



**SUBMISSION IN RESPECT OF SITE A52 – COLEMANS SOUTH  
AS IDENTIFIED UNDER THE EMERGING ESSEX MINERALS  
LOCAL PLAN**

**APRIL 2024**

**PREPARED BY  
DAVID L WALKER LIMITED**

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**LIST OF PLANS**

C45/8/2001	Revised Location Plan
C45/8/2002	Revised Site Plan
C45/8/2003	Revised Concept Working Plan
C45/8/2004	Revised Concept Restoration Plan

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Appendix 1	Site Assessment profile as presented by Essex CC
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## SECTION I

### INTRODUCTION

- I.1 Brice Aggregates Limited (“BAL”) have been promoting the allocation of a sand and gravel deposit known as a southern extension to Colemans Farm Quarry, under the emerging Essex Minerals Local Plan.
- I.2 The site which has been designated the site reference A52 by Essex County Council (“the Council”) has been promoted as an extension to the existing sand and gravel unit at Colemans Farm Quarry near Witham.
- I.3 The existing site is consented until 2034 in terms of extraction, however, the expectation based on current progress is that the site will be exhausted before then.
- I.4 Under the Emerging Minerals Local Plan Review the Council have set out the need to identify sand and gravel resources at a rate of 3.58m tpa through until 2040. The Council have identified that current consented resources in the county are of the order of 22.95 million tonnes, meaning that a further 64.56 million tonnes needs to be identified and allocated as part of the plan process.
- I.5 Site A52 is one of a number of sites being promoted by BAL which include extensions to the existing unit at Colemans Farm Quarry. Site A52 is situated on land to the south of the current site, on the same side of the River Blackwater. The site comprises agricultural farmland, maintained as pasture.
- I.6 As part of the emerging MLP, the Council has developed and approved a detailed Site Selection Methodology (“SSM”) and implemented this to apply a traffic light scoring system to all fifty two candidate sites promoted through this exercise.
- I.7 The SSM considered sixteen different categories and developed a specific scoring system for each of the sixteen categories. Site A52 has scored Green in eight categories; Amber/Green in one category; six in Amber; one in Red/Amber; with no categories scored as Red.
- I.8 BAL have commissioned works to examine the application of the SSM relative to this site and consider what mitigation measures could potentially be required to manage identified impacts, and thereby reduce the potential scoring under the given category, in particular where a red or red/amber score was identified.
- I.9 This submission will provide the following:
  - i. Detailed consideration of baseline setting;
  - ii. Presentation of an outline draft working scheme;
  - iii. presentation of outline draft restoration concept; and
  - iv. a detailed review of the criteria used on the SSM, in particular on the six criteria where a high level of scoring has been identified.
- I.10 BAL is providing this information on a proactive basis, consistent with the requirements of front loading under the NPPF. It is also beneficial to the company to identify potential constraints and potential mitigation measures at the site albeit in high level terms in order that detailed schemes of working and restoration can be developed.
- I.11 The SMM summary/site assessment profile presented by the Council as part of this consultation process is reproduced at Appendix I.

- I.12 The technical reviews provided as part of the submission consider the scope for impact, but are in no way intended to provide a comprehensive Environmental Impact Assessment at this time.
- I.13 BAL would like to secure a Preferred Site status the under the emerging plan, and have therefore provided this detailed information to allow a more developed understanding of the baseline and scope for impact.
- I.14 BAL has a proven track record in the working of sand and gravel sites in the River Blackwater along with the restoration of the same, and can develop a scheme that will have a long term beneficial effect on the site and surrounding area.
- I.15 It is recognised that size and scale of the site could be of concern to a number of interested parties, but if allocated and developed could have many benefits consistent with the objectives of the Minerals Local Plan as follows:-
- a) the site has the potential to provide significant and sustainable quantities of sand and gravel to support the growth and infrastructure requirements the east of the county;
  - b) the location of the site with long term access to the diverted/upgraded A12 is favourable to move the materials to the market in a sustainable manner as possible given the lack of rail and water opportunities in the county;
  - c) the site has the potential to provide a long term more diverse landform of greater value both in landscape and nature conservation terms; and
  - d) the restoration scheme has the potential to deliver significant habitat enhancement that will also have a positive effect on any animal populations along the River Blackwater corridor.
- I.16 The current iteration of the MLP has been released with an extensive evidence base, including forecasts for the new mineral provision in the county, and a separate topic paper on Growth Locations and Projected Growth. The latter document confirms the site setting in the centre of the county with access to a number of “Growth Locations” including Braintree, Chelmsford, Witham, Kelvedon and Maldon.
- I.17 Development at such locations will require indigenous construction materials sourced from sites such as Colemans Farm Quarry.

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## SECTION 2

### BASELINE

- 2.1 The proforma developed by the Council in support of the promotion exercise set out a high-level means by which to summarise the baseline setting of the given promotion.
- 2.2 The total site area and proposed extraction area for Site A52 was carefully considered in view of existing land uses; and perimeter features such as the River Blackwater. The areas were also defined based on high level consideration of the need for soils bunds, haulage infrastructure and other ancillary facilities together with the identification of potential biodiversity enhancement areas and/or areas of advance planting. The inclusion of the latter features in particular could be viewed as to the benefit of the scheme irrespective of proximity to sensitive receptors.
- 2.3 The site is situated in a mainly rural context with no residential premises in close proximity. The proposed extraction area is over 350m away from the nearest façade of the given receptor.
- 2.4 Site A52 is situated within the Colemans Farm which is part of a wider ancestral estate, situated in the parish of Great Braxted in the centre of the county.
- 2.5 The site is located in a wider network of public highways, comprising:
- the A12 which afford a central corridor to access markets across the county; and
  - Braxted Park Road to the west (also identified on the Councils freight hierarchy as an important route).
- 2.6 The southern perimeter of the site is secured by the River Blackwater and the attendant bank side habitats. This area is known and understood to have ecological and landscape value and therefore benefits from a minimum 40m standoff relative to any potential mineral extraction area.
- 2.7 In an historical context, the site is situated in a sensitive setting with Registered Parks and Gardens, Listed Buildings, and a Conservation Area, all found in the wider area around the site together with unscheduled but known archaeological remains within the site.
- 2.8 The site extends over an area of approximately 4.13 hectares with a gently rising landform within the site rising from circa 15.5m AOD in the north down to 15m to the south along the River Blackwater. The effect of this topography, along with surrounding vegetation and land use, serve to constrain views into the site.
- 2.9 In the context of Rights of Way there are no current constraints to the promotion area.

### Geology

- 2.10 The published geological information covering the Site A52 (including Mineral Assessment Report TL81) indicates that the operations (including the proposed allocation) are located in an area of superficial deposits of Pleistocene to recent age, which form part of a terrace system occupying the valley of the River Blackwater.
- 2.11 The sand and gravel deposits (comprising elements of River Terrace and re-worked materials) are underlain by Boulder Clay, which is in turn underlain by the Jurassic London Clays.

- 2.12 Drilling surveys have proven the presence of an almost continuous spread of sand and gravels underlying the whole of the proposed allocation area, overlain by small amounts of sandy clay overburden and soils.
- 2.13 Mineral deposit thickness in the allocation area ranged between 2.8 metres and 3.0 metres, averaging just under 3 metres.
- 2.14 Initial appraisal of grading data indicates that the quality of the sands and gravels is generally consistent with the geology encountered on the current site.

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## SECTION 3

### OUTLINE WORKING SCHEME

- 3.1 It is considered that Site A52 is a logical extension to the existing operations at Colemans Farm Quarry. BAL is developing an outline working scheme which is illustrated on Plan C45/8/2003. The aims and objectives of the scheme are as follows:
- to recover the important resources of sand and gravel in as most sustainable manner as possible;
  - to make sure any woodland or other sensitive habitats adjacent to the site remains undisturbed with no significant adverse impacts generated by the scheme;
  - to ensure that all soils associated with best and most versatile agricultural land are stripped, handled and replaced sensitively;
  - to ensure that any features of nature conservation value on or adjacent to the site are protected and managed as required;
  - to ensure that the setting or significance of adjacent and nearby heritage assets is affected as less as possible and “less than significant harm” is created;
  - ensure best use of all on site resources to minimise the need for imported materials to achieve restoration;
  - to ensure that the public right of way remains available throughout the scheme;
  - to make sure that water is used in an efficient and sustainable manner; and
  - to ensure all water run-off is maintained on site and only discharged in a controlled manner.
- 3.2 It is proposed that the sand and gravel won from Site A52 would be transported to the plant site at Colemans Farm Quarry, where it will be washed, graded and stocked prior to export off site. BAL have prepared and submitted an application to relocate the plant site onto land known as Appleford Farm.
- 3.3 It is proposed that groundwater will be pumped from the deposit to enable dry workings, with the water pumped initially into on site freshwater lagoons, or a direct discharge off site using a sump consistent with the consented regime at Colemans Farm Quarry.
- 3.4 The sand and gravel will be worked by conventional means with a hydraulic excavator, loading dumper trucks to transport the as raised sand and gravel to either the plant site directly for processing and distribution or, alternatively by loading a feed hopper for a field conveyor to transport the materials to the plant site. In either instance as raised material would need to be transported over the River Blackwater into the existing Colemans Quarry complex.
- 3.5 Plan C45/8/2003 shows a single phase of working which should yield of the order of 110,000 tonnes of high quality sand and gravel. No changes have been made to this plan as a result of the findings of the SSM.

### A12

- 3.6 In light of the approved A12 improvement works (which now have royal assent) it may be necessary for BAL to relocate certain elements of the infrastructure of Colemans Farm Quarry, including the processing plant which is currently sited on land which lies within the footprint of the proposed A12 works (refer to Plan C45/8/2001).
- 3.7 Should the A12 improvement works proceed and it be necessary to relocate the processing plant, it is anticipated that this could be to a location to the east of Braxted Road (refer to

Plan C45/8/2001). It is envisaged that the size and capacity of the relocated plant site would be near identical to the existing arrangements on site.

- 3.8 Should the A12 works not proceed and the processing plant remain in situ at Colemans Quarry, then as-dug material from the proposed allocation would be transported to the existing processing plant using ADTs.
- 3.9 No new access or HGV routing onto the road network is expected to be necessary.
- 3.10 Should the processing plant be relocated, this will be solely as a result of the A12 works and in the first instance to support the working of remaining reserves at the existing Colemans Farm Quarry site.

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## SECTION 4

### OUTLINE RESTORATION CONCEPT

- 4.1 It is proposed that land within Site A52 will be restored to provide for selected nature conservation habitat appropriate to the landscape, hydrological and ecological setting of the site (refer to Plan C45/8/2004). No changes have been made to this plan as a result of the findings of the SSM.
- 4.2 Section 3 of the draft Minerals Local Plan amongst other matters highlights the importance of restoration to achieve high quality sustainable landforms and land uses. Such schemes should be developed and delivered in a timely manner to minimise the scope for adverse effects over long periods of time.
- 4.3 The restoration of minerals sites are supported by detailed and rigorous management plans to ensure the implementation and development of the restoration schemes. This is supplemented by aftercare schemes to ensure that the land uses and habitats are well managed to ensure their long term integrity. This is a long established principle at the existing quarry at Colemans Farm.
- 4.4 The section recognises the importance of a phased approach of restoration and the scheme provided in this report (although still in outline form) is predicated on this basis. BAL has developed an outline restoration concept which is illustrated on Plan C45/8/2004. The aims and objectives of the concept are as follows:
- (i) to provide a long term sustainable landform;
  - (ii) to ensure an improvement in the nature conservation value of the site into the future;
  - (iii) to ensure that the long term setting or significance of adjacent and nearby heritage assets is in no way reduced; and
  - (iv) ensure best use of all on site resources to minimise the need for imported materials to achieve restoration; and
  - (v) to ensure all water run-off is maintained on site and only discharged in a controlled manner.
- 4.5 The scheme will contribute positively to the environment, consistent with draft policies S12, and DMI, articulated in the emerging MLP as well as consistent with National Policy Guidance. The nature conservation habitats envisaged include:
- wetland habitats;
  - neutral grassland habitats; and
  - appropriately sized open water bodies.
- These are all identified Habitat Management Plans under the adopted Essex BAP, ensuring further positive contributions.
- 4.6 The creation and development of the above habitats will also result in the establishment of environment where many of the species identified under the BAP can flourish, including the farmland bird and invertebrate assemblages.
- 4.7 The value or significance of this scheme can only be determined under detailed assessment. However, even in its conceptual form the scheme has the potential to deliver significant long term and sustainable environmental enhancement to the benefit of the local community and local environs consistent with the objectives of the emerging MLP and the SSM.

## SECTION 5

### SITE ASSESSMENT

- 5.1 The draft MLP is supported by a number of supporting documents including a Site Selection report. The report (prepared by BPP Consulting and Stantec on behalf of the Council) provides a methodology and review of the decision making process behind the assessment of each of the sites.
- 5.2 The scoring for the Site A52 is detailed in the proforma reproduced at Appendix I, and summarised in Table I below.

Criteria	Scoring
Landscape and Visual Sensitivity	Amber
Biodiversity	Amber
Historic Buildings	Amber/Green
Archaeology	Amber
Flooding	Red/Amber
Transport	Green
Access	Green
Public Rights of Way	Green
Geo-Environmental	Green
Hydrology, Hydrogeology and Drainage	Amber
Air Quality	Green
Soil Quality	Amber
Services & Utilities	Amber
Health & Amenity	Green
Green Belt	Green
Airport Safeguarding Zones	Green

**Table I: Summary of the scoring of Site A52**

- 5.3 As can be seen above of the sixteen criteria examined, one scored as high impact (i.e red or red/amber), namely flooding. The remaining criteria are either scored as amber or below and are therefore not examined in support of this exercise, apart from the Soils criteria.

#### *Flooding*

- 5.4 In relation to the “flooding” criteria, whilst it is noted that site A52 is in a sensitive pluvial and fluvial setting, sand and gravel extraction in such a setting is noted as being ‘**water compatible development**’ under the NPPF and other national policy guidance.

- 5.5 Any workings would be directly integrated with the existing site, and as such flood storage capacity would be in place through all phases of any development with no impacts off site. The mitigation would be simple to achieve during the working, and post restoration, suitable sized attenuation could be provided, including the effects of climate change.
- 5.6 Whilst it is noted that the scoring under this criteria is correct under the methodology criteria provided in Table 2 of Appendix F of the SSM, BAL would view this allocation area as having a low risk overall due to its fundamental connectivity to the existing site.

#### *Soils*

- 5.7 Under the “Soils” criteria, the site is scored as Amber, indicating the presence of Grade 2 and Best and Most versatile agricultural land. It is understood that the Council have used regional mapping resources whilst ascertaining this scoring.
- 5.8 Soils and a ALC mapping on the adjoining site has identified a combination of Grade 3a and 3b soils resources, with no Grade 2 present. A copy of the report in this regard is reproduced at Appendix 3. Whilst this does not directly relate to Site A52, it is viewed as a clear indicator of the variability of soils and agricultural land quality and the likely absence of Grade 2 soils in the area. On this basis, it is respectfully submitted that the site should be scored as “Amber – Green” under the RAG methodology provided in Table 2 of Appendix I of the SSM.

## SECTION 6

### SUMMARY AND CONCLUSIONS

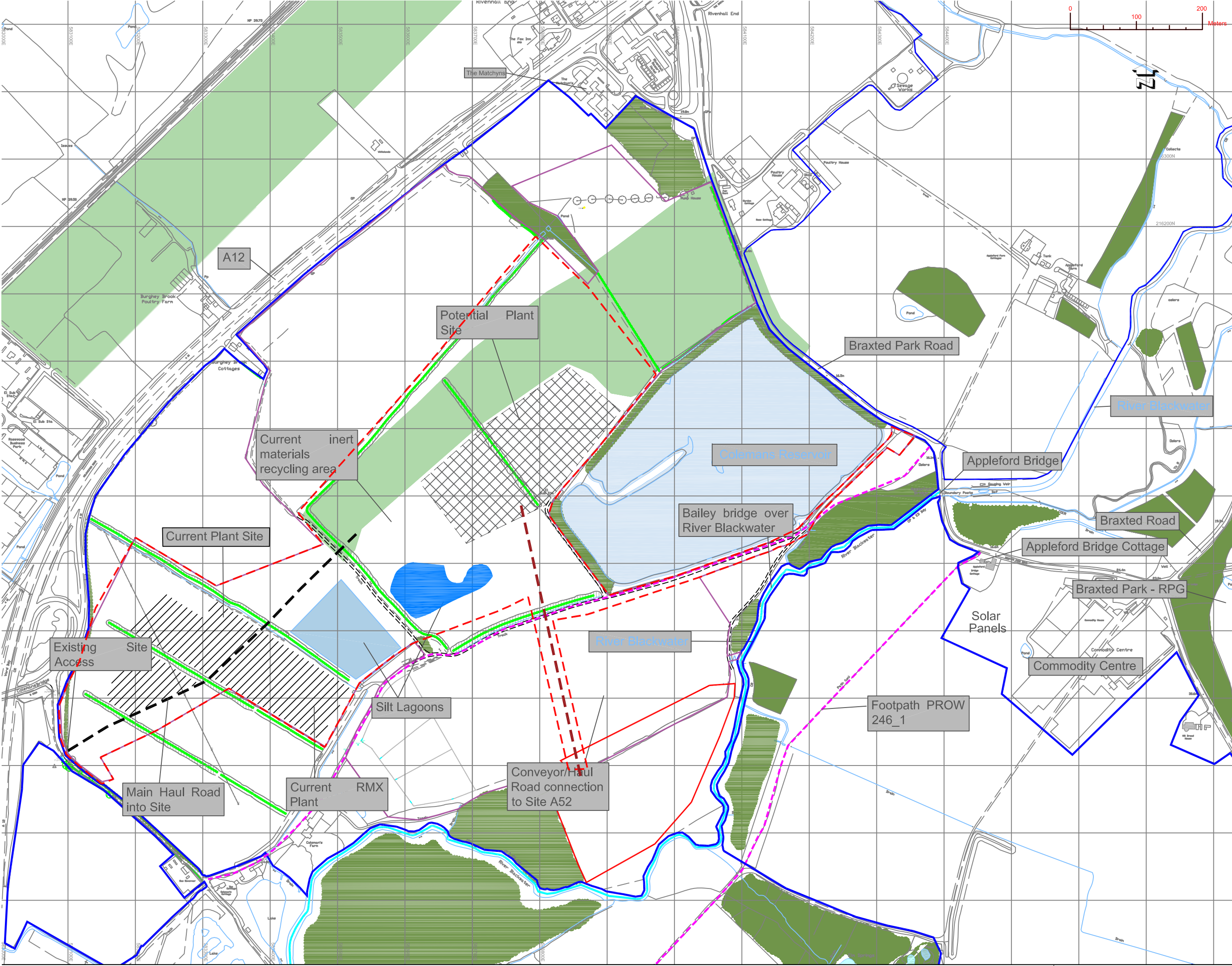
- 6.1 In view of the above assessments it is considered that the scoring for the Site A52 should be amended, as summarised in Table 2 below. Rows shaded in green show areas where the scoring should be altered with the proposed level identified.

Criteria	Scoring
Landscape and Visual Sensitivity	Amber
Biodiversity	Amber
Historic Buildings	Amber/Green
Archaeology	Amber
Flooding	Amber
Transport	Green
Access	Green
Public Rights of Way	Green
Geo-Environmental	Green
Hydrology, Hydrogeology and Drainage	Amber
Air Quality	Green
Soil Quality	Amber/Green
Services & Utilities	Amber
Health & Amenity	Green
Green Belt	Green
Airport Safeguarding Zones	Green

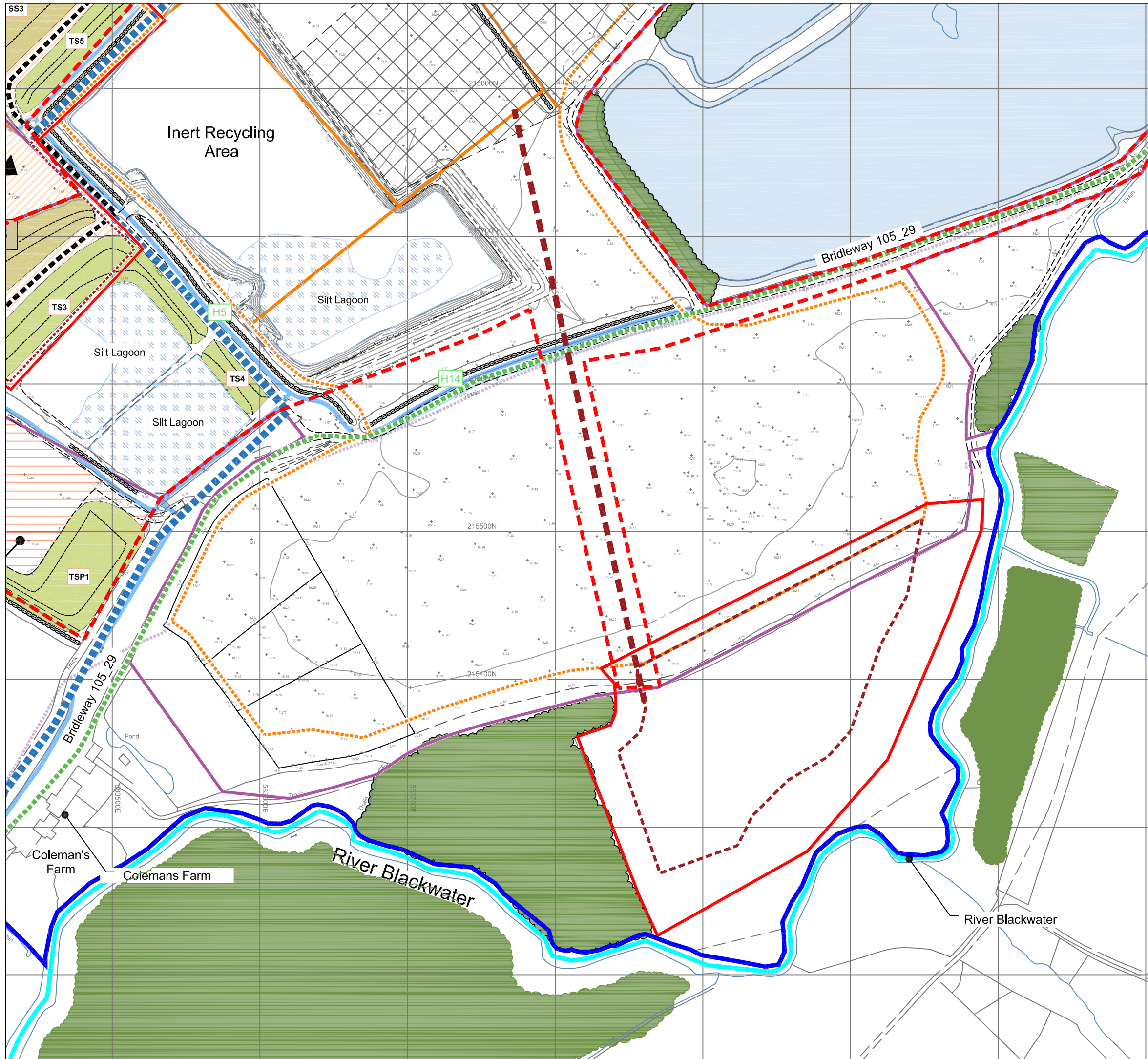
**Table 2 – Proposed revised scoring for Site A52**

## **Revised Plans**















C45/8/2001	Location Plan
C45/8/2002	Site Plan
C45/8/2003	Concept Working Plan
C45/8/2004	Concept Restoration Plan

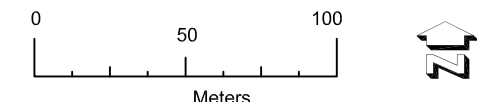


- LEGEND**
- CURRENT PERMISSION AREA
  - OTHER LAND UNDER APPLICANT'S CONTROL
  - PUBLIC RIGHT OF WAY
  - PROPOSED ALLOCATION SITE
  - RESOURCE BLOCK
  - WOODLAND BLOCKS
  - APPROXIMATE EXTENT OF A12 PREFERRED ROUTE AREA
  - CURRENT PLANT SITE
  - POTENTIAL PLANT SITE
  - MAIN HAUL ROAD INTO SITE
  - POTENTIAL HAUL ROAD/CONVEYOR TO SITE A52
  - CURRENT PERMISSION AREA RETAINED TO SUPPORT SITE A52



**LEGEND**

-  CURRENT PERMISSION SITE
-  PROPOSED ALLOCATION SITE
-  APPROVED EXTRACTION AREA
-  PROPOSED SOUTHERN EXTRACTION AREA
-  Phase 3 REVISED PHASING
-  GAS MAIN - HIGH PRESSURE
-  BRIDLEWAY 105\_29
-  TOPSOIL BUNDS
-  SUBSOIL BUNDS
-  MAIN HAUL ROUTE
-  BURGHEY BROOK & OTHER ORDINARY WATERCOURSES WITHIN THE SITE
-  WOODLAND BLOCK
-  POTENTIAL HAUL ROAD/CONVEYOR TO SITE A52
-  CURRENT PERMISSION AREA RETAINED TO SUPPORT SITE A52



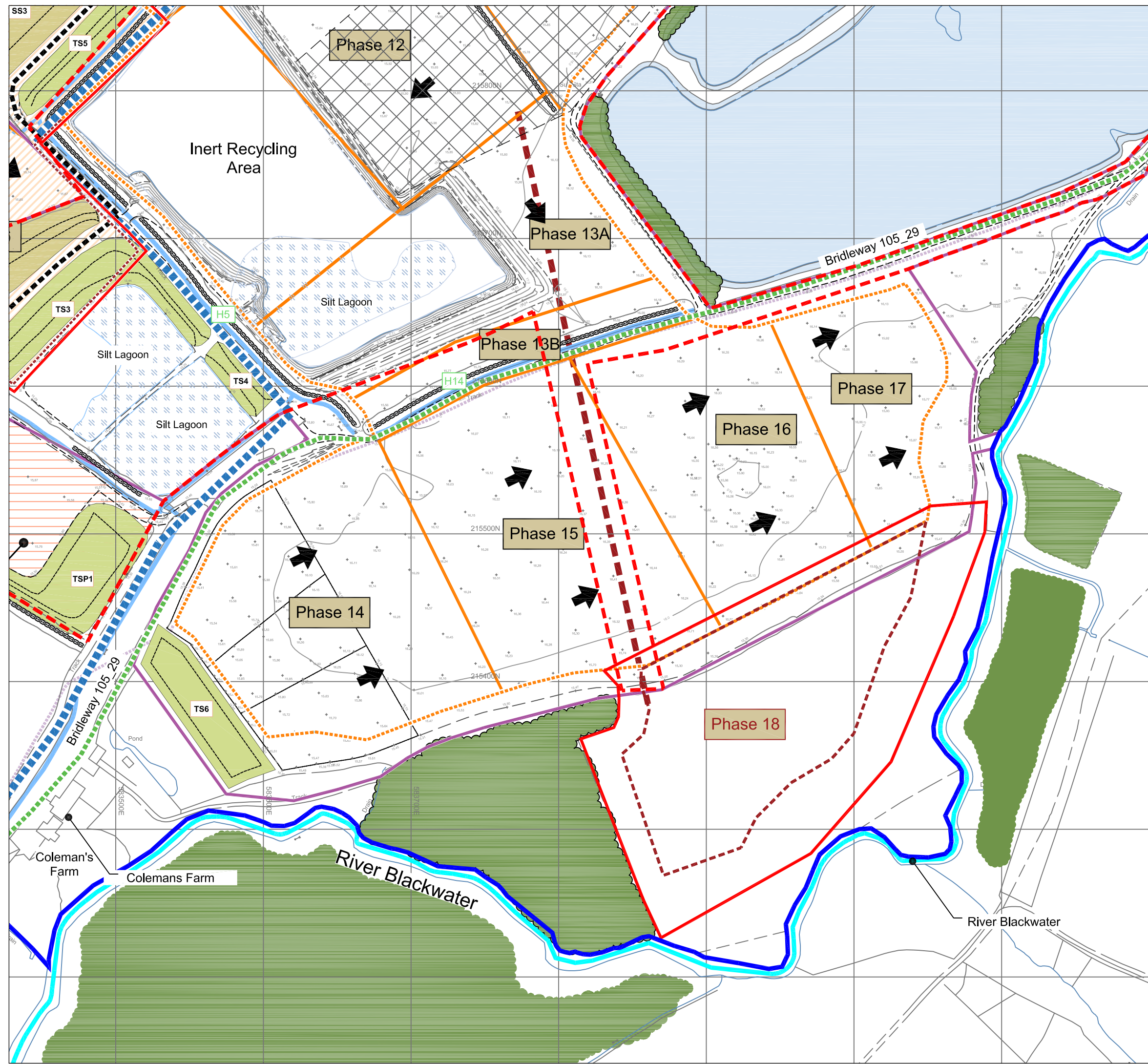
BRICE AGGREGATES LIMITED

Project **COLEMAN'S FARM QUARRY WITHAM, ESSEX**

Title **SOUTHERN EXTENSION - SITE A52 SITE PLAN**

Scale	1:2500 @ A3	Date	June 25	Drawing No.	C45/8/2002B
Drawn by	DW	Checked by	OB		

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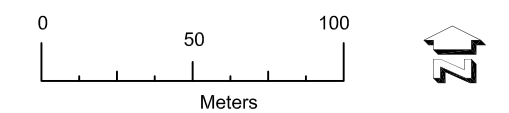


**LEGEND**

- CURRENT PERMISSION SITE
- PROPOSED ALLOCATION SITE
- APPROVED EXTRACTION AREA
- PROPOSED SOUTHERN EXTRACTION AREA
- REVISED PHASING
- GAS MAIN - HIGH PRESSURE
- BRIDLEWAY 105\_29
- TOPSOIL BUNDS
- SUBSOIL BUNDS
- MAIN HAUL ROUTE
- BURGHEY BROOK & OTHER ORDINARY WATERCOURSES WITHIN THE SITE
- WOODLAND BLOCK
- POTENTIAL HAUL ROAD/CONVEYOR TO SITE A52
- CURRENT PERMISSION AREA RETAINED TO SUPPORT SITE A52

**NOTES**

ALL AS RAISED MINERALS TO BE TRANSPORTED TO PLANT SITE THROUGH THE CURRENT WORKINGS

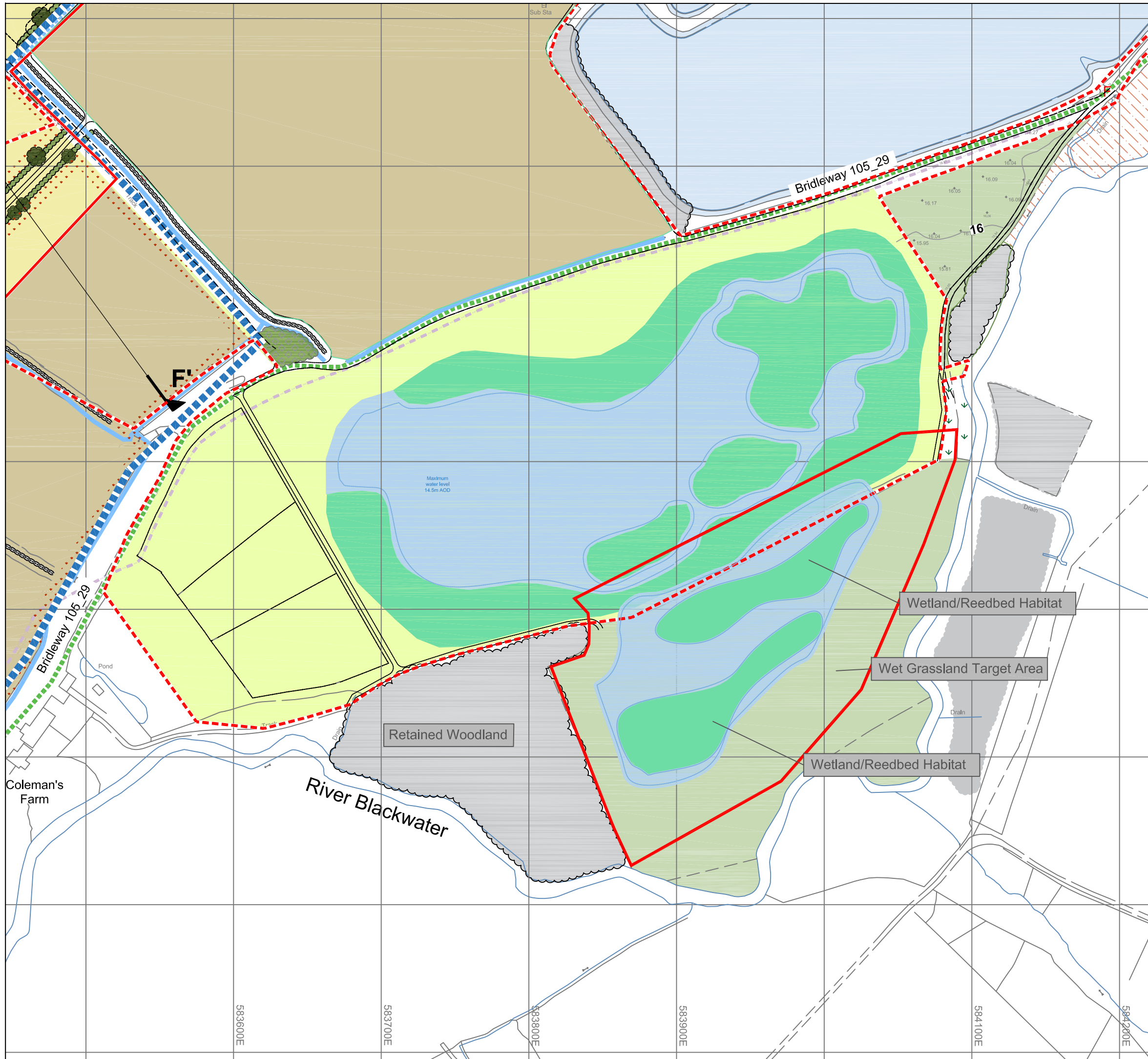


**BRICE AGGREGATES LIMITED**













Project **COLEMAN'S FARM QUARRY WITHAM, ESSEX**

Title **SOUTHERN EXTENSION - SITE A52 PROPOSED WORKING PLAN**

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Drawn by DW	Checked by OB	<b>C45/8/2003B</b>

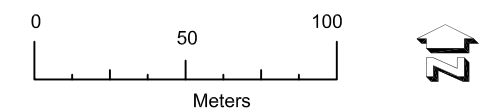


**LEGEND**

-  PERMISSION SITE
-  PROPOSED ALLOCATION SITE
-  GAS MAINS
-  BRIDLEWAY 105\_29
-  MAINTENANCE ACCESS TRACK
-  EXISTING VEGETATION TO BE RETAINED
-  LAND RESTORED TO WET GRASSLAND
-  LAND REINSTATED TO ARABLE FARMLAND
-  LAND RESTORED TO LOWLAND MEADOW
-  LAND RESTORED TO REEDBED
-  LAND RESTORED TO OPEN WATER
-  BURGHEY BROOK & OTHER ORDINARY WATERCOURSES WITHIN THE SITE

**NOTES**

HABITAT ESTABLISHMENT AND MAINTENANCE PRESCRIPTIONS TO BE AS PER APPROVED LHMP.



Project **COLEMAN'S FARM QUARRY WITHAM, ESSEX**

Title **SOUTHERN EXTENSION PROPOSED RESTORATION PLAN**

Scale	1:2500 @ A3	Date	March 2022	Drawing No.	<b>C45/8/2004</b>
Drawn by	DW	Checked by	OB		

## **Appendix I**

Site Assessment profile as presented by Essex CC



BRAXTED

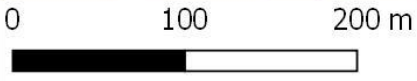
Appleford  
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Coleman's Farm

Coleman's Farm


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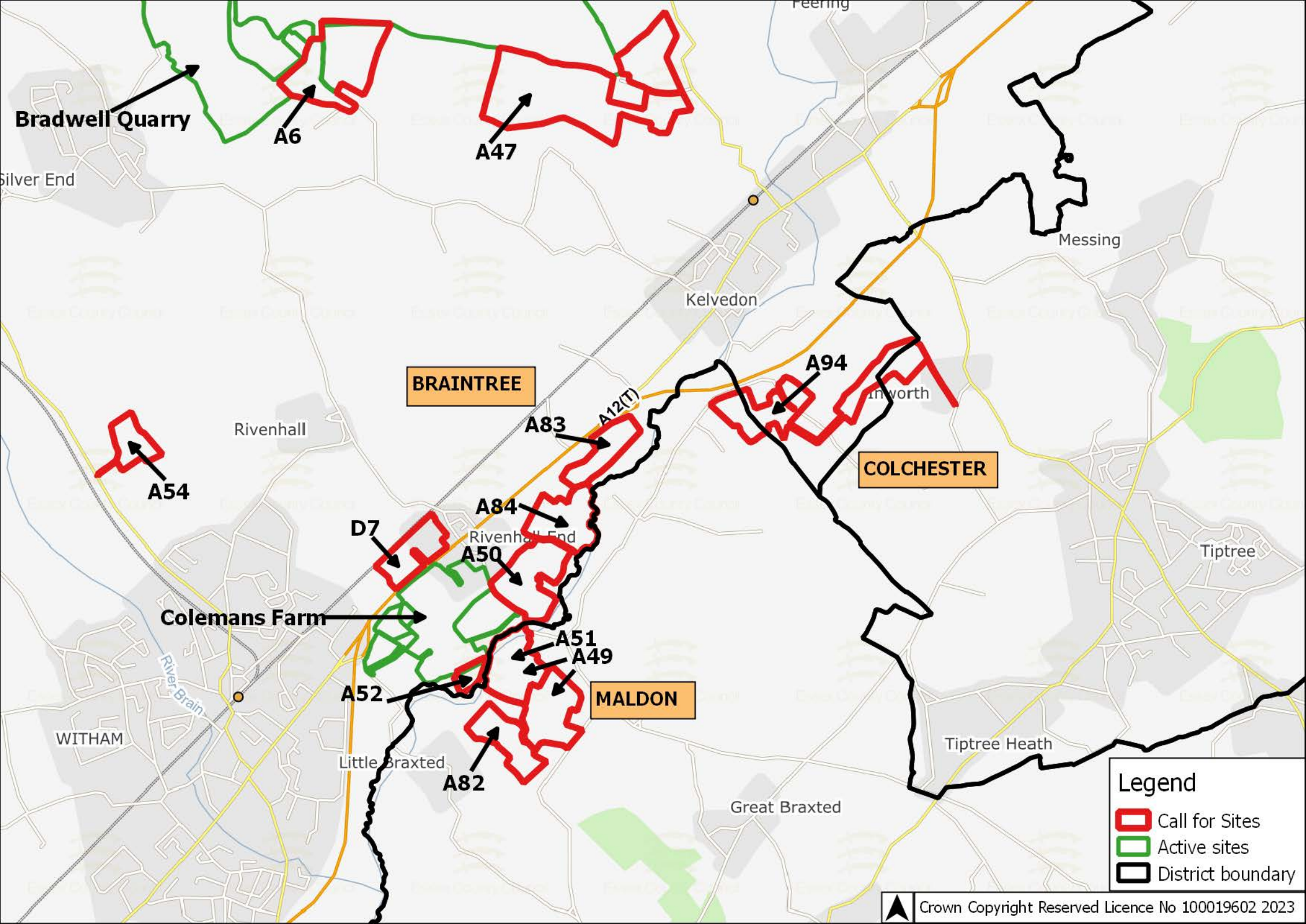
E BRAXTED LANE



**Colemans Farm**  
**A52**

**Legend**  
 Site Boundary

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**Legend**

-  Call for Sites
-  Active sites
-  District boundary

<i>Candidate Site Reference</i>	<i>Candidate Site Name</i>	<i>District</i>	<i>Existing use</i>	<i>Site Area (ha)</i>	<i>Potential Yield (million tonnes)</i>
<b>A52</b>	<b>Colemans Farm - Southern extension</b>	<b>Braintree</b>	<b>Agricultural</b>	<b>4.13</b>	<b>0.11</b>

The Site is promoted as an extension to an existing mineral Site (Colemans Farm Quarry) and is located to the south of Colemans Farm Quarry. The Site area is approximately 4.13 ha and is proposed for 0.11 million tonnes of sand and gravel extraction which would be transported to the existing Colemans Farm Quarry plant Site, where it will be washed, graded, and stocked prior to export off Site. It is proposed that once granted consent mineral extraction would follow on from the consented extraction activities at Colemans Farm Quarry. The adjoining uses include agricultural fields and woodland. The town of Witham is located to the west of the Site. Access to the Site is proposed through the existing Little Braxted Lane access into, and internal haul roads through, Coleman’s Quarry. However, should A12 improvements be constructed, then access could potentially be via the proposed Braxted Road access. See Appendix J for a detailed map of the Site.

### **Summary of RAG Assessment**

The results of the technical and desktop RAG assessment are detailed below.

Landscape and Visual Sensitivity	Biodiversity	Historic Buildings	Archaeology	Flooding	Transport	Access	Public Rights of Way	Geo-Environmental	Hydrology, Hydrogeology and Drainage	Air Quality	Soil Quality	Services & Utilities	Health & Amenity	Green Belt	Airport Safeguarding Zones
Amber	Amber	Amber /Green	Amber	Red/ Amber	Green	Green	Green	Green	Amber	Green	Amber	Amber	Green	Green	Green

Key findings of the assessment are as follows:

- The Site is located within the River Blackwater valley floor and is therefore very characteristic of the Blackwater/Brain/Lower Chelmer (C6) Landscape Character Area (LCA). The east, south and west boundaries are defined by the linear poplar and willow plantations that line the banks of the River Blackwater that runs close to the boundary of the Site. The Site itself is very flat and comprises grassland which makes up the valley floor landscape character. Mineral extraction of the Site will significantly alter the setting of the River Blackwater and surrounding character.
- Elm Springs Priority Habitat (Deciduous Woodland) is located 0.1km to the east of the Site, and Strowling & Crierswood Ancient Woodland is located 0.4km to the south-east of the Site. The River Blackwater valley defines the

southern boundary and is a prominent feature within the immediate landscape. Appropriate consideration would be required to mitigate the physical impacts on The River Blackwater with a suitable buffer.

- Public Rights of Way (PRoW) are not located immediately adjacent to the Site; however, a footpath runs to the south of the River Blackwater (Footpath 1) and a bridleway to the north (Bridleway 29). The PRoWs provide open views of the Site in the context of the River Blackwater and linear plantations which acts as a prominent feature in the foreground/background, respectively.
- The River Blackwater is close to the Site's eastern boundary creating a potential pollution pathway for water quality between the proposed mineral Site and a number of statutory wildlife sites. The potential for Likely Significant Effects, particularly to the Blackwater Estuary Special Protection Area and Ramsar site and the Essex Estuaries Special Area of Conservation will need to be considered through a plan-level Habitats Regulations Assessment.
- The Site is situated on low-lying land and comprises an arable field; an area of Lowland Mixed Deciduous Woodland Priority habitat is located immediately south of the Site.
- The Site is graded Amber because ecological impacts could be moderate and are likely to require medium levels of mitigation to make the Site acceptable. The Site's groundwater may be affected, which in turn could affect the hydrology of on-site and off-site habitats. Substantial buffers are likely to be required near to the Lowland Mixed Deciduous Woodland Priority habitat and River Blackwater and water quality must not be affected by the proposals. The affected hedgerows should be compensated.
- To the southwest of the Site is a group of designated heritage assets, which are as follows:
  - Little Braxted Mill, Grade II Listed (List UID: 1308828)
  - Kitchen/Dovecote north of Little Braxted Hall, Grade II\* listed (List UID: 1146757)
  - Summer House at Little Braxted Hall, Grade II listed (List UID: 1146764)
  - Garden Wall of Little Braxted Hall, Grade II Listed (List UID: 1111065).
  - Little Braxted Hall and Railings, Grade II Listed (List UID: 1111063).
  - Church of St Nicholas, Grade I Listed (List UID: 1111066).
  - Monument in St Nicholas Churchyard, Grade II Listed (List UID: 1146792)
- Due to the spatial separation of these heritage assets from the Site, the impacts of quarrying at the Site are likely to be minor, amounting to the lowest level of less than substantial harm, and may require low levels of mitigation to make the Site acceptable.
- Any application should be accompanied by a heritage statement that assesses the impact on the listed buildings, along with an assessment of the significance of the unlisted farmhouse and barn at Coleman's Farm, both of which have been much altered but are of some antiquity.

- Mitigation to keep buildings and structures a sufficient distance from the heritage assets, or screening options, along with traffic management plans, could provide effective mitigation.
- The Site lies within an area of recorded multi-period archaeological activity as revealed by aerial photographic evidence and archaeological investigations in the surrounding fields.
- There are recorded alluvial deposits within the Site which have high potential for preservation of waterlogged deposits and palaeoenvironmental evidence.
- Palaeolithic archaeological remains and Pleistocene faunal remains have been recovered from river gravels within the vicinity of the Site.
- The Site is assessed as having a 'high' potential for surface water flood risk as identified within the SFRA.
- The Site has been identified as having a 'high' groundwater flood risk.
- The Site is predominantly (95%) within FRZ3 and is therefore at risk from fluvial flooding.
- The Site has medium to low groundwater vulnerability. The Site is within a Drinking Water Safeguard Zone (Surface Water) and is within Drinking Water Protection Areas (Surface Water). A watercourse (River Blackwater) is 5m south east, and 20m east and another watercourse is and 60m south east. Appropriate consideration would be required to mitigate potential impacts on hydrology, hydrogeology, and drainage.
- The Site contains Grade 2 quality soil (very good quality agricultural land) and Grade 3 quality soil (good to moderate quality land), which is BMV land. Appropriate consideration would be required to mitigate the impacts on soil quality and agricultural land – this is likely to include removal of soils for stockpiling prior to reuse, potentially in site restoration.
- The Site is within 250m of high pressure gas mains (Cadent Gas). Further investigation and consultation would be needed to determine whether mitigation measures are needed to avoid any impact on gas mains. Such mitigation may include diversion and/or protection.

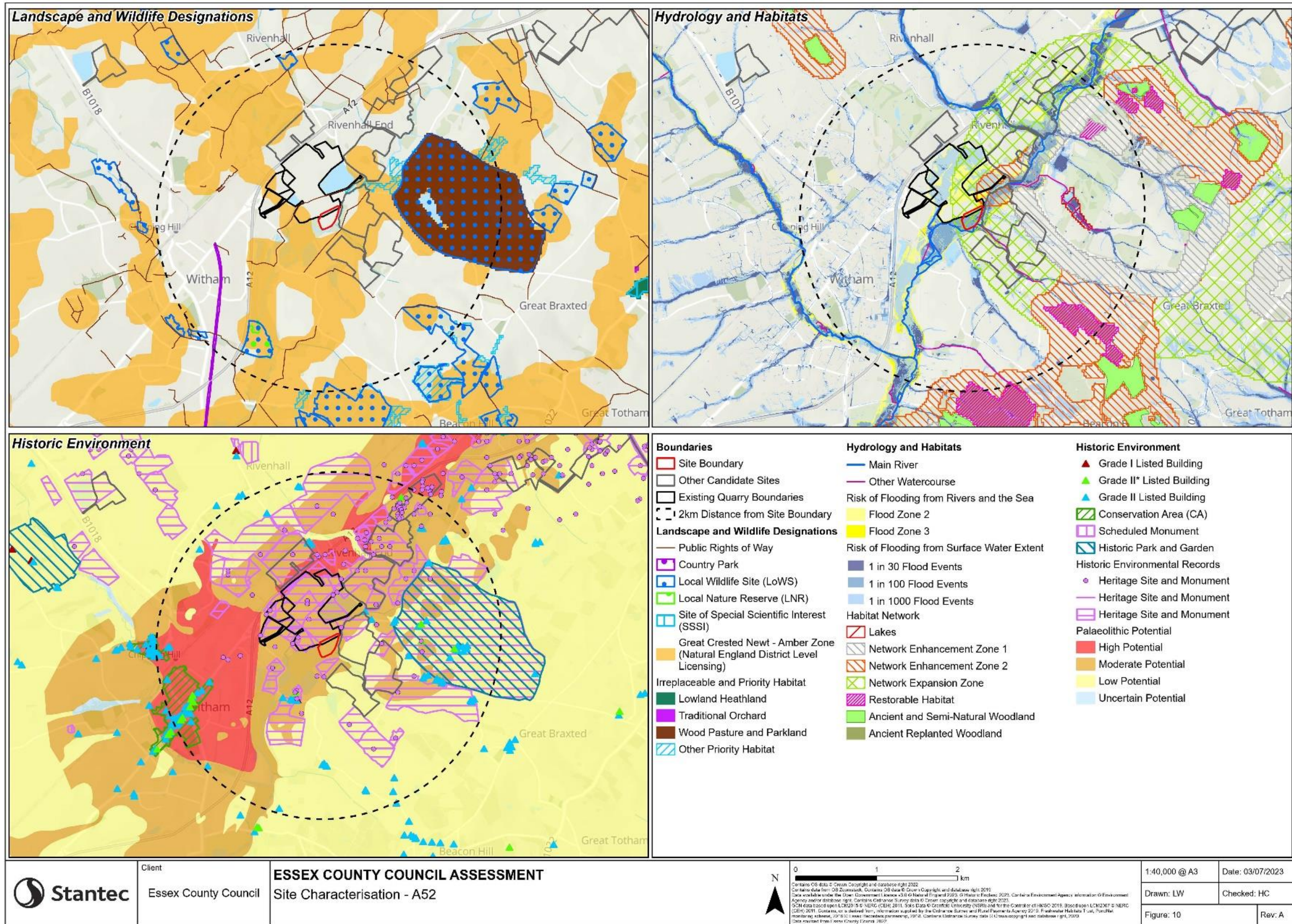


Figure 3.10: A52 - Colemans Farm - Southern Extension  
Review of Essex MLP 2014 - Assessment of Candidate Sand and Gravel Sites, November 2023 68

The information and maps above represent a summary of the site assessment. You are encouraged to view the methodology and more detailed assessment for each site within appendices B-I. These can be found on the Candidate Sites Assessment webpage on our consultation pages:

[www.essex.gov.uk/minerals-review](http://www.essex.gov.uk/minerals-review)

Appendix B - Landscape and Visual Sensitivity

Appendix C - Biodiversity

Appendix D - Historic Buildings

Appendix E - Archaeology

Appendix F - Flooding

Appendix G - Transport

Appendix H – Access

Appendix I - Public Rights of Way, Geo-Environmental, Hydrology, Hydrogeology & Drainage, Air Quality, Soil Quality, Services & Utilities, Health & Amenity, Green Belt, and Airport Safeguarding Zones

## **Appendix 2**

Site ProForma

# ESSEX MINERALS LOCAL PLAN (2014) REVIEW 2022

## Call for Sites Pro-forma – Potential Site for Mineral Extraction

### About You

Please indicate whether you are acting as the:

Agent..... Daniel Walker.....

Landowner...Brice Aggregates Limited and R A Brice and Partners.....

Operator/ Developer..... Brice Aggregates Limited.....

Other (Please specify)

### Agent Details:

If you are an agent, please provide the following details of the person or organisation you are representing. If not, leave this blank.

Who are you representing?

Landowner.....

Operator/ Developer.....

Other (Please specify)

<b>Name</b>	Daniel Walker
<b>Job Title</b>	Agent for Operator
<b>Organisation</b>	David L Walker Limited
<b>Address</b>	89 Station Road Eckington Sheffield
<b>Postcode</b>	S21 4FW
<b>Telephone</b>	01246 431 749
<b>Email</b>	01246 431 863

**Landowner Details (to be completed by landowner or someone acting on their behalf:**

Landowner 1 Details		Landowner 2 Details (Enter n/a if not appropriate)	
<b>Name</b>	Brice Aggregates Limited	<b>Name</b>	RA Brice & Partners
<b>Address</b>	Colemans Farm Little Braxted Lane Witham Essex	<b>Address</b>	Colemans Farm Little Braxted Lane Witham Essex
<b>Postcode</b>	CM8 3EX	<b>Postcode</b>	CM8 3EX
<b>Contact Name</b>	Oliver Brice	<b>Contact Name</b>	Oliver Brice
<b>Telephone</b>	01376 511619	<b>Telephone</b>	01376 511619
<b>Email</b>	<a href="mailto:oliver@briceaggregates.co.uk">oliver@briceaggregates.co.uk</a>	<b>Email</b>	<a href="mailto:oliver@briceaggregates.co.uk">oliver@briceaggregates.co.uk</a>
If the site is under additional multiple ownership please submit the name, address and contact details of all other landowners. Please see end of form.			
Please provide evidence that the landowner is aware of, and supports, this submission in response to the 'Call for Sites' for the Essex Minerals Local Plan Review.			

**Operator/ Developer Details (if different to the above):**

<b>Name</b>	Oliver Brice
<b>Job Title</b>	Managing Director
<b>Organisation</b>	Brice Aggregates Limited
<b>Address</b>	Colemans Farm Little Braxted Lane Witham Essex
<b>Postcode</b>	CM8 3EX
<b>Telephone</b>	01376 511619
<b>Email</b>	<a href="mailto:oliver@briceaggregates.co.uk">oliver@briceaggregates.co.uk</a>

## Site Plan:

Please provide, by way of an Appendix to this pro-forma, an OS based Site Plan, at a minimum scale of 1:5,000, identifying the:

- Extent of land under landowner/ operator control (blue line boundary);
- Site boundary including vehicular access and connection to highway network (red line boundary);
- Proposed extraction area;
- Location of proposed/ existing processing plant (if applicable);
- Location of any proposed/ existing ancillary development;
- Indicative phasing of works, with timescale in years;
- Restoration proposal, including final contours and their deviation from the existing

## Site Details:

<b>Site Reference:</b> (ECC to provide on receipt of submission)	
<b>Site Name:</b>	Colemans Farm Quarry – Southern Extension
<b>Site Address</b>	Colemans Farm Quarry Little Braxted Lane Witham Essex
<b>Postcode</b>	CM8 3EX
<b>District and Parish(s)</b>	Braintree, Rivenhall
<b>OS Map Reference (6 figures)</b>	TL 839 153
<b>Total Site Area (hectares)</b>	4.13 ha
<b>Extraction Area (hectares)</b>	2.33 ha
<b>Current Land-use</b>	Arable / Pasture
<b>Would this be a new mineral site or extension to existing mineral site</b>	<input type="checkbox"/> New Site <input checked="" type="checkbox"/> Extension to existing
<b>Is there confirmed mineral operator interest in working the site? Please evidence.</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Is the site currently vacant?</b>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Agricultural Use <input type="checkbox"/> Other (please describe)
<b>Are there permits or licences that apply to the use of this land and may impact on the deliverability of the site? (Please include reference numbers).</b>	<input type="checkbox"/> Yes, please describe <input checked="" type="checkbox"/> No

<p><b>If the land is currently agricultural land, is it in an environmental stewardship scheme such as Higher Level Stewardship? (Please provide details of any agreements).</b></p>	<p><input type="checkbox"/> Yes, please describe</p> <p><input checked="" type="checkbox"/> No</p>
<p><b>Any other known commercial or deliverability issues, such as planning permissions, known ownership, legal or time related constraints that might prohibit or delay development?</b> (Please provide details, if applicable)</p>	<p><input type="checkbox"/> Yes, please describe</p> <p><input checked="" type="checkbox"/> No</p>
<p><b>Confirmation that the land subject to the red line boundary is not allocated or proposed to be allocated for any other form of development in existing and/ or emerging Local Plans.</b></p>	<p><input type="checkbox"/> Yes, please describe</p> <p><input checked="" type="checkbox"/> No</p>

**Nature of Development:**

<p><b>Description of proposals and working methodology</b></p>	<p>It is considered that the proposed allocation is a logical extension to the existing operations at Colemans Farm Quarry. It is proposed that the area could form a new phase (Phase 18), following on from the current phasing arrangements at the existing operational site.</p> <p>It is proposed that the sand and gravel won from the southern extension will be transported to the existing consented processing plant site, where it will be washed, graded and stocked prior to export off site via the existing site access onto Little Braxted Lane (refer to Plan C45/8/2001). It is proposed to use all the existing ancillary facilities associated with the operations currently regulated under the current consent in consideration of the processing and distribution of these minerals.</p> <p>It is proposed that groundwater will be pumped from the deposit to enable dry workings, with the pumped water initially into the on site freshwater lagoons, or a direct discharge off site using a sump consistent with the existing consented regime on site</p>
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	<p>into which this extension would be integrated.</p> <p>The proposed limit of extraction is defined on the plans attached. The proposed extraction area has been defined using the following stand offs:-</p> <ul style="list-style-type: none"> <li>• 50m from the River Blackwater;</li> <li>• 20m to the woodland to the west of the proposed allocation; and</li> <li>• 6m from remaining perimeters.</li> </ul> <p>Plan C45/8/2003 shows a single phase which would be worked over a period of five-six months, with an overall operational period of just one year including restoration.</p> <p>In light of the proposed A12 improvement works it may be necessary for BAL to relocate certain elements of the infrastructure of Colemans Quarry, including the processing plant which is currently sited on land which lies within the footprint of the proposed A12 works.</p> <p>Should the A12 improvement works proceed and it be necessary to relocate the processing plant, materials won from this extension would be transported to the relocated plant site. It is envisaged that the size and capacity of the relocated plant site would be near identical to the existing arrangements on site.</p> <p>Should the A12 works not proceed and the processing plant remain in situ at Colemans Quarry, then as-dug material from this proposed allocation could be transported from this site to the existing processing plant using the existing and prospective internal haul road / field conveyor network (as applicable) of Colemans Quarry.</p>
<p><b>Would any additional mineral infrastructure be required e.g. processing plant?</b></p>	<p><input checked="" type="checkbox"/> Yes, please describe</p> <p>The existing Colemans Quarry processing plant may need to be relocated in light of the</p>

	<p>A12 improvement works being promoted by National Highways.</p> <p>An extract of the National Highways indicative maps is appended to illustrate the interaction between the BAL site and the emerging A12 scheme.</p> <p>The sand and gravel won from this proposed allocation would be processed through either the relocated or existing processing plant location as appropriate.</p> <p><input type="checkbox"/> No</p>
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**Nature of Sand and Gravel Deposit:**

<p><b>Geological information/ formation/ nature of mineral:</b></p>	<p>The published geological information covering the application site (including Mineral Assessment Report TL81) indicates that the operations (including the proposed extension) are located in an area of superficial deposits of Pleistocene to recent age, which form part of a terrace system occupying the valley of the River Blackwater.</p> <p>The sand and gravel deposits (comprising elements of River Terrace and re-worked materials) are underlain by Boulder Clay, which is in turn underlain by the Jurassic London Clays.</p> <p>Several detailed drilling surveys have been undertaken and the investigations have proved the presence of an almost continuous spread of sand and gravels underlying the whole of the site, overlain by small amounts of sandy clay overburden and soils.</p> <p>Mineral deposit thickness in the proposed western extension in the boreholes ranged between 2.8 metres and 3.0 metres, averaging just under 3 metres. A summary document of available site investigation information is provided as part of this submission.</p> <p>Grading analysis of the borehole samples indicated that the stone (or gravel) content of</p>
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	the deposit is 49.0% and the silt content 4.2%, giving a sand fraction of 46.8%.
<b>Estimated yield after processing (in million tonnes)</b> This figure must be evidence based, including borehole logs, to substantiate the estimated yield).	0.11 Mt  (Please provide to 2 decimal places)
<b>Overburden: Thickness ratio, either averaged across site or as separate figures if varied across site.</b>	Up to 1.5m of overburden, with a ratio of over 1:3
<b>Estimated potential annual output after processing (production rate, Mtpa) of mineral, if known, assuming no restrictions.</b>	0.23 Mtpa, potentially increasing to 0.3Mtpa if sufficient additional reserves are allocated.  (Please provide to 2 decimal places)
<b>Estimated lifespan of extraction activities, assuming no restrictions.</b>	Up to 1 year for extraction and restoration.

### Timescales for Working

<b>When would the site be anticipated to come forward as a planning application following adoption of the MLP Review</b>	It is anticipated that a planning application could be worked up for submission at or around late 2025/early 2026 to support the sustained productive capacity of the wider quarrying complex.
<b>Please indicate which of the following statements apply:</b>	<input checked="" type="checkbox"/> a) Site could be worked at any time during the Plan period <input checked="" type="checkbox"/> b) Site would be worked in sequence with another existing/ proposed site (please describe)  It is proposed that upon grant of consent, mineral extraction within the proposed allocation would follow on from the consented extraction activities at Colemans Farm Quarry. The reserves in that quarry are currently expected to be exhausted in 2028 at current rates of extraction. It is proposed that the area could form a new phase (Phase 18), following on from the current phasing arrangements on site.  <input type="checkbox"/> c) Site would not be commenced until , due to .

<b>When would you envisage that the site would be likely to commence extractive operations?</b>	The intention is to commence mineral extraction in the proposed allocation in 2028.
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\* Please note that the plan period is up to 2029 and any potential site for the MLP must be able to start extractive operations prior to 31st December 2029. The site does not have to conclude extraction and/or restoration in these timescales.

### Access and Transportation:

<b>Means of exportation of mineral</b> (If a combination please state which methods would be used)	<input checked="" type="checkbox"/> Road <input type="checkbox"/> Rail <input type="checkbox"/> Water <input type="checkbox"/> Combination -                      and                      .
<b>Proximity and route to main route network</b>	0.2 kilometres
<b>Any envisaged improvements required to quarry access arrangements.</b>	<p>None, although the current access provisions to the site are subject to change as a result of the planned upgraded to the A12.</p> <p>Should the A12 improvement works have been constructed by the time this site becomes operational, HGVs could utilise the existing access arrangements at the site's Little Braxted Lane entrance – following dialogue with National Highways it is expected that this access will remain available both during and after the A12 construction works.</p> <p>Alternatively, HGVs could utilise the site's existing secondary access onto the newly formed Braxted Road, bridging the new A12 and bypassing Rivenhall End to meet the "old" A12 south of Rivenhall End at the proposed roundabout for local access onto the newly formed A12 Junction 22.</p> <p>An extract of the National Highways indicative maps is appended to illustrate the interaction between the BAL site and the emerging A12 scheme.</p> <p>Should the A12 improvement works have not been constructed by the time this site becomes operational, then HGVs could access the trunk road network through the existing internal haul road network of Colemans Quarry onto the existing Little Braxted Lane access.</p>

<p><b>Number of daily vehicle movements, under standard operational hours, assuming no other restrictions</b></p>	<p>In order to support mineral extraction activities within the proposed allocation (no materials importation activities are envisaged for this area), it is proposed operate with HGV activity up to 230 movements (115 in and 115 out per day).</p> <p>The HGVs would use the existing primary site access and the consented haul road (refer to Plan C45/8/2001), or the secondary access (see above).</p>
<p><b>Likely market area for mineral</b></p>	<p>Central, Western and Southern Essex and markets along the A12, A414, A130 and A120 corridors.</p>

**Restoration and After-use:**

<p><b>Proposed method and form of restoration inc whether low-level, partial or full infilling</b></p>	<p>It is proposed to utilise on site materials to facilitate a low level restoration to open water and reedbed/wetland habitat.</p> <p>The margins around the proposed allocation, in particular towards the River Blackwater will be maintained and enhanced as Floodplain Meadow before during and after any workings within the proposed allocation area.</p>
<p><b>Where infilling is proposed, is it necessary to achieve beneficial restoration, and why?</b></p>	<p><input type="checkbox"/> Yes (please explain)  <input checked="" type="checkbox"/> No  <input type="checkbox"/> N/A</p>
<p><b>Proposed after-use(s)</b></p>	<p>Nature Conservation Habitats</p>
<p><b>Where the site will require importation of waste for restoration:</b>  please approximately quantify the tonnage (Mt) and type of waste envisaged (as applicable).</p>	<p>0Mt – Inert waste  0Mt – Residual Non-Hazardous waste  0Mt – Other waste please specify-  <input checked="" type="checkbox"/> Not Applicable</p>
<p><b>Would development contribute to the creation of any of the following Priority Habitats? *</b>  Please approximately quantify hectares (ha) for each (as applicable).</p>	<p>0.42 ha – Coastal and Floodplain Grazing Marsh  0 ha – Lowland Heathland &amp; Lowland Dry Acid Grassland  0 ha – Lowland Meadows  0 ha – Open Mosaic Habitats on Previously Developed Land  0.79 ha – Reedbeds</p>

	<p><input type="checkbox"/> Not Applicable</p> <p>Any further information:</p> <p>The current site benefits from a comprehensive package of management plans to deliver large areas of Priority Habitat. These already address habitat creation in the proposed allocation, and therefore the schemes could be updated in the event that a satisfactory planning consent is granted.</p>
<p><b>How will it be ensured that the development would comply with mandatory biodiversity net-gain requirements?</b></p>	<p>There will be a need to develop management plans to ensure that net gain is created, managed and maintained into the future. These would be encapsulated into planning conditions in the event that the MPA are minded to grant planning consent (and/or a Planning Obligation for long term aftercare of Priority Habitats) for the proposals.</p>
<p><b>The emerging MLP Review requires that mineral restoration schemes shall reflect strategies across Essex, including Local Plan objectives for growing natural capital and green and blue infrastructure Strategies where relevant. How will this proposal contribute to such strategies? In the absence of local standards, please refer to the Building with Nature Standards Framework 2.0 (<a href="#">here</a>)</b></p>	<p>With reference to the Building with Nature Standards Framework 2.0 document, it is proposed that the restoration scheme could make small but positive contributions to the following standards:-</p> <ul style="list-style-type: none"> <li>• Standard 1 Optimises Multifunctionality and Connectivity</li> <li>• Standard 6 Secures Effective Place-keeping</li> <li>• Standard 9 Delivers Climate Resilient Water Management</li> <li>• Standard 11 Delivers Wildlife Enhancement</li> <li>• Standard 12 Underpins Nature's Recovery</li> </ul> <p>Any contributions to these objectives can be secured through management plans to ensure that specific management prescriptions are provided and secured into the future. These could be encapsulated into planning conditions in the event that the MPA are minded to grant planning consent for the proposals.</p>

\* As specified in Essex County Council's [The Supplementary Planning Guidance: Mineral Site Restoration for Biodiversity \(June 2016, page 20\)](#).

## Mitigating Potential Impact and Securing Enhancements as part of the Proposed Development:

Please identify what you consider to be the potential social, environmental and economic impacts of working the proposed site allocation, and any mitigation measures that you have considered to mitigate these potential impacts.

Impact	Proposed Mitigation
<p><b>Soils and Agricultural Land Value</b></p>	<p>In respect of <b>Soils and Agricultural Land Value</b>, the soils resource within the proposed allocation is likely of low value as it is periodically inundated. If required, the proposed allocation will continue benefit from comprehensive measures to safeguard the condition and integrity of the soil resource as per the planning conditions that are in place for the existing site.</p>
<p><b>Ecology</b></p>	<p>With regard to <b>Ecology</b>, although field surveys have yet to have taken place the majority of the proposed allocation is in agricultural use (as a combination of arable and pasture), and therefore is likely to be of limited ecological value</p> <p>Appropriate measures can be put in place to safeguard sensitive habitats around the site perimeter, with schemes to safeguard and manage existing and retained habitats provided through appropriately worded planning conditions.</p> <p>There are no designated areas of international or national significance on or in proximity to the proposed allocation.</p> <p>There are no designated areas of local significance on or in proximity to the proposed allocation.</p> <p>There is an area of woodland to the west of the proposed allocation area that has been designated as Priority Woodland Habitat. The proposed extent of mineral extraction is therefore designed to leave this habitat in situ with the provision of a minimum of a 20 metre standoff to ensure the long term integrity of the woodland (refer to Plan C45/8/2003). As part of any planning application, it may be necessary to reconsider this standoff when considering potential interaction effects associated with water management on site and specifically the practice of dewatering.</p>

	<p>It is recognised that there will need to be a suite of protected species surveys to inform understanding of the baseline setting of the proposed allocation, and such information would also be used to refine the proposed schemes of working and restoration.</p> <p>It is also recognised that there is the potential to provide biodiversity enhancement before and during the proposed extraction, in accordance with the approved schemes that are already in place on site. It is anticipated that compared to the current land use, the proposed restoration concept will provide the opportunity for enhanced linkage between the River Blackwater and planned reedbed, wetland, and open water restoration through habitat creation.</p>
<p style="text-align: center;"><b>Landscape and Visual Amenity</b></p>	<p>In respect of <b>Landscape and Visual Amenity</b>, appropriate assessment has concluded that common with the existing site whilst there will be varying degrees of impact, none are of such magnitude to warrant refusal. The impacts of the working phases are transitory short-lived and temporary in nature. The scope for cumulative effect associated with the existing quarry is considered negligible as the proposed allocation is minor both in terms of size and duration.</p> <p>It is recognised that in general terms the landscape around the site is of medium value however there are areas of high value landscape receptors, in particular in the form of the Braxted Park Registered Park and Garden, along with other heritage assets in the area. However, it should be noted that there are no landscape designations of any significance on or immediately adjacent to the proposed allocation.</p> <p>With reference to plan C45/8/2002 it is notable that the proposed allocation is framed by areas of mature woodland planting.</p> <p>Consistent with existing practices at the consented Colemans Farm Quarry it will be necessary to extract the mineral reserve in a phased manner with progressive restoration to minimise the land take at any single stage of the site.</p>

	<p>The restoration scheme will mainly seek to establish nature conservation habitats, and has the potential to deliver landscape and visual benefit into the future. BAL will also consider the opportunities for recreational enhancement to improve landscape amenity.</p> <p>The scope for cumulative effect associated with the existing quarry is considered to be minimal as the proposed allocation would be worked in conjunction with mineral extraction activity in the current site.</p>
<p><b>Archaeology</b></p>	<p>With regard to <b>Archaeology</b>, it is recognised that the site is located within an area of archaeological sensitivity. There are no designated sites of any significance on or in close proximity to the proposed allocation.</p> <p>The reports and investigations, prepared and undertaken in support of the existing site to date, suggest that there are limited archaeological remains which would justify preservation within the site (and likely the proposed allocation), and no finds or features of national significance.</p> <p>Accordingly, it is proposed to continue to implement a mitigation strategy in order that any archaeological deposits that could possibly be affected by the mineral extraction (both in the current site and the proposed extension) are preserved by record in accordance with local and central government guidance.</p>
<p><b>Cultural Heritage</b></p>	<p>In respect of <b>Cultural Heritage</b> there are Listed Buildings (including assets in the core of Little Braxted, Appleford Bridge, and Witham Lodge for example) and other designated heritage assets in the wider locality including the Registered Parks and Garden at Braxted Park.</p> <p>The landscape value and setting around the Registered Park and Garden has already been impacted by the establishment of the commodity centre to the east of the proposed allocation, and relative to the proposed allocation site, there are a number of intervening blocks of woodland planting of various type on density, that served to filter and in most cases limit views in between the RPG and the proposed allocation.</p>

	<p>It is recognised that any application will need to be supported by a comprehensive assessment examining the potential scope for impact on all the heritage assets (designated or not) within the zone of theoretical visibility relative to the proposed scheme. It is likely that there will be an interaction with the Landscape and Visual Impact Assessments and the schemes of mitigation promoted through such a document.</p>
<p><b>Hydrology and Flood Risk</b></p>	<p>In respect of <b>Hydrology and Flood Risk</b>, independent assessments undertaken by specialists confirms that with appropriate mitigation there will be no significant negative impacts in respect of surface or groundwater resources within or adjacent to the site resulting from the extraction of minerals from the southern extension.</p> <p>It is recognised that any application will need to be supported by a Hydrological Impact Assessment considering the scope for impact on all surface and groundwater features on and in proximity to the proposed allocation. Such an assessment would need to consider the potential effects associated with dewatering as well as the effects associated with the proposed import of inert restoration materials.</p> <p>As the workings in the proposed allocation will be designed and operated in broadly the same hydrological setting with the same operational practice as the current site, it is likely that similar conclusions will be drawn relative to any assessments within the proposed allocation.</p> <p>All surface runoff will be properly managed to ensure that there are no uncontrolled discharges from the site, both during the extraction operations and in the long term. The scope for effects on the River Blackwater and other significant drainage features that form the perimeter of the proposed allocation is considered negligible, as these features will benefit from appropriate stand offs secured through planning conditions and management plans such as a CEMP.</p> <p>The majority of the proposed allocation is situated in Flood Zone 3. Whilst it is recognised that sand and gravel extraction is compatible as a land use</p>

	<p>within these zones (being water compatible), the design of the extraction area in this part of the proposed allocation will need to benefit from flood risk modelling and potentially a mitigation package to ensure that there is no increase in flood risk to properties off site.</p> <p>In relation to other forms of flooding it is noted that similar parts of the proposed allocation are subject to a higher risk from pluvial events and from flooding from the adjacent Colemans reservoir. The potential for groundwater flooding is considered to be low consistent with the context on the current site. It is therefore apparent that any application would need to be supported by a comprehensive Flood Risk Assessment to consider the scope for impact relative to each of these potential sources.</p>
<p><b>Transport</b></p>	<p>With regard to <b>Transport</b>, independent assessment, and operational experience to date has concluded that the rates of activity defined above have no material impact on the safety or operation of the adjacent highway network.</p> <p>In the event that an allocation is secured and BAL secure a satisfactory planning consent, it is recognised any points of access will need to be operated with strict controls on HGV routing on an ongoing basis, to ensure that activity on smaller highways assets in proximity to the site are avoided.</p> <p>Whilst the proposed A12 improvements and any required relocation of site infrastructure would provide for a suitable route onto the newly constructed Junction 22, in the event that the A12 improvements are not forthcoming, the existing access arrangements of Colemans Quarry would be utilised.</p>
<p><b>Noise</b></p>	<p>In respect of <b>Noise</b>, comprehensive assessments undertaken in support of the existing operations indicate that the calculated site noise levels for routine, and temporary operations within the proposed allocation would likely comply with the existing site noise limits at all the assessment locations.</p> <p>The proposed allocation is situated in the same context in so much that traffic activity on the A12 is the dominant noise source. There are no residential</p>

	<p>receptors in close proximity to the proposed allocation.</p> <p>Notwithstanding it is recognised and understood that any scheme will need to benefit from a comprehensive mitigation package to safeguard the amenity of nearby sensitive receptors.</p> <p>Since the proposed operations are likely to conform to the advice set out in the Noise Planning Practice Guidance when considering both routine and temporary operations, it is concluded that the proposed allocation could be worked to limits within the existing planning conditions while keeping noise emissions to within environmentally acceptable limits. Similar to the current site a noise monitoring scheme would be provided and can be implemented through suitably worded planning conditions as required.</p>
<p><b>Air Quality</b></p>	<p>With regard to <b>Air Quality</b>, good practice guidance, and additional mitigation measures which are generally accepted by the DCLG and Mineral Planning Authorities as providing effective protection against airborne dust in the planning context can be secured through appropriately worded planning conditions. The continued adoption of such good practice will ensure that operations will not cause unacceptable impacts due to airborne dust emissions at any property in the vicinity of the site. Daily observations and inspections by site management will continue to be undertaken in order to manage and minimise these risks.</p>
<p><b>Cumulative and Interaction effects</b></p>	<p>The scope for cumulative and interaction effects has been examined with the findings that where effects could be generated, they are of limited significance and of temporary duration.</p> <p>The scope for cumulative effect associated with the existing quarry is considered to be minimal as the proposed allocation would only be worked after the cessation of mineral extraction activity in the current site.</p>
<p><b>Health Impacts</b></p>	<p>Finally, in respect of potential <b>Health Impacts</b> the scope for effects during construction and extraction operations are negligible, with a range of effective and best practice controls available to manage all aspects in this regard. On this basis, it is not</p>

	considered necessary to warrant a full health impact assessment, as the proposals are temporary and can be effectively managed by way of conditions.
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Please detail any enhancement opportunities that the proposal will afford to the local area:

The proposals relate to a minor extension to an existing quarry. The extension is not connected to any rights of way, but there is the possibility that the restoration of the wider site could result in certain recreational improvements such as the creation of permissive rights of way to connect to the definitive network.

### **Other information**

Please set out any other further information you wish to include to support your submission

- Location Plan – Plan ref C45/8/2001
- Site Plan – Plan ref C45/8/2002
- Concept Working Plan – Plan ref C45/8/2003
- Concept Restoration - Plan ref C45/8/2004
- Summary of Site Investigations
- Letter of Landowner support
- Extract of National highways maps for the A12 works, illustrating proposed works around the existing workings at Colemans Farm Quarry.

### **Background**

Brice Aggregates Limited are the owner and operator of Colemans Farm Quarry which, since its opening in 2017 has become an established and respected supplier of aggregates and concrete to the construction industry. The location of Colemans Farm Quarry with near direct access onto the A12 allows the business to serve customers in predominately the South, West and Central geographies of Essex.

All aggregates sold are processed and washed on site to ensure the best and most sustainable use of scarce resources, whilst minimal overburden levels ensure a low energy and carbon intensity of production. The site also produces ready-mix concrete and has become an established supplier to the central Essex

market since commissioning an onsite batching plant in 2021. To support this activity, the business employs some 25 personnel directly at its' Witham site.

Whilst the current permission permits extraction until 2035, at current rates of extraction, the site is expected to exhaust its mineral reserves in 2028. The allocation of this extension to Colemans Farm Quarry would prolong the working life of the site.

Brice Aggregates currently only operates from this one location and allowing Colemans Farm Quarry to deplete would see them exit the market thereby reducing competition whilst eliminating the productive capacity of this site and business. Should allocations be secured these would be brought forward in a timely manner to seek planning permissions within the current plan period. This would enable Brice Aggregates to continue to serve its principal aggregates markets in the south and west of Essex as well as the readymix concrete needs of mid-Essex.

Should sufficient extension allocations be secured, and subject to the necessary planning consents, Colemans Farm Quarry could readily be operated at a higher output of up to 300,000 tonnes per annum in order to support the diversity of supply within the County and the demands of the South and West Essex construction markets. The company remains willing and able to adjust production capacity to meet the demands of the market, and of the council in ensuring its supply obligations for construction materials.

In line with planning consents sought, and operations to date, Brice Aggregates would seek to develop this site in line with current best practice and pursue opportunities for biodiversity enhancement and public benefit where practicable.

### **A12 Boreham to A120 Widening Scheme – Interaction**

The A12 widening works currently being promoted by National Highways interact with the permitted Colemans quarry site. Brice Aggregates has already been in discussions for an established period of time with National Highways regarding the scheme and both parties have been working extensively to reduce their impact on the other.

Should the A12 proposals come to fruition, Brice Aggregates anticipates that all permitted and promoted mineral reserves within the footprint of the A12 works would be won prior to the commencement of A12 construction. Planning applications are currently outstanding with the MPA to amend the restoration scheme for the current site to pre-extraction levels (utilising imported inert materials) to provide a beneficial and supportive landform for the A12 to be constructed upon.

Furthermore, Brice Aggregates expects that alternative arrangements for access to site will be required as a result of the work on the A12, along with relocation of infrastructure such as the processing plant to an alternative location.

Such changes will be necessary, to ensure continuity of operations and supply throughout the A12 construction period and beyond. Discussions with National Highways in this regard are well advanced and ongoing. Once the improved A12 has been opened, the site's situation and access arrangements onto the trunk road network will only be improved further reinforcing its status as a sustainable and proven source of aggregate supply lying at the heart of the County.

In summary, Brice Aggregates has been proactively and collaboratively engaged in discussions with National Highways regarding the continuity of Colemans Quarry, and expects no disruption to operations or the ability to maintain supply throughout the construction of the A12 scheme. Indeed, it is well placed to help meet the supply needs of this nationally significant infrastructure project which the allocation of further reserves would help to support. Where there are conflicts in land use between the boundary of this allocation and the eventual boundaries of the A12 scheme, an eventual planning application would be suitably designed to avoid this.

The allocation of further reserves will allow Colemans Quarry to sustain its' productive capacity and output beyond the end of the current plan period; delivering sustainable aggregates and concrete supply into key Essex markets.

For more information or assistance, please email: [mandwpolicy@essex.gov.uk](mailto:mandwpolicy@essex.gov.uk)

Or telephone the team on 03330 136 822

## Declaration

Information may be published in accordance with:

- [Freedom of Information Act](#)
- [The General Data Protection Regulation \(GDPR\)](#)
- [Essex County Council Privacy Notice](#)

I further understand that this 'Call for Sites' is entirely without prejudice to the Council's decision to allocate additional sites, including the site subject to this pro-forma. The requirement to allocate one or more sites is contingent on the outcome of additional work leading to the outcome of the MLP Review.

Signed.....D Walker.....Date: 25/03/2022.

On behalf of (if applicable)...Brice Aggregates Limited.....

Please return completed forms to [mandwpolicy@essex.gov.uk](mailto:mandwpolicy@essex.gov.uk)

Or post to:

Freepost RTKH-XUBZ-CJZS  
Essex County Council  
Minerals Planning - Call for Sites  
County Hall  
Chelmsford, Essex, CM1 1QH

<b>Additional Landowner Details</b> (leave blank if not required)			
<b>Name</b>		<b>Name</b>	
<b>Address</b>		<b>Address</b>	
<b>Postcode</b>		<b>Postcode</b>	
<b>Contact Name</b>		<b>Contact Name</b>	
<b>Telephone</b>		<b>Telephone</b>	
<b>Email</b>		<b>Email</b>	

<b>Additional Landowner Details</b> (leave blank if not required)			
<b>Name</b>		<b>Name</b>	
<b>Address</b>		<b>Address</b>	
<b>Postcode</b>		<b>Postcode</b>	
<b>Contact Name</b>		<b>Contact Name</b>	
<b>Telephone</b>		<b>Telephone</b>	
<b>Email</b>		<b>Email</b>	

## **Appendix 3**

Soils and ALC mapping report for current site dated October 2013

**SOIL RESOURCES AND  
AGRICULTURAL USE & QUALITY OF  
LAND NEAR WITHAM, ESSEX**

Report 852/1

25<sup>th</sup> October, 2013

**SOIL RESOURCES AND  
AGRICULTURAL USE & QUALITY OF  
LAND NEAR WITHAM, ESSEX**

F.W Heaven BSc, MISoilSci

Report 852/1

Land Research Associates Ltd  
Lockington Hall,  
Lockington,  
Derby  
DE74 2RH

25<sup>th</sup> October, 2013

## **SUMMARY**

A study and survey of 54.6 ha of agricultural land to the east of Witham in Essex has shown that the land has a range of medium and light loamy stony soils over gravel, with deeper soils in places, some with slowly permeable clay subsoils. Droughtiness and seasonal wetness are both limitations to agricultural land quality and just over half is in the best and most versatile category, sub-grade 3a. The rest is of moderate quality in sub-grade 3b.

Three topsoil resources have been identified, and three corresponding subsoil resources. These vary from light to heavy loams and slowly permeable clays.

## 1.0 Introduction

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- 1.1 This report provides information on the soil resources and agricultural quality and use of an area of 54.6 ha of land to the east of Witham in Essex, proposed for a quarry. The report is based on a soil and agricultural desk study, and a survey of the land in September 2013.

### **SITE ENVIRONMENT**

- 1.2 The land surveyed is a complex shape, but the main block lies to the south east of the A12, and is bounded in the north east by Braxted Road and Colemans Reservoir. The far west of the site runs up to Little Braxted Lane but most other boundaries are either field edges or arbitrary.
- 1.3 The land is generally nearly flat at around 16-20 m aOD.

### **AGRICULTURAL USE**

- 1.4 The land is owned and farmed as part of Colemans farm, Witham, a holding of 566 ha with 445 ha of land in arable production. The rest is in a variety of uses including the production of cricket bat willows.
- 1.5 Most of the land on the site is in arable use in fields separated by ditches and hedges, but there are small fields in the south west of the site in grassland for horses and donkeys. The land is also used for game sports and fishing.
- 1.6 There are no Environmental Stewardship Agreements in place on the land.

### **PUBLISHED INFORMATION**

- 1.7 The 1:50,000 BGS geological information shows most of the area as underlain by London Clay with a small inclusion of Thanet Sand in the far west. The whole site is mainly covered by sand and gravel river terrace deposits, with narrow fringes of Head in the north and Alluvium in the south.
- 1.8 The National Soil Map<sup>1</sup> at 1:250,000 scale shows that the land mainly has soils of the Efford 1 Association comprising well drained fine loamy soils often over gravel, some affected by groundwater. A strip of soils of Fladbury 1 Association is shown in the south of the site with stoneless clayey soils affected by groundwater.
- 1.9 Reconnaissance agricultural land classification (ALC) mapping carried out in the 1970s shows the bulk of the agricultural land of the study area as grade 2, with

<sup>1</sup> Hodge C A H. *et al* (1984). *Soils and their use in Eastern England*. Soil Survey Bulletin No 12

grade 3 in the south. There are no known published modern (post-1988) maps.

## 2.0 Soils

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- 2.1 The Defra Soil Strategy<sup>2</sup> points out that soils deliver a range of vital functions for human activities including food and fibre production support for ecosystems and habitats, and environmental services that play a vital role in the global carbon cycle, stabilising and degrading contaminants and providing clean water. One of the strategy's objectives is to ensure that soil functions (soil ecosystem services) are fully valued in the planning process.
- 2.2 A detailed soil resource and agricultural quality survey was carried out in September 2013. It was based on observations at intersects of a 100 m grid, giving a sampling density of one observation per hectare. During the survey soils were examined by a combination of pits and augerings to a maximum depth of 1.2 m. A log of the sampling points and a map (Map 4) showing their location is in an appendix to this report.
- 2.3 The survey showed a relatively complex pattern of stony medium and light textured soils over gravel and heavier loamier soils, some with clay subsoils. The soil type distribution is shown on Map 1.

### **Soils over gravel**

- 2.4 These soils occur mainly in the centre of the site around Colemans Reservoir, and also on higher ground in the west. The topsoils are variable in texture ranging from sandy loam to sandy clay loam and medium clay loam. Locally there are soils with heavy clay loam or silty clay loam topsoils. The topsoils have up to 10% content of stones.
- 2.5 The subsoils are also variable in texture, but in general they have similar texture to the topsoils they underlie. They may show some mottle colours indicating seasonal wetness, probably from a fluctuating groundwater table, but all except the heaviest types are at least moderately permeable.
- 2.6 They overlie very stony or gravelly layers at 60-90 cm depth. The matrix around the stones varies from sand to sandy clay loam. The example profile from observation 47 (Map 4) described below shows one of the lighter soils over gravel:

0-28 cm	Brown to dark brown (10YR 4/3) medium sandy loam; 8% small rounded quartzite and subangular flint stones; moderately developed medium
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<sup>2</sup> Safeguarding our Soils: a Strategy for England (Defra, 2009)

	subangular blocky structure; friable; 1% medium macropores; many fine fibrous roots; sharp smooth boundary to:
28-54 cm	Brown (7.5YR 5/4) medium sandy loam, 8% small rounded quartzite and subangular flint stones; weakly developed medium angular blocky structure; firm at the top of the layer, friable below; 5% fine macropores; common fibrous roots; clear smooth boundary to:
68+ cm	Very stony with sandy matrix

2.7 In other areas topsoils and subsoils are sandy clay loam or medium clay loam, and slightly mottled, but these soils are mainly permeable. Some are occasionally affected by rising groundwater (wetness class I and II). They are versatile in the range of food and fibre production they can support, and have a good capacity to absorb excess winter rainfall. They provide dry, neutral habitats for plant communities.

#### **Soils over clayey substrates**

2.8 These soils are most common in the northern part of the site. Topsoils vary from sandy clay loam to clay, but heavy clay loam is most common. They are generally slightly stony, and some, especially in the north east of the site, are calcareous.

2.9 The subsoils are slowly permeable clay or heavy clay loam and mottled, indicating seasonal wetness. They are less stony than the topsoils and are often calcareous; some are very calcareous.

2.10 The example profile from observation 39 (Map 4) has a loamier upper subsoil than many.

0-38 cm	Dark brown (10YR 3/3) sandy clay loam: 6% small rounded quartzite and subangular flint stones; moderately developed medium subangular blocky structure; friable; common fine and medium pores and fissures; common very fine fibrous roots; sharp smooth boundary to:
38-52 cm	Brown (10YR 5/3) sandy clay loam with many strong brown (7.5YR 5/6) mottles; 3% small rounded quartzite and subangular flint stones; moderately developed medium and coarse subangular blocky structure; firm; 1% fine pores; common fine fibrous roots; clear smooth boundary to:
52-100 cm	Grey (10YR 5/1) calcareous heavy clay loam with common strong brown (7.5YR 5/8) mottles; stoneless; weakly developed very coarse angular blocky structure; firm; 0.1% fine pores; a few fine fibrous roots.

2.11 These soils are slowly permeable in the lower layers and have a moderate capacity to absorb excess winter rainfall (wetness class II or III). They provide moist, neutral to calcareous habitats for plant communities.

#### **Deep loamy soils**

2.12 These are soils lacking clay subsoils and where stony/gravelly layers are either absent or occur below 900 mm depth. The topsoils are variable in texture but medium clay loam or silty clay loam is common. They tend to be only slightly

stony and many are calcareous. The subsoils are similar in texture, calcareous or very calcareous, and often show grey colours and mottling indicating either wetness from limited permeability, rising groundwater, or relic parent material colours. Vey stony layers may occur at around 1 m depth in some soils.

2.13 The example profile described from observation 8 (Map 4) is shown below.

0-32 cm Dark brown (10YR 3/3) calcareous heavy silty clay loam: 2% small rounded quartzite stones; moderately developed medium angular blocky structure; friable to firm; 2% mainly medium macropores; common very fine fibrous roots; sharp smooth boundary to:

38-100+ cm Grey (10YR 6/1) very calcareous heavy silty clay loam with many yellowish brown (10YR 5/6) mottles; stoneless; weakly developed coarse subangular blocky structure becoming structureless, massive, at depth; firm, becoming soft below; 0.5% fine pores; common fine fibrous roots reducing with depth; secondary carbonate concentrations.

2.14 Some soils are browner to depth, and the lower layers in some soils have limited permeability causing seasonal wetness. They have a moderate capacity to absorb excess winter rainfall (wetness class II or III). They provide moist, neutral to calcareous habitats for plant communities.

## 3.0 Agricultural Quality

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- 3.1 To assist in assessing land quality, the Ministry of Agriculture, Fisheries and Food (MAFF) developed a method for classifying agricultural land by grade according to the extent to which physical or chemical characteristics impose long-term limitations on agricultural use for food production. The MAFF Agricultural Land Classification (ALC) system classifies land into five grades numbered 1 to 5, with grade 3 divided into two sub-grades (3a and 3b). The system was devised and introduced in the 1960s and revised in 1988.
- 3.2 The agricultural climate is an important factor in assessing the agricultural quality of land and has been calculated using the Climatological Data for Agricultural Land Classification<sup>3</sup>. The relevant site data for an average elevation of 16.5 m is given below. This is a typically dry East Anglian climate building large summer deficits.
- Average annual rainfall: 559 mm
  - January-June accumulated temperature >0°C 1460 day°
  - Field capacity period 101 days  
(when the soils are fully replete with water) mid Dec–late March
  - Summer moisture deficits for: wheat: 128 mm  
potatoes: 127 mm
- 3.3 The survey described in the previous section was used in conjunction with the agroclimatic data above to classify the site using the revised guidelines for agricultural land classification issued in 1988 by the Ministry of Agriculture, Fisheries and Food<sup>4</sup>.

### SURVEY RESULTS

- 3.4 The agricultural quality in some of the survey area is determined mainly by the ability of the soils to provide adequate moisture for crop growth. This is mainly a function of soil texture and depth to very stony layers. Elsewhere, wetness caused by slow drainage over slowly permeable subsoils is also important. Only land of grade 3 agricultural quality exists on the site.

<sup>3</sup> *Climatological Data for Agricultural Land Classification*. Meteorological Office, 1989

<sup>4</sup> *Agricultural Land Classification for England and Wales: Guidelines and Criteria for Grading the Quality of Agricultural Land*. MAFF, 1988.

### **Sub-grade 3a**

- 3.5 There are 29 ha of this sub-grade in two types of land. The first has soils similar to those described in paragraph 2.4 with medium loamy subsoils over gravel or very stony layers at around 70 cm depth. Deep medium loamy soils in this dry climate also result in moderately droughty conditions for most crops in the summer.
- 3.6 In the second type the soils are similar to those described in paragraph 2.8 but with medium loam topsoils and upper subsoils over heavy subsoils, or with soils similar to those described in paragraph 2.12. These soils have impeded drainage, leading to reduced workability in spring and winter (wetness class II and III).

### **Sub-grade 3b**

- 3.7 This sub-grade accounts for 25 ha, mostly on land with soils similar to those described in paragraph 2.4, with gravel close to the surface or with lighter less moisture retentive upper layers. The principal limitation is droughtiness caused by lack of moisture reserves in the stony sandy subsoils. Some soils have very stony topsoils and this can hamper cultivation.
- 3.8 The sub-grade includes small patches of soils as described in paragraph 2.8 with slowly permeable subsoils below heavy textured topsoils. The quality of this land is limited by winter wetness.

### **Other land**

- 3.9 This is an area of uncultivated land beside the track to the south of the reservoir.

### **Grade areas**

- 3.10 The boundaries between the different grades of land are shown on Map 3 and the areas occupied by each are shown below.

**Table 1. Areas within the survey area occupied by the different land grades**

<i>Grade/sub-grade</i>	<i>Area (ha)</i>	<i>% of agricultural land</i>	<i>% of the site</i>
<b>Sub-grade 3a</b>	29.0	53	53
<b>Sub-grade 3b</b>	25.4	47	46
<b>Other land</b>	0.2		<1
<b>Total</b>	54.6	100	100

## 4.0 Soil resources and their use

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4.1 Government policy as outlined in the Department of Communities and Local Government's National Planning Policy Framework (paragraphs 109 and 143) is to protect valuable soil resources from loss or damage during land disturbance and ensure that stripped soils are used to either for land reinstatement after quarrying or other beneficial use off-site.

4.2 There are six soil resource units, three topsoils and three subsoils, which are described below and shown on Map 3.

### **Topsoil T1/Subsoil S1**

4.3 The soils over much of the northern part of the site have heavy clay loam or silty clay loam topsoils (T1) overlying similarly heavy textured subsoils (S1). Both resources are very prone to damage by movement in wet conditions and need careful handling to retain structure.

### **Topsoil T2/Subsoil S2**

4.4 Some of the land over gravel has medium loam stony topsoil (T2) and subsoils (S2) that would be a useful resource in restoration of permeable soils, but need careful handling to maintain soil structure.

### **Topsoil T3/Subsoil S3**

4.5 In parts of the site the topsoil is stony medium sand (T3) and overlies similar textured permeable subsoils (S3). Although these are the most resilient resources on the site, they still require reasonable care in handling to retain structure. They form useful resources for restoration of freely draining soils .

### **Soil Handling and restoration**

4.6 Most soil resources are easily damaged by being stripped or moved when wet. Consequently, stripping should only take place in the driest parts of the year, using the excavator and dumper method as described by Sheet 1 in the MAFF Good Practice Guide for Handling Soils<sup>5</sup>.

4.7 If direct placement of stripped soils onto areas being restored is not possible, the resources should be stripped and stored separately in low bunds (no more than 3 m high for topsoil). Topsoil should be stripped from areas designated for storing subsoil. The bunds should be constructed either by excavator or

<sup>5</sup> MAFF Good Practice Guide for Handling Soils, ([www.defra.gov.uk/farm/environment/land-use/soilguid/](http://www.defra.gov.uk/farm/environment/land-use/soilguid/))

bulldozer (Sheets 2 and 14 in the MAFF Good Practice Guide) avoiding over-compaction. They should be sown with grass to help maintain biological activity and prevent water erosion.

- 4.8 The soils should be removed from storage (Sheet 3 in the MAFF Good Practice Guide) and replaced by excavator during the summer using the loose tipping technique (Sheet 4 in MAFF Good Practice Guide), which avoids traffic on the restored surfaces.
- 4.9 Restoration of the land to similar agricultural land quality can be achieved by the replacing corresponding topsoils and subsoils. Restoration to best and most versatile agricultural land will require the use of 300 mm of any topsoil over at least 400 mm of **subsoil 2**, or 500 mm of **subsoil 3**, and using **subsoil 1** as a basal layer. The stoniest soil resources would be improved by screening to remove the bulk of the stones. The restored land should be sown to ensure that a ground cover of vegetation is established before the ensuing winter.

## 5.0 Conclusions

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5.1 A study and survey of 52.5 ha of agricultural land to the east of Witham in Essex has shown that

- The land has a range of medium and light loamy stony soils over gravel, with deeper soils in places, some with slowly permeable clay subsoils.
- Droughtiness and seasonal wetness are both limitations to agricultural land quality and just over half is in the best and most versatile category, sub-grade 3a. The rest is of moderate quality in sub-grade 3b.
- Three topsoil resources have been identified, and three corresponding subsoil resources. These vary from light to heavy loams and slowly permeable clays.

**APPENDIX**  
**MAPS AND DETAILS OF OBSERVATIONS**

Proposed quarry at Witham: ALC and soil resources survey September 2013 - Details of observations at each sampling point

Obs No	Topsoil			Upper subsoil			Lower subsoil			Slope (°)	Wetness Class	Agricultural quality	
	Depth (cm)	Texture	Stones (%)	Depth (cm)	Texture	Mottling	Depth (cm)	Texture	Mottling			Grade	Main limitation
1	0-30	MCL	4	30-70	MCL	o	70-90	SCL	o	1	I	3a	D
							70+	stopped on stones					
2	0-30	MCL	5	30-110	br MCL	o				1	I	3a	D
3	0-28	HCL	2	28-65	C	xx(x)	65-120	HZCL	xxx	0	III	3b	W
4	0-26	ca HCL	1	26-65	ca HCL	xxxx	65-120	HZCL	xxxx	0	III	3a/3b	W
5	0-28	ca HZCL	1	28-110	ca HZCL	xxxx				0	III	3a/3b	W
6	0-40	ca HCL	2	40-120	ca HZCL	xxxx				0	III	3b	W
7	0-32	HZCL	2	32-75	ZC	xxx	75-90	HZCL	xxx	0	III	3b	W
							90+	stopped on stones					
8	0-32	ca HCL	3	32-100	ca HZCL	xxx	100+	stopped on stones		0	III	3a/3b	W
9	0-31	MCL	4	31-70	MCL	o	70-110	MCL	xxx	0	II	3a	D
10	0-30	ca HCL	1	30-60	ca ZC	xxxx	60-110	HZCL	xxxx	0	III	3a/3b	W
11	0-28	ca HCL	0	28-110	ca HZCL	xxxx				0	II/III	3a/3b	W
12	0-28	ca HZCL	1	28-65	ca ZC	xxxx	65-110	SCL	xxx	0	III	3a/3b	W
13	0-28	HCL	2	28-65	HZCL	xxx	65-95	ca st HZCL	xxx	0	III	3b	W
							95-110	v st SCL	xxx				
14	0-26	ca HZCL	1	26-70	ca HZCL	xxxx	70+	stopped on stones		0	II	3a	D
15	0-31	HCL	1	31-70	HCL	xx(x)	70-100	SCL	xxx	0	II/III	3a/3b	W
							100+	stopped on stones					
16	0-33	ca HCL-C	2	33-70	ca C	xxx	70-110	HCL	xxxx	0	III	3b	W
17	0-30	M-HCL	3	30-60	ca HZCL-ZC	xxx	60-110	ca HZCL	xxxx	0	III	3a	W
18	0-40	C	2	40-65	ca HZCL	xxx	65-90	st SCL	xxx	0	III	3b	W
							90+	stopped on stones					
19	0-34	ca HCL	3	34-70	ca HZCL	xxx	70+	stopped on stones		0	II	3a	D
20	0-34	MCL	1	34-68	HCL	xxx	68-85	st SCL	xxx	0	II/III	3a	W
							85+	stopped on stones					
21	0-32	HCL	3	32-50	HZCL	xxx	50-90	HZCL	xxx	0	II/III	3a/3b	W
							90+	stopped on stones					
22	0-34	HCL	2	34-110	ca HZCL	xxxx				0	III	3b	W
23	0-31	HCL	3	31-65	C	xxxx	65-100	HZCL	xxxx	0	III	3b	W
24	0-34	MCL	3	34-60	C-HCL	xxx	60-90	SCL	xxx	0	III	3b	W
							90+	stopped on stones					
25	0-28	MCL	2	28-50	MCL	x	50-80	HCL	xx(x)	0	II	3a	D
							80-110	st SCL	xx				
26	0-31	SCL	8	31-60	MCL	xx(x)	60-75	st SCL	xxx	0	II	3a	D
27	not in agriculture												
28	0-30	HCL-C	3	30-90+	ZC	xxxx				0	III	3b	W
29	0-32	HCL	3	32-70	ZC	xxxx	70-110	st SCL	xx	0	III	3b	W
30	0-34	HCL	4	34-110	C-HCL	xxx				0	III	3b	W
31	0-28	HCL	8	28-50	HCL	xx(x)	50-70	st SCL	x	0	II	3a	W/D
							70+	stopped on stones					
32	0-30	HCL	2	30-90+	C	xxxx				0	III	3b	W
33	0-30	HCL	4	30-80+	C	xxxx				0	III	3b	W

Obs No	Topsoil			Upper subsoil			Lower subsoil			Slope (°)	Wetness Class	Agricultural quality	
	Depth (cm)	Texture	Stones (%)	Depth (cm)	Texture	Mottling	Depth (cm)	Texture	Mottling			Grade	Main limitation
34	0-32	SCL	8	32-55	st HCL	xxx	55+	stopped on stones		0	II	3b	D
35	0-28	MCL	8	28-50	st SCL	xx	50+	stopped on stones		0	II	3a	D
36	0-30	SCL	10	30-64	st SCL	x	64-70	LS +gr	o-x	0	I/II	3b	D
37	0-30	SCL	10	30+	stopped on stones					0	I	3b	D
38	0-30	SCL	8	30-50	st SCL	o	50+	stopped on stones		0	I	3b	D
39	0-38	SCL	5	38-52	SCL	xxx	<u>52</u> -110	HCL	xxx	0	III	3a	W
40	0-30	SCL	2	30-50	SCL	o	50-75	HCL	xx	0	II	3a	D/W
							<u>75</u> -110	ZC	xxx				
41	0-32	SCL	10	32-50	st HCL	xx	50-65	st SCL	xx	0	II	3b	D
							65+	stopped on stones					
42	0-30	SCL	8	30-50	st SCL	x	50-70	MSL	x(x)	0	I/II	3a	D
							70+	stopped on stones					
43	0-28	MSZL	2	28-60	SCL-MSL	x	60-65	st SCL	x	0	II	3b	D
							65+	stopped on stones					
44	0-32	SCL-MCL	10	32-50	SCL	x	50-70	MSL	x	0	I/II	3a	D
							70+	stopped on stones					
45	0-33	SCL	8	33-55	st SCL	x	55+	stopped on stones		0	I	3b	D
46	0-34	ca MCL	6	34-90	MCL	xx	90+	stopped		0	I	3a	D
47	0-28	MSL	8	28-54	MSL	o	54+	stopped on stones		0	I	3b	D
48	0-30	MSL	3	30-50	MSL-SCL	o	50-90	MSL	xx	0	II	3a	D
							90+	stopped on stones					
49	0-39	MSL	3	39-65	MSL	o	65+	stopped on stones		0	I	3b	D
50	0-36	MSL	1	36-50	MSL	o	50-80	MSL	xx	0	I	3a	D
							80+	stopped on stones					
51	0-34	SCL	6	34-90	SCL	o	90-110	MSL	x	0	I	3a	D
52	0-34	MCL	6	34-70	SCL-MCL	x	70+	stopped on stones		0	I/II	3a	D
53	0-40	ca MCL	2	40-80	br MS	o	80+	stopped		0	I	3b	D
54	0-34	MSL-SCL	3	34-80+	MSL	o				0	I	3a	D
55	0-30	MSL	2	30-90	MSL	o	90-110	MSL	xx	0	I	3a	D
56	0-30	MSL	5	30-45	st MSL	o	45+	stopped on stones		0	I	3b	D
57	0-38	MCL	5	38-65	MCL	xx	65-110	st SCL	xxx	0	II	3a	D

### Key to table

#### Mottle intensity:

- o unmottled
- x few to common rusty root mottles (topsoils) or a few ochreous mottles (subsoils)
- xx common to many ochreous mottles and/or dull structure faces
- xxx common to many greyish or pale mottles (gleyed horizon)
- xxxx dominantly grey, often with some ochreous mottles (gleyed horizon)

#### Texture:

- C - clay
- ZC - silty clay
- SC - sandy clay
- CL - clay loam (H-heavy, M-medium)
- ZCL - silty clay loam (H-heavy, M-medium)
- SCL - sandy clay loam
- SZL - sandy silt loam (F-fine, M-medium, C-coarse)
- SL - sandy loam (F-fine, M-medium, C-coarse)
- LS - loamy sand (F-fine, M-medium, C-coarse)
- S - sand (F-fine, M-medium, C-coarse)
- P - peat (H-humified, SF-semi-fibrous, F-fibrous)
- LP - loamy peat; PL - peaty loam

#### Limitations:

- W - wetness/workability
- D - droughtiness
- De - depth
- St - stoniness
- SI - slope
- F - flooding
- T - topography/microrelief

#### Texture suffixes & prefixes:

- ca - calcareous: x-extremely, v-very, sl-slightly
- (ca) - marginally calcareous
- st - stony; v st - very stony
- gr - greyish, br - brownish, r - reddish

a depth underlined (e.g. 50) indicates the top of a slowly permeable layer



**KEY**

	Medium loam over gravel at <750 mm depth
	Light loam over gravel at <750 mm depth
	Heavy loam over gravel at <750 mm depth
	Heavy loam over clay
	Deep loamy soils
	Medium loam over clay
	Not assessed

Client:  
**BRICE AGGREGATES**

Project:  
**Land at Witham**

Map title:  
**Map 1  
 Soil types**

**Land Research**  
 ASSOCIATES





Lockington Hall  
 Lockington, Derby  
 DE74 2RH  
 Tel: 01509 670570

Scale:  
 1:7,500 at A4

Date:  
 23/10/2013



**KEY**

-  Survey area
-  Sub-grade 3a
-  Sub-grade 3b
-  Other land

Client:  
**BRICE AGGREGATES**

Project:  
**Land at Witham**

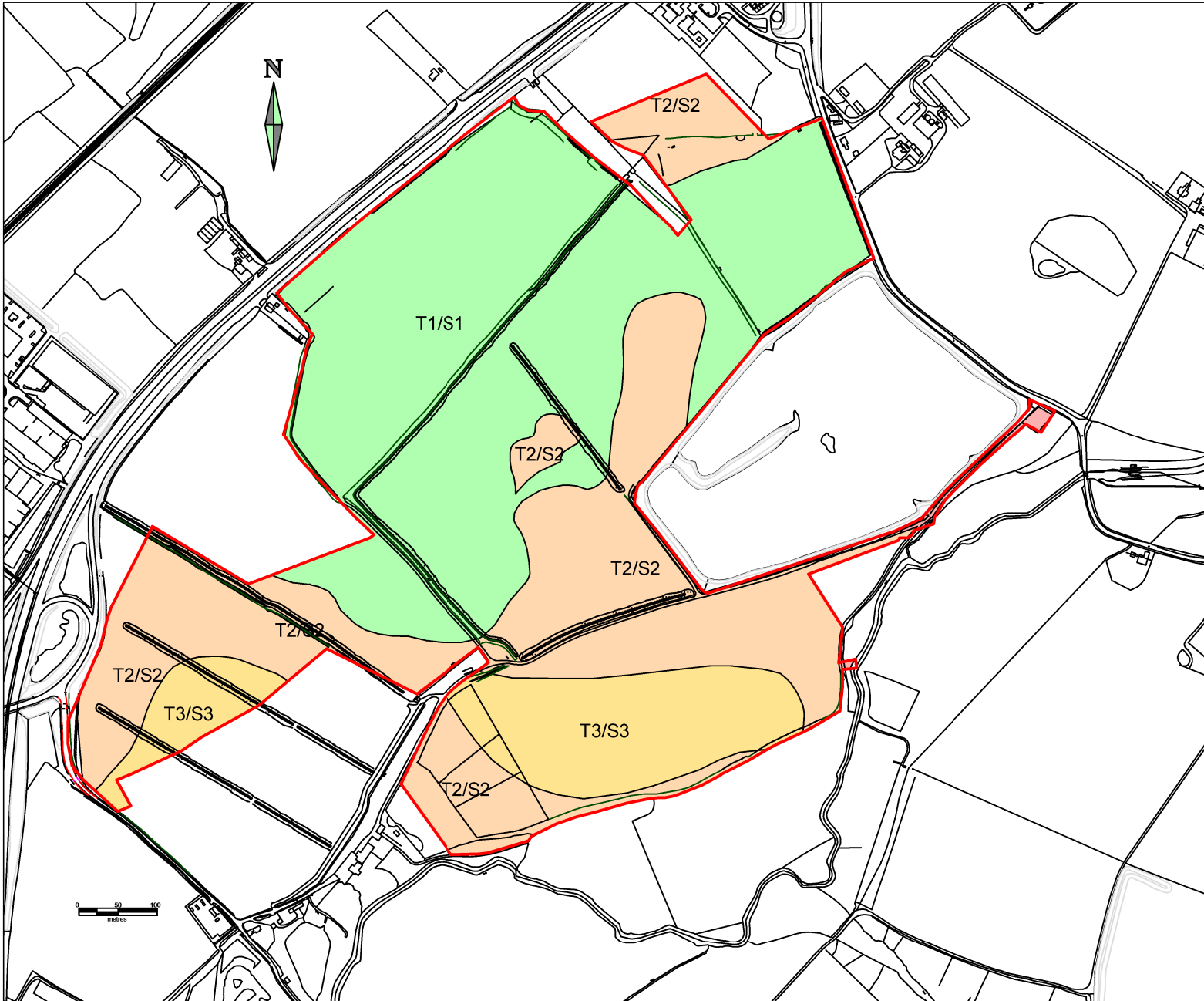
Map title:  
**Map 2  
Agricultural  
Land Quality**

**Land  
Research  
ASSOCIATES**

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Lockington, Derby  
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Scale:  
1:7,500 at A4

Date:  
23/10/2013



**KEY**

T1/S1	Heavy loam topsoil and subsoil
T2/S2	Medium loam topsoil and subsoil
T3/S3	Light loam topsoil and subsoil
	Not assessed

Client:  
**BRICE AGGREGATES**

Project:  
**Land at Witham**

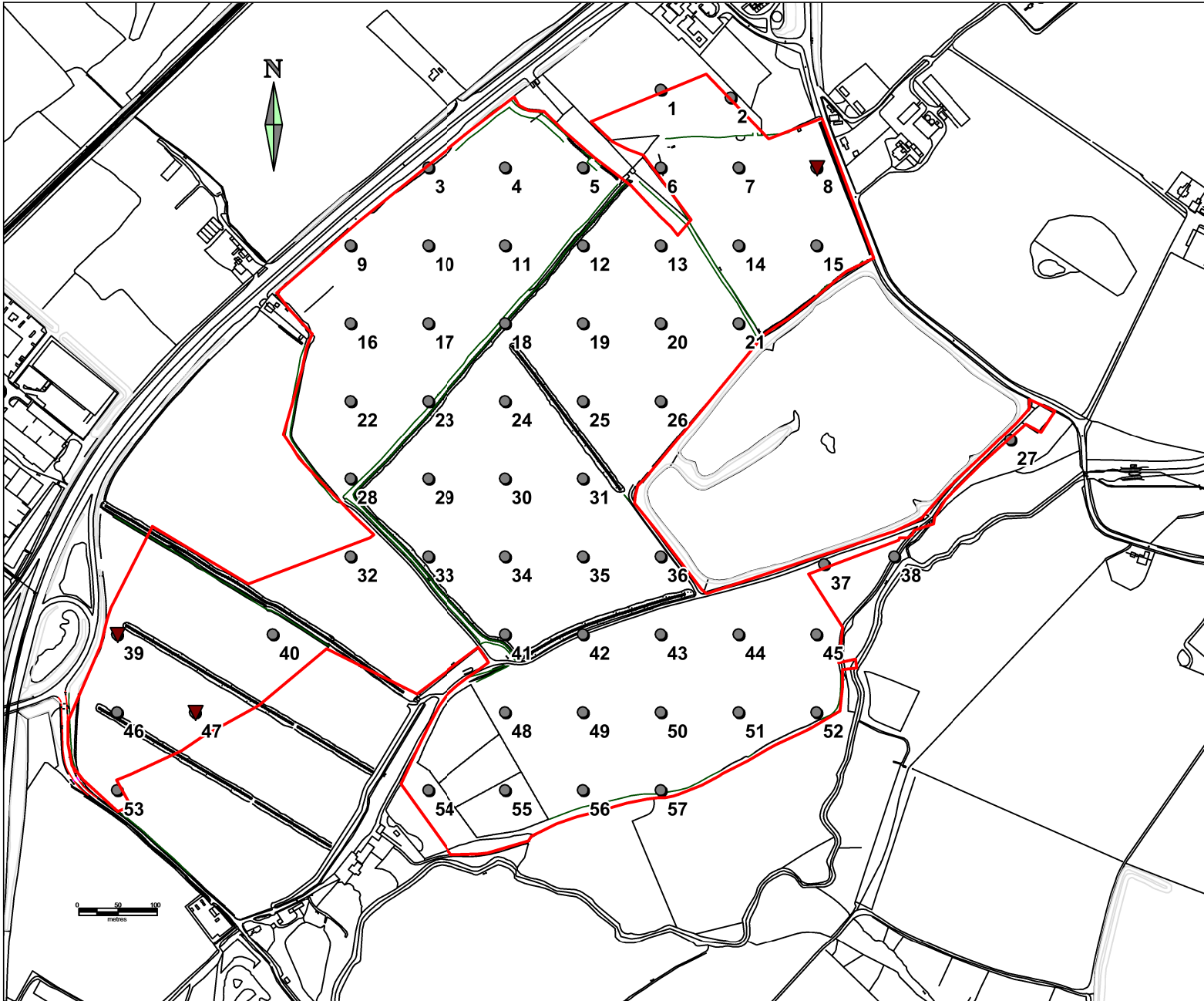
Map title:  
**Map 3  
 Topsoil and  
 subsoil resources**

**Land  
 Research  
 ASSOCIATES**

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Scale:  
 1:7,500 at A4

Date:  
 23/10/2013



**KEY**

- Survey area
- Auger observation
- Soil description pit

Client:  
**BRICE AGGREGATES**

Project:  
**Land at Witham**

Map title:  
**Map 4  
 Survey observations**

**Land Research**  
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Scale:  
 1:7,500 at A4

Date:  
 23/10/2013