Fig 15c

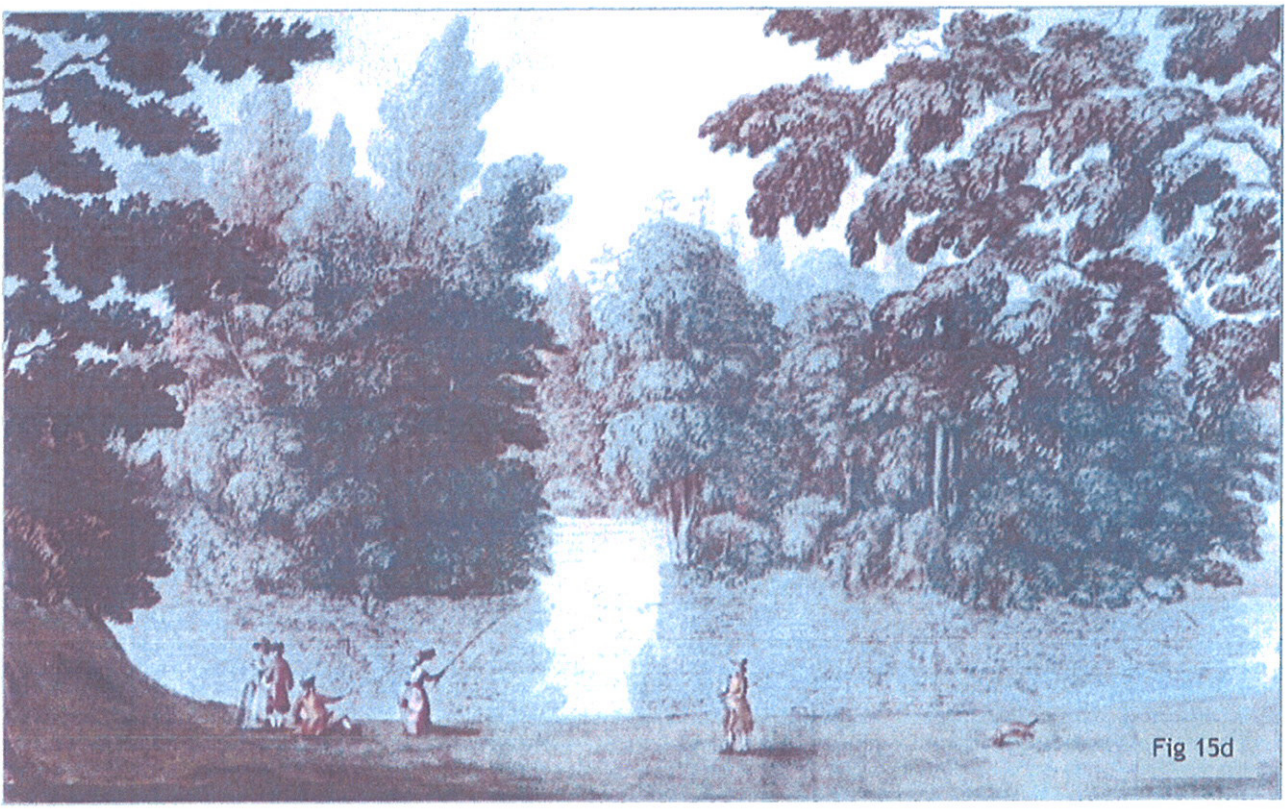


Fig 15d

Speyer Painting of 18th Century Hall

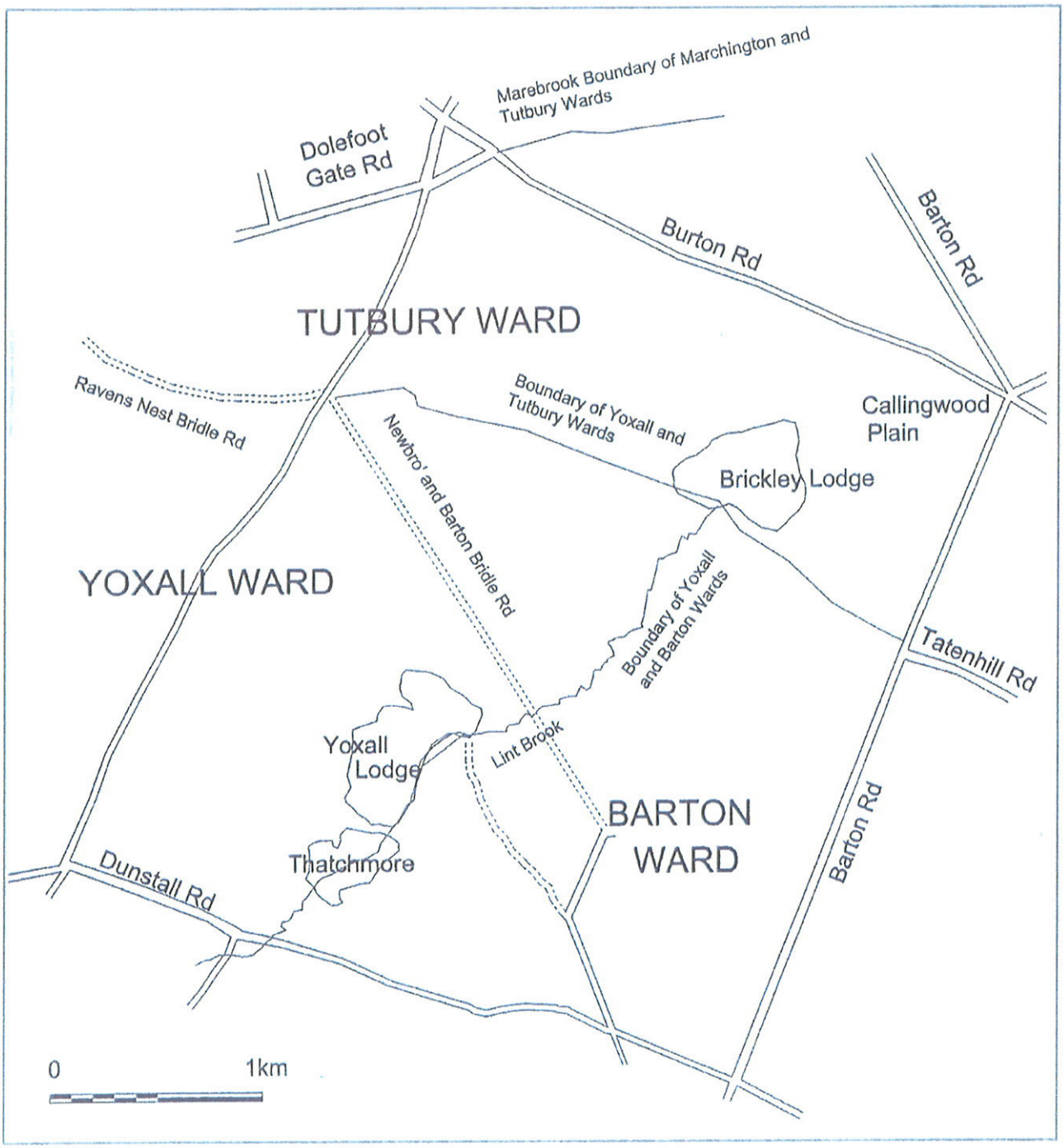
Fig 15c and 15d

The National Football Centre

Environmental Assessment

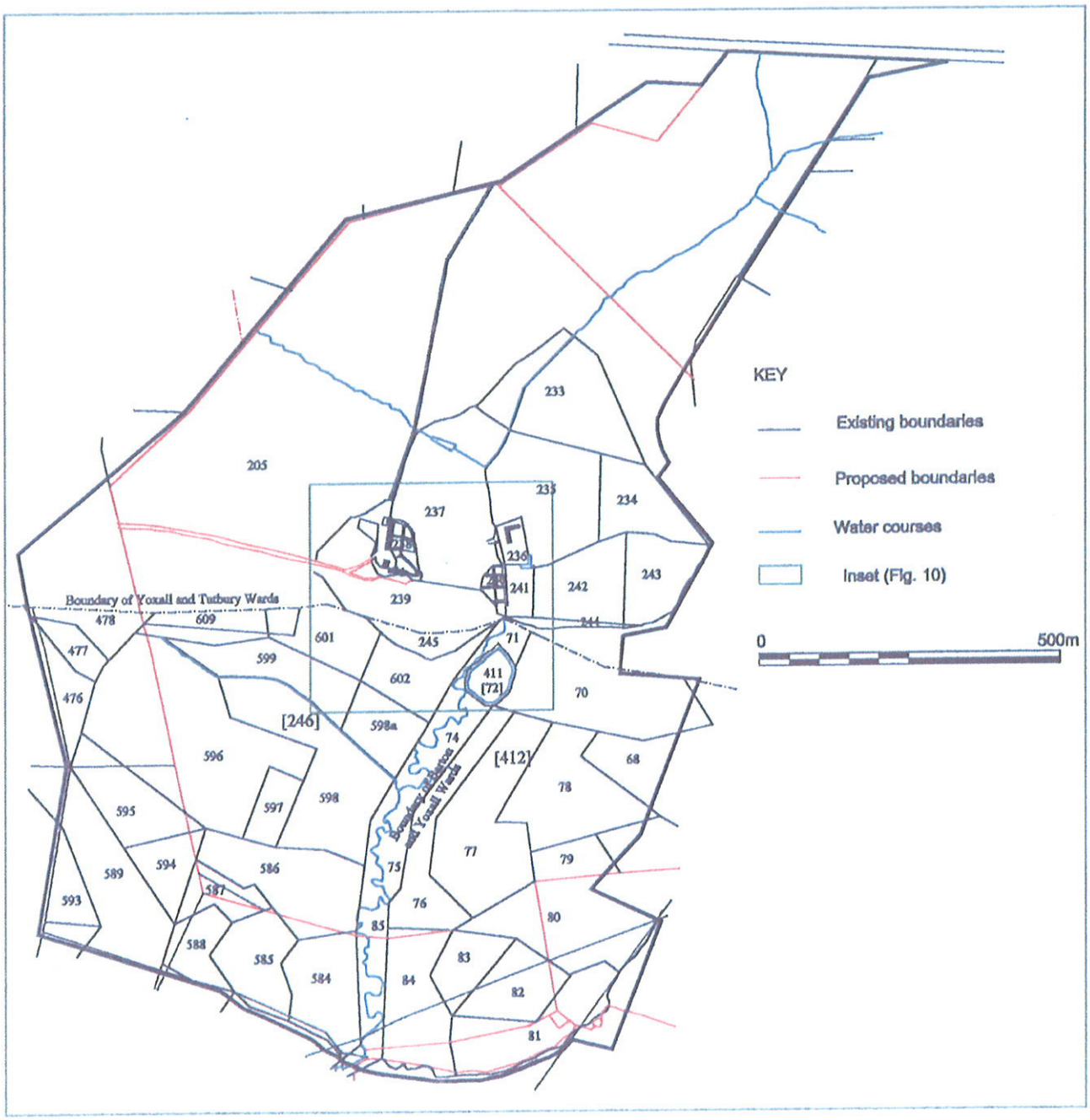
THE FOOTBALL ASSOCIATION

BDP



Map of New Roads created as a result of 1801 Enclosure Act, 1806

Fig 16



Principal Maps of Enclosure

Fig 17a

The National Football Centre

Environmental Assessment

THE FOOTBALL ASSOCIATION

BDP

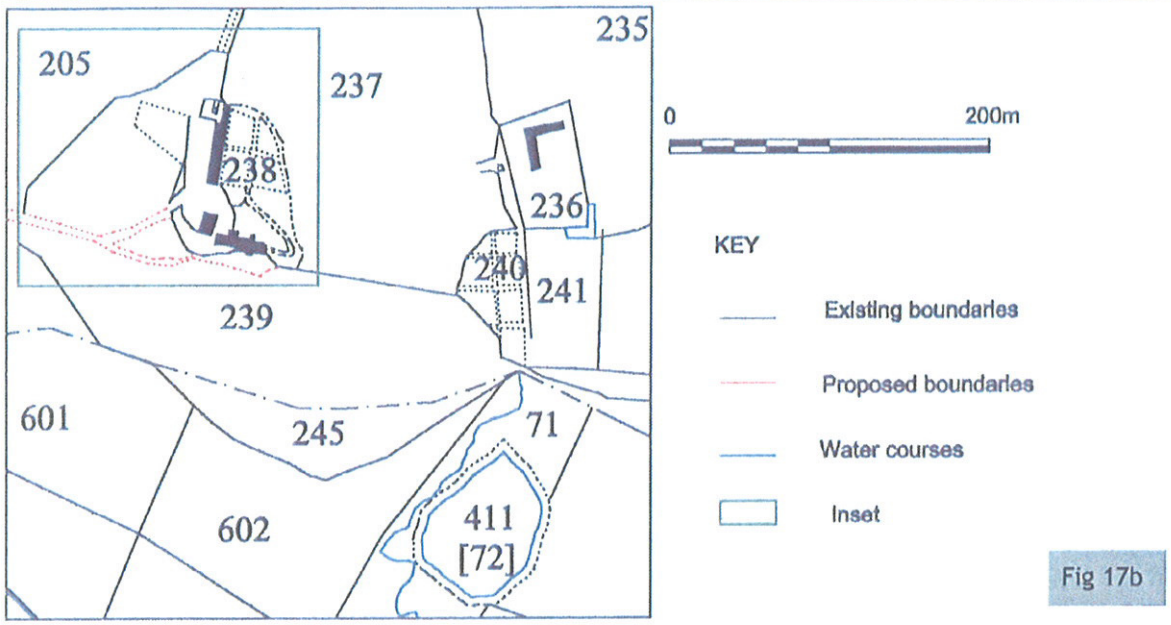


Fig 17b

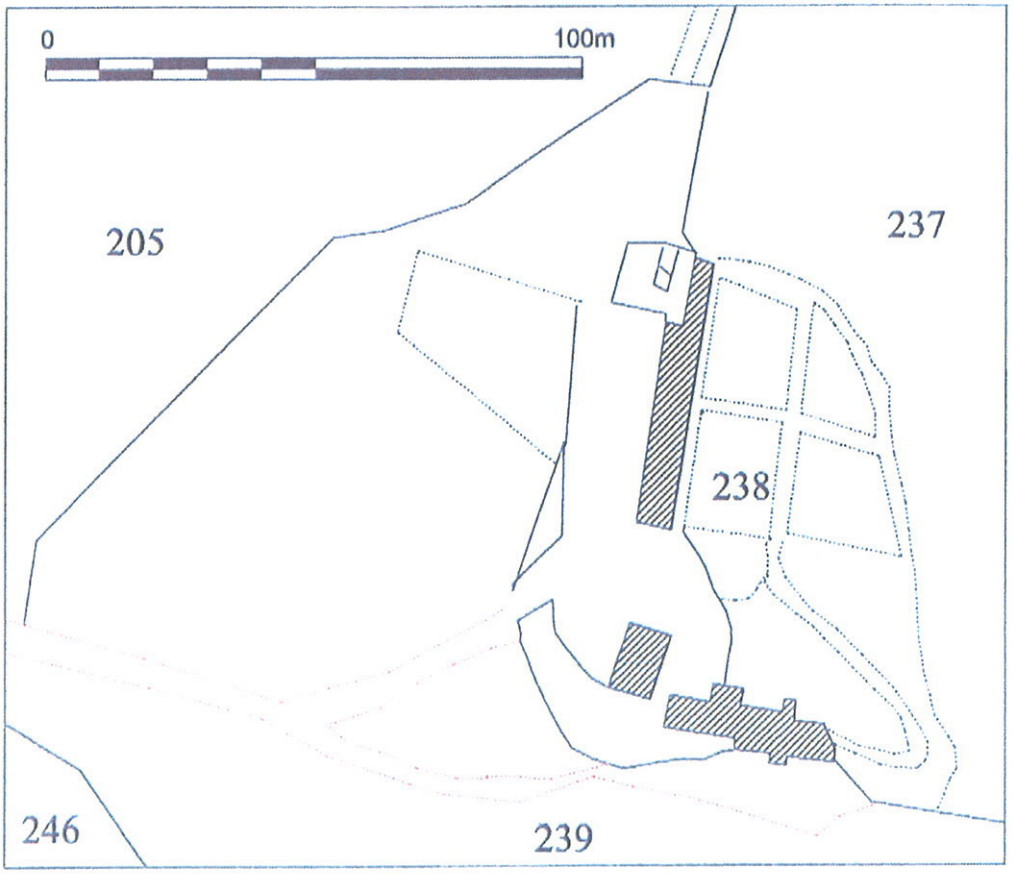
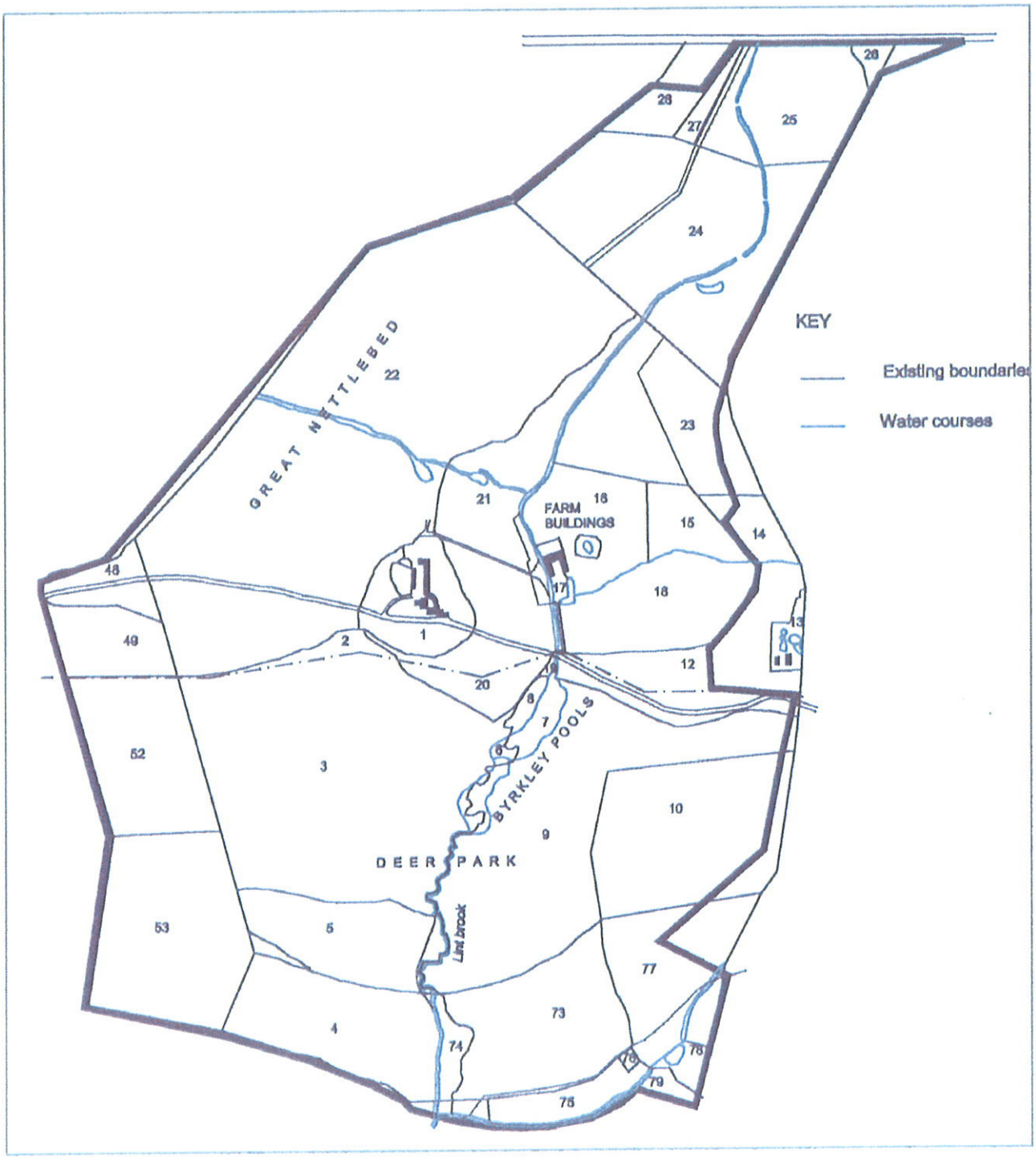


Fig 17c

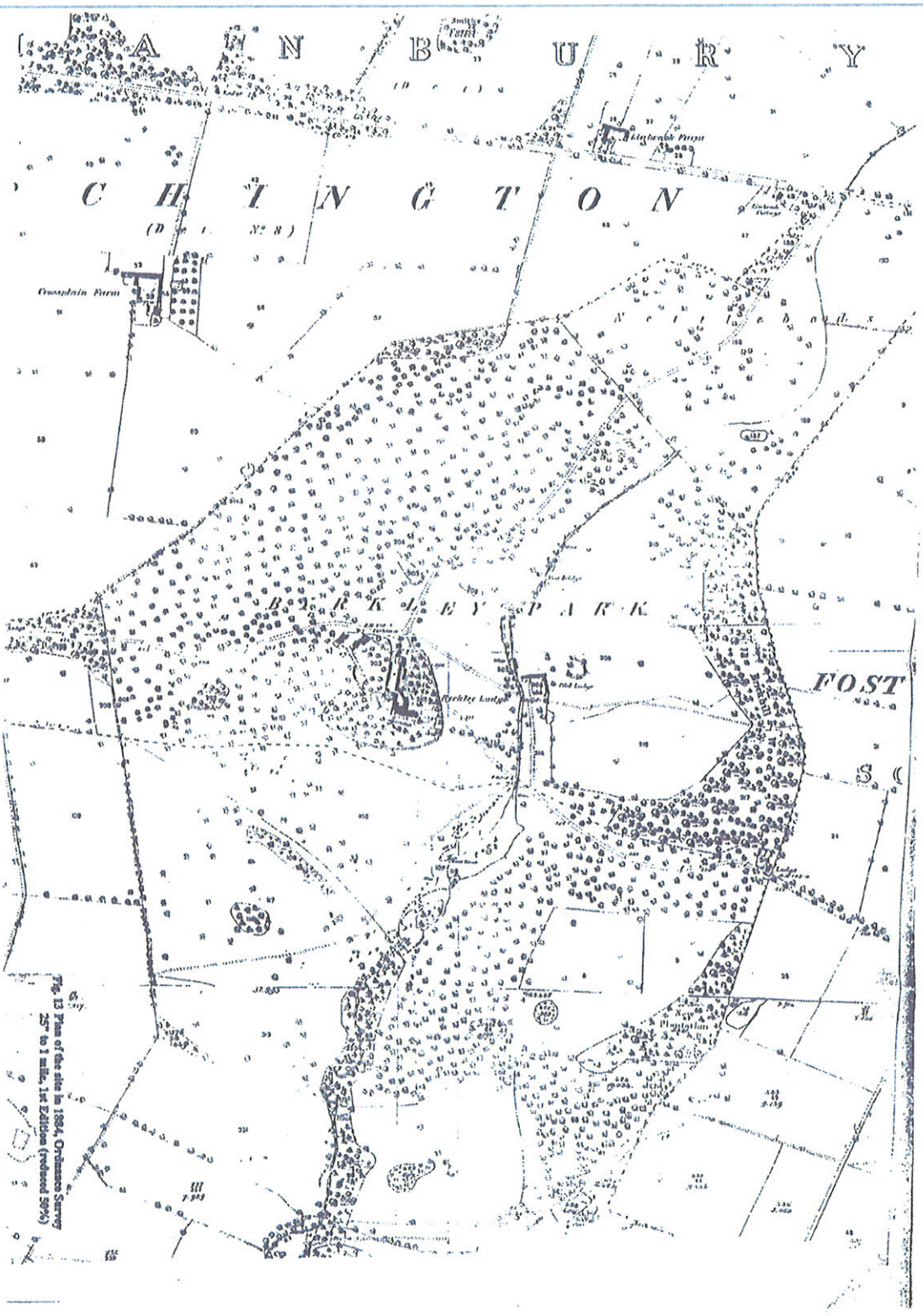
Principal Maps of Enclosure

Fig 17b and 17c



1859 Ownership Map

Fig 18



1884 OS Map

Fig 19

Land use according to 1859 Conveyance and assignment		
Occupiers	**Plan No.**	**Occupation**
Michael Thomas Bass Esq.	1	Byrkley Lodge with Offices Buildings Gardens and Pleasure Ground
	2	Part of Deer Park
	3	Ditto
	8	Ditto
	9	Ditto Linthursts Banks
	10	Ditto Eighteen Acres
	4	Plantation in Daisy Piece
	6	Part of Byrkley Pools
	7	Remainder of Ditto
	11	Part of Court Rough
	12	Ditto
	13	Brickyard &c in Ditto
	14	Another part of Court Rough
	15	Three Corner piece
	16	Fir Tree piece
	17	Rough and Pit in Firtree piece
	18	The Nine Acres
	19	Part of Byrkley Green
	20	Ditto
	21	Remainder of Byrkley Green, Far Meadow and Green Field
	22	Great Nettle Bed
	23	Remainder of Court Rough open to Far Meadow
Joseph Hand	5	Daisy piece
Charles Bardell	28	Part of Lintbrook or Cottage Field Gravel Pit piece
Michael Thomas Bass Esq.	26	Plantation on Leasing Hill
	27	Ditto
	48	Bell Plantation
Joseph Hand	49	Ten Acres including Bridle Road
	52	Twelve Acres
	53	The Eighteen Acres
William Hunt	24	Far Nettle Bed including Pool 0a 0r 28p
	25	Leasing Hill
Abraham Hardy	73	Linthurst Banks
	74	Meadow in Ditto
	75	Little Hill
	76	Orchard taken from Ditto
	77	Holly Bank
	78	Holly Croft
	79	Primrose Hill

i. The 1884 map shows Lin Brook enters the site from the north flowing southwards, with a small pond 380m south of Linbrook Cottage. 320m downstream of this is a weir, and then a footbridge which led to a track on the line of the boundary between plots 233 and 234 /235 on the enclosure map. Apparently this led only to Brickhill Wood. Below this are two weirs, the lower

coinciding with an unmarked ford which led to the Old Lodge, which appears to have been altered since the enclosure map, now having an east arm instead of one at the west. The pool south of the Old Lodge has lost its southern arm. To the east of the Old Lodge an earthwork is shown. This is presumably the marl pit referred to in plot 235 of the enclosure map.

j. Downstream of the Old Lodge the brook runs under the drive and drops over a weir into the upper pool. This is shown as having a small island and a boathouse at the west and is brought over another weir into a second pond with a larger island. At the south of this pool is a further weir, the lower side of which is aesthetically designed with a carved escutcheon surmounted by a scrolled pediment. Below this weir the brook resumes its natural course through wooded banks with only a single additional weir 200m upstream of the south (this weir was not shown on the 1901 or subsequent editions). The ward boundaries shown on the map show the original course of the brook.

k. No other structures within the proposed development area are shown on the First Edition map. However, two lodges (in the sense of small buildings at the entrance to the drives) are shown directly outside the proposed development area to the east and west of the main Lodge.

l. The 1901 Second Edition (Figure 20) shows an additional lodge (also outside but adjacent to the development site) at the north, next to Linbrook Cottage, which also appeared on the First Edition. The lodge at the west had been extended to the south of the track, and lies within the development area. The fields have once more been opened up into larger units and two new tracts of woodland had been planted, to the west and south-west of the Lodge.

m. The most significant alteration, however, was that the main had Lodge been entirely rebuilt, sweeping away all earlier buildings and remodeling the core curtilage. The new building included basements and overlay the earlier Lodge, though the new service Court was to the west of its predecessor. Much of the Old Lodge had also disappeared. The new Lodge consisted of a main block to the south of a separate service court. A new pumping station had been built further to the north-west and another pumping station is shown on the west bank of the Lin Brook, downstream of the pools. This is also shown on the 1924 edition, but had disappeared by the 1955 edition, though remains of it can be seen at ground level.

n. The 1924 6" map shows that an Electric Power Station and a Gas Works had been added, both west of the Lodge (Figure 21). A replacement Icehouse had been built south of the pumping station. The northern of the two pools south of the Old Lodge had been widened to the west, removing the site of the old boathouse, and creating two new small islands.

o. The principal addition during the twentieth century was the addition of an airfield to the north-west of the site. Some of the airfield aprons project into the edge of the proposed development area as does an area of dispersal points and bunkers. The County Sites and Monuments Record has no note of these structures being recorded on the Defence of Britain project.

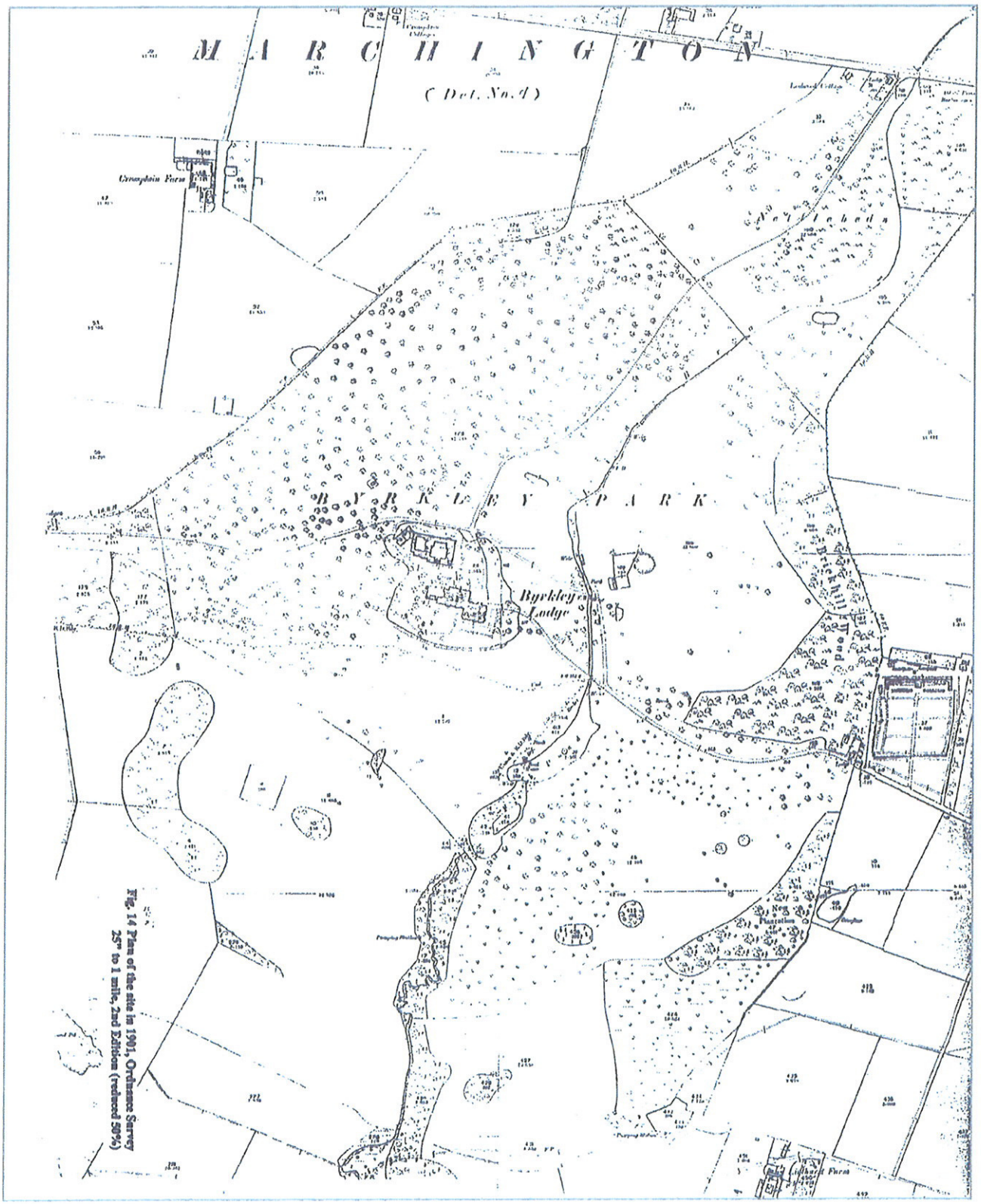
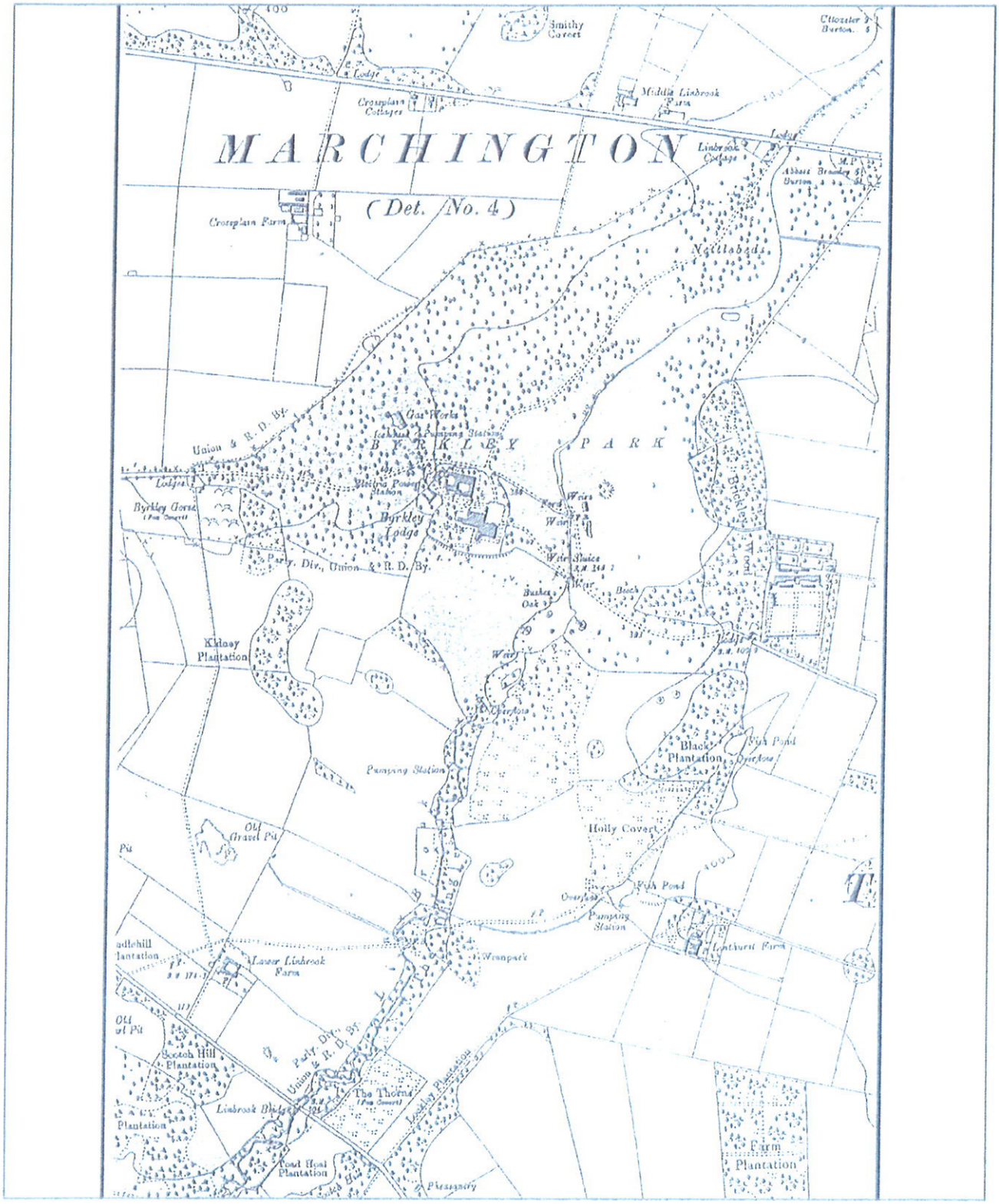


Fig. 14 Plan of the site in 1901, Ordnance Survey 25" to 1 mile, 2nd Edition (reduced 50%)

1901 OS Map

Fig 20



1924 OS Map

Fig 21

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p. The 1948 aerial photograph of the site (SRO 541/28/4197, 17 May 1948) clearly shows the new airfield and associated structures, which have removed Cross Plains Farm to the west and also the lodges at the west end of the drive to Byrkley Lodge. The Lodge itself is shown as intact with a formal garden laid out to its east. The boathouse west of the Pool has gone. A suggestion of ridge and furrow earthworks is visible in the field south of Kidney Plantation and a possible enclosure at the east of this field. Owing to the Record Office's conservation policy it was not possible to obtain a copy of this photograph. The layout, however, accords well with the information on the 1955 OS 6" map, though the airfield is here shown in scant detail, reflecting the strategic importance of such an installation in the early post-war years.

q. The second half of the twentieth century saw the dilapidation of Byrkley Lodge. At some time between 1955 and 1963 the main block of the Lodge was demolished (OS map 1955) (Figure 22). The bulk of the buildings of the service court, however, survived into the 1990s.

r. Little of this complex now remains. The gatehouse to the service court is gradually decaying, as are the well house and the twentieth century icehouse, while the gas works to the west has been demolished to ground level. Of the main house all that survives are low level ruins of the main building in a wooded area with the overgrown ha-ha to the south and some garden balustrading to the north.

5.65 **Air Quality**

a. Air Quality in the Burton upon Trent area is generally good, although it is affected by emissions from Birmingham and other urban centres in the West Midlands.

b. No Air Quality Management Areas have been declared in the East Staffordshire Borough area.

5.66 **Light Environment**

a. At present, there are no artificial light sources on the site. The closest sources of artificial light to the site are:

i. Tattenhill Airfield, situated immediately to the north east, which has edge lights floodlighting to its forecourt.

ii. The Byrkley Lodge Garden Centre

iii. Commercial premises including the Petrol Station on the B5234.

iv. Highway lighting.

5.67 **Water Quality**

a. The quality of wetland areas and the Lin Brook have been covered above.

b. The existing and historic land uses on the site have been agricultural and it appears that there has been significant use of fertilisers on the land, some of which will inevitably have run off and into adjoining water courses.

c. It has not been possible to quantify the amount of fertiliser used historically on the site.

d. The National Football Centre proposal will give rise to a reduced use of fertilisers, which will offer potential improvements in water quality in and around the site.

e. It is anticipated that fertiliser use will be restricted to pitch areas. Any water which drains from the pitches will pass through a reed bed, before it can enter the Lin Brook.

5.68 **Noise and Vibration**

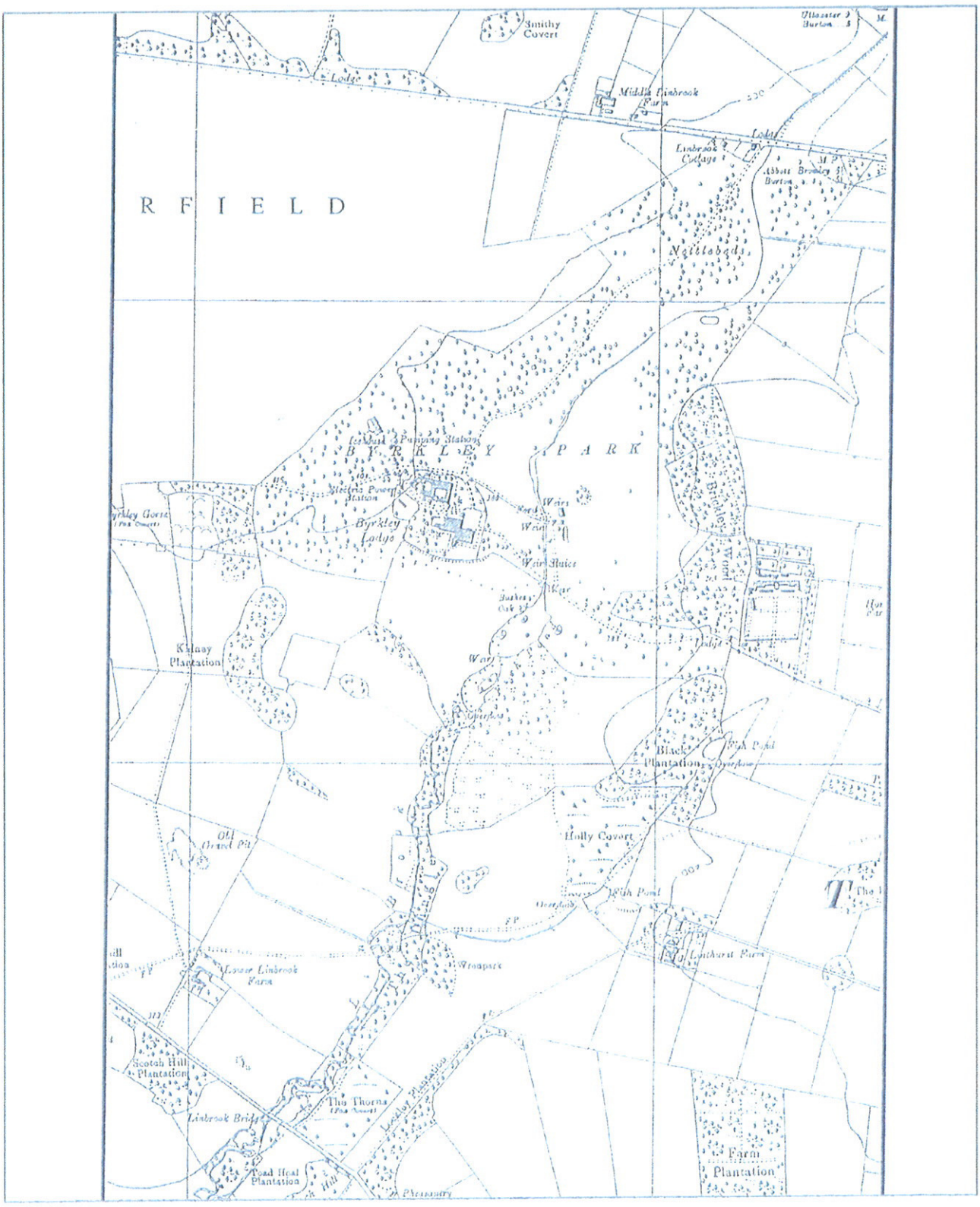
a. Baseline noise levels were measured by BDP Acoustics at the proposed development site, between 24th May and 1st June 2001. One set of equipment remained in a fixed location for the entire period, spanning more than seven days, continuously logging noise levels throughout. Further measurements were taken using two precision grade sound level meters, at the positions shown in Appendix 1. The long-term environmental logging equipment was set-up at position 1, and shorter-term measurements were taken at all positions 1 to 4.

b. The results of the measurements taken at position 1 are included in Appendix 1, which show the fluctuation in noise levels recorded over a seven day period. The peaks in the daytime level relate generally to light aircraft and helicopters using the adjacent airfield, and larger aircraft at relatively low level approaching the East Midlands airport. Noise from farming activities and traffic on the local road network determines the steadier, lower level trends. The lowest recorded night time levels generally follow the weather conditions, which were very settled for most of the week, except during the 27th and 28th May when light showers and moderate winds raised the lower background noise levels. This can be seen clearly on the measured results, which show an increase in L_{A90} values particularly overnight.

5.69 **Demographic, Social and Economic Issues**

a. The development of the National Football Centre will bring approximately 150 jobs into the area.

b. It is likely that a proportion of these jobs will be taken up by staff transferring from existing positions within the Football Association. Other posts will be advertised, and be available to be filled by local residents.



1955 OS Map

Fig 22

c. The development may lead to a small rise in demand for local housing, however, it is not considered that this will raise significant pressure for the release of additional housing land in the Local Plan.

d. The development will result in positive benefits to the local economy both directly in terms of employment opportunities and also indirectly through increased trade for local businesses etc.

e. The proposal will not give rise to any significant social impacts.

6.0 OTHER KNOWN DEVELOPMENTS WHICH MAY GIVE RISE TO CUMULATIVE IMPACTS

a. We are not aware of any other applications in the local area which are likely to give rise to significant cumulative impacts when considered in combination with the proposed National Football Centre.

7.0 DESCRIPTION OF LIKELY SIGNIFICANT IMPACTS ON ENVIRONMENTAL RESOURCES ARISING AS A RESULT OF THE DEVELOPMENT

7.1 Introduction

a. The ecological impacts likely to arise as a result of the proposed development have been discussed at section 4 previously in this report. In this section of the report those impacts are considered in terms of the site specific features of the Byrkley Park.

7.2 Method of Assessment

a. The predicted magnitude of each type of potential impact on the ecological features of the site and surrounding area is discussed in terms of the extent of impact on that particular feature. The following categories have been used as a guide to describe likely magnitude of impact on each ecological resource.

Magnitude	Description
Nil	Not expected to affect the feature in any way, therefore no effects on the ecological resource.
Minor	Minor effects, either of sufficiently small scale or of short duration to cause no long term harm to the feature or the ecological resource.
Moderate	Effects detectable in short and long term, but would not alter the viability of the system.
Major	Major effects on the feature which could have a sufficient impact to alter the nature of the resource and possibly affect its viability.
Total/Near Total	Would cause the loss of a major proportion or whole feature, or sufficient damage to a resource to affect its survival as an ecosystem.

7.3 Assessment of Significance of Impact

a. The significance of each impact described on each ecological resource is assessed in consideration of both the nature conservation value of the receiving resource and the magnitude of the impact upon that resource. The following matrix has been used as a guide to determine the significance of the impacts and therefore to determine the significance of impact of the whole proposed development at this site.

Determination of Significance of Impacts without Mitigation

Impact Magnitude	Nature Conservation Importance of Feature				
	Negligible	Low	Moderate	High	Exceptional
Nil	Insignificant	Insignificant	Insignificant	Insignificant	Insignificant
Minor	Insignificant	Insignificant	Minor	Minor	Moderate
Moderate	Insignificant	Minor	Minor	Moderate	Major
Major	Insignificant	Minor	Moderate	Major	Major
Total/Near Total	Insignificant	Minor	Moderate	Major	Major

7.4 **Mitigation/Compensation**

a. In order to lessen, avoid or compensate for any identified impacts, mitigation and / or compensation proposals are included in the proposals. Such proposals are discussed in terms of their beneficial significance, however, where these proposals have a negative effect on other ecological resources this is also discussed.

b. Following consideration of the significance of the mitigation and compensation proposals, the net significance of impact is determined.

7.5 **Structure of Effect Significance Section of Report**

7.6 The assessment of anticipated significant impacts is considered sequentially against the features of acknowledged importance identified in Section 5 of this report. This section is therefore structured as follows:

a. On Site Habitats

i. North-East Wood-Pasture

ii. Nettlebeds Plantation

iii. North Lodge Wood-Pasture

iv. Lin Brook

v. Airfield Pasture

vi. Front Field

vii. Entrance Drive Grassland

viii. Home Woods

ix. Ice House Wood-Pasture

x. Western Wood-Pasture

xi. Hall Field

xii. Pheasant Thicket

xiii. Oak Copse

xiv. Kidney Plantation

xv. Byrkley Gorse

xvi. West Field

xvii. Southern Grassland

xviii. The Dingle

xix. The Ponds

b. Mammals

c. Birds

d. Amphibia and Reptiles

e. Fish

f. Aquatic Invertibrates

g. Landscape

h. History and Archaeology

i. Air Quality

j. Light Environment

k. Noise Environment

l. Demographic, Social and Economic Issues

7.7 **North-East Wood-Pasture**

a. This area will be affected by the route of the new access road which crosses the area diagonally in a NE-SW direction.

b. The road crossing of the tributary of Lin Brook will necessitate the removal of some scrub on the banks and bridging, will be necessary.

c. The pond and marsh south of Lin Brook will not be affected.

d. The loss of trees in the compartment is expected to be minimal, involving felling of Trees 022, 024 (not of high quality) and 025 (poor condition). No ancient trees are present in this area. New planting is proposed, with a limited number of trees being placed fairly close to the road in open areas. These trees will not impinge on the small remnants of semi-improved grassland in this area there appear to be no ecological constraints.

e. The nature conservation importance of wood-pasture is moderate since it does not contain any ancient trees. The masterplan has been designed to ensure that important ecological features in this area are not affected by development. The impact of the proposal are therefore considered to be minor, and therefore, its overall significance without mitigation is considered to be minor.

f. The appropriate compensatory planting which is proposed will further reduce the significance of the impact and offer benefits to the long term ecology of the site. It is proposed that this area of the site will remain in agricultural use.

7.8 **Nettlebeds Plantation**

a. The access road crosses the southern end of the compartment where there only a few trees.

b. A crossing of Lin Brook will be necessary required, with provision as at North-East Wood-Pasture above.

c. No trees need to be removed. Some new tree planting is proposed close to the road although not in areas which contain small remnants of semi-improved grassland.

d. Again, the nature conservation importance of this area of wood-pasture is considered to be moderate since it does not contain any ancient trees. The masterplan has been designed to ensure that important ecological features in this area are not affected by development. The impact of the proposal are therefore considered to be minor, and therefore, its overall significance without mitigation is considered to be minor.

e. The appropriate compensatory planting which is proposed will further reduce the significance of the impact and offer benefits to the long term ecology of the site. It is proposed that this area of the site will remain in agricultural use.

7.9 **North Lodge Wood-Pasture**

a. Although if forms part of the National Football Centre site, this will remain in agricultural use and no changes are proposed.

b. The proposal will have no impact in this area.

7.10 **Lin Brook Pastures**

a. The road crosses the existing rough track and circumvents the few mature trees, which will remain.

b. One football pitch will occupy land south-east of the new road and will necessitate re-contouring of the slopes in this area. Tree No. 179 will be removed.

c. Substantial new planting is proposed in this compartment, increasing the proportion of parkland (at the expense of some of the present improved grassland which in itself is of little ecological interest).

d. Overall, the nature conservation importance of this area is considered to be moderate, although again the masterplan avoids impacting upon the areas of greatest value (in particular mature trees).

e. Considering the additional planting which is proposed in this area, the impact is considered to be insignificant.

7.11 **Lin Brook**

a. Except for the crossings in Compartments A and B, and some work relating to the new sewage works (see below) the proposals do not impinge on the watercourse. New tree planting in D will be in small groups, and none are likely to be near enough to shade the watercourse.

b. The existing waterside trees and shrubs will remain as at present.

c. The drainage and irrigation system which is proposed on the site will ensure that the proposals do not result in the run off of fertilizers or pollutants into the water course. The drainage and irrigation system will be agreed with the Environment Agency.

d. The scale of impact upon Lin Brook is likely to be insignificant.

7.12 **Airfield Pasture**

a. This field is within the Wood-Pasture SBI . This is proposed as the location of two pitches which will require recontouring to create the necessary level ground.

b. As the site is treeless at present and the grassland is of no ecological importance, there will be no adverse ecological impact.

c. Substantial new tree planting is proposed, particularly to the west of the new pitches, but also on the other sides. Ancient trees close to the boundary (and in the bunkers area off site) should not be affected in any way.

d. As a result of the masterplan layout avoiding all features of importance in this area, the impact is judged to be insignificant.

7.13 **Front Field**

a. This is the proposed site of car parks and the access and drop-off facilities. Part of it will be taken for construction of the Training House. As a consequence, this compartment will undergo a virtually complete change. The only existing

feature of special concern is an ancient tree (276) which will be retained and protected.

b. Extensive planting is proposed in this area, particularly in car parking areas.

c. This part of the site is substantially derelict at present and ecological losses will be negligible.

d. The old oak stumps which are found in this area will be retained, in situ where possible. If this does not prove to be practicable, they will be excavated and retained elsewhere on site.

e. The impact of development in this area is considered to be insignificant, since much of the area is of poor ecological value, and features of importance are to be protected.

7.14 **Entrance Drive Grassland**

a. A partial re-routing of the present entrance drive is proposed, to link it with the new access road / drop-off road east of the Training House.

b. It is also anticipated that the sewage treatment plant will be located below ground in an existing small tree and shrub plantation at the foot of the slope. The position is clearly ideal for its intended purpose, being close to the main complex of buildings and to the watercourse. Some new screen planting will be introduced.

c. Some impact on the existing grassland, which is the least-improved and most "natural" grassland on site, will be unavoidable when the road and sewage pipe work are installed. With careful working, including carefully planned removal, retention and replacement of turf, impact can be kept to a minimum and restoration successfully effected.

d. New tree planting in this compartment has been kept to a minimum and is only proposed to screen man hole covers to the sewage treatment works. From an ecological standpoint it would be better to avoid tree planting altogether, especially on the best grassland on the east side of the present access road.

e. The trees alongside Lin Brook, at the foot of the slope should not be affected, though some work will have to be carried out around the point chosen for the treated water outfall.

f. The nature conservation importance of this area is considered to be moderate. Mitigation, including the cutting and relaying of turves and sensitive tree planting will ensure that the overall impact is insignificant.

7.15 **Home Woods.**

a. This compartment will be extensively, changed to accommodate the Training House.

b. The trees at the eastern side, which include the mature Atlantic Cedars, and other specimens of landscape value (c. 432-5 & 437-42) are to remain, as will Tree no. 444 which is just inside the ha – ha, on the south side of the area.

c. One mature Oak (443) and two of the Wellingtonias will have to be removed.

d. Ecological losses will include semi-mature and mature native and non-native trees, scrub and field layer vegetation which in part of the area includes large patches of Bluebell and possibly other plants of value. In order to mitigate against this loss, the wildflowers will be transplanted elsewhere within the site. Bluebell is a Target Species in the National Forest Biodiversity Action Plan. The bluebells will be transplanted in other existing areas of woodland within the site.

e. New planting of groups of trees is proposed for the area around the old beef unit foundations (which are close to the main entrance of the new building) and to the Football Association and Media car parks. Existing trees east of the embanked yard are to remain, supplemented by new planting.

f. Again, it is considered that the nature conservation importance of this area is moderate, and although there will be a moderate impact, the overall significance of the impact is considered to be minor. Translocation of wild flowers, the retention of key mature trees and compensatory planting will mitigate and compensate for the impact.

7.16 **Ice House Wood-Pasture**

a. The proposed tennis courts, maintenance area, staff housing and kit research facility are all located within this compartment, though concentrated in the south-eastern corner. These facilities will be accommodated with minimal tree loss. Only trees 259 – 264 will be felled. The area of the compartment in which felling is required does not contain any of the most important trees.

b. Ancient trees (Nos. 204, 228, 229, 230, 231, 246, 249, 273, 274) are all in the proposed Pitch and Putt Area north of the buildings and will remain *in situ*. It will be important to highlight their significance before any detailed plans are drawn up for the facility to make sure that they will not sustain any damage.

c. New tree planting in is confined to the immediate vicinity of the housing etc.

d. One of the old aircraft standings as a helipad. This will not require tree felling or clearance.

e. Trees of particular interest are 186, 229(standing dead), 230, and 245. Other trees, mostly closer to the standings than these, are 207,208 209, 225,226,227 and 228.

f. Although this area is of moderate / high nature conservation importance, the design of the masterplan avoids impact upon areas or features of importance. Impacts such as tree clearance and development are restricted to non-sensitive areas.

g. As a result, the overall significance of the impact is considered to be minor.

7.17 **Western Wood-Pasture**

a. The access road enters the eastern end of this area.

b. All significant trees in the compartment are unlikely to be affected.

c. Unsuitable non-native species such as sycamore will be removed.

d. The lower part of the area is open grassland. Two pitches are allocated to this area. One will necessitate substantial re-contouring; the other very little. The re-contoured area will be directly above Pheasant Thicket and this may have some effect on the existing ground water flow.

e. With adequate protection of the ancient trees in this area, the overall impact of the development will be insignificant.

7.18 **Hall Field**

a. The southern end of the Training House building, the Living House and the Learning House will impinge on the upper (northern) edge of this field, but with no significant ecological effect.

b. Tree 444 (Oak) will remain as features in front of these buildings.

c. Consideration has been given to the retention of tree 445 (Ash) however, the tree is in danger of failing, is dangerous and therefore is to be removed.

d. There are no proposals to alter Hall Field, other than by planting several new groups of trees. This being so, there will be ample opportunity for improving the grass sward both ecologically and aesthetically.

7.19 **Pheasant Thicket**

a. The proposal involves radical change, involving making use of the water source to create two ponds in deepened basins within the existing small valley. This proposal will enhance the ecological value of the site. The new ponds would be reasonably close to North and South Ponds, and having a water supply which is independent of the Lin Brook system could make them ideal for amphibia, if fish are kept out, as well as being attractive landscape features. The old Beech (428) in the existing western hedgerow is retained

b. In consideration of the low ecological value of the thicket area which is to be removed, and the positive ecological benefit of the creation of the new ponds, the overall environmental impact in this area is considered to be positive.

7.20 **Oak Copse**

a. The only proposed modification is new tree planting around the periphery (which will complement other new plantings on the near side of the new ponds mentioned above. There is scope for improvement and diversification of the undergrowth within the Copse.

b. Again, the overall impact of the proposals in this area will be positive.

7.21 **Kidney Plantation**

a. The football provisions proposals have minimal effect here, although the plantation is set to become the most obvious landscape feature among the main cluster of pitches.

b. New plantings of small groups of trees is proposed in the grassland around the periphery. There is very considerable potential for improving the quality of the woodland by selective thinning and replanting with native plant species to improve the woodland structure and create a more natural type of woodland.

c. Again, the overall impact of the proposals in this area will be positive.

7.22 **Byrkley Gorse**

a. This is not affected by any proposed new development. Here, as elsewhere, there will be some need for continuing management. The Gorse has many good features already, but there are plenty of possibilities for ecological improvement.

b. The overall impact of the proposals, allied with appropriate management will result in a positive impact in this area.

7.23 **West Field**

a. Much of this will be taken to provide a Flexi pitch, to be sited in the wider, northern end of the field. A small hill is proposed for the southern part, one of two large mounds, which will occupy ground on either side of the hedge which currently separates West Field from the Southern Grassland.

b. Quite dense tree planting is envisaged for the land between the western boundary hedge and the artificial hill. These features will replace set-aside grassland which is species poor. This opens up possibilities for habitat creation.

c. The proposal will not lead to significant negative environmental impacts in this area.

7.24 **Southern Grassland**

a. Currently the largest compartment, this is also one of the least ecologically varied. It is the obvious choice for locating the largest cluster of pitches - five in all. The creation of the two easterly pitches, on a sloping site, will require substantial re-contouring, especially on the eastern sides. The resulting steeper slope will be quite close to the southern hedgerow. Appropriate protection will be during the construction phase.

b. The grassland in this compartment is set-aside and unremarkable for its composition or diversity. It is likely that, after some interruption during ground re-modeling, badger foraging will be resumed. Due regard will be given to the character of the grassland occupying the ground between the pitches. It is not anticipated that badgers will damage the pitches as their favourite diet

(earthworms) is not likely to be as plentiful on the pitches as in other areas. Good foraging around the edges of the site would help to make sure they are kept away. There may have to be a trade-off between tree planting and grassland, especially alongside the hedges.

c. The south-east corner, which is currently a centre of badger activity, is not significantly affected and in this area particularly, habitat conservation and improvement should be given a high priority.

d. Features of importance, such as the southern hedgerow, will be appropriately protected during construction. This protection, along with habitat management and improvement will result in no significant negative environmental impact being experienced in this area.

7.25 **The Dingle**

a. The wood is, as already mentioned, a scheduled Site of Biological Importance.

b. A policy of minimum, or zero, disturbance is strongly advocated, at least for the period during which the major site works are being carried out. The Dingle can be improved, particularly around the weir at the northern end, but there is no particular urgency for this. Potential improvement measures would include the removal of alien rhododendron and spruce, along with a very localised thinning out of the tree cover. A further possibility exists to plant in the scrubby area adjacent to the Dingle.

c. The proposed development will not lead to any significant negative impacts in this area. Positive management will improve its overall ecological value.

7.26 **The Ponds** (T and U)

a. Mention of the need for de-silting has been already made in this report. The timing of this should be carefully planned, not only as regards season but also in relation to other site works. Clearly it would be advantageous to make use of plant already on site for the operation, which could be messy. There may also be good opportunities for disposal of silt at this time. Ideally de-silting should be a sequential operation so that the habitat is not stripped all at once. Some features around the pond margins - the western scrub and the mature woodland on the eastern shore need to be left as little-disturbed as possible throughout the operation.

b. Repairs to the bottom weir are also necessary in due course.

c. The proposed development will have no significant negative impact upon the ponds, however, their long term management and maintenance will ensure that their ecological value is protected and enhanced.

7.27 **Mammals**

a. The site has a reasonably rich complement of resident mammals. The population of badgers appears to be thriving and secure. The badgers main sett

lies to the east of Lin Brook in an area which is unaffected by development. One outlying sett has been found within the site and it is clear that the group forage across at least a quarter of the site.

b. Badgers and their setts are protected under the Badgers Act 1992. Neither the main sett, nor outlier setts will be affected by the proposed development, and a more than ample foraging habitat will remain unaffected by the proposals.

c. All bat species are protected under Schedule 5 of the Wildlife and Countryside Act 1981. The ecological survey has identified that the site contains sites with potential for bat roosting. A detailed emergent bat survey is currently being undertaken. Any works affecting a potential bat roosting sites will be only undertaken following a detailed inspection, and if necessary, in accordance with an appropriate licence and at the appropriate time of year.

d. The ecological survey has not identified any other species of mammal which are exceptional or which are specifically protected by legislation. Following the completion of the development, significant areas of ecological value will be retained on the site and it will continue to support a wide and diverse range of wildlife.

e. In consideration of the design of the extensive ecological survey which has been undertaken, and the design of the masterplan, it is not considered that the proposal will give rise to significant negative impact upon mammals.

7.28 **Birds**

a. The recorded list of birds on the site is impressive.

b. The level of activity proposed on the site will not give rise to significant disturbance to nesting birds.

c. Although there will be some tree and scrub felling, particularly in the area of the Training, Living and Learning houses, this will not lead to a serious loss of woodland nesting habitat. Any lost habitat will be compensated for by extensive replacement tree planting.

d. The wetland features on the site also represent an important habitat for birdlife. The two main ponds will be retained and appropriately managed and maintained which will be beneficial to the sites birdlife. Additional water features will also be created. In summary, there will be no significant negative impact upon the bird population arising as a result of the proposed development.

7.29 **Amphibia and Reptiles**

a. All amphibia which have been identified on the site are common, and populations are localised. The proposals will not have any significant negative impact upon existing amphibian populations, and indeed the creation of additional water features offers the potential to create improved habitats.

b. There will be no negative impact on the amphibia on the site.

c. The overall impacts upon amphibia on the site will be positive.

7.30 **Fish**

a. There are no records of fish in the two large ponds on the site. This may be as a result of silt and the fact that the ponds periodically dry up in summer. Only stickleback have been identified in Lin Brook.

b. The proposals will therefore have no significant impact upon fish.

c. There is the posibility for considerable improvements to be made to the ponds for fish.

7.31 **Aquatic Invertebrates**

a. The sampling of Lin Brook was intended to be sufficient to ascertain the water quality, and the groups listed should be regarded as no more than indicative of the complement of aquatic invertebrates present.

Sample Point	1		2		3		4	
Plecoptera	-		-		-		-	
Ephemeroptera *	vo	7	o	7	o-f	7	-	
Trichoptera **	o (2spp)	14	o	7	o	7	o (2 spp)	14
Gammaridae	a	6	o	6	o	6	va	6
Simulidae	f	5	a	5	vo	5	f	5
Asellidae	f	3	-		-		f	3
Erpobdellidae	f	3	f	3	f	3	-	
Glossiphonidae	f	3	f	3	o	3	o	3
Annelida	a	1	a	1	a	1	0-f	1
Diptera larvae			o		f		o	
BWP score		42		32		32		32

* family Baetidae ** fam. Limnephilidae

b. The animals recorded at the four sample sites are all common species. More prolonged searching would almost certainly reveal other species. The assemblage is characteristic of lowland watercourses free from damaging pollution and with stony and muddy substrata. The BWP scores, which are based on the relative intolerance of species to low dissolved Oxygen concentrations (higher no. = less tolerant) suggest that there is no significant deterioration in water quality between the sample- points.

c. Swan mussel shells (Anodonta cygnaea) were found on the bank of the South Pond. Sampling for invertebrates in the ponds has not yet been attempted.

7.32 **TERRESTRIAL INVERTEBRATES**

a. This survey consisted of a single day's fieldwork on 25th May 2001. Weather conditions were close to ideal, with a light (c. force 3) south-westerly wind, hazy sunshine and an estimated maximum temperature of about 20° C.

b. Although the main purpose of the survey was to assess the habitat for its likely value for invertebrates breeding in the dead wood of the veteran oak trees, an effort was also made to survey other habitats, especially the unimproved grassland in Entrance Drive Grassland. As many species as possible were recorded in the time available.

c. The location of most species associated with dead wood, and Nationally Scarce species were recorded by tree numbers. It was not considered necessary to specify precise recording locations for common species that were not associated with the dead wood habitat.

d. Trees regarded as being of importance for dead wood invertebrates were noted. Two categories were recognised, according to their importance in providing dead wood invertebrate habitat. As many important trees as possible were sampled by beating foliage, sweeping the long grass beneath and examining any nearby hawthorn blossom.

e. The full list of species recorded is presented in Appendix 2 with comments on those of particular importance.

7.33 **Visual Impact**

a. The development of the site will have little impact on the extent of the ZVI, which will remain the same as the ZVI for the existing site. This is based on the principle that the site is relatively enclosed. The proposed the development involves the creation of a series of football pitches and the construction of a new building. As the majority of mature tree planting, hedgerows and woodland groups are to be retained they will effectively screen and filter views into the site of the pitches. The change in level of the landscape involved in the construction of the pitches is not significant enough to allow views of this element of the development from greater distances.

b. The building is located towards the centre of the site, in place of the woodland group growing around the former site of the lodge. The height of the buildings will be slightly lower than the existing Wellingtonia and Cedar trees, and therefore the distances from which the development can be seen are unlikely to be increased. Whilst the extent of the ZVI is not increased the content of the view, particularly around the centre of the site where the new buildings are proposed, will be affected.

Viewpoints -

Viewpoint 1

1a From this point the view will be of... (photograph to be taken – 20.6.01)

1b There will be no views of the new pitches from this location. The trees, woodland and parkland landscape in the foreground and to the left of the view will be unaffected. The tree group in the centre of the picture, including the Wellingtonia tree will be felled and views of the southern section of the new building will be attainable from this point. The section of building that will be visible from this point is the Living House. This is a timber clad, five storey

building, which although slightly lower that the Wellingtonia trees will break the horizon in this section of the view. Beyond the Living House, the three storey Learning House will be visible, with the sloping roof reflecting the contours of the landscape.

c. The sensitivity of the receptor, the internal access track, is medium and the magnitude of impact is high, generating an overall visual impact of Substantial – ve during the construction period, and Moderate –ve upon completion and during the operation period. Mitigating measures to reduce the visual impact of the new building on the landscape could include new tree planting on either side of the brook to filter views of the development.

Viewpoint 2

d. From this point, which is also representative of North Lodge and Linbrook Cottage, there will be no views of the development and therefore no visual impact.

Viewpoint 3

e. The significant features of the landscape, from this viewpoint, are the mature trees randomly located through the parkland. The development of the site will involve the construction of new pitches, synthetic and grass, within the area of ground towards the middle distance of this view. The pitches will not be visible, due to changes in level and tall grass in the intervening landscape. There will be floodlights around the perimeter of the central pitch, however the 20m columns are unlikely to be noticed amongst the trees other than when they are switched on.

f. In place of the gatehouse, visible towards the centre of the view, the Training House will be constructed. The western edge of the glass elevation and domed sloping roof will be visible, through the intervening vegetation, possibly forming the horizon in this section of the view. The landscape proposals involve additional tree planting around the pitches and this elevation of the building and will have a positive screening effect as they mature.

g. Because this view is representative of a public footpath, the sensitivity of the receptor is high. The visual impact during construction and when floodlights are being used, will be therefore be Moderate –ve. During the operation period and particularly as new structure planting develops the visual impact of the development will be reduced to Slight -ve.

Viewpoint 4

h. From this viewpoint is will not be possible to see views of the new building. Limited views of the earthworks operation to construct the new pitches maybe possible, although it is unlikely due to localised topographical changes and the intervening mature trees which are to be retained. Following construction, the pitches will not be visible, although the floodlighting around the pitch will be seen when in use.

i. The visual impact during construction and when flood lights are in use will be slight –ve. Following construction and in all other aspects of the operation there will be no visual impact.

Viewpoint 5

j. There will be no views of the proposed buildings from this location. The construction of the two new pitches will involve the removal of the mature remnant hedgerow oak trees and re-contouring of the landscape to form a flat plateau. The new level of the pitch will screen views of the top of the woodland along Lin Brook. The pitch itself will not be visually intrusive as it will be surrounded by a natural grass edge, and there is no floodlighting proposed to either of the pitches in this area. This view is representative of the view from Lower Linbrook Farm. New tree planting between the pitches and around the boundary of the site will also filter views into the site from the farm.

k. The sensitivity of the receptor, the farm, is high. Views of the earthworks (plant and disturbed ground) will be attainable from the farm. The visual impact during the construction period will be Substantial –ve. During the operational period, views of the grass pitches with have a visual impact of Moderate –ve falling to Slight –ve as new tree planting matures.

Viewpoint 6

l. There will be no views of pitches attainable from this point. The general view of the parkland landscape will remain undisturbed other than towards the central tree group including the Wellingtonia trees. This is the site of the proposed building. Construction will involve the removal of this woodland group and erection of the three key elements of the building. From this point a clear view of the Living House will be seen with the domed form of the Training House rising above it. The shorter Learning House will be visible protruding from the left side of the development. A mature oak tree has been retained in front of the Training House, which will break up expansive views of the buildings.

m. The sensitivity of the receptor, public footpath, is high, and therefore the visual impact of the development during the construction period will be Moderate –ve. During the operation period the initial visual impact will be moderate –ve. However as Strategically placed groups of tree planting begin to mature the visual impact of the development will be reduced to slight –ve.

n. A summary of the visual impact of the proposed development on each of these views is contained in the table below. This analysis of the views demonstrates that from the most sensitive points within the vicinity of the site the visual impact is Moderate –ve, becoming Slight –ve as strategic groups of tree planting matures, strengthening the parkland character of the landscape and filtering views of the building.

o. Whilst the pitches do take up a greater area than the building, they have been located around the flatter areas of the site to minimise the change in contours. The landscape surrounding the pitches will be maintained as semi-improved grassland with groups of trees planted between to enhance the

parkland character of the site. In the long-term operational phase of the development the pitches will have minimal visual impact other than when the floodlights are in use.

p. **Summary of the visual impact**

View-point	Location	Sensitivity of Receptor	Magnitude of Impact	Significance of Visual impact	
				Construction	Operation
1a	Entrance gate – east side of site				
1b	Approach track – east side of site	medium	high	Substantial -ve	Moderate - ve
2	B5234 – Adjacent to footpath, North Lodge	high	none	N/A	N/A
3	Western boundary of site	high	low	Moderate -ve	Slight -ve
4	Footpath – western boundary of site	high	Low - none	Slight –ve	none
5	Southern boundary of site – nr Lower Linbrook Farm	high	medium	Substantial -ve	Moderate – slight -ve
6	Public footpath between Linthurst Farm and Lockley Plantation	high	medium	Moderate –ve	Moderate – slight -ve

7.34 **Mitigation Proposals**

Construction Period Mitigation

a. From looking at the results of the visual impact assessment it is clear that the period of construction will be visually more intrusive than the operation period following it. The proposals which have been put forward specifically to mitigate the visual intrusion associated with construction, involve the placing of hoarding around building sites and storing construction plant away from sensitive viewpoints wherever possible. Following earthworks operations to form the plateaux, all exposed soils will be grass seeded over to seal the surfaces pending pitch construction.

b. The option to allow hedgerows to grow in the short term, to offer further screening benefits, may be considered in conjunction with adjoining landowners.

Operation Period Mitigation

c. The strategy for the integration of the proposed building and pitches into an appropriate environment is based around a comprehensive landscape design. The landscape strategy contains the following elements that will assist in filtering and screening views together with enhancing the parkland character of the landscape:

d. Boundary shelter belt woodland planting. A mixed age range of native woodland species will be planted around the south-western corner of the site together with localised pockets of coniferous planting.

e. All car parks will be planted with an informal network of semi-mature trees to help to integrate them into the landscape.

f. Grassland throughout the remainder of the site will be maintained as semi-improved. This will involve a bi-annual mowing regime and the introduction of wild flowers by an appropriate means.

g. Infrastructure planting around the perimeter of pitches will seek to mimic the open tree groups of mature parkland trees. Appropriate native species will be planted and a long term management strategy developed to promote the growth of specimen trees. The aim of this planting strategy is to screen views of the pitches and sustain the growth of parkland trees on the site in the long term.

h. Appropriate species of trees and shrubs will be planted along specific areas of Lin Brook to improve the woodland habitat and soften views of the development from eastern side of the site.

i. A comprehensive management and replanting strategy to enhance and improve the longevity of the existing mature treescape will also be implemented.

j. In addition to the principles adopted in the landscape strategy, the architecture of the building has also been considered. The western sides of the Training House and Learning House both have sloping grass roofs, which rise from the ground to integrate the structure into the landscape. The choice of construction material includes timber cladding around the Living House, which has a natural appearance. The northern elevation of the Training house will be constructed in glass to allow a seamless view from the outside to the pitch inside.

7.35 **Landscape Character**

a. **The Countryside Character National Mapping Project** – The proposed development of the National Football Centre will have no impact on the overall Needwood and South Derbyshire Claylands Character area. This is primarily because the site forms part of a broadly homogenous area within the context of the wider landscape, with the change in use of the site not effecting the character of the landscape significantly.

b. The proposals for the site relate, in part, to the relevant recommendations for the management of this type of landscape character. Elements of the site, which are not effected by the development of pitches or buildings, will be subject to the type of conservation management strategy advocated by the guidelines. This will include the creation of further wetland habitats and underplanting of young trees within the mature tree group to ensure a continuation of the tree cover in the future. Areas of land surrounding the pitches will be seeded with species rich swards and managed as semi-improved grassland, whilst the remainder is used for grazing purposes.

c. **Local Landscape Character** – The impact of the proposed development of the park on local character areas will be more significant.

d. The construction of new pitches will introduce a new character type to the landscape. Whilst the pitches are flat, and will to a certain extent contrast with the undulating nature of the surrounding landscape, they have been located on the flattest sections of the site to minimise this effect. As strategic tree planting matures, it will assist in integrating the pitches into the landscape resulting in having only a minor impact on the overall character of the landscape.

e. The central zone of the site will be effected by the introduction of the building complex, with the existing Woodland character area in the center of the site being changed to a Commercial character type.

f. Whilst both of these changes are notable within the overall character of the Byrkley Park site, they will not influence the character of the surrounding landscape. This is because the site is relatively enclosed in much the same way that the commercial character of the garden centre has minimal impact on adjacent land.

g. It is also relevant to note that the character of the landscape within the site boundary to the north, east and west will remain largely unaffected by the development proposals.

h. ***Topography*** - The implementation the proposed development, particularly the construction of the pitches, will have an affect on the topography of the landscape. This is because the a series of plateau areas will need to be constructed within a generally undulating landscape to accommodate the pitches. To minimise the amount of earthworks required and general disturbance to the landscape of the site the pitches have been located on the flattest and most desecrate areas of the site.

i. The northern section of the site, which contains the most undulating landforms will remain undisturbed throughout the implementation of the scheme. The pitches have been located towards the south-eastern side of the site, where there are a number of localised relatively flat areas. The second smaller set of pitches are located to the north of the gate house on land that will require slightly more earth works.

j. To mitigate the effect of the proposed earthworks, the contours of the landscape have been carefully considered during the design process. The proposed scheme has set the levels of the pitches to minimise earthworks and the surrounding contours designed to integrate the plateaux areas into the landscape.

k. The site of the proposed building is relatively flat and will therefore not have a negative impact on the contours in that area of the site.

l. ***Vegetation*** - The Tree Survey has identified certain trees that will be felled because they are going to be affected by the implementation of the proposed development.

m. The scheme has been designed so that the construction of the infrastructure (roads, car parks etc.) and pitches will involve the minimum loss of mature trees, approximately 25 in total. Within the mature tree group located on the western boundary of the site a small number of trees have been identified as being poor quality, will also need to be felled if the proposed pitch and put golf course is implemented.

n. The proposed building complex is located on the site of the existing woodland, which has naturally regenerated on the site of the old lodge. In general the age of trees within this group of tree planting is early-mature to mature. A diverse range of species has developed including Oak and Sycamore together with leylandii trees, which are out of character with the general landscape. In contrast to the young woodland there are two Oak trees and two Wellingtonia trees and that are mature-late mature specimens. The construction of the building will involve the removal of this entire area of woodland, other than one of the specimen Oak trees which is being retained on the southern side of the building.

o. To mitigate the loss of trees through construction and to integrate the development into the site a comprehensive landscape strategy has been designed. The landscape proposals involve implementation of the following types of planting

i. Significant replanting of trees to create woodland blocks and open tree groups located around sensitive boundaries.

ii. Semi-mature tree planting around the building and car parking areas.

iii. Tree planting, of a mixed age range, around the pitches to enhance the parkland character of the landscape and integrate the re-contoured ground into the landscape.

iv. New tree planting, of a mixed age range, at strategic points along Lin Brook for further screening purposes.

v. New tree planting is also proposed through areas of existing mature trees to ensure the presence of trees in the long term.

p. The remainder of the site will be subjected to a grassland management regime which will either involve the promotion of woodland-pasture or pasture that is grazed. Areas of ground disturbed by the construction of pitches will be seeded with a diverse range of species and managed as semi-improved grassland.

q. ***Land Use*** - The proposed development of the site would involve a rationalisation of the different land uses currently found on this site.

r. The proposals will involve the introduction of two new landscape uses to the site, these being:

i. Building / commercial – located towards the centre of the site which includes car parking etc.

ii. Football pitches.

s. Whilst it is recognised that the change in land use will necessitate the replacement of an area of the site previously used for either woodland or grassland, it should be noted these types of land use are retained in other areas of the site. The proposed changes to the site are not out of context with adjacent land uses.

7.36 **History and Archaeology**

a. The interest in the site relates to four periods of activity:

i. Medieval chase and forest including Byrkley Lodge, fishponds and forest tracks

ii. Late 18th Century rebuilding of the lodge and ancillary buildings with ha-ha, possible late 18th Century pool and early 19th Century remodeling of pools and early 19th Century enclosure and changes to the landscape

iii. Late 19th Century rebuilding of the Lodge and ancillary buildings and new plantation

iv. Construction of airfield and abandonment of Byrkley Lodge.

b. The archaeological interest consists largely of the character of the landscape, which has evolved from medieval times from chase to country house estate. The proposed development will retain the overall character of the estate as a large managed woodland and parkland. The design of the masterplan has ensured that key features of the proposal respond and respect the history of the estate, and positive management will ensure that the parkland landscape is allowed to be enhanced and regenerated. This is considered to be a significant positive impact.

c. The medieval hunting lodge and putative moat, to the east of Lin Brook will be unaffected by development and will be preserved in situ.

d. The archaeological desk top survey has revealed that the remains of the 18th Century Hall were destroyed during the construction of the 19th Century Hall, but that the service buildings may survive below ground. The proposals will therefore have a limited impact upon this element of the site's history and provision will be made for appropriate recording of elements of interest.

e. All that remains of the 19th Century Hall is the gatehouse to the north. The remainder of the house has been demolished. It is proposed that a detailed photographic record of this building shall be made prior to demolition and that best endeavors shall be undertaken to identify a suitable means of salvaging architectural material from the building. Since the environmental importance of the remains of the 19th Century Hall are considered to be Low / Moderate and

the scale of demolition is considered to be minor, the overall impact is considered to be insignificant.

f. 20th Century airfield remains will be rapidly recorded, where appropriate, to provide a long term archive.

7.37 **Air Quality**

a. Air quality at the site is generally good, and the site does not lie within an Air Quality Management Area.

b. The proposed development will not give rise to any significant air quality issues.

7.38 **Light Environment**

a. At present there are no artificial light sources on the site, although there are light sources at the Tattenhill Airfield and Byrkley Hall garden centre. Significant new light sources will arise from the floodlighting of pitches, light spilling out from buildings.

b. A description of the specification and usage of floodlighting is provided earlier in this report. The lighting specification, design and hours of usage will ensure that the impact of overspill lighting and glare are kept to an absolute minimum.

c. It is considered that the provision of floodlighting will give rise to an impact of moderate magnitude. However, since the floodlighting will be controlled in terms of its hours of operation, direction and intensity, it will not give rise to significant impacts upon features of ecological importance.

7.39 **Noise Environment**

a. All likely noise and vibration emissions have been considered including:- construction noise, vehicles using the new access road to the site, occasional helicopters, grounds maintenance vehicles, fixed plant for servicing the buildings on site, raised voices and shouting from pitch activities which may be amplified further using a PA system.

b. The only noise sources that are likely to have any marginally significant environmental impact are construction vehicles using the existing north track off the B5234 to access the site and the fixed PA systems sited near the new pitches.

c. Construction vehicle noise may affect Linbrook Cottage and North Lodge during the early phase of construction only, prior to the completion of the new access road.

d. Noise from the proposed fixed PA systems will need to be considered with respect to the impact it could potentially have on Lower Linbrook farm.

e. **Construction noise**

f. Guidance on the control of construction noise is given in BS 5228: Part 1: 1997 Noise Control on Construction and Open Sites. This Standard provides a code of practice for noise and vibration control on construction sites. In Section 9.3 of BS 5228: Part1: 1997, it is stated that "All available techniques should be used to minimise, as far as is necessary, the level of noise to which operators and others in the neighbourhood of site operations will be exposed."

g. However, it is recognised that in practice a balance may need to be struck between the requirements to use "all available techniques" and the cost implications of this.

h. The contractor may seek to agree methods of working and noise control procedures with the Local Authority by applying for prior consent before starting construction activities. This procedure is specifically referred to in Section 61 of Part III of the Control of Pollution Act 1974. However, this requires detailed design information and the accuracy of prediction is limited by the extent of early information readily available, which often means this process proves to be impractical.

i. **Noise from the P.A. system**

j. A return visit to Lilleshall is recommended, at a time when PA equipment is on hire to establish the practical needs of the system. These requirements will be considered together with the baseline measurements taken at the proposed site. The landscaping of the site between the southern pitches and Lower Lindbrook Farm will also help to reduce noise propagation. More detailed prediction calculation are required in order to establish likely noise levels arising from the use of the PA system. The time of day that pitches are likely to be in use will be another relevant factor in specifying the system.

7.40 **Demographic, Social and Economic Issues**

a. Demographic, social and economic issues raised by the proposal are addressed in Section 5 of this report.

b. It is not anticipated that the proposal will give rise to any significant demographic, social or economic issues.

8.0 INDICATION OF ANY DIFFICULTIES ENCOUNTERED

9.0 CONSIDERATION OF ALTERNATIVE PROPOSALS

9.1 This section of the report sets out a consideration of alternative proposals for the site.

9.2 150 Bed Hotel, Two 18 Hole Golf Courses and 29 Dwellings

9.3 The only alternative development proposal which has been put forward for the site relates to the development of a hotel, two 18 hole golf courses, 29 dwellings and ancillary accommodation.

9.4 Full details of the golf course proposal have not been developed, since consent has only been granted for outline planning permission.

9.5 It has therefore not been possible to make a detailed comparison between the relative environmental impacts of the two proposals. In broad terms, however, it appears that the National Football Centre proposal will result in a less intensive use of the site and will enable a greater area of the site to be retained and managed as wood pasture and natural grassland.

9.6 Alternative Layouts

9.7 The masterplan layout for the National Football Centre has evolved following extensive site survey, archaeological assessment and ecological research. A series of alternative layouts were considered as the design was being developed.

9.8 The current proposal has been selected since it not only meets the technical and operational requirements of the brief, but most importantly, it is the most ecologically and environmentally sensitive design which has been considered.

10.0 CONCLUSIONS

10.1 Introduction

10.2 This section of the Environmental Statement considers the overall net impact of the proposed development of the National Football Centre at Byrkley Park and draws out the conclusions of the report.

10.3 This section also sets out our proposed mitigation strategy which aims to minimise and compensate for those impacts which will arise.

10.4 Throughout these conclusions, reference is made to the implementation of a Landscape Management Plan. It is proposed that the Football Association will commit to this management plan through a Section 106 Obligation.

10.5 Following a summary of the key impacts which are likely to arise as a result of the development, this section of the report goes on to set out the basis of the Landscape Management Plan.

10.6 Summary of Impacts

a. Section 7 of this report considers the impacts which are likely to arise as a result of the development.

b. The impacts are summarised below.

10.7 **Impacts upon Habitat Compartments within the site** (see figure 2):

a. **North East Wood Pasture** – Impacts in this area will be restricted to the construction of the new access road and the bridge to the Lin Brook tributary. This will result in the loss of a limited number of trees, the loss of semi-improved grassland and the removal of an area of scrub adjacent to Lin Brook. Non of the features which are affected by development are of ecological note. By way of compensation for the envisaged impacts, new tree planting will be undertaken. The Landscape Management Plan will also bring significant benefits to the ecology and appearance of the wood pasture.

b. **Nettlebed Plantation** – Impacts in this area will again be restricted to the construction of the new access road and a bridge crossing to Lin Brook. No tree loss will result. Impacts in this area will be of an insignificant scale. Additional tree planting is proposed, in locations which do not affect areas of semi-improved grass land. This tree planting, together with the positive benefits of the Landscape Management Plan will again bring significant ecological and landscape benefits.

c. **North Lodge Wood Pasture** – This area of the site is unaffected by development, and will remain in agricultural use as at present.

d. **Lin Brook Pastures** – Impacts in this area will comprise the new access road and one new football pitch with associated remodeling. The new pitch will result in the loss of one tree and an area of improved grassland which in itself is of little ecological value. Extensive tree planting in this area, and landscape

management which will seek to improve the nature conservation value of the improved grassland will offer positive environmental benefits to this compartment.

e. **Airfield Pasture** - Impacts in this area comprise the development of two pitches and associated remodeling. The site is currently treeless and its improved grassland is of no ecological importance. Ancient trees on this part of the site will be unaffected by development. Substantial new tree planting and improved management of grassland will present positive ecological benefits.

f. **Front Field** – Impacts in this area will the creation of car parks, the road access and drop off facilities. The most important ecological feature on this part of the site is an ancient tree, which will be retained and protected. Apart from this tree, the site is largely derelict and includes areas of improved grassland which is of limited ecological value. Again, extensive tree planting will compensate for the loss of existing trees on the site. Appropriate preservation measures have been put in place to ensure the protection of the veteran oak, and the three decaying oak stumps which are present will either be retained in situ or relocated on site to act as an ecological resource.

g. **Entrance Drive Grassland** – Impacts in this area will comprise the partial re-routing of the access road and the development of an underground sewage treatment works. The grassland affected in this area is the least improved, and most natural found on site. In order to minimise the extent of the environmental impact in this area, development and tree planting has been kept to a minimum. Also, where development is to take place, turves of the unimproved grassland will be cut, and re-laid on site. Although there will be a moderate impact upon this compartment, the design of the scheme and mitigation measures set out above, combined with the commitment to the long term ecological maintenance of this area will reduce the long term significance of the impact.

h. **Home Woods** – Impacts this area will comprise the development of the training house. This will lead to the loss of semi mature and mature native and non-native species, scrub and field layer vegetation. Trees to the east of the site, which include Atlantic Cedars and other species of landscape value are to be retained. The importance of the habitat lost in this area is considered to be moderate, although it should be noted that many of the most important trees in the area are to be retained. It is proposed that wildflowers (particularly bluebell) found within this compartment will be transplanted in other woodland areas of the site. Mitigation for the tree loss will comprise compensatory planting to the west and east of the Training House and in adjoining car park areas. The net effect on this area is considered to be minor.

i. **Ice House Wood Pasture** - Impacts in this area comprise the development of tennis courts, maintenance stores, staff housing and the kit research facilities. This development will result in the loss of only five trees which are not of ecological significance. All nine ancient trees within this compartment are retained and appropriately protected. Appropriately located compensatory tree planting will be provided in this compartment to mitigate for the minor tree loss experienced. The overall impact on this area will be insignificant.

j. **Western Wood Pasture** – Impacts in this area relate to the circulation track and two pitches. The pitches and associated re-contouring are located in a species poor area of grassland which will result in an insignificant impact and all significant trees in this compartment are unaffected by development. All areas of this compartment which are unaffected by development will benefit from the Landscape Management Plan.

k. **Hall Field** – The only significant tree which is to be lost in the Hall Field compartment is the ash to the south of the Training House. Consideration has been given to its retention, however, it is in poor physical condition and would represent a danger if retained. No other features within this compartment are affected by development. The Landscape Management Plan will lead to positive ecological benefits in this area through tree planting and grassland management.

l. **Pheasant Thicket** - It is proposed that the pheasant thicket should be cleared and replaced with two new ponds. The thicket itself does not contain any features of specific ecological interest. It is considered that the removal of the thicket and creation with two new water features will represent a positive ecological and aesthetic improvement.

m. **Oak Copse** – The copse is unaffected by development, but will benefit from new tree planting and management.

n. **Kidney Plantation** – Development will not affect the Kidney Plantation, and appropriate management will bring positive ecological benefits.

o. **Byrkley Gorse** – Development will not affect Byrkley Gorse, and again positive landscape management will bring positive ecological impacts.

p. **West Field** – This compartment will be affected by the construction of a flexi-pitch area. Although this area of the site has benefited from 'set aside' management, the area lost is species poor and is not of notable ecological value. The area will benefit from substantial tree planting.

q. **Southern Grassland** – Impacts in this compartment will relate to the creation of five new pitches and associated re-contouring. Grassland which is to be lost to pitches in this area is improved and of low ecological quality. The hedgerow to the south of the area is not affected by development. Positive ecological benefits will accrue in this area due to tree planting.

r. **The Dingle** – This area is unaffected by development, and will benefit from positive management.

s. **The Ponds** – These features are again unaffected by development. The FA will take on the long term maintenance responsibility for these features, including the structures of the weir / cascade features and periodic dredging.

t. **Land to the East of Lin Brook** – All land to the east of Lin Brook is unaffected by development, and will be retained in agricultural use.

10.8 **Impacts upon Fauna**

a. **Badgers** – There is an active badger sett to the east of Lin Brook, and two outlier setts within the application site. None of these setts will be affected by development and works in the vicinity of setts will be undertaken in line with best practice guidelines. Ample foraging habitat will remain following the completion of development and therefore the impact upon badgers is considered to be insignificant.

b. **Bats** – Potential bat roost sites have been identified on site, and an emergent survey is being undertaken to assess whether they are used. Before any work is undertaken which affects potential bat roosts, a detailed visual examination will be undertaken in line with best practice guidance. If required, a DETR licence will be applied for and appropriate mitigation measures implemented to ensure a favourable conservation status for bat populations is maintained.

c. **Amphibia and Reptiles** – Only common amphibia have been identified on site. The creation of additional water habitats will be a significant positive impact. No reptiles have been identified on site.

d. **Fish** – Only stickleback have been identified in Lin Brook. There will be no impact upon fish as a result of the development.

e. **Aquatic Invertebrates** – Only common aquatic invertebrates have been identified. The proposal will not give rise to any significant impact upon aquatic invertebrates.

f. **Terrestrial Invertebrates** – Scarce 'dead wood indicator species' have been identified on site (Ischnomera caerulea) along with a diversity of more common species. Ancient trees and dead wood are important habitats which support terrestrial invertebrates. All of the ancient trees are to be retained, and provision will be made for the retention of all significant pieces of decaying dead wood to be retained either in situ or within the site. The overall impact upon terrestrial invertebrates is therefore considered to be insignificant / minor.

10.9 **Other Impacts**

a. **Visual Impact** – Great care and attention has been paid to the siting, design and appearance of all buildings, pitches and ancillary facilities on the site. Views into the site from publicly accessible locations are limited, and are restricted to the south and east. Much of these views are filtered by the extensive existing mature tree cover on the site together with the land rising to the north and west. The scale of the permanent visual impact is considered to be moderate, but will be mitigated through extensive tree planting, and natural earth modeling of earthworks around pitch plateaux.

b. **Landscape Character** – The construction of new pitches will introduce a new character type to the landscape, although the naturalisation of earthwork contours and appropriately located planting will reduce this impact. The erection of the main group of buildings will also have an impact upon the landscape

character, although it should be noted that since the 18th Century, a dominant building has occupied this landscape position. As such it is considered to be wholly appropriate for a quality, contemporary building to be sited in this location.

c. The new tree planting will be set out informally as individual native trees, small groups and woodland areas throughout the landscape. This will serve to reinstate the historic patterns of this landscape as well provide a new generation of native trees. These will replace the veteran and post mature trees which are currently dominant on the site and likely to disappear within he next 20 years or so.

d. **History and Archaeology** – The site of oldest archaeological interest is the site of the 13th Century Byrkley Lodge which will be unaffected by development. It is proposed that the limited remains of the 19th Century lodge and below ground remains of the 18th Century Lodge will be appropriately recorded prior to the redevelopment. Above ground features of archaeological interest, including the parkland landscape, pond cascades and the ha-ha will be retained and maintained as part of the Landscape Management Plan.

e. **Air Quality** – The proposal will not give rise to significant air quality issues.

f. **Light Environment** – Floodlighting of pitches will give rise to a new significant impact. In order to minise the effect of floodlighting, peripheral pitches are not to be floodlit. Care has also been in selecting the form and colour of lighting columns, and advanced fittings are to be used in order to maximise efficiency and minimise glare. It is proposed that the hours of operation of the lights will be restricted through planning condition. On balance, and taking into account the screening effect of additional tree planting, it is considered that floodlighting will give rise to a minor environmental impact.

g. **Noise Environment** – The most significant source of new noise resulting from the development is likely to relate to outdoor training activity. A detailed assessment has been made, and it is not considered that this will give rise to a significant environmental impact. It is proposed that appropriate boundary noise level parameters will be agreed with the Local Authority. Similar controls are also envisaged in relation to construction activity.

h. **Demographic, Economic and Social Issues** – The development will give rise to new local employment opportunities and potential contracts for local firms. It is not considered that any significant demographic, social or economic issues will arise as a result of the development.

10.10 No other significant environmental impacts are anticipated as a result of the development.

10.11 **Landscape Management Plan**

a. A landscape management plan for the existing estate and new works will be implemented by the FA. This will to be adopted both during the construction period and in the longer term.

b. The items set out below comprise the 'Heads of Terms' of the Landscape Management Plan. During the course of the consideration of the planning application, detailed discussion will be held between the applicant, the local authority and other interested parties. These discussions will form the basis for the agreed 'Landscape Management Plan' which will become part of a Section 106 Planning Obligation.

c. These notes should n be read in conjunction with the Landscape Strategy Plan drawing number LN08679 (0-)L003.

10.12 **Construction phases**

a. Advanced works (earthworks to form plateaux for pitch construction/access road)

b. All vegetation to be removed will be undertaken during winter 2001/02 to avoid the bird nesting season and bat roosting season

c. All veteran trees and mature trees will be protected by chestnut pale fencing at least 5 metres from the edge of the canopy line (not trunk line).

d. All existing trees/tree groups to be retained will be protected by an enclosure of chestnut pale fencing

e. Native bluebell bulbs in the areas affected by development will be carefully lifted in winter 2001/02 and replanted in other areas of existing woodland within the site outside any construction activity to comply with the National Biodiversity Action Plan.

f. Any unimproved and semi improved grassland and badger foraging areas not affected by the earthworks operations to the pitches will protected with chestnut pale fencing

g. Existing watercourses will be signposted as no go areas and restrictions imposed on the contractor to avoid pollution and obstructing the flow of water.

h. Appropriate archaeological monitoring will be continued during these phases of work to ensure the implementation of the agreed mitigation strategy and to provide a dynamic response to variations in contract work.

10.13 **During Main contract work**

a. Some arboricultural works will be undertaken to retained trees nearest the development areas as per the recommendations in the Tree Survey

b. Stockproof fencing will be installed to the agreed cattle/sheep grazing zones to be managed by the local farmer. There are two areas – a) To the north west of the new access road. And b) To the east of the access road and Lin Brook.

c. Retention of old tree limbs and stumps either in their existing position or relocated elsewhere on site to promote and maintain the ecological value of the site

d. Some localised clearing of the silt from the existing lakes and repair works to the existing weir system.

e. New trees and planting to create different landscape character areas, with some grass/wildflower overseeding to disturbed areas of grassland

f. Works to areas of unimproved grassland affected by the installation of underground services will be kept to a minimum disturbance. Existing turf will be carefully lifted , set aside and relaid after the works. This will be reinstated and maintained to avoid drying out and promoted healthy growth of the sward.

10.14 **Long Term after Practical Completion**

a. **Conservation Zones**

b. Two "Conservation Zones" are proposed (see Figure 23). The larger of these would occupy the eastern side of the site, with Lin Brook as a unifying feature within it. The zone would include the entire Lin Brook "corridor" (Compartment E, the Ponds (T &U) and the Dingle (S)), the three northern wood-pasture and parkland compartments (A, B and C), a large area of grassland in Lin BrookPastures (D), most of Entrance Drive grassland (H) and Hall Field (L), the area of proposed new ponds replacing Pheasant Thicket (M) Oak Copse (N) and the south eastern corner of the present Southern Grassland (R).

c. The second Conservation Zone, to the west, would be mostly wood-pasture and woodland, encompassing Kidney Plantation (O), and the pasture woodland parts of the Western Wood-pasture(K) and Ice-house Wood-pasture(J) and "reinforced" by the adjacent woodland in Byrkley Gorse.

d. The importance of the site's Wood Pasture is of considerable significance.

- Lowland wood-pasture is the product of a historic system of land management, once very extensive but now much reduced. It is not a plant community as such, but a form of vegetation structure which includes large, open-grown trees in a matrix of grassland (traditionally this would have been pasture), but in some examples including elements of heathland and /or woodland.

- The overall appearance is similar to Parkland, the difference being that wood-pasture is the creation of an agricultural system rather than an ornamental artefact.

- Wood -pastures are mostly old, as the agricultural system which created them is long been obsolete. Consequently wood-pastures are likely to contain old trees and, associated with them, a unique assemblage of specialised plants and animals - many of which are small and often hidden.

- Very old trees often support a characteristic fauna of wood-consuming (saproxylic) animals and a specialised flora of epiphytic lichens on trunks and branches.

- Animals of open grassland, such as Brown Hare and Skylark, both in serious decline nationally and locally, may thrive in wood-pasture alongside tree-dependent species, such as Noctule bat and hole-nesting birds.

- Wood-pasture sites with these characteristics frequently have historic and landscape importance. (This has been highlighted in the National Forest Strategy and in the Countryside Agency's Countryside Character document covering the West Midlands). (c.f. *U.K. Lowland Wood-Pasture Habitat Action Plan* , U.K Biodiversity Group).

e. The Staffordshire Biodiversity Action Plan lists, as "key species" for wood-pasture:

- "over 30 species of Nationally-notable Beetles, Hornet, Oak Bush-cricket and other tree-dependent insects" and "a host of fungi".

f. **Threats to Wood-Pasture**

g. These are many, because this system of land management does not fit in with modern agricultural practice. They include, among others:

i. A lack of young trees to provide replacement for losses

ii. Neglect of management, leading to collapse of many old trees

iii. Damage to root systems by soil compaction - from livestock, car parking, road construction and from deep ploughing.

iv. Alteration of drainage, as a result of cultivation or neighbouring development.

v. Pollution from local sources, such as nitrogen deposition from fertiliser, leading to damage to epiphytic plants and soil modification.

h. **Safeguarding the Habitat**

i. As a landscape park, dependent on tree planting for its survival, rather than a semi-natural wood pasture dependent on natural regeneration, Byrkley Park is a highly controlled artificial habitat. Originally it formed the setting for a great house, and aesthetic considerations required the retention of features such as veteran trees which are now valued as a nature conservation resource. Redeveloping the site, with buildings concentrated on the former site of the great house, will be very much in keeping with its past. The essential requirement from a nature conservation point of view is that the surviving features of value