Possible Allocation Location and Geodiversity Asset Map	<p>See below</p> <p>Map Key:</p> <ul style="list-style-type: none"> • Possible Allocation Site = Brown • cLGS = Green, • cRIGS = Blue, • RIGS = Red • SSSI (earth heritage) = Purple cross hatch • SSSI (biological)= Purple stripes

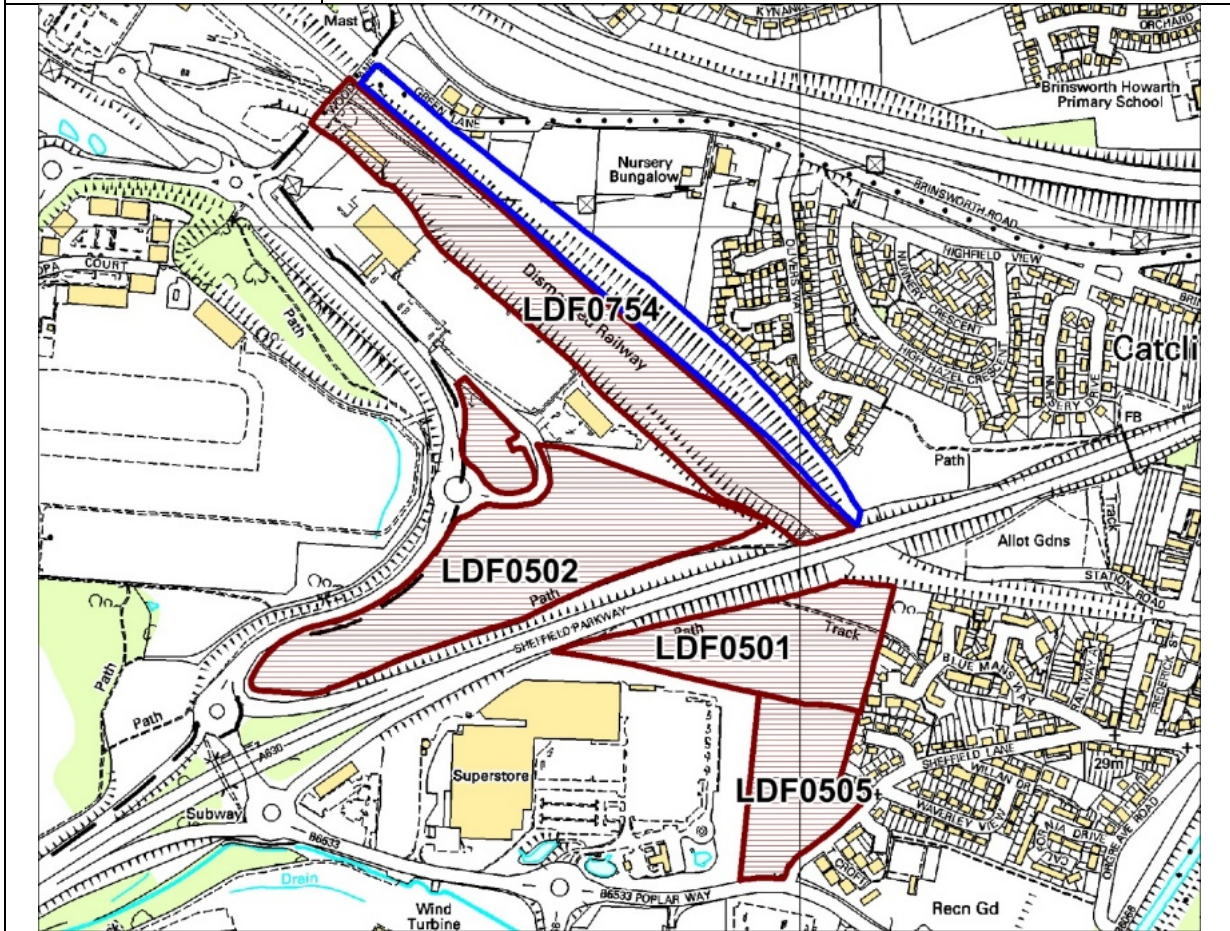


Possible Allocation Site Number	LDF0754
Geodiversity Asset Number and Location	R107 Tinsley Marshalling Yard, Catcliffe
Geodiversity Asset Significance	Regional
Recommendation	Potential geodiversity impacts of development
Planning Guidance	<p>For planning applications for possible allocation sites that overlap or are adjacent to candidate geo-assets consideration should be given to data collection and analysis to establish suitability of any affected candidate site(s) for designation where possible.</p> <p>Further geological investigation would be required prior to the submission of a planning application, to establish the presence/absence, significance and condition of geodiversity assets at the site or potentially impacted by the development. The planning application should be supported by a Geodiversity Survey and Report that includes an assessment of the impact of the specific development proposals on the geodiversity asset(s).</p> <p>Development may be possible but the potential for damage to the geodiversity asset needs to be taken into account in the planning, design, construction and aftercare phases of proposed development. The design should incorporate measures to avoid damage to the geodiversity asset. This might include, for instance, providing access to exposed rock, and measures to stabilise rock faces in ways that do not impede access. There may also be the opportunity to acquire knowledge about the geodiversity asset from boreholes or excavations, including those for services and foundations before and during the construction phase and site visits for recording and assessment of relevant features by appropriate experts. This may require desk study, field exploration, the drilling of boreholes and excavations for the necessary data to be acquired. The site may also require long-term management to maintain the geodiversity asset in a useful state, including the maintenance of access and the control of vegetation and the removal of rubbish or eroded materials.</p>
Geodiversity Enhancement Potential	Extend rock exposure and improve access to geodiversity asset R107

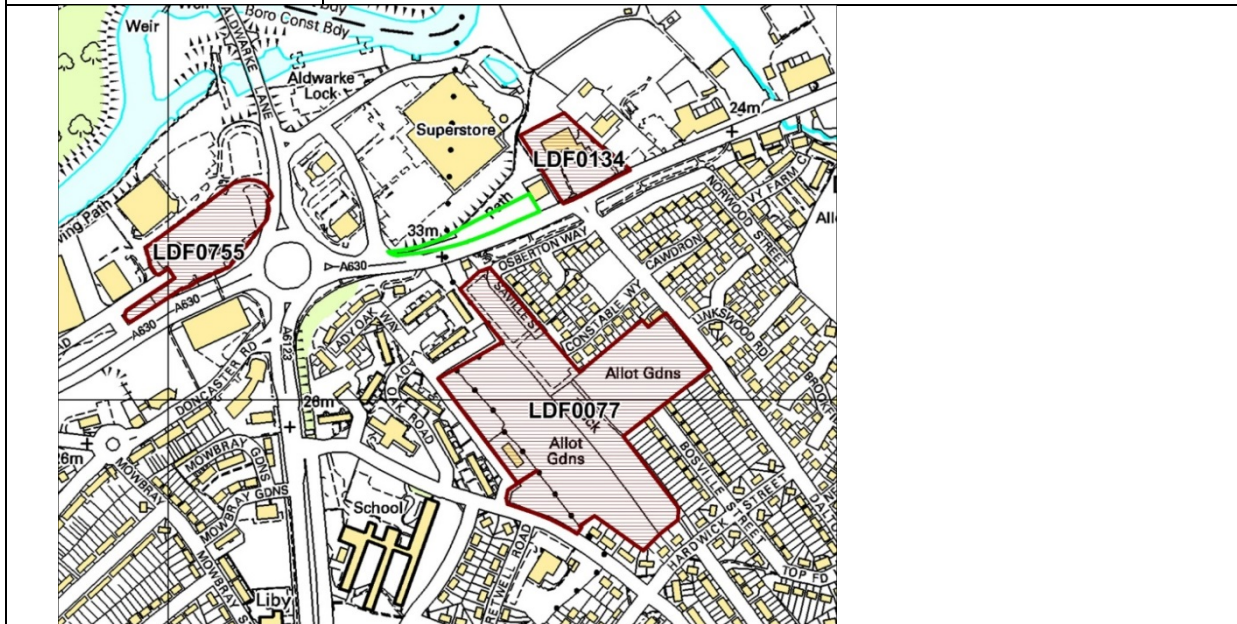
Possible Allocation Location and Geodiversity Asset Map

See Below Map Key:

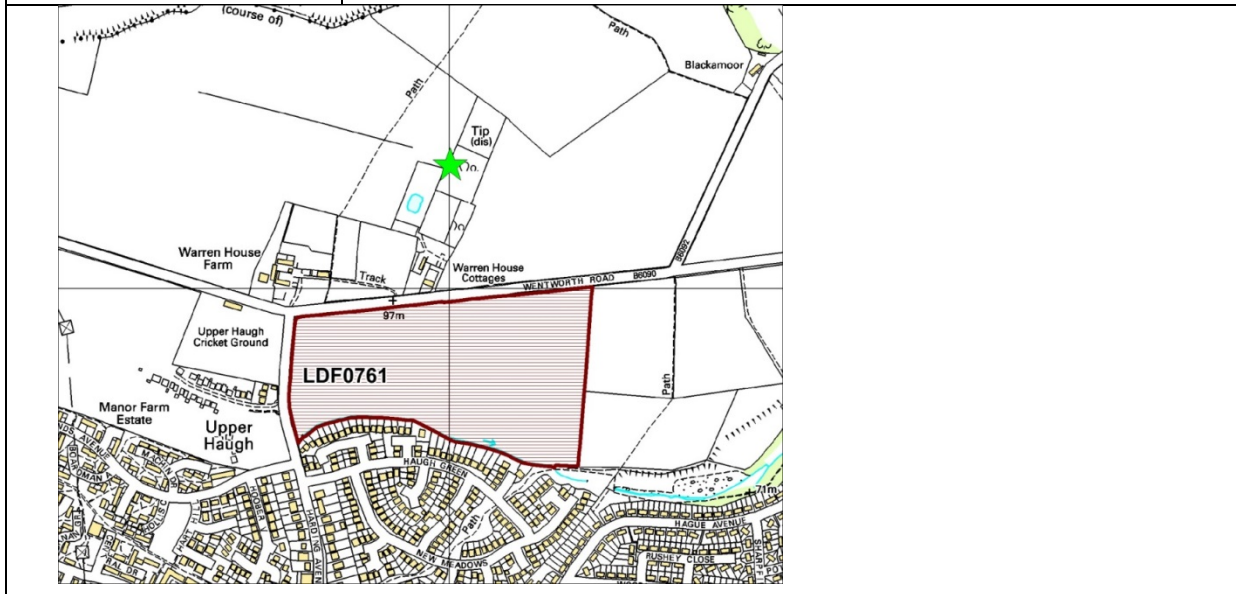
- Possible Allocation Site = Brown
- cLGS = Green
- cRIGS = Blue
- RIGS = Red



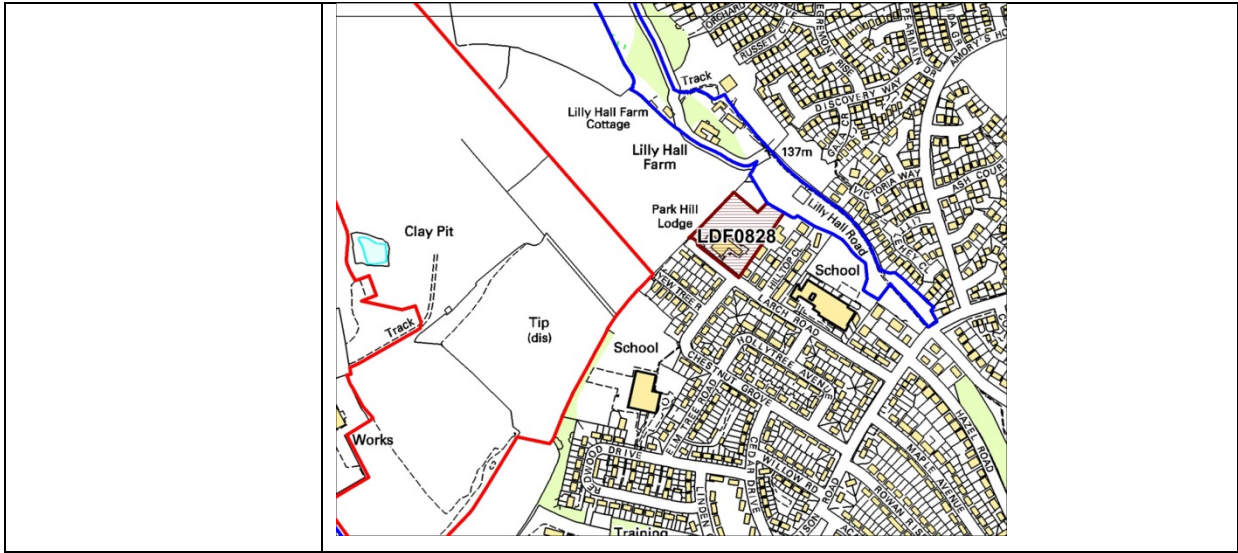
Possible Allocation Site Number	LDF0755
Geodiversity Asset Number and Location	R17 Doncaster Road, Dalton
Geodiversity Asset Significance	Regional
Recommendation	Few or no geodiversity impacts of future development
Planning Guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Geodiversity Enhancement Potential	There is potential for extensions to the rock exposure and for improving the access to the geodiversity asset.
Possible Allocation Location and Geodiversity Asset Map	See Map Below Map Key: <ul style="list-style-type: none"> • Possible Allocation Site = hatched brown • cLGS = Green • cRIGS = Blue • RIGS = Red



Possible Allocation Site Number	LDF0761
Geodiversity Asset Number and Location	R3 Warren House Cottages, Upper Haugh
Geodiversity Asset Significance	Regional
Site Comment	No significant impact is anticipated
Recommendation	Few or no geodiversity impacts of future development
Planning guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Possible Allocation Location and Geodiversity Asset Map	See above Map Key: <ul style="list-style-type: none"> • Possible Allocation Site(s) = Brown • cLGS = Bright green star • cRIGS = Blue • RIGS = Red



Possible Allocation Site Number	LDF0828*
Geodiversity Asset Number and Location	R128 Lilly Hall, Fordoles Head
Geodiversity Asset Significance	Regional
Recommendation	Few or no geodiversity impacts of future development
Planning guidance	<p>For planning applications for possible allocation sites that overlap or are adjacent to candidate geo-assets consideration should be given to data collection and analysis to establish suitability of any affected candidate site(s) for designation where possible.</p> <p>It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.</p>
Geodiversity Enhancement Potential	Provide additional access to Geo asset R128
Possible Allocation Location and Geodiversity Asset Map	<p>See Map below</p> <p>Map Key:</p> <ul style="list-style-type: none"> • Possible Allocation site = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red



Possible Allocation Site Number	LDF0828*
Geodiversity Asset Number and Location	R32 Maltby Brickworks, R133 Maltby Clay Pits (north)
Geodiversity Asset Significance	Regional
Recommendation	Few or no geodiversity impacts of future development
Planning guidance	It is unlikely that Geodiversity Assets will be harmed by development of the sites of this category. However, there may be the opportunity to acquire knowledge about the geodiversity features of the area in the course of desk studies, boreholes or excavations, including those for services and foundations before and during the construction phase and by site visits for recording and assessment of relevant features by appropriate experts.
Possible Allocation Location and Geodiversity Asset Map	<p>Map Key:</p> <ul style="list-style-type: none"> • Possible Allocation Site = Brown • cLGS = Green • cRIGS = Blue • RIGS = Red

* Where an allocation site fall within the area of influence of more than one geodiversity asset area, the overall recommendation for the site would be that it belongs to the highest category of recommendation. With further investigation of the geodiversity assets a more refined approach, including the use of mitigation measures, could be possible.

5. References

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