SECTION 78 OF THE TOWN AND COUNTRY PLANNING ACT 1990 (AS AMENDED)

INQUIRY INTO THE APPEAL BY CASTLEFIELD INTERNATIONAL LIMITED AGAINST REFUSAL OF RESERVED MATTERS APPLICATION BY SOUTH CAMBRIDGESHIRE DISTRICT COUNCIL AT LAND AT TEVERSHAM ROAD, FULBOURN

PROOF OF EVIDENCE OF David Cottee D.Arch RIBA

On behalf of

SAVE FULBOURN FIELDS AND FULBOURN FORUM

RULE 6 PARTY

Planning Appeal Ref: APP/W0530/W/22/3291523
Planning Application Ref: S/3290/19/RM

TOWN AND COUNTRY PLANNING

(INQUIRIES PROCEDURE) (ENGLAND) RULES 2000

1. QUALIFICATIONS AND EXPERIENCE

1.1 I am a retired architect and have lived in Fulbourn with my family since 1983. Professionally, I was a principal of my private practice for 30 years. On retirement, I became involved with writing the Fulbourn Parish Plan 2009 and chairing one of the working groups. One of the outcomes of the Parish Plan was the setting up of Fulbourn Forum for community action. I was part of the steering committee and became secretary from the organisation's inception in March 2010, a post I continue to hold. We currently have an email contact list of 440 addresses and undertake a variety of different activities in the village consistent with our Constitution. Since 2014, I have researched and written responses to all the proposals put forward for development on the Site, covering all relevant issues. This includes preparing an evidence statement for the Appeal in 2016, in this case concentrating largely on the ecology of the meadows and the loss of biodiversity. I have also, on behalf of Fulbourn Forum researched and written numerous responses to other planning applications, both large and small. I was heavily involved in the writing of the Fulbourn Village Design Guide, have contributed to the writing of the emerging Fulbourn Neighbourhood Plan and was involved with the initial stages of the emerging Local Plan, including giving a presentation at the Greater Cambridge 'Big Debate' in February 2020.

1.2 This Proof of Evidence covers issues surrounding the impact of the proposals on the character of the area, the impact on the Conservation Area, the inappropriate design, layout and landscaping of the reserved matters application, the inappropriate siting and design of the affordable housing.

2. The context for the consideration of the application

2.1 This application for reserved matters is to be considered in the context of the Outline Planning Permission granted in 2017. The principle of the development of the site is therefore established for up to 110 houses.

2.2 I acknowledge that the development of 110 houses (including 33 affordable houses) would bring planning benefits in meeting housing need and also the need for affordable housing. This is in the context of national policy to significantly boost the supply of homes (NPPF para.60). I accept that the provision of housing will bring social and economic benefits in the building of the scheme and once it has been developed.

2.3 However, it remains the case that the reserved matters must be acceptable in planning terms. Below I address the impact of the scheme on the character and appearance of the area, including the conservation area, the inappropriate siting and design of the affordable housing. Further, the impact of the proposal on increasing flood risk to adjacent properties is addressed in the evidence of Dr Soilleux and Alex Bennett. I consider that each of these matters is of sufficient weight that this application should be refused.

3. Impact on the Character of the Area and the Conservation Area

3.1 It is the view of the R6 party that the reserved matters now pursued are not valid for the reasons set out in the submissions of Victoria Hutton. One of the issues dealt with in those submissions are the lack of detail in both the original and the now pursued Reserved Matters application (RSM) in relation to (a) the scale and design of the raised platforms and (b) the eventual height of the residential development. I do not comment upon the legal matters but below set out how the approach to drainage and flood risk has the potential in this case to impact the character and appearance of the area including the Fulbourn Conservation Area, layout, landscaping and design.

3.2 The outline planning permission did not make provision for the platform heights or finished floor levels. In fact there was only a passing mention of the potential for raised development platforms in the Planning Statement [CDA5] at para.6.50 it states “surface water flood risk will be addressed by maintaining space for potential floodwater within the layout and setting the finished floor levels 300mm above ground levels.” There was also some acknowledgement in Cannon’s Flood Risk and Surface Water Management Update, January 2017 [CDC12], that there would need to be platforms in

the order of 500mm. However, there was no mention of higher than usual finished floor levels in the Design and Access Statement [CDC6].

3.3 The Planning Statement submitted with the September 2019 reserved matters application [CDA5], states in para.5.47 that there will be "….three parcels of land, each raised by between 300-500mm to create platforms for development." However, in the cross section available as part of the reserved matters application, Chris Blandford Associates drawing TRF-CBA-1-GF-M2-L-3000, Rev.P1, 6 September 2019 [CDA4], the highest point of a section through the southern platform in the eastern field is 1.175m above existing ground level (GL 9.79; platform level 10.965). This is significantly more than the figures provided in the Planning Statement. It is assumed that the floor levels would have been 300mm above the raised ground level. It is unclear how the platforms have been assessed from the perspective of design and character and appearance of the area in any of the Appellant's documents or how those considerations have informed the scale or design of the platforms. It should also be noted that the two street elevation drawings, 28815-A-P13-010 and 011(all revisions) [CDA4] do not show the development platforms, presenting the development as being on a relatively flat site.

3.4 Cannon's Flood Management Strategy B411-PL-SK-320 [CDG5] appears to show raised platforms, in places, of around 1m above existing ground level. I have based my assessment on this broad information.

3.5 It remains the case that there is still no information in the application documents relating to the raised platforms. In particular what they will look like or what they will be made from. I have not therefore been able to comment upon them.

4. Impact of the RMs now pursued on the character of the area

Relevant policies and guidance

4.1 Paragraphs 126 to 136 of the NPPF [CDF1] are concerned with achieving well-designed places. They require that design policies should be developed with local communities. Fulbourn has a Village Design Guide formally

adopted in January 2020 [CDE5] but which was provided in draft to the Appellant by April 2019, and an emerging Neighbourhood Plan (Submission Draft – V3, 8 October 2021 [CDE7], and completion of the formal examination by the Planning Inspectorate and South Cambs District Council March 2022).

4.2 The NPPF at paragraph 132, makes it clear that early discussions between applicants, the LPA, and the local community about emerging schemes are important for clarifying expectations, and reconciling interests. No such discussions with the local community were ever initiated by the Appellant in relation to the Reserved Matters application (or at the outline planning application stage).

4.3 Para.130 of the NPPF aims to ensure that development "….*add(s) to the overall quality of the area….*", and is *"….visually attractive as a result of good architecture, layout, and appropriate and effective landscaping…..*", and is *"….sympathetic to local character and history including the surrounding built environment and landscape setting….*" The importance of trees is identified and the document requires that "*Planning policies and decisions should ensure that new streets are tree lined…..*"

4.4 Para.134 NPPF is clear that *"Development that is not well designed should be refused, especially where it fails to reflect local design policies and government guidance on design, taking into account any local design guidance and supplementary planning documents such as design guides and codes…."*

4.5 The National Design Guide (Published 1 October 2019; last updated 30 January 2021) [CDF8] has developed the NPPF guidance into planning practice guidance for *"…beautiful, healthy, greener, enduring and successful …"* places (para.3, page2). It states that the fundamental principles for good design are that it is "*fit for purpose, durable, and brings delight*" (para.4,page 3), and that "…*local design policies, design guides and codes……need to set out a baseline understanding of the local context and an analysis of local character and identity*" (para.35, page 7). This is what the Fulbourn Village Design Guide does, building on the Parish Plan 2009 which identified Fulbourn *as "a village set among trees."*

4.6 In the Local Plan 2018 [CDE1], policy HQ1 states that "*All development must be of high quality design, with a clear vision as to the positive contribution the development will make to its local and wider context.*" Policy NH/2 further provides that "*development will only be permitted where it respects and retains, or enhances the local character and distinctiveness of the local landscape and of the individual National Character Area in which it is located.*" Policy NH/11 goes on to state that *"Protected Village Amenity Areas are identified on the Policies Map where development will not be permitted within or adjacent to these areas if it would have an adverse impact on the character, amenity, tranquillity or function of the village."*

Inappropriate layout and landscaping of development

4.7 The design and layout of the proposed development fails to respond to these principles and policy requirements on many counts. Most streets are not tree-lined, and the development on the raised platforms does not respond to the Fulbourn Village Design Guide (FVDG) [CDE5] guidance of "*…any development should contribute to the richness of the rural-style greenery through retention and planting of new large trees and hedgerows"* (para.6, page10). The small, narrow front gardens and side verges with lawn grass, or small shrubs and groundcover plants, do not begin to address the guidance of the FVDG (Chris Blandford Ass. Planting Strategy TRF-CBA-1-GF-M2-L-4000 Rev.P3, and 4001 Rev.P3) [CDA3].

4.8 This hard aesthetic, where houses, all close to the road edge, are often joined together by garages creating a kind of long terrace (broken only by parked cars), is contrary to the required village character. The larger blocks in the north-west corner of the Site (Blocks C, C1, D, D1) incorporating shared-ownership, rented, and market homes as apartments are particularly inappropriate. However, of the greatest concern is the placing of two large urban apartment blocks, A and B, either side of the central chalk stream [CDA3]. Originally shown on plans submitted in September 2019 [CDA4] as monolithic 3-storey blocks with some parking underneath, the designs, following objections by residents, were amended and resubmitted in March 2020, reduced in part to 2-storey but still retaining a 3-storey element on the corner of what was now an L-shaped block. This

design was further amended and resubmitted in April 2021 (plans 28815-P13-90, Rev.P3 and 100, Rev.P3, both dated 15 April 2021) [CDA3], still as a large L-shaped apartment block with a 3-story element on the corner.

4.9 These wholly inappropriate apartment blocks conflict extensively with the FVDG, being sited behind Poor Well, which is both a wetland Conservation Area (and location of the springs feeding the chalk stream) and a Protected Village Amenity Area (PVAA). The blocks would significantly impact on a key view north across Poor Well and through the Site towards the open countryside (Fulbourn Village Design Guide, page 16). This would result in significant harm to the character and appearance of the area, and significantly erode the visual benefit of the existing wide-open view across the green space, which provides a positive connection between the existing village and the adjacent countryside. The penetration of the countryside within the village and the views out that this facilitates is an important characteristic of Fulbourn (FVDG, page 9). It should also be noted that the Local Plan Policy NH/11 [CDE1] identifies a PVAA as an area "…..*where development will not be permitted within or adjacent to these areas if it would have an adverse impact on the character, amenity, tranquillity or function of the village."*

4.10 It is worth also noting that the conservation area forms part of the character of the area. It is therefore relevant to look to the conservation area appraisal when considering the impact upon the character of the area in general. Indeed, the Fulbourn Conservation Area Appraisal (Draft for consultation January 2021; formally adopted 15 September 2021) [CDE13] reinforces the quality and the character of the Poor Well and its setting on page16 as follows:

4.4.11 *"The paved cart wash area (the Horse Pond) is part of the group of heritage assets which enable this part of Fulbourn's history to be particularly clearly read. The open space and extensive tree planting here create a sylvan character, and the glimpsed view of fields beyond emphasise the 'fen edge' quality of this area."* (Note: the 'open space' referred to here is Poor Well, and the 'fields beyond' are the proposed development Site).

4.11 In addition, the Appraisal at paragraph 4.5.2 goes on to state that:

4.5.2 *"Views out over open fields are very important to the character of Fulbourn, but there are only very few limited views of the surrounding agricultural landscape from within the conservation area itself."*

4.12 One of these limited views, that across Poor Well and beyond, would be lost entirely with the development as currently included within the Reserved Matters application.

4.13 The FVDG on page 16 provides further guidance:

"Development of the site will have to address several challenges to respect the sensitive natural location and for successful integration in the village. The penetration of the countryside within the village and the delicate wildlife area of the chalk stream requires the establishment of a green natural corridor of sufficient width to retain the connection and protection of the environment."

4.14 This has not been achieved and the green corridor identified in the FVDG will be significantly impacted by proposed development.

4.15 While acknowledging the improvements to the chalk stream proposed by the Appellant, its current state (and that of the meadows) is the result of almost ten years of no maintenance. However, the siting of apartment blocks, housing, a LEAP, a road bridge and two footbridges, within the wildlife 'corridor' proposed by the FVDG, and the ensuing disturbance to its tranquillity, will adversely impact on the chalk stream and significantly reduce its ability to achieve its environmental and biodiversity potential as a wildlife site. As a large cul-de-sac of around 63 dwellings to the east of the stream, traffic movements will not be insignificant.

4.16 The proposed layout also raises concerns regarding the amenity space accessible by the residents. Chris Blandford Associates drawing TRF-CBA-1-GF-M2-L-4013, Rev.P4 (12 April 2021) Planting Plan Sheet 2 of 6 [CDA4], shows the extent of the proposed attenuation basins and the Cow Lane Flood Basin [CDG7] together with the areas of retained or altered landscape

features in the eastern field, while drawing 4012, Rev.P4 (12 April 2021) Planting Plan Sheet 1 of 6 [CDA3] shows the proposed landscape in the western field. Most areas outside the built development areas are required to perform two, or in some cases three, perhaps conflicting, functions. That of retaining, translocating or providing new biodiverse habitat (see, for example, wildflower meadows in the Linear Park and Meadow Park) which were originally proposed as retained grassland (as shown on plans TRF-CBA-1-GF-M2-M2-L-4013, Rev.P0, 13 September 2019 [CDA4] and Rev.P4, 12 April 2021) [CDA3] and while at the same time providing public open space for amenity use, and for surface water and flood water management. It appears that to try to protect both the existing and proposed flora and fauna, it has resulted in some areas actually discouraging resident access by the use of raised boardwalks (in places 1.5m off the ground with a 1.1m handrail – Chris Blandford Associates drawing TRF-CBA-GF-M2-L-8000, Rev.P1, 6 September 2019, Hard landscape Outline Details) [CDA4], and the physical barrier of bio-retention basins. The existing woodland to the north of the western field is not accessible to residents as it is prioritised for wildlife habitat, including translocation (Landscape and Biodiversity Management Plan September 2019 by Landscape Science Consultancy Ltd, para. 4.1.2) "*Fencing of the woodland edge to deter unauthorised public access.*" Subsequently, the proposed layout limits the extent of green amenity space fully accessible to residents, in an attempt to realise the ecological aims of the scheme.

4.17 The apparent limitation in the access to the open spaces is contrary to the Vision in the Design and Access Statement (DAS) September 2019 [CDC6] which states on page 4:
"…..The network of linked open spaces will provide extensive recreational opportunities for both new and existing residents of Fulbourn and become a shared community asset…."

4.18 The site plan drawings included in the DAS do not show the water attenuation features necessary for surface water and flood water management, and the text does not make it clear that the green areas may have restricted access, not only for water management but also to satisfy the ecology requirements of Conditions 12 and 14 of the outline approval. In addition, the Barton Willmore Site Layout/Coloured Site Plan drawing

28815-A-P10-014, dated 23 August 2019 (September 2019)[CDA4], does not clearly show (by clear outline or colouring) or identify by name the sewage pumping station and the electrical sub-station occupying a significant amount of space in the green verge to the south of the access road in the western field. This further reduces the accessible green amenity space available to residents, and it is assumed that the structures and associated parking will need to be securely fenced. There is no landscape screening to these utilitarian structures.

4.19 The wish to limit access to some green amenity spaces (which further exacerbates the lack of private residential amenity for the affordable housing), is further shown by reference to the Scheme of Grassland Mitigation and Translocation September 2019 by Landscape Science Consultancy Ltd [Appendix 1]. In Section 3.3, page 7, it states:

"Board walks will be used strategically to encourage pedestrians to adhere to those routes with the aim of minimising trampling of the retained grassland areas."

"In other locations, such as the northern boundary of the eastern field, access will not be encouraged but will be permitted; however, the layout and design would make use unlikely and occasional. Therefore, the paths will be restricted to mown grassland tracks in these locations."

"Where access is encouraged within the amenity and recreational areas such as the Linear Park in the centre of the eastern field, appropriately surfaced paths will be constructed. As these areas will be set below the elevated residential platforms, they are anticipated to be damp for much of the year which would discourage access off the paths."

"Where retained grassland occurs to the south of the eastern field, they would be beyond the bio-retention basins and it is anticipated that these will discourage pedestrian access."

4.20 This loss of, or reduced access to the green open spaces affects the wellbeing of the residents and limits the areas of natural play for children. The loss particularly impacts on the affordable homes that are without a

private garden, relying only on a small open terrace at ground level, or even smaller balconies at first and second floor.

4.21 It is my view that the proposed layout is unacceptable and the harm to the heritage assets is not outweighed by the benefits of this proposed development. The layout with its housing and roads on raised development platforms and other measures proposed to control flooding will impact on the conservation area and its relationship with the wider natural landscape.

Inappropriate scale and design

4.22 As proposed, the development would also conflict extensively with Policy HQ/1 of the South Cambs Local Plan 2018 which requires development to be of high-quality design, to be compatible with its location in terms of scale and appearance, and to make a positive contribution to its local and wider context, while conserving and enhancing important natural and historic assets and their setting. It has not been well designed, contrary to paragraph 134 NPPF.

4.23 The adverse visual impact of apartment buildings A and B is exacerbated because they are to be sited on raised development platforms of up to approximately 1m above existing ground levels, creating a scale of development out of keeping with the character of the area. The more distant view across the Site from Poor Well is also impacted by the LEAP and the houses on plots 86, 87, 88 and 89, all on the raised platform to protect them from flooding.

4.24 Regarding the design of the proposed buildings, the FVDG (page 14) states that "*New development should reflect the diversity and informality of the village……It should be contemporary and yet compatible with the character of the village…..*"

4.25 The reserved matters application fails to deliver on these requirements. The house types are poor, reminiscent of some 20th Century developer's basic house plans and elevations, mainly small windows, weak gable ends, inappropriate areas of black timber cladding, not typical of Fulbourn, some

'pattern book' canopy overhangs to front doors, and some houses with what appear to be false chimneys, (perhaps to provide a heritage feel) a pastiche element contrary to the guidance of the FVDG, page 14 (see for example street elevations 28815-A-P13-010 Rev.P4, and 011 Rev.P4, 15 April 2021) [2021 CDA4]. Altogether, it is bland and uninspiring, far from the National Design Guide's wish for good design that "brings delight".

4.26 In the Heritage Statement, para.5.4 [CDA8], the Appellant claims that the appearance of their proposed designs "*draw on a variety of building types and detailing to integrate the appearance of the proposed development with the existing character of Fulbourn",* and that "*the detailed design features and materials palette….makes reference to a locally distinctive and traditional materials palette…."*

4.27 In my opinion, an appraisal of the house types and the street elevations clearly contradicts these statements. Typical street elevations are shown on Barton Willmore drawings 28815-A-P13-010 and 011 [CDA4]. There are five iterations: the original single drawing 010, dated 30 August 2019 submitted with the reserved matters application in September 2019 [CDA4], followed by drawings 010 and 011 with Revisions P1 (28 February 2020) [CDA4], P2 (29 May 2020), P3 (23 October 2020) and P4 (15 April 2021) [CDA4]. Street elevations in the western field also formed part of the Design and Access Statement September 2019, pages 38 and 39 [CDA6].

4.28 These elevations show little variety in the building types and detailing. There is a uniformity in the massing and the layout is a far cry from the informality of the areas that define Fulbourn's street character, as identified in the Village Design Guide. Most streets in the proposed development have a rigid building line with very small front garden spaces, contrary to the variety experienced in much of Fulbourn, particularly the conservation area where buildings from many eras, with different set-backs from the street, allows for hedgerows and trees to help define the character.

4.29 In all of the street elevation drawings referenced above, house types are generally of poor design and utilitarian in character and setting.

4.30 One example of concern is the group of houses fronting the southern side of the Linear Park. With their rather inelegant roof, the Type D houses, linked by garages to Type E2 houses, present an insensitive edging to the park. It is perhaps telling that in Rev.P4 (15 April 2021) of Barton Willmore drawing 011, the street elevation now includes small trees in front of the buildings, although reference to the plans will show that inadequate space is available to provide trees of any size in the front gardens.

4.31 The effect generally, throughout the scheme, is very low-quality suburban in its architecture and landscape, with no hint that it will mature, in time, into a place to be proud of, and in no way an exemplar of sympathetic village development.

4.32 The two apartment blocks A and B also have a very poor relationship to the street and to the public realm. Barton Willmore's drawing 28815-P13-90 Rev.P3 (15 April 2021), Apartment Block A [CDA3], labels as the rear elevation what is, in fact, the front elevation, the one that is approached from the street, where the area in front is dominated by car parking and the vehicle access and turning area. Car parking for 4 cars under part of the building adds to the urban feel of the building. Apartment Block B has no entrances off the street, while the first-floor balcony for Plot 43 appears to partly overhang the pavement. These two apartment blocks do not contribute to the street scene in a positive way – how large buildings meet the ground and relate to the public street dictates how its occupants can feel integrated into the community, particularly important in a village setting.

4.33 The scheme design is unacceptable and it does not deliver on many of the design principles in Policy HQ/1 of the 2018 Local Plan, such as 1a) "*preserve or enhance the character of the local urban and rural area and respond to its context in the wider landscape"* and 1b) *"Conserve or enhance important natural and historic assets and their setting."* Para. 1d) requires that the development "*be compatible with its location and appropriate in terms of scale density, mass, form, siting, design, proportion, materials, texture and colour in relation to the surrounding area*." The proposals to not adequately achieve these aims.

Particular issues relating to the impact upon heritage assets

4.34 Paragraph 200 of the NPPF states that any harm to the significance of a designated heritage asset including by development within its setting should require clear and convincing justification.

4.35 Further, where a proposal will lead to less than substantial harm to the significance of a designated heritage asset then the harm should be weighed against the public benefits of the proposal.

4.36 Here, the relevant designated heritage asset is Fulbourn Conservation Area.

4.37 I consider that the Appellant has failed to submit a reserved matters application which mitigates the harm to the conservation area. I do not agree with key conclusions in the Appellant's Heritage Statement page 21, that the impact on the conservation area is 'extremely modest' [CDC8].

4.38 Additionally, the Appellant's Heritage Statement has not been updated following the many changes to the development proposals since the initial submission in September 2019 and still relies on the Conservation Area Appraisal adopted in 2008 for its assessment of the impact of the development proposals on heritage assets rather than the updated Fulbourn Conservation Area Appraisal 2021 which considers the significance of Poor Well, a wetland Conservation Area and a Protected Village Amenity Area, and concludes at paragraph 4.4.11, that being part of a group of heritage assets, *"…the open space and extensive tree planting here create a sylvan character, and the glimpsed view of fields beyond emphasise the 'fen edge' quality of this area."*

4.39 South Cambs District Council clearly accepts the importance of the fields to the setting of Poor Well. The Heritage Statement [CDA8] submitted with the initial reserved matters application in September 2019 rightly accepts that the Site sits within the setting of the Fulbourn Conservation Area and that detailed design matters have the potential to impact upon the character and appearance of the conservation area. However, there has been no assessment of the proposal before the Inspector on the character

and appearance of the conservation area against the 2021 Conservation Area Appraisal.

4.40 The conservation area adjacent to the Site encompassing Poor Well, the Horse Pond, the old pumping station with its associated pond, and the Victorian gate lodge are all heritage assets with historic interest which together provide a visual and physical record of a part of Fulbourn's history, which is also directly associated with the water supply and sanitation improvements to Cambridge in the late 19th Century. Part of the setting of these assets is the two fields behind, and the NPPF para.194 clearly identifies that the setting may contribute to their significance. ." In addition, para.195 states "*Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset)…."* It is not just Poor Well that is the last remnant of fenland in the fen edge village, but the two potentially wet fields and the associated watercourses are also part of that remnant, sitting over the important aquifer.

4.41 By relying on the 2008 Conservation Area Appraisal, the Appellant reports a statement that is no longer correct:
4.11 "*Where once there was a wet fenland site, water extraction combined with a fall in the water table and a series of droughts has left the many water channels and dykes surrounding the pumping station dry, as is the large pond at Poor Well, though here, willow trees suggest that water is available below the surface."*

4.42 While this condition might have briefly prevailed in 2007/2008, perhaps due to extended drought conditions, it has not been the case since. The springs at Poor Well run all year round, groundwater discharges from the large pipe in the north-western corner, and water flows in the channel behind the old pumping station bringing water from the deep ditch in Teversham Road into the chalk stream. In addition, groundwater is frequently pumping, via two outlets, into the deep ditch on the western side of Teversham Road, indicating a high water table in the area, the lowest point in Fulbourn.

4.43 Poor Well and the conservation area are reduced in significance if their rural setting is not protected as far as is possible.

4.44 The Heritage Statement [CDC8] makes no mention of the raised development platforms which will elevate buildings and the LEAP by up to, in places, around 1m above existing ground levels.

4.45 The Appellant has done nothing in their RSM to reduce the harm to the conservation area and heritage assets, except to suggest additional screening. However, the idea that poorly designed development can be accepted as long as it cannot be easily seen needs to be contested and is not an appropriate response to poor design.

4.46 In fact, in my view, the harm to the character and appearance of the conservation area has increased since the original September 2019 submission. In September 2019 the two large apartment blocks were long linear buildings (Block A more so than Block B) which presented their narrower gable ends towards the south (although the location of Block B meant that some views of the front elevation would also be visible). In the Heritage Statement (Sept.2019) the Appellant refers to this as being a benefit, reducing the impact (at paragraph 6.8 "The apartment blocks are orientated so that their gable end faces south towards the conservation area boundary, thereby reducing the visual mass in outward views northwards from the conservation area.")

4.47 Since then, the two large blocks have been redesigned as L-shaped blocks, thus presenting a wider building to the south (see for example plans 28815-A-P13-010 and 011, Rev 4, 15 April 2021) [CDA4] as mentioned above.

4.48 The connection of Poor Well to the wider countryside is not just one of a view from the Cow Lane pavement. The whole Poor Well area is accessed by residents, children from the nearby school and others to appreciate the springs as they flow out across the site into the chalk stream. The impact of these proposals the LEAP, and bridges, all on raised ground, will significantly reduce the appreciation and enjoyment of the conservation area site as being part of the wider countryside, especially as a robust fence will be required to prevent unsustainable access from the development

into and across Poor Well that would damage the sensitive ecology of the site through high footfall. The 'fen edge' quality identified in the Conservation Area Appraisal dated 2021 [CDE13] will be lost if Poor Well is surrounded by development. To maintain the appearance of a 'fen edge', then it is essential that the setting of the potentially wet fields is retained and enhanced. The two elements work together - no fields, then no 'fen edge'. Indeed, it could be argued that a degree of opening up of the hedgerow would more clearly integrate Poor Well with the wider countryside.

5. Inappropriate Siting of Affordable Housing

5.1 The original reserved matters submission in September 2019 incorporated all the rented and shared ownership affordable homes into 2-storey and 3-storey blocks of flats and maisonettes see for example Barton Willmore Coloured Site Plan 28815-A-P10-014, 23 August 2019, [CDA4]. This was a highly questionable arrangement as in our view, affordable housing should include a mix of housing types and sizes including detached and semi-detached houses with gardens, not just apartments. The proposed layout also failed to distribute affordable properties throughout the Site and integrate them appropriately with the market housing. The apartments were either located in the two large blocks, Blocks A and B, either side of the chalk stream, or in four, 2-storey buildings, Blocks C, C1, D, D1, in the north of the western field directly opposite the industrial units. The proposal was, therefore, contrary to Policy H/10 of the South Cambs Local Plan 2018.

5.2 Annex 10 to the Greater Cambridge Housing Strategy 2019-2023, Clustering and Distribution of Affordable Housing Policy (13 July 2021) [CDE6b] builds on the Greater Cambridge Housing Strategy published in April 2019 [CDE6a]. The purpose of this policy is "*to help to promote health and well-being and tackle inequality through the creation of mixed, balanced, and inclusive communities"* (para.2, page 1). Two of the key principles are that "*affordable housing is dispersed appropriately across the whole development"* (para.4, page2) and that *"good design will create tenure blind clusters" (para.5, page 2).*

5.3 The policy quotes maximum size clusters of 15 units. However, in the western field the cluster close to the industrial estate has 19 units, while with the large apartment Block B, only separated from the cluster by one market dwelling, this effectively results in a total of 26 units in close proximity. That the layout is the western field is inappropriate and does not accord with the good intentions of Annex 10, is shown by the western field supporting 26 affordable homes but only 20 market homes, in a denser configuration than the dwellings in the eastern field. Meanwhile, the eastern field supports just 7 affordable homes (in one large block, Block A), but 57 market homes, in a less dense configuration. Affordable homes are, therefore, not dispersed equally across the whole development in contravention of the Council's policy and not in compliance with the requirements within the Section 106 Agreement dated 25 October 2017 [CDC2] which requires affordable housing clusters to be no more than 20 units and no such clusters are permitted to neighbour or adjoin each other.

5.4 During the first public consultation period following the submission of plans in September 2019 residents raised concerns about the siting and distribution of the affordable housing in a response letter dated 18 October 2019. Subsequently, the Appellant submitted amended drawings in March 2020. Blocks A, B, C, D and D1 remained as affordable flats, 29 in total, while Block C1 (now four 2-double bedroom flats) was redesigned and changed from rental to private market apartments [see CDA4]. To retain the 30% affordable homes provision required by the Section 106 Agreement [CDC2], Plots 5 and 6 were changed from private market houses (2-double bedrooms) to shared ownership, and Plots 31 and 32 were changed from private market homes (2-double bedrooms) to rented tenure. All are with gardens but without garages [Site Layout Housing Mix Plan 28815-A-P10-015 Rev.P2, 15 April 2021 CDA4]. These homes are still located in the vicinity of the other affordable homes in Blocks C, D and D1.

5.5 The new arrangements are shown on Barton Willmore drawing 28815-A-P10-010, Rev.P1, 28 February 2020 [CDA4]. Although the provision of four affordable homes as houses with gardens is a small improvement on the September 2019 submission, it does not adequately respond to the policies outlined above. The majority (26 of the 33) of the affordable homes are still grouped together in the western field, while those in the eastern field are

all located in the large Block A. 29 of the 33 affordable homes do not have a private garden space. None of the affordable homes has a garage and accommodation is smaller in area.

5.6 The current proposals are also not fully 'tenure blind'. We contend that the distribution of affordable homes as planned is socially irresponsible. These homes are clearly identifiable and mostly bear no resemblance to any of the market homes, apart from the redesigned Block C1 which has been inserted in an unsuccessful attempt to increase the integration of market homes with affordable homes. In addition, the design and layout of the affordable homes has resulted in them being significantly inferior to the market homes in their amenities, a particularly important loss for families.

5.7 As would be expected in a village development, all the market homes have gardens, a benefit denied to most of the affordable homes. While it might be acceptable to provide a few affordable homes without gardens, even these should have adequately sized terraces at ground level or, at first floor, a balcony able to accommodate a useable arrangement of furniture, all with a degree of privacy afforded by their construction or location. In most cases this has not been achieved in the proposed development. In Block B, for example, two of the ground floor terraces are in the car park, with that of Plot 47 in front of the kitchen window to Plot 42. The terrace for Plot 41 is right on the edge of the pavement. In Block D, the terrace for Plot 10 is opposite the car park and its access road, while Plot 11 has no outside space relating to its living room, and Plot 12 has its terrace by the road. In Block D1 the terraces for Plots 7, 8, 9 are all linked to the master bedroom rather than the living room.

5.8 Regarding balconies, these are all too small to act as useful outside space, exacerbated by the double doors opening outwards. The layout planning difficulties have resulted in the balcony to Plot 43 in Block B appearing to be partly over the footpath beneath, and, in Block D, Plots 14 and 15 have the balcony relating to the master bedroom, rather than the more useful living room.

5.9 The internal planning of the flats has also been compromised in the provision of sanitary facilities. In the large majority of cases there is just one

toilet for each apartment located in the bathroom. This is the case for the 3-person apartments Plot 47 (Block B) and Plot 54 (Block A), the 4-person apartments Plots 49, 51, 52, 53 (Block A), Plots 42, 44, 46 (Block B), Plots 11, 12, 14, 15 (Block D), and Plots 7, 8 (Block D1) as well as the two 5-person apartments Plot 50 (Block A) and Plot 43 (Block B). All market homes have at least two toilets.

5.10 A further unacceptable layout compromise is the ground floor Plot 10 in Block D where the window to the double bedroom looks into the narrow passageway between Blocks D and D1, providing no view and little light [see plan Apartment Block D Ground Floor 28815-P11-120 Rev.P1, 28 February 2020, and relate to Housing Mix Site Layout 28815-A-P10-015 Rev.P2 CDA4].

5.11 In the original September 2019 reserved matters submission the affordable homes Block C, C1, D and D1 were all located directly opposite the Breckenwood industrial estate, resulting in all 19 apartments falling within the noise 'shadow' of the industrial units as identified in the Noise Mitigation Strategy September 2019 by Cass Allen. To satisfy Conditions 19 and 20 of the Outline Planning Permission it has been found necessary to provide the 19 apartments with a 'whole house Mechanical Ventilation with Heat Recovery System' (MVHR), defined by the Building Regulations in Part F as a System 4, coupled with windows achieving an acoustic insulation level yet to be defined by the consultants. Although the controls can be set to operate without occupant intervention (together with a manual operation option if specified), an MVHR system is only fully effective and efficient if all windows are kept shut. It is accepted under Building Regulations that 'purge' ventilation by the opening of windows may be necessary during warmer periods, but then the noise insulation benefit is lost. To be effective, 'purge' ventilation would require the opening of windows on both the south and north elevations to generate a through draught.

5.12 By changing four of the 19 affordable homes facing the industrial units from shared ownership to private market homes (Block C1), this does not reduce the impact on the remaining 15 affordable homes in blocks C1, D, and D1 (see Housing Mix Site Layout plan 28815-A-P10-015, Rev.P2) [CDA4]. The

requirement for such a ventilation system in affordable homes is unfortunate, not only because of the relatively complex installation required with its associated need for regular maintenance, but also because of the additional energy costs to be borne by those perhaps least able to afford it. It is possible that some may need to avoid the cost by turning off the system and living with the noise. This would be another unfortunate result of an inappropriate scheme layout.

5.13 The failure to ensure the appropriate siting and layout of the affordable housing should be given significant weight in the planning decision. It is contrary to the following policies: Policy H/10 of the South Cambs Local Plan 2018 [CDE1]; the Greater Cambridge Housing Strategy 2019 [CDE6a]; Annex 10 of the Greater Cambridge Housing Strategy 2021 [CDE6b].

6. Summary conclusion

6.1 National policy is clear in relation to the requirement for good design. As set out above, it states that development which is 'not well designed should be refused'. Necessarily this relates to how a development is laid out and also the detailed design of its elements. Here, the development has not been well designed, it fails to meet the terms of local policy HQ/1 and permission should be refused (again this poor design is not outweighed by the benefits of the provision of the residential development).

6.2 Although the Appellant was aware of the final draft of the Fulbourn Village Design Guide in April 2019, almost six months before they submitted their reserved matters planning application, the design guidance has been ignored in relation to the reserved matters submitted for layout, scale, appearance and landscaping. No effort was made in the two years following the outline approval to consult with village residents, the period when we were working on the detail of the Design Guide, a project initiated and funded by South Cambs District Council.

6.3 The latest iteration of reserved matters fails to respond adequately to the guidance of the FVDG. With the reserved matters issues being layout, scale, appearance and landscape, this was the opportunity for the Appellant to take full account of the policies and guidance in the FVDG, the NPPF, and

the 2018 Local Plan, and to attempt to address some, if not all, of the many issues of concern raised by the village in its responses to the outline application. No attempt has been made.

6.4 The hard aesthetic of the design and layout, with little space for trees and hedges (certainly no significant trees), is contrary to the aims of the FVDG to replicate some aspects of existing village character in any new development. The insufficient public green amenity space caused by the lack of full access will be detrimental to the health and well-being of the residents, particularly important for children, who are largely restricted to the relatively small Linear Park and Meadow Park, and even these may be often damp being part of the surface water flood management scheme.

6.5 The design, layout and landscaping has not ensured that harm to the conservation area is minimised. The impact will be the loss of the sylvan setting and the tranquillity as identified in the Conservation Area Appraisal 2021. There has been no assessment on the impact of the current proposals on the character and appearance of the Fulbourn Conservation Area.

6.6 The inappropriate and unacceptable design, siting and distribution of the affordable homes is contrary to the need for affordable housing to be integrated into the village community. Again, this is unacceptable and a reason for refusal. It is contrary to the social limb of sustainable development in the NPPF.

6.7 The objective of sustainable development as identified in the NPPF, paras.7 and 8 is to meet the needs of the present without compromising the ability of future generations to meet their own needs. In my view the proposals fail to meet this objective. The proposals do not in my view *"protect or enhance our natural, built and historic environment, improving biodiversity…..adapting to climate change…"* and should be refused.

6.8 In summary, the proposals also fail to comply with the following policies:

6.8.1 NPPF para.126-136: well designed places have not been achieved in accordance with the guidance of the Fulbourn Village Design Guide and the Fulbourn Neighbourhood Plan.

6.8.2 NPPF para.132: early discussions with the wider local community were not undertaken.

6.8.3 NPPF para. 130: the proposals have not achieved visually attractive, good architecture sympathetic to local character and the landscape setting, with no tree-lined streets.

6.8.4 NPPF para.134: the proposals do not reflect local design policies and government guidance. Development not well designed should be refused.

6.8.5 NPPF para.200: there is no clear and convincing justification for the harm to the designated heritage asset.

6.8.6 NPPF paras. 194 and 195: the setting of the heritage asset has not been given the significance it deserves.

6.8.7 National Design Guide 2019-2023: the proposals have not achieved beautiful, healthy, greener, enduring and successful development that brings delight.

6.8.8 Fulbourn Village Design Guide 2020: the proposals do not contribute to the richness of rural-style greenery with large trees and hedgerows. There is a loss of the unobstructed views out to the wider countryside across Poor Well, and the penetration of the countryside into the village.

6.8.9 Fulbourn Neighbourhood Plan (emerging) – this adopts the guidance of the FVDG.

6.8.10 Local Plan HQ1: high quality design and the conserving and enhancing of natural and historic asses and their setting has not been achieved.

6.8.11 Local Plan NH/2: the proposals do not respect and retain, or ehance the local character and wider context.

6.8.12 Local Plan NH/11: the proposals do not accord with the PVAA where development is not permitted adjacent to the area if there is adverse impact on character, amenity, tranquillity and function of the village.

6.8.13 Local Plan H/10: the siting and the composition of the affordable housing is not socially acceptable.

6.8.14 Fulbourn Conservation Area Appraisal 2021: there is a loss of the 'fen edge' quality, the sylvan character and the view of the fields beyond. The LPA has identified the significance of this character.

6.8.15 Greater Cambridge Housing Strategy 2019-2023 and Annex 10 (2021): the proposals fail to create a suitably mixed, balanced and inclusive community. The proposals are not tenure blind and are not suitably dispersed across the whole development.

6.9 Ultimately I conclude that there are significant contraventions of both local and national policy which means that the Reserved Matters should be refused.

7. STATEMENT OF TRUTH

I confirm that I have made clear which facts and matters referred to in this report are within my own knowledge and which are not. Those that are within my own knowledge I confirm to be true. The opinions I have expressed represent my true and complete opinions on the matters to which they refer.

Signature

[redacted]

Date 26th April 2022

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Appendix

Document Number	Document Title
1	Scheme of Grassland Mitigation and Translocation September 2019 by Landscape Science Consultancy Ltd

Appendix 1

LAND OFF TEVERSHAM ROAD, FULBOURN

SCHEME OF GRASSLAND MITIGATION AND TRANSLOCATION

FOR THE DISCHARGE OF PLANNING CONDITION 14

PLANNING REFERENCE: APPLICATION S/0202/17/OL

For

Castlefield International Limited

September 2019

Landscape Institute
Registered practice

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Date:	September 2019

1.0 Introduction

Landscape Science Consultancy Ltd (LSC) was commissioned by Castlefield International Limited to develop a Scheme of Grassland Mitigation and Translocation for the Land at Teversham Road, Fulbourn, Cambridgeshire (the 'Site').

The development received approved planning permission (Reference S-0202-17-OL) and this document is designed in order to discharge Planning Condition 14 which is detailed below:

Condition 14

Prior to the commencement of the development, full details of a Scheme of Grassland Mitigation and Translocation has been submitted to and approved in writing by the Local Planning Authority. These measures shall include (but shall not be limited to):

i. Botanical surveys to be undertaken in order to determine the distribution and densities of important grassland species plotted using GPS and presented on a plan.

ii. The Scheme's aims and objectives.

iii. The evaluation of the ecological, hydrological and geological requirements of the important grassland species.

iv. The selection of suitable receptor sites.

v. A method statement for the grassland removal.

vi. The location of works and/or measures required to successfully implement the translocation.

vii. Full details of long-term management and ownership of the receptor sites.

viii. Details of the persons responsible for the implementation of the Scheme.

ix. A timeframe for the Scheme's implementation.

x. Measures for the monitoring of the Scheme for a minimum period of twenty-five years.

The agreed mitigation and translocation scheme shall be carried out as approved and the site maintained and managed thereafter in accordance with it.

Reason - To mitigate ecological interests in accordance with Policies DP/1, DP/3 and NE/6 of the adopted Local Development Framework 2007.

2.0 Background

The Site is dominated by two fields supporting semi-natural neutral grassland. The current condition and character of the sward is poor due to the lack of appropriate management. However, the sward contains several 'Strong Indicators' of neutral grassland from Appendix 3a of the Cambridgeshire and Peterborough County Wildlife Sites (CWS) Selection Guidelines including:

- Adder's tongue fern (Frequent);
- Glaucous sedge (Frequent);
- Common spotted orchid (Occasional);
- Early marsh orchid (Occasional);
- Common twayblade (Rare),
- Yellow rattle (Occasional);
- Rough hawkbit (Occasional);

The following 'Strong Indicators' of calcareous grassland are also noted:

- Wild basil (Occasional);
- Glaucous sedge (Frequent);
- Common spotted orchid (Occasional);
- Rough hawkbit (Occasional);
- Yellow rattle (Occasional);
- Ploughman's spikenard (Rare);
- Pyramidal orchid (Rare).

The above species are henceforth referred to as 'Target Species'.

Where possible, the grassland sward will be retained in-situ and without disturbance. Retention has been favoured, wherever possible, within the areas indicated for habitat and landscaping within the Parameters Plan agreed at the Outline Application stage.

Where the grassland can be retained, but where there are additional demands upon the space for landscape and amenity functions as indicated in the Ecological Management Concepts Plan agreed at the Outline Application stage, retention and modification of the sward has been targeted. This may include planting of trees or the installation of a path through the retained grassland sward.

Where retention is not possible, due to the development scheme approved in the Parameters Plan agreed at the Outline Application stage, translocation of the more valuable grassland turves will be targeted as a last resort. This action is

also proposed in locations where the requirements for drainage features, primarily the excavation of bioretention basins, will not permit the turves to remain in-situ and undisturbed.

The locations for retention in-situ are largely determined by the agreed Parameters Plan and do not necessarily reflect variation in sward quality.

The quantum of sward loss approved under the Parameters Plan significantly exceeds the scope for translocation and retention; therefore, the selection of translocation turves (Figure 05) will be focussed on the distribution of Target Species and the sward immediately surrounding them. This is not specifically because these species are of elevated ecological value, but because they are 'Strong Indicators' of higher quality habitat and they are therefore likely to signify the most ecologically valuable areas of sward.

This document characterises the two classes of retention detailed above, but focuses on the translocation scheme. Protection of retained grassland is discussed in this document, but management of grasslands retained in-situ is addressed in Discharge of Condition 14 – the Landscape and Biodiversity Management Plan.

3.0 Retention In-Situ

3.1 Retention of Grassland

The Proposed Development will permit the following impacts to the 4.58ha of semi-improved grassland currently on the site:

- 0.24ha (5%) will be preserved in-situ without intervention except for the commencement of a beneficial Management Strategy to enhance condition over time;
- 0.29ha (6%) will be receptor sites for translocated turves from higher quality grassland which would otherwise be lost during site clearance;
- 0.26ha (5%) will be modified to become bioretention basins with the introduction of a wetland flora mix in these locations;
- 0.53ha (12%) will be retained within amenity areas of the site where ongoing management will require compromises with Public Space requirements;
- The remaining 3.26ha (72%) will be lost to new residential, road and formal amenity such as lawns and gardens.

The location of the retained grassland is provided in Figure 02.

3.2 Protection of Grassland during Construction

During the construction phase, retained grassland will be protected from damage (tracking over etc.) through a detailed Habitat Protection Plan which will be drawn up in detail in consultation with the contractors. An overview of key strategies to be used is provided below, but is not developed in detail as the input on timeframes, programme, access requirements and construction strategy will be essential:

- Grassland swards to be retained without impact will be protected by a Construction Exclusion Zone (CEZ) which will be secured though Heras fencing and clearly identified. No works will take place within these locations without the agreement of the Project Ecologist. Indicative locations for CEZ's are provided in Figure 08.
- Where works are required within retained grassland areas, such as the construction of the boardwalk within the meadow park in the western field, these will be undertaken within the minimum possible footprint, primarily using the route of the final boardwalk for access, materials and construction. Plant will be restricted to mini-diggers and ground protection mats will be placed over any retained grassland where tracking is unavoidable.

3.3 Protection of Grassland during Operation

Board walks will be used strategically to encourage pedestrians to adhere to those routes with the aim of minimising trampling of the retained grassland areas. These are illustrated in the Landscape Plan provided in Figure 04.

In other locations, such as the northern boundary of the eastern field, access will not be encouraged but will be permitted; however the layout and design would make use unlikely and occasional. Therefore, the paths will be restricted to mown grassland tracks in these locations.

Where access is encouraged within the amenity and recreational areas such as the linear park in the centre of the eastern field, appropriately surfaced paths will be constructed. As these areas will be set below the elevated residential platforms, they are anticipated to be damp for much of the year which would discourage access off the paths.

Where retained grassland occurs to the south of the eastern field, they would be beyond the bioretention basins and it is anticipated that these will discourage pedestrian access.

4.0 Restoration Following Translocation

4.1 Updated Botanical Surveys

The current baseline of Target Species includes surveys between 2014 and 2019. The results of these surveys are illustrated in Figure 05.

To maximise the efficacy of the translocation, an updated botanical survey will be undertaken in spring 2020. The aim of the survey will be to accurately establish the current distribution of the target species prior to translocation and will include obtaining data regarding the density of each species in areas where they occur.

At the end of March 2020, the grassland within the Site will be mown to a minimum height of 15cm to improve the visibility of locally important Target Species. The mowing will also form part of the habitat manipulation included within the Reptile Translocation Scheme for the development (see Discharge of Condition 12). The timing and height of the cut will minimise the possibility of impacting the target species which are unlikely to have reached the cut height at this early stage in the growing season. Arisings will be collected and removed from site to commence the process of nutrient reduction in areas of retained habitat. Mowing of such grasslands at this time of the year is considered acceptable practise for the species in question in accordance with guidance produced by the Hardy Orchid Society (HOS, 2015).

The botanical surveys will be undertaken in April and July 2020 (to accommodate seasonal variations in detectability between the target species from adder's tongue at the beginning of the timeframe to pyramidal orchids at the end), by a suitably experienced botanist.

The surveys will identify locations where Target Species are currently present and record the density of each species within the areas where they are present. The survey will extend to all areas of grassland within the Development Site, regardless of impact. The locations and densities of any additional important species identified during the surveys will also be recorded. The timing of the surveys will coincide with the period during which the target species will be at a growth stage such that they are readily identifiable by an experienced botanist.

The locations and density of target species will be accurately recorded, using GPS. The locations of individual plants or areas containing elevated densities of one or more target species will be marked using survey flags to allow them to be confidently identified later in the season. The records obtained will be used to prepare digitised maps using GIS software, that will be used by the Project Ecologist supervising the contractors to readily identify sections of turf to be translocated.

4.2 Evaluation of the Ecological, Hydrological and Geological Requirements of Target Species

The Target Species are identified as strong indicators of neutral grassland, calcareous grassland or both. Consequently, these species favour nutrient-poor soils on which rank species are less able to out-compete them. The management methods following translocation will be designed to reduce soil nutrient levels, in order to maintain and enhance the suitability of grassland within the site for the target species.

Early marsh orchid, hairy sedge, glaucous sedge, adder's tongue fern and brookweed have a preference for damper soils than other target species. This preference will be reflected in the selection of siting within the receptor areas to accommodate turves containing these species.

Five orchids are included in the target species. Terrestrial orchids are dependent upon the presence of symbiotic mycorrhizal fungi to facilitate seed germination. Therefore, it is essential for turves containing both the orchid plants and their symbiotic fungi to be translocated to ensure the establishment of orchids in the receptor areas.

4.3 Selection of Suitable Receptor Areas

Information regarding soil chemistry and hydrology parameters of both the donor and receptor areas was obtained in September 2019 at indicative locations illustrated in Appendix 1. Specialist contractors (Tim O'Hare Associates LLP) undertook the surveys and their report is provided in Appendix 1.

Soil parameters for both the topsoil and subsoil at each location include:

- a physical description of the soil characteristics;
- pH;
- nutrient levels (plant-available NO_3^-, PO_4^- and K); and
- rooting depth of the sward

The results of the surveys indicate that the key receptor areas are suitable for translocation of turves following removal of topsoil. However, potential locations along the eastern boundary are identified as having significantly elevated nutrient levels in both the topsoil and the subsoil and therefore these are not proposed to be used as receptor locations.

The soil chemistry analysis necessarily represents spot samples taken from indicative locations within the Survey Site. These results are combined with expert judgement and comparison of sward characteristics to infer the extent of the Site for which the parameters returned are likely to be representative – the receptor locations are therefore illustrated in Figure 05 based on this judgement.

The receptor areas will remain at the same level as the existing habitat; therefore no significant changes in the hydrology of the habitat is predicted. The removal of material from the receptor site would be carefully matched to the depth of the turf to ensure that the level remains constant.

4.4 Grassland Translocation Method Statement

4.4.1 Overview

A Method Statement providing the timing, and methods to be employed in the translocation of grassland supporting target species and subsequent monitoring and management is outlined below.

4.4.2 Timing

The translocation is scheduled to take place in the autumn of 2020. However, the precise timing cannot be pre-determined as the weather conditions occurring prior to and during the translocation will be critical to its success.

The work will be undertaken during warm weather when the soil is moist (conditions most often occurring during the Autumn), to promote root growth prior to winter, in preparation for the following growing season.

4.4.3 Soil Handling

The heavy texture of the soil makes it particularly vulnerable to physical degradation through compaction during the works. Measures to avoid trampling or trafficking would be built into the plan through discussion and liaison with the contractors undertaking the work.

Works would stop during and after heavy rain and would not continue until the soil has returned to a friable state.

4.4.4 Receptor Area Preparation

The receptor areas will be prepared during summer 2020 prior to the translocation which provides scope for the work to be scheduled to fit with other works associated with the development.

A minimum of 40cm of topsoil will be scraped off the receptor areas. The soil chemistry analysis (see Section 4.3) indicates that the subsoil within the proposed receptor areas is suitable for translocation as it shares the nutrient status characteristics of the receptor areas. Deeper scraping may be required if subsoil translocation or deeper turves are to be used to maintain the soil parameters of the donor areas. The soil excavated may be placed elsewhere within the site (not within areas of retained habitat or donor areas) or removed from site.

Preparation of the receptor scrapes to produce a loose surface will be achieved through use of Cambridge Rollers or similar.

If there has not been significant rainfall prior to translocation such that the soil of the receptor areas is moist, artificial watering will be applied immediately prior to translocation.

4.4.5 Donor Area Preparation

Prior to the commencement of works, the grassland will be subject to a hay cut with arisings removed in late-summer 2020.

Turves will be cut to a minimum of 40cm. However, deeper turves may be cut where it is deemed appropriate to maintain soil chemistry. The Project Ecologist supervising the work will be responsible for deciding on the appropriate thickness of turves to be cut.

Cut turves will not be stored prior to placing in the receptor area. The turves will be transported to the receptor area immediately after cutting and placed in their final locations.

Following placement in the receptor area, turves will be tamped down using the excavator bucket or trodden down to ensure contact between the turves and the underlying soil. Turves will be placed so as to tightly abut each other. Any remaining gaps will be filled with topsoil take from around the donor area from which the turves were cut, which will be likely to contain a seed bank including the target species.

4.5 The Location of Works

The translocation of grassland will be undertaken entirely within the Site. The donor sites identified in Figure 05 are based upon records of target species obtained between 2014 and 2019. The precise location and extent of the receptor areas will be identified following the botanical surveys to be undertaken in May 2020.

Receptor areas have been chosen based on the criteria outlined in Section 4.3.

4.6 Receptor Area Management

During the Construction Phase of the development, the Project Ecologist will direct and oversee the creation and subsequent management of the receptor sites. Post development management of the receptor areas will be conducted by the appointed management company.

The management of the receptor areas will be in accordance with the Landscape and Biodiversity Management Scheme that is to be provided in Discharge of Condition 12 of the Planning Permission. This detail is not

repeated here for clarity; however, an overview of management is provided below.

4.6.1 Management Regime – Year 1

In the first year (2021), the grassland within the receptor sites will be managed through two hay cuts undertaken in early-August and mid-September. This is designed to reduce nutrient status - all arisings from the cuts will be removed from site in order to reduce soil nutrient levels to the benefit of the target species over rank species which may otherwise out compete them.

In addition to the proposed management, regular monthly monitoring (see Section 4.8) will be undertaken throughout the growing season to enable timely interventions to be undertaken, if required. Such interventions may include additional cutting to address any ruderal flushes, should they occur and watering should drought conditions arise through the summer.

4.6.2 Management Regime – Years 2 - 25

The receptor areas along with areas of retained and restored habitat will be subject to an annual cutting regime between 2022 and 2045. The grass will be mown as a hay cut each year and arisings removed from site to maintain low soil nutrient levels.

It is anticipated that the mowing regime would prevent succession by self-set tree and shrub saplings; however, if additional intervention were required, then these would be removed by hand.

Other management interventions will be undertaken in accordance with the recommendations provided in the annual monitoring report.

4.7 Monitoring

Monitoring of the translocated turves will be essential to ensure that establishment and viability is secured. The key priority will be within the initial stage following translocation when the risks of significant changes in soil chemistry and hydrology are highest. However, ongoing longer-term management is essential to ensure that gradual or smaller changes in these characteristics, as well as nutrient levels are recorded and detected.

The grassland swards throughout the site are in poor condition at present, primarily due to elevated nutrient status following the cessation of traditional meadow management. Nutrient removal is a key component of long-term management and the condition of the sward will require monitoring to assess whether the management strategy is appropriate to secure this aim.

4.7.1 Monitoring – Year 1

Immediately following translocation in Year 1, monthly monitoring will take place through the winter and up until October of Year 2. Monitoring will be undertaken by a suitably qualified botanist. A monthly report will be provided to the party responsible for habitat management which will include recommendations for changes to the management regime should it be considered necessary. The monitoring during the winter period would also permit interventions such as watering to be undertaken if the weather conditions were not favourable to establishment.

4.7.2 Monitoring – Years 2 - 25

Monitoring by a suitably qualified botanist will be undertaken on a twice annual basis in May and July of each year to coincide with the flowering times of the Target Species and allow the sward to be assessed prior to hay cuts. The botanist will provide a report including the findings of the monitoring survey and recommendations for management during the next year.

4.8 Implementation Schedule (Including Monitoring)

The schedule for the implementation of the Scheme and subsequent monitoring is provided in Table 01.

Table 01. Grassland Translocation Implementation Schedule

Phase	Timeframe	Action
Grassland Mowing	Late-March 2020	Grassland to be mowed to facilitate botanical survey and reptile translocation methodology.
Botanical Surveys	April – July 2020	Carry out botanical surveys and record and identify donor areas to be translocated.
Receptor Area Preparation	June - September 2020	Excavation and surface preparation in locations in grassland receptor areas.
Translocation	September - October 2020	Cutting and translocation of turves from to prepared receptor areas
Monitoring	October 2020- October 2021	Monthly monitoring of the receptor areas to inform appropriate management action to establish and maintain areas of species rich grassland including the target species.
	2022 – 2045	Annual monitoring of the condition of grassland within the receptor areas and elsewhere within retained and restored grassland habitats to inform appropriate management action to establish and maintain areas of species rich grassland (including the target species) within the Site. A report will be produced providing the results of the monitoring and recommendations for management in the subsequent year.
Management	2021 – 2045	Habitat management including annual cutting in August of each year and removal of arisings. Other management interventions will be undertaken in line with recommendations made in the monitoring reports.

REFERENCES

HOS (2015) Management of Roadside Verges for the Benefit of Orchids http://hardyorchidsociety.org.uk/HOS%201012/conservation%20website%202015/Verge%20Maintenance%20and%20Orchids.pdf

Key

Habitat Impacts

- Retained and Modified
- New Habitat Creation
- Habitat Removed
- Retained without Impact

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Project: Land off Teversham Road, Fulbourn

Title: Habitat Impacts

Scale: 1:4,000 **Drawing Size:** A3

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Job No.	Fig No.	Rev	Date
H75.19	02	-	11/09/19

Proposed ornamental shrub planting /lawn
(For Play areas and landscaped open spaces)

HEDGE

- Field maple (Acer campestre)
- Ninebark 'Diabolo' (Physocarpus opulifolius 'Diabolo')
- Ninebark 'Luteus' (Physocarpus opulifolius 'Luteus')
- Wilds privet (Ligustrum vulgare)

SHRUB & HERBACEOUS

- Corkscrew rush (Juncus effusus)
- Lavender (Lavandula intermedia 'Grosso')
- Mock Orange (Philadelphus coronarius)
- Pachysandra terminalis 'Green Carpet' (Japanese spurge)
- Rose (Rosa 'Canary Bird')
- Spindle (Euonymus europaeus)
- Yellow iris (Iris pseudocorus)

LAWN

- Lindum Festival Landscape Turf - LT7

Proposed aquatic / marginal planting

- **Stream water crowfoot (Ranunculus penicillatus);**
- **Brook water crowfoot (R. peltatus);**
- **Watercress (Nasturtium officinale)**
- **Common Water-starwort (Callitriche stagnalis)**
- **Purple loosestrife (Lythrum salicaria)**
- **Hemp agrimony (Eupatorium cannabinum)**
- **Water forget-me-not (Myosotis scorpioides)**
- **Branched bur-reed (Sparganium erectum)**
- **Lesser water-parsnip (Berula erecta)**

Planting strategy - around built areas

Proposed Road verges
Product: Species Rich Lawn Turf
Product code : WFT-Species-Rich-26
Supplier : Wildflower Turf Ltd

Private Front gardens (Hedge, shrubs & lawn)

HEDGE

- Cherry Laurel 'Otto Luyken' (Prunus laurocerasus 'Otto Luyken')
- Red Tip Photinia (Photinia fraseri 'Red Robin')

SHRUBS & HERBACEOUS

- English lavender (Lavandula angustifolia 'Hidcote')
- Garden Sage (Salvia nemorosa 'May Night')
- Great wood-rush (Luzula sylvatica)
- Hebe Mrs Winder
- Purple cranesbill (Geranium magnificum)
- Yellow iris (Iris pseudocorus)

LAWN
Product: Premium grade turf

Indicative location of control chamber to Engineer's details

Indicative location of below ground crates

Indicative location of headwall to Engineer's details

Existing Chalk Stream

Existing Pond

KEY PLAN

Indicative Swale

Indicative Water Edge

Reptile enhancement area

Chalk Stream

Poorwell Water

Pump House

TEVERSHAM ROAD

HINTON ROAD

COW LANE

PIERCE LANE

This document should not be relied on or used in circumstances other than those for which it was prepared and for which Chris Blandford Associates was commissioned. Chris Blandford Associates accepts no responsibility for this document to any other party other than the person by whom it was commissioned.

KEY

Site /Application boundary

Planting strategy - Open spaces

Existing vegetation

Existing trees to be retained

Proposed trees

Existing Woodland to be retained

Habitat retention/ translocation areas
Grasslands/Scrub mosaic + log piles
Hibernacula. Existing grassland/ scrub to be retained. For details refer to Reptile Mitigation Strategy report by ecologist.

Existing landscape retained
Existing natural habitat/ grassland/ scrub to be retained. For details refer to Ecologist details.

Retained landscape with additional grassland/ scrub mosaic planting as required

Proposed Meadow

Product: Emorsgate Seeds' EM2 standard general purpose meadow mix
Supplier: Emorsgate seeds

Proposed grassland & Scrub mosaic

SHRUBS & HERBACEOUS

- Hawthorn (Crataegus monogyna)
- Lady's mantle (Alchemilla mollis)
- Laurustinus (Vibernum tinus)
- Mock Orange (Philadelphus coronarius)
- Purpletop vervain (Verbena bonariensis)
- Smooth Hyrangea (Hydrangea arborescens 'Annabelle')
- Spindle (Euonymus europaeus)
- Wild privet (Ligustrum vulgare)

Bio retention basins
Product: Flora Aqua
(70% Wildflowers and 30% Grasses)
Supplier: Tillers Turf

Proposed native buffer planting

- Blackthorn (Prunus spinosa)
- Field maple (Acer campestre)
- Goat willow (Salix caprea)
- Hawthorn (Crataegus monogyna)
- Holly (Ilex aquifolium)

Proposed native tree / shrub mix

- Cornus sanguinea
- Corylus avellana
- Crataegus monogyna
- Euonymus europaeus
- Ilex aquifolium
- Ligustrum vulgare
- Prunus spinosa
- Rosa canina
- Salix cinerea

Rev	Date	Drw	Revision or reason for Issue
P2	11/09/19	SM	Issued for Planning
P1	06/09/19	SM	Issued for Planning
P0	23/08/19	MA	Issued for Planning

Scale / North Point

0 10m 20m

N

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Client
Castlefield International Limited

Project Title
TEVERSHAM ROAD FULBOURN

Drawing Series and Title
4000 SERIES
Planting Strategy - SHEET 1

Scale @ A1
1:500

Drawn
MA

Approved
RB

Date
AUG 2019

Drawing Status
FOR PLANNING

Drawing number
TRF-CBA-1-GF-M2-L-4000

Revision
P2

S:\projects\11129501 Teversham Road Fulbourn\4 CAD\TRF-CBA-1-GF-M2-L-4000.dwg

RAILWAY TRACK

COX'S DROVE

Chalk Stream

Indicative Swale

Indicative Water Edge

For LEAP planting strategy refer to drawing TRF-CBA-1-GF-M2-L-2000

Poorwell Water

Pump House

KEY

Site /Application boundary

Planting strategy - Open spaces

Existing vegetation

Existing trees to be retained

Proposed trees

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(For Play areas and landscaped open spaces)

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- Lesser water-parsnip (Berula erecta)

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Product code : WFT-Species-Rich-26
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- Hebe Mrs Winder
- Purple cranesbill (Geranium magnificum)
- Yellow iris (Iris pseudocorus)

LAWN
Product: Premium grade turf

Indicative location of control chamber to Engineer's d

Indicative location of below ground crates

Indicative location of headwall to Engineer's details

Existing Chalk Stream

Existing Pond

KEY PLAN

Rev	Date	Drw	Revision or reason for Issue
P2	11/09/19	SM	Issued for Planning
P1	06/09/19	SM	Issued for Planning
P0	23/08/19	MA	Issued for Planning

Scale / North Point

0 10m 20m

N

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Client
Castlefield International Limited

Project Title
TEVERSHAM ROAD FULBOURN

Drawing Series and Title
4000 SERIES
Planning Strategy - SHEET 2

Scale @ A1
1:500

Drawn
MA

Approved
RB

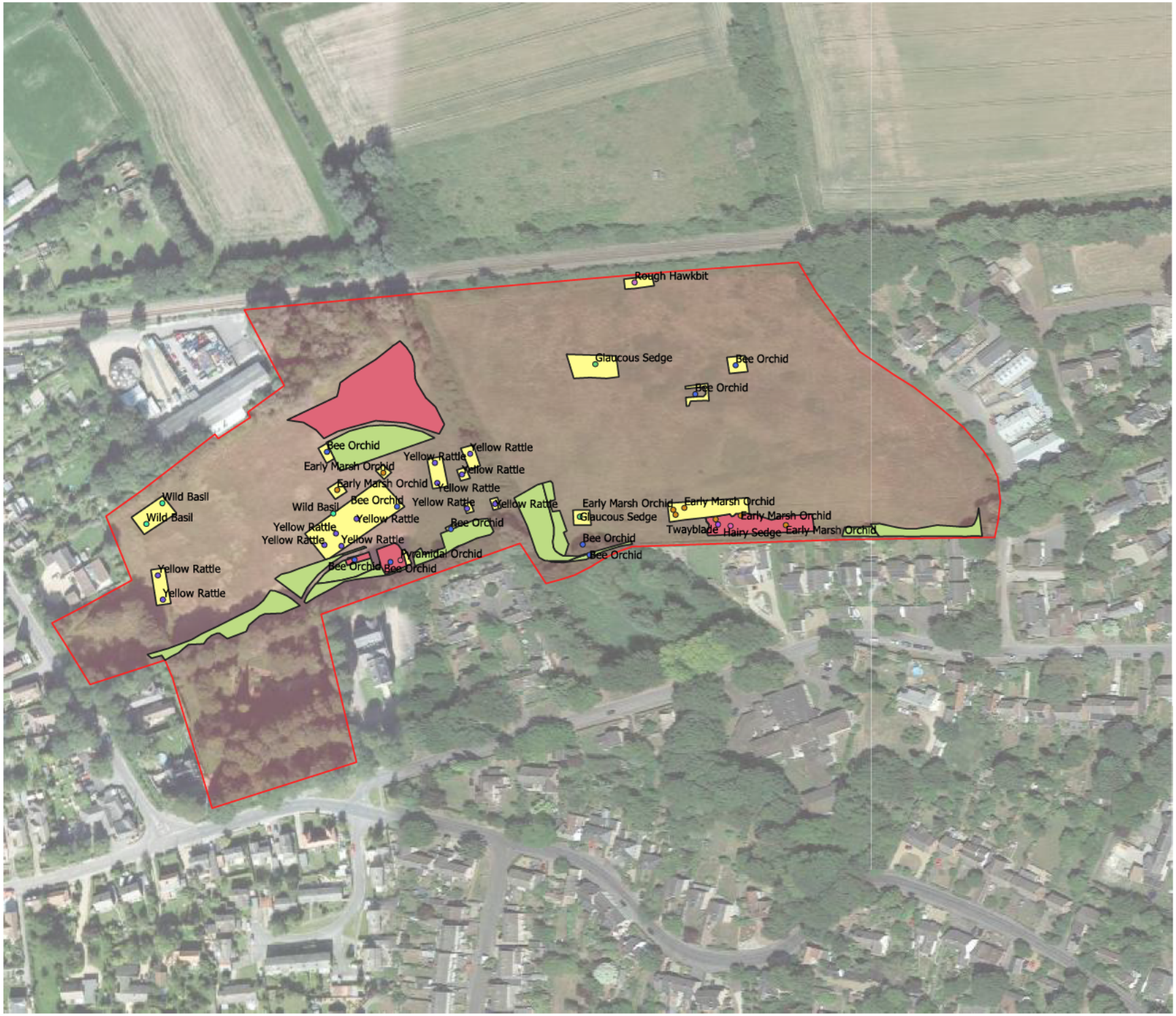
Date
AUG 2019

Drawing Status
FOR PLANNING

Drawing number
TRF-CBA-1-GF-M2-L-4001

Revision
P2

S:\projects\11129501 Teversham Road Fulbourn\4 CAD\TRF-CBA-1-GF-M2-L-4001.dwg



Key

- Site Boundary

Botanical Records (2015-19)

- Bee Orchid
- Early Marsh Orchid
- Glaucous Sedge
- Hairy Sedge
- Rough Hawkbit
- Twayblade
- Wild Basil
- Yellow Rattle
- Pyramidal Orchid
- Translocation Turves (Donor Site)
- Retention in Situ
- Receptor Site

Note: Spot records for common spotted orchid were not recorded in 2015 - the only time this species was reorded. An indicative turve of sufficient size has been added in the approproximate location to ensure allowance is made for this species to be included in translocation following 2020 botanical surveys.

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Project: Land off Teversham Road, Fulbourn

Title: Grassland Translocation and Receptor Sites

Scale: 1:4,000 **Drawing Size:** A3

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Job No.	Fig No.	Rev	Date
H75.19	05	-	11/09/19

Key

- CEZ for Grasslands
- Retained Grassland Sward
- Grassland Translocation Receptor Site
- Bioretention Basin
- Site Boundary

Note - CEZ fencing is not proposed where natural barriers such as the woodland edge of the site boundary would naturally prevent incursion

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Project: Land off Teversham Road, Fulbourn

Title: Grassland Construction Exclusion Zones (CEZs)

Scale: 1:4,000 **Drawing Size:** A3

Source: Reproduced in accordance with Google Earth Fair Use Policy

Job No.	Fig No.	Rev	Date
H75.19	08	-	11/09/19

APPENDIX 1
-
SOIL CHEMISTRY ANALYSIS RESULTS

TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

James Faulconbridge
Landscape Science Consultancy Ltd
The South Wing
The Old Barracks
Sandon Road
Grantham
Lincs
NG31 9AS

9th September 2019

Our Ref: TOHA/19/6512/ML
Your Ref: as below

Dear Sirs

Soil Investigation Report for Grassland Translocation

Land off Teversham Road, Cambridge

We have completed our soil investigation at the land off Teversham Road and have pleasure reporting our findings.

Working Brief

It is understood that a translocation exercise has been proposed, whereby turves from a semi-improved grassland are to be moved to 3-4 No. new locations. Little or no information was available on the type and properties of the soils present.

A soil sampling and testing exercise (topsoil and subsoil) was requested at 6 no. preselected locations as shown on the supplied and attached site plan. Of these, TH1 and TH2 represent 'donor' sites and TH3 to TH6 are 'recipient' locations.

At each location an assessment of soil properties including soil texture, topsoil depths, pH and nutrient levels was requested.

SITE VISIT

The site visit was conducted on 28th August 2019 during period of warm, dry weather.

Site Overview

The site consisted of 2 no fields as indicated on the supplied site plan (**Appendix 1**).

Both fields were reasonably flat and level, overgrown with frequent brambles and thistles with occasional small to medium shrubs. The fields were bounded by hedgerow and mature trees on all sides. The grass cover contained frequent patches of Spagnum moss and a dense grass thatch layer.

Plate 1 : Example of the typical landscape conditions

Plate 2 : Grass turf containing grass thatch and spagnum moss

Soil Sampling and Soil Descriptions

The sampling locations are shown on the attached site plan in **Appendix 1**.

Representative samples of topsoil and subsoil were taken from each sample location for laboratory analysis, with reference to Natural England Technical Information Note 035 – *Soil sampling for habitat creation and restoration*. The soil samples were taken using a hand driven soil auger (50mm Dutch Head) from the following depths:

- Topsoil Samples: GL – 75mm
- Subsoil Samples: 200mm from the base of the topsoil

During the sampling exercise, soils were examined with reference to the Soil Survey Field Handbook. Important physical soil characteristics were recorded, including texture, structure, compaction, moisture status, drainage characteristics, topsoil depths, stone content and the presence of deleterious materials.

Typical Soil Profile

A single typical soil profile was encountered between sampling locations, described as below:

Topsoil GL – 280 / 340mm Average depth: 315mm	Brown to greyish brown, slightly moist, friable, very calcareous CLAY LOAM. Well-developed, fine to medium granular to sub angular blocky structure. Slight stony with flints up to 25mm and no observable deleterious materials. The average rooting depth within the topsoil profile was 170mm (140 – 200mm).
Subsoil 200mm from the base of the topsoil	Light grey with occasional faint orange mottling, slightly moist, slightly plastic, very calcareous CLAY to SILTY CLAY with weathered parent material. Virtually stone free with no observable deleterious materials.

Plate 3 : Typical Soil Profile

Plate 4 : Typical Topsoil

Plate 5 : Typical Subsoil

LABORATORY TESTING

The samples of topsoil and subsoil were submitted to the laboratory for a limited range of chemical analyses to confirm their soil reaction and fertility status. The following parameters were determined:

- pH value;
- extractable phosphorus;
- extractable potassium;
- extractable magnesium.

The results are presented on the attached Certificates of Analysis as **Appendix 2** and an interpretation of the results is given below.

Results of Analysis

pH Values

The topsoil samples from each sampling location were strongly alkaline in reaction (pH 8.2 – 8.5).

The subsoil samples from each sampling location were strongly alkaline in reaction (pH 8.5 – 8.9).

Fertility Status

The samples of topsoil displayed varying levels of extractable nutrients as outlined in the table below;

Topsoil Extractable Nutrients and Fertility Status			
Trial Hole	Extractable Phosphorus	Extractable Potassium	Extractable Magnesium
1	10 mg/l Low Fertility	100 mg/l Low Fertility	37 mg/l Low Fertility
2	13 mg/l Low Fertility	156 mg/l Slightly Low to Medium Fertility	33 mg/l Low Fertility
3	11 mg/l Low Fertility	122 mg/l Slightly Low to Medium Fertility	34 mg/l Low Fertility
4	32 mg/l Medium to High Fertility	186 mg/l Slightly Low to Medium Fertility	37 mg/l Low Fertility
5	27 mg/l Medium to High Fertility	170 mg/l Slightly Low to Medium Fertility	31 mg/l Low Fertility
6	84 mg/l Very High Fertility	343 mg/l Medium to High Fertility	40 mg/l Low Fertility

The samples of subsoil also displayed varying levels of extractable nutrients as outlined in the table below;

Subsoil Extractable Nutrients and Fertility Status			
Trial Hole	Extractable Phosphorus	Extractable Potassium	Extractable Magnesium
1	4 mg/l Very Low Fertility	54 mg/l Very Low Fertility	13 mg/l Very Low Fertility
2	9 mg/l Very Low Fertility	75 mg/l Low Fertility	14 mg/l Very Low Fertility
3	2 mg/l Very Low Fertility	38 mg/l Very Low Fertility	15 mg/l Very Low Fertility
4	3 mg/l Very Low Fertility	58 mg/l Very Low Fertility	21 mg/l Very Low Fertility
5	3 mg/l Very Low Fertility	68 mg/l Low Fertility	20 mg/l Very Low Fertility
6	55 mg/l High Fertility	127 mg/l Slightly Low Medium Fertility	19 mg/l Very Low Fertility

CONCLUSION

The purpose of this soil investigation was to assess the existing soil conditions at 2 no. 'donor' locations and 4 no. 'recipient' locations in relation to a grassland translocation exercise.

It is understood that TH1 and TH2 ('donor') sites are representative of the conditions from which the grass turves were growing in prior to translocation. TH3 to TH6 ('recipients') are representative of the locations where it is planned to translocate the grass turf to.

The topsoil and subsoil encountered at the site were physically characterised by medium textured topsoil and heavy textured subsoil. Faint mottling was observed within the subsoils at all locations. These observations indicate these soil profiles are 'imperfectly drained' and, as such, may be expected to be subject to 'seasonal waterlogging'.

The soils were strongly alkaline in reaction and were very calcareous. 'Chalky' soils such as these are not suited to the establishment of neutral and acid grasslands, which typically prefer lower pH values and low levels of carbonate. This should be taken into account when considering additional seeding and/or planting at this site.

Soil Fertility Status

Semi-improved grassland occurs in the UK on soils with a low fertility status (*infertile*) and plant available phosphorus is the key nutrient when considering the fertility status of soil in relation to these meadow types. As such, *infertile / low fertility* soil is required to maximise the floristic diversity of the sward and to reduce the risk of domination by grasses and aggressive weeds such broad-leaved dock (*Rumex obtusifolius)* and stinging nettle (*Urtica dioica*).

Topsoil

The topsoil from the donor locations (TH1 and TH2) and recipient location TH3 was found to have low fertility status ('infertile') conditions typical of semi-improved grassland.

The areas represented by TH 4 to TH6 displayed a high to very high fertility status. Topsoil such as this may be prone to future colonisation by aggressive weeds and grasses. Phosphorus is relatively immobile in soils and it would therefore be difficult to remove from the topsoil. This topsoil would have a low potential for successful translocation of semi-improved grassland turves.

Subsoil

The subsoil layers at TH1 to TH5 have a low fertility status ('infertile') and therefore have potential for semi-improved grassland establishment. Subsoils such as these typically have a beneficial balance of plant nutrients and microbial activity needed to provide a suitable growing medium for this purpose. The subsoils have the additional advantage of having a negligible weed seed bank.

The subsoil at TH6 was found to have a high fertility status with high levels of extractable phosphorus and as such has a low potential for the translocation of semi-improved grassland turf.

Next Steps

If it is desired to utilise the subsoil from the locations represented by TH3 to TH5 for translocating the turf, it would be necessary to treat the soil profile(s) to expose the subsoil(s) for preparation and turfing. The required earthworks and tillage operations should be timed and managed to minimise damage to soil structure. This should include vegetation treatment prior to commencement. Should the topsoil be stripped, a suitable 'home' (either on-site or off-site) would need to be found for it.

The topsoil (or subsoil once exposed) should be prepared appropriately for turfing. This is likely to require suitable cultivation(s) to break up any compacted lumps and provide a suitable seed-bed, followed by rolling if necessary.

Soil Handling Recommendations

The heavy texture of this soil will make it particularly vulnerable to physical degradation (compaction) during all phases of soiling and landscape works. It is important to ensure that the soil is not unnecessarily compacted by trampling or trafficking, and soil handling should be stopped during and after heavy rainfall, and not continued until the soil has returned to a friable state. If this soil is damaged its potential for re-use will be limited. Therefore, to maintain the physical condition of the soil and avoid structural damage, all phases of soil handling operations (e.g. stockpiling, respreading, cultivating, and planting, seeding or turfing) should only be carried out when the soil is reasonably dry and non-plastic (friable) in consistency.

If the soil is structurally damaged and compacted at any stage during the course of soiling or landscaping works, it should be cultivated appropriately to relieve the compaction and to restore the soil's structure prior to any planting, turfing or seeding.

We would like to thank Landscape Consultancy Ltd for entrusting the practice with this commission. We trust this report meets with your approval and provides the necessary information. Please do not hesitate to contact the undersigned for further assistance.

Yours faithfully

Matthew Lowry
BSc MSc
Graduate Soil Scientist

Tim White
BSc MSc MISoilSci CSci
Senior Associate

For & on behalf of Tim O'Hare Associates LLP

Attachments

Appendix 1 – Site Plans
Appendix 2 – Certificates of Analysis

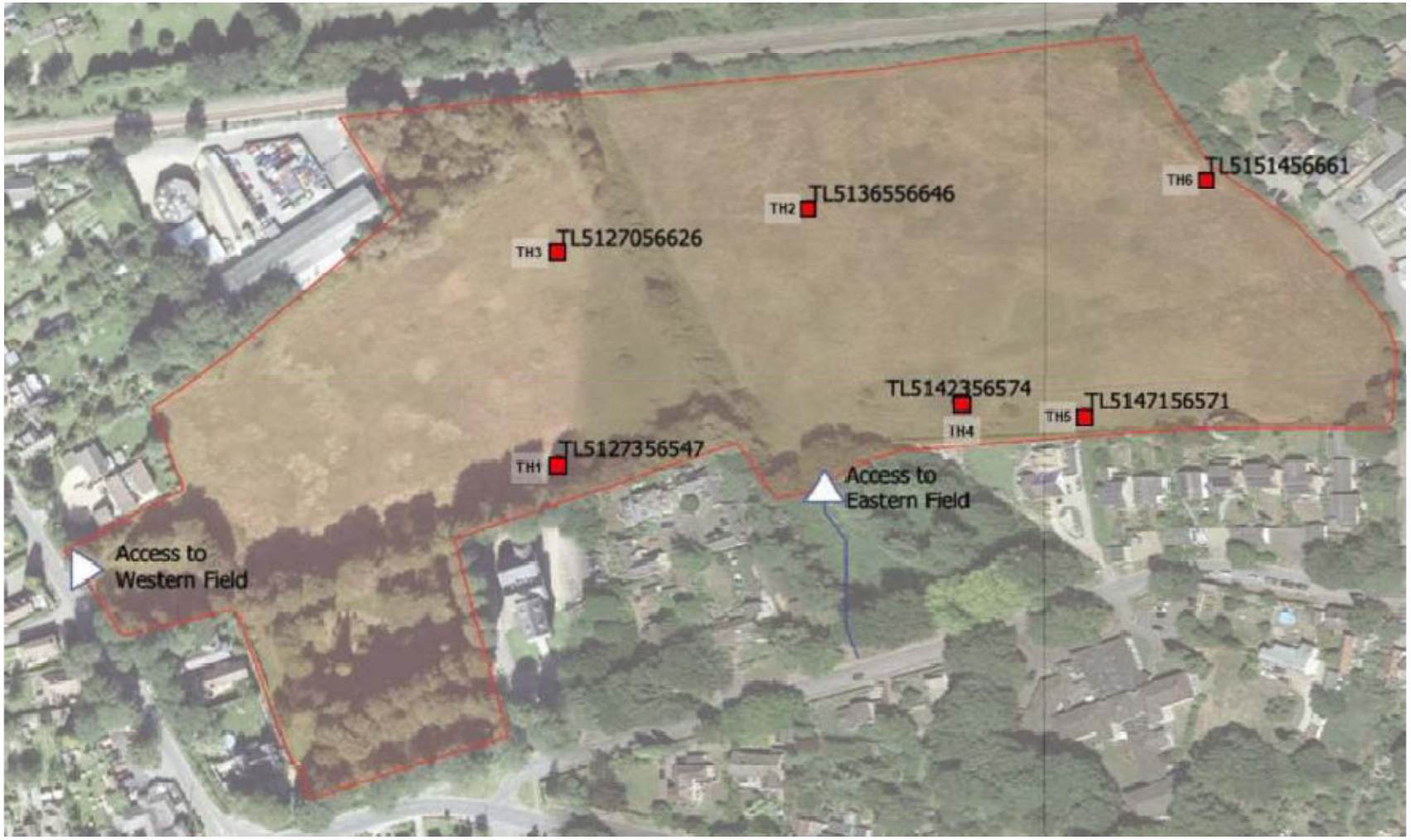
Report Qualifications

TOHA's interpretation of the soil conditions is based on observations made during the site investigation and the results of laboratory tests. This report presents TOHA's site observations and test results and the interpretation of those observations and results. On any site there may be variations in soil conditions between these exploratory positions. TOHA can therefore not accept any responsibility for soil conditions that have not been exposed by this investigation.

This investigation considers the re-use of the site soils for semi-improved grassland translocation at the land off Teversham Road, Cambridge. It should not therefore be relied on for alternative end-uses or for other schemes. This report has been prepared solely for the benefit of the client Landscape Science Consultancy Ltd. No warranty is provided to any third party and no responsibility or liability will be accepted for any loss or damage in the event that this report is relied upon by a third party or is used in circumstances for which it was not originally intended.

Appendix 1

Site Plan – Survey Area and Trial Hole Locations



Trial Hole Location (approx.)

Site boundary

TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Client:	Landscape Consultancy Ltd		
Project:	Land Off Teversham Road, Cambridge		
Job ref no.:	TOHA/19/6512/ML		
Drawing no.:	6512/1		
Drawing title	Soil Investigation Report		
Date:	September '19	Scale:	NTS
Drawn by:	ML	Checked by:	TW

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Howbery Park Wallingford Oxfordshire OX10 8BA
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Appendix 2

Laboratory Analysis

TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Client:	**Landscape Science Consultancy Ltd**
Project:	**Teversham Road, Cambridge**
Job:	**Soil Investigation**
Date:	**September 2019**
Job Ref No:	**TOHA/19/6512/ML**

Location Reference			**TL5127356547**	**TL5136556646**	**TL5127056626**	**TL5142356574**	**TL5147156571**	**TL5151456661**
Trial Hole			**TH1**	**TH2**	**TH3**	**TH4**	**TH5**	**TH6**
Soil Type			**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**	**Topsoil**
		Accreditation						
pH Value (1:2.5 water extract)	units	UKAS	8.3	8.4	8.2	8.1	8.5	8.4
Extractable Phosphorus	mg/l	UKAS	10.4 [1]	13 [1]	11 [1]	32 [3]	27 [3]	84 [5]
Extractable Potassium	mg/l	UKAS	100 [1]	156 [2]	122 [2]	186 [2]	170 [2]	343 [3]
Extractable Magnesium	mg/l	UKAS	37 [1]	33 [1]	34 [1]	37 [1]	31 [1]	40 [1]

[ ] = Adas Nutrient Index

Results of analysis should be read in conjunction with the report they were issued with

TIM O'HARE ASSOCIATES
SOIL & LANDSCAPE CONSULTANCY

Client:	**Landscape Science Consultancy Ltd**
Project:	**Teversham Road, Cambridge**
Job:	**Soil Investigation**
Date:	**September 2019**
Job Ref No:	**TOHA/19/6512/ML**

Location Reference			**TL5127356547**	**TL5136556646**	**TL5127056626**	**TL5142356574**	**TL5147156571**	**TL5151456661**
Trial Hole			**TH1**	**TH2**	**TH3**	**TH4**	**TH5**	**TH6**
Soil Type			**Subsoil**	**Subsoil**	**Subsoil**	**Subsoil**	**Subsoil**	**Subsoil**
		Accreditation						
pH Value (1:2.5 water extract)	units	UKAS	8.8	8.8	8.5	8.8	8.9	8.7
Extractable Phosphorus	mg/l	UKAS	4 [0]	9 [0]	2 [0]	3 [0]	3 [0]	55 [4]
Extractable Potassium	mg/l	UKAS	54 [0]	75 [1]	38 [0]	58 [0]	68 [1]	127 [2]
Extractable Magnesium	mg/l	UKAS	13 [0]	14 [0]	15 [0]	21 [0]	20 [0]	19 [0]

[ ] = Adas Nutrient Index

Results of analysis should be read in conjunction with the report they were issued with