Kilburn Grange Park
Proposed adventure playground and playcentre

Design and Access Statement includes Tree Report

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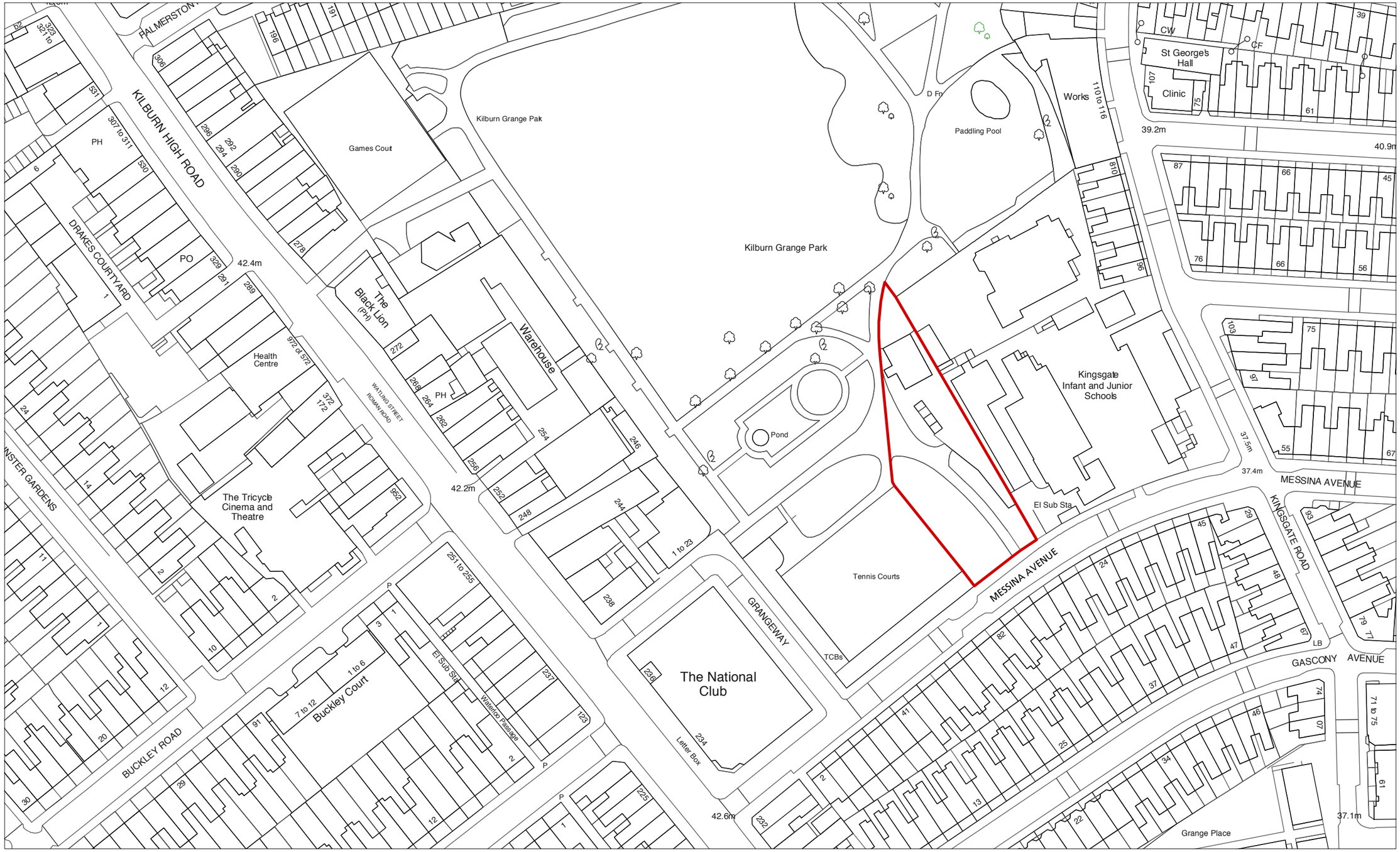
Content



Site location plan, not to scale

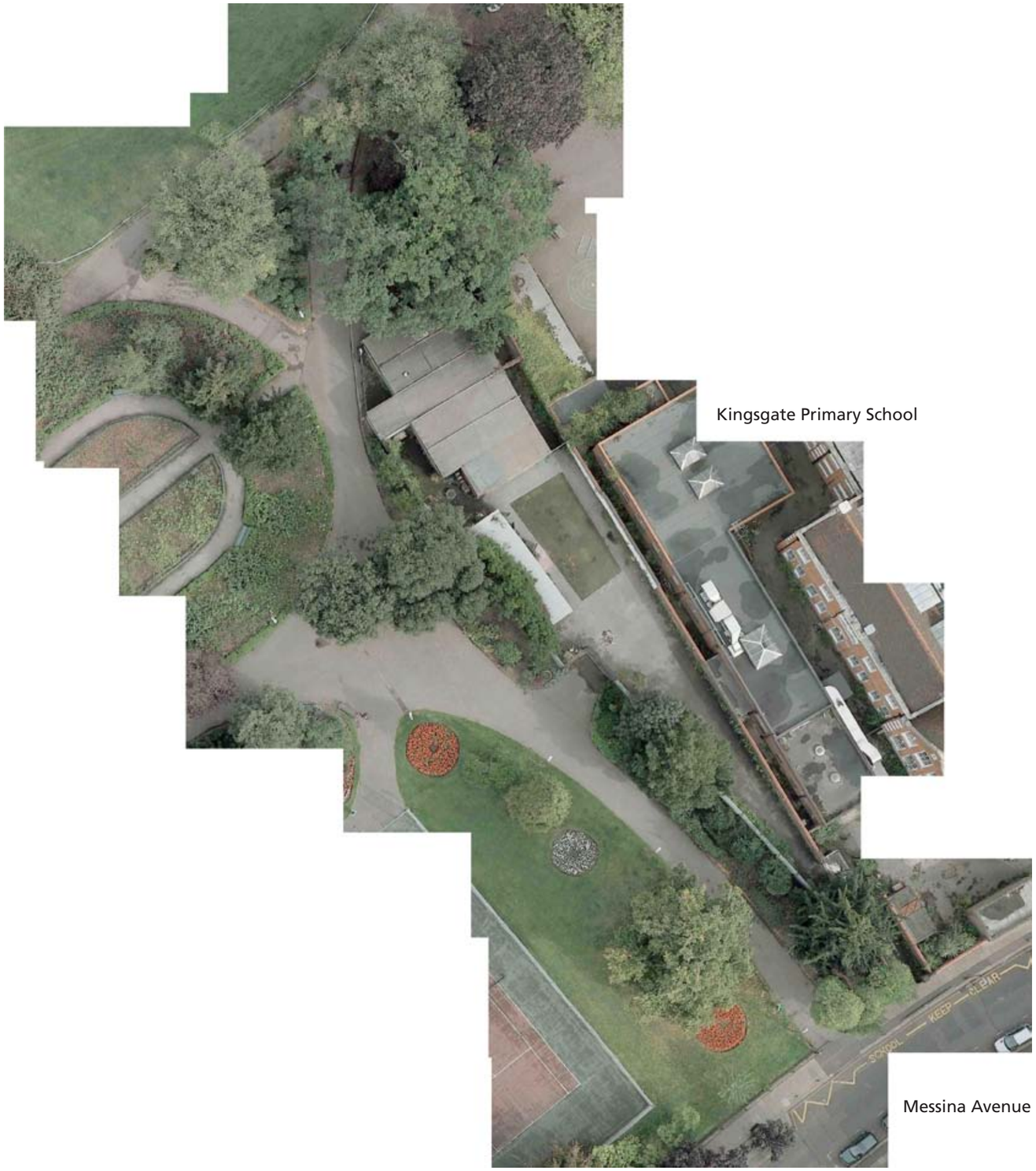
1.0 Introduction

This document sets out the proposal for the adventure playground in Kilburn Grange Park, London NW6.
The facilities comprise of play structures, landscaping and a play centre. It will serve as play facility for – predominantly but not exclusively - 8-13yr old children. The adventure playground is a supervised play facility and will be operated by LB Camden. Outside the opening hours of the adventure playground an additional gate is opened and most play facilities will be a playground for all children. During these hours most of the site is accessible to all park users.

The design and access statement describes the design intent and development for the new adventure playground and play centre.

This design and access statement should be read with the full planning submission drawings. This document has been prepared by erect architecture ltd on behalf of the client LB Camden in accordance with the guidelines published by the Commission for Architecture and the Built Environment (CABE).

What is an adventure playground?
An adventure playground is a context specific playground with a distinct sense of place and community. It offers a range of inclusive environments to support social and imaginative play, with an emphasis on physically active play. Play facilities provide a stimulating context in which children and young people can have the opportunity to test and challenge themselves physically, in a “safe enough” environment where risk is assessed against the benefits to the users. The design favours “playable landscapes” building on natural site characteristics, elements, biodiversity, landforms and sensory planting, to allow children and young people to transform their environment. Features include the use of sustainable and natural materials, level changes, appropriate non-prescriptive play structures on diverse surfacing and loose parts with value as play props. Local communities, including children and young people are engaged in the whole process of change from inception, to completion, ongoing care and future evolution of the play value of the sites as the site develops over time.
Sustainable play areas are designed with maintenance in mind, and aim to be flexible enough in design to adapt to changing community needs and ambitions.
Adventure playgrounds are connected to indoor play facilities for the children, which allow for fluent indoor-outdoor play.
It must be stressed that an important characteristic of adventure playgrounds is change. Not only will landscape and play features change and be changed over time, the children are also encouraged to self-build elements throughout the site. Naturally, these elements change as children come and go. The process of self-build is not only to learn skills, it is also an important aspect of enabling the children to actively shape their environment and create a place, which is owned by the children.
We ask the planning decision to please take this into account and allow for the scheme the possibility of change.



Aerial photograph of the site as existing

2.0 Project overview

2.1 Needs statement

This section of the Design and Access Statement sets out the reasons for requesting the development of the Kilburn Grange Park adventure playground.

It will identify the reasons
- for the development of the adventure playground and
- for choosing this particular location.

Reasons for the development of the adventure playground
The London Borough of Camden Open Space, Sport and Recreation Study Update (published in May 2008) reflects Government policy guidance on creation and open space (PPG17) and the Supplementary Planning Guidance published by the Mayor of London in March 2008. Camden's study reviews existing levels of play provision and highlights areas of deficiency, recommending a need for 50 additional play areas to meet the needs of future population forecasts for 2026. This study has informed the needs analysis for this project.

Reasons for choosing this site in Kilburn Grange Park
The adventure playground site was selected on the basis of a needs analysis assessment of children's play park locations across the Borough, which highlighted the lack of provision in the west of the Borough. The Kilburn area is one of the most disadvantaged areas in the Borough and has high numbers of families with children and young people that would benefit from additional play provision. Local consultations on the facility value of the park have indicated the need from better provision for the 8 to 13 age group.

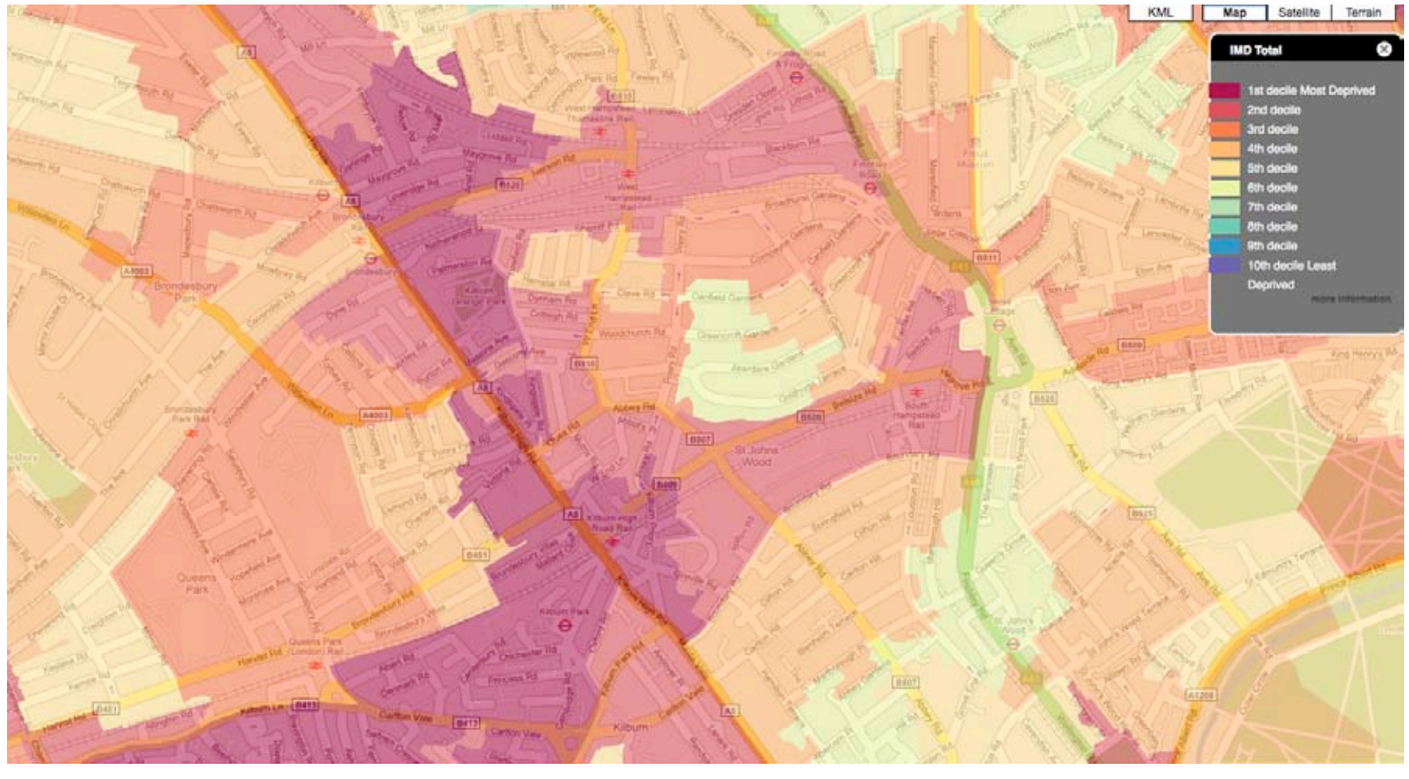
A new adventure playground will promote "natural play", targeting the 8-13 age group. Its design and delivery is also focused on girls, disabled children and other disadvantaged groups. It is proposed that the new adventure playground is located in Kilburn Grange Park, in the west of the borough, for the following reasons:
- Kilburn Grange Park is situated in an area densely populated with families and one of the most deprived in the borough. Additionally, the Park is the most heavily used in the borough, which should ensure the success and sustainability of the adventure playground.
- An adventure playground would address an identified gap in play provision in the north-west of the borough, which is not presently served by an existing children's play park or adventure playground (Parliament Hill, run by the Corporation of London, in the north) and has less supervised play provision targeted at the 8-13 age group. It would complement existing facilities for children under eight and the sports pitches in the park.
- There is a suitable site in the park for development as an adventure playground that meets Camden's Open Space Strategy guidance on play locations, in that it is where footpaths and open spaces intersect, where users prefer to congregate, where they feel safe and secure and where facilities are highly visible.
- The chosen site in Kilburn Grange Park reflects the need to provide a geographically accessible site that also benefits from safe access due to traffic calming measures already in place around the park as well as from previous actions to address community safety issues, such as patterns of adult anti-social behaviour, in the park.
- The proposed site was previously used as a play project for 4 to 8 year olds and was awaiting redevelopment.
- The Kilburn Area Forum has discussed increasing the play facilities in the park and has recommended the formation of a Young Friends Group, which would be able to steer the design and development of the adventure playground, so that this project would comply with the place-shaping agenda.

Needs Analysis for the Adventure Playground

No	Site	Ward	8-13 population change 2008-2018	Local Deprivation	Play Value	Health Survey for England	PPG 17 Open Space Deprivation	Total
AP	Kilburn Grange Adventure Playground	Kilburn Priory	3	5	4	4	2	18

Factor	Measure	Scale	1 =	5 =
8-13 population change 2008-2018	% increase	1 to 5	<0%	>150%
Local Deprivation	LSOAs in most deprived	1 to 5	>30%	10%
Play Value	Site capacity for natural play	1 to 5	Play expert judgement	
Health Survey for England	Obesity/Healthy eating data	1 to 5	Combined scaling	
PPG 17 Open Space Deprivation	Pop density/open space	1 to 5	Combined scaling	

Current Index of Multiple Deprivation



2.2 Background and Scope

The site for the adventure playground is part of a heavily used park. A large area of the site is currently unused and inaccessible to the public. The site is fairly flat territory dominated by mature trees, which are to be protected.
The challenge for erect architecture was to propose a scheme that would successfully respond to the client's brief and requirements while preserving valuable open space and protecting the interests of local residents.

2.3 The brief

LB Camden envisages the adventure playground to be at the heart of the local community. Based on consultation with children, parents, staff, and the local authority a detailed brief was compiled for an inclusive adventure playground and play centre. This brief is grounded on the guidelines for rich adventure play as issued by the Department for Children, Schools and Families (the funding body), which is included in the consultation report as part of the brief.

The adventure playground is to provide:

- A play centre, which consists of an indoor playroom well connected to the outdoors. Other facilities within the centre are sanitary facilities, a disabled - shower room, a kitchen, an office and storage.
- A covered outdoor play area with good connections to the play centre to enable fluid indoor-outdoor play activity.
- Climbing structures, swing and slide
- Natural, malleable landscapes and topographies
- Waterplay
- Planting
- A designated self-build area, which can be closed off, with lockable tool shed and storage facilities for building materials
- A boundary, which prevents children from running away whilst play is supervised.

Furthermore natural materials are to be used throughout. Sustainable strategies are to be integrated into the design – not only for the built structures but also to encourage the children to learn about nature, lifecycles and sustainable living.

A more detailed breakdown of the brief is included in the consultation report.

Creative sessions to establish brief: What is adventure? (see also consultation report)

3.0 Design Process

3.1 Architect's appointment

In April 2009 LB Camden ran a two stage architectural competition. 22 practices submitted Expressions of Interest and three were short-listed to prepare more detailed proposals. The brief for the second stage of the competition was to propose a concept design for the adventure playground in Kilburn Grange Park.
The short-listed proposals were exhibited during a public meeting in the West Hampstead Women's Centre (in the Old Kilburn Library) for the wider community to view. 7500 local households had been notified of the meeting. 12 residents attended and the meeting was chaired by Ward Councillor Janet Grauberg, supported by two council officers leading this project. Feedback was positive regarding location and project objectives for the overall Adventure Playground concept. Designs submitted for the architectural competition were viewed by the residents attending the meeting as a means to stimulate general discussions and awareness about the types of design ideas and features to be incorporated.
The following week the three architects practices presented their designs to a jury consisting of

Sarah Gaventa – Director of CABE Space
Tim Gill – Play and Childhood Consultant and Writer
Liz Adams - Adams and Sutherland; Architecture, Landscape and Urban Design
Lucy Musgrave – Director of General Public Agency
Paul Horobin – Head of Extended Community Services for Children & Young People, LBC
Felicity Robinson – Senior Town Planner/Landscape Architect, LBC
Peter Stewart – at the time acting Head of Parks, LBC
Simon Wooden, Lal Forfar – Project Management, Developing Projects

The jury's evaluation took in to account all materials submitted for stage one of submitting tenders and for the design competition, plus the final interview/ presentations. Selection of the final team was based on assessing each team against evaluation criteria made up of 25% Project Delivery, 25% Specialist Knowledge and Expertise, 25% Consultation and Engagement and 25% Design Innovation, and the decision was made to appointed erect architecture.

Kilburn Grange Park Adventure Playground

Be part of the adventure!

Public meeting
Thursday 30 April
6.30 pm to 8.00 pm

West Hampstead Women's Centre
The Old Kilburn Library
26 - 30 Cotleigh Road
West Hampstead
NW6 2NP

Camden has extra funding from the government's Play Pathfinder scheme to develop a new adventure playground. Kilburn Grange Park has been chosen as the ideal site.

Everyone is invited to share their views about what they would like to see in the adventure playground and get more information about the plans.

Three ideas for the playground have been drawn up by potential design teams and the plans will be on display. This will give people a chance to say what they like, don't like, and what they think could be better.

camden.gov.uk Camden

More about the adventure playground

The playground will be staffed by a team of trained playworkers. It will be free and open after school, at weekends and during school holidays.

Its outdoor area will offer:
- structures that will be physically challenging
- opportunities to play with a mix of materials such as sand and water
- space for sports and physical activity
- a natural environment shaped by the children

Its indoor area will include:
- a cooking area
- space for arts, crafts, dressing up and 'messy' play
- space to enjoy quiet activities such as reading
- toilets and washing facilities

It's aimed at 8 to 13 year olds who have fewer play facilities compared to younger and older age groups.

Construction is expected to start at the end of 2009 with the adventure playground open by April 2010.

If you would like more information you can contact:

Paul Horobin
paul.horobin@camden.gov.uk
020 7974 1565

Lal Forfar
lal.forfar@developingprojects.co.uk
020 7388 7015

For information on how to get to West Hampstead Women's Centre call 020 7328 7389 or go to www.whwc.org.uk

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Leaflet initial public consultation of consultation entries
Competition entry erect architecture

3.2 Consultation

Since our appointment we have developed brief and design through regular meetings with children and client representatives. These included the Kingsgate and Beckfort Afterschool Clubs, Kingsgate Primary School Yr5 classes, Kilburn Youth Centre, other local children. The design was tested in consultation with the general public.

The client representatives throughout the design project were Paul Horobin, Peter Stewart (and later Shaun Kiddell, LBC Head of Parks since August 09), Felicity Robinson (all LBC positions as above), Therese Gallagher (LBC Planning and Public Protection), Reuben Hayes (LBC Arboricultural Officer), Hannah Parker (LBC Planning), Kevin Fisher (LBC Planning – Landscape), as well as Developing Projects, Rob Wheway (independent Play Safety Consultant advising LBC) and Lucy Musgrave (independent design advisor).

The design proposal was also discussed with the local councillors Janet Grauberg, James King (both 23.7.09 and 20.8.09) and David Abrahams (23.7.09).

Local residents
The design proposals were exhibited for public consultation during the Kilburn Festival on 12.7.09.
On 19.8.09 all households on Messina Avenue were leafleted to make them aware of the project and address any concerns they may raise (none were risen). One resident responded to the leaflet, raising wider issues with LBC as well as the plans for the Adventure Playground. She is a known figure to the council who are in ongoing contact with her on several issues. She is believed to have wider mental health problems that make a rational dialogue difficult.

Generally speaking, the support for the adventure playground was overwhelming.
For details of all consultation please refer to separate consultation report.

Right: Public consultation during Kilburn Festival
Below: Images of initial workshops leading up to concept design





4.0 Site appraisal

4.1 The site

The proposed site for the adventure playground is located in the southern area of Kilburn Grange Park. It stretches between the boundary wall of Kingsgate Primary School (east), Messina Avenue (south), almost reaches the tennis courts (west) and includes the large oak tree north of the existing old nursery building. The Victorian school building overlooks the site from the east.
A modular single storey prefabricated building and a garage building (4 garages) are located on site. The main building, currently unused, previously served as a nursery, which also utilised the adjacent fenced off external space.
The building also contains public conveniences. The access route for the public WCs leads past the entrance of the old nursery to the hidden rear of the building where the doors to the WCs are located. A large area of the site, including the main part of the building and the garages, is currently fenced off and inaccessible to the public. It is awaiting redevelopment and in the meantime used as depot by LBC Parks Department.

Four entrances lead into Kilburn Grange Park. A further side entrance into the currently inaccessible depot area exists off Messina Avenue along the perimeter of Kingsgate Primary School.
The site area is on the edge of the park. A tarmac pathway leads from the entrance off Messina Avenue into the park. The route is dominated by hedges and the depot fence to the east, trees and the tennis courts to the west. The area is currently predominantly used as thoroughfare to access the ornamental garden, the large open area and the amenities further north in the park.

The existing building suffers from low light levels and a lack of connection to the outside, which is awkward for supervised play and desired sight lines. The manufacturer of the prefabricated building has advised that both issues are 'impossible' to address without undermining the integrity of structure and waterproofing.
The public conveniences at the rear of the building are considered by LBC as a risk to community safety as its forecourt is entirely out of view.

Outside the depot area the site is flat grassland with three circular flowerbeds. Mature trees of different kinds give character to the site.

Materiality and planting
Kingsgate Primary School on the adjacent site is a Victorian red-brick school building. It is visible across the boundary wall along the site. The boundary wall is yellow brick, partially painted. The building on site is of modular steel construction, clad with timber. All hard landscaping is tarmac, the open parkland is grass with three circular flowerbeds. Relatively mature trees of different species (see tree report) give character to large areas of the site.

This design and access statements describes our proposal to create an adventure playground and replace the existing nursery building with a smaller designated adventure play centre without public conveniences.
LBC is planning to replace the public WCs in the near future.
Please contact Peter Stewart, LBC Parks, for more information on the replacement strategy.

Photographs existing site and buildings

from Messina Avenue


from edge of tennis courts towards Messina Avenue


from ornamental garden towards centre and garages


from centre entrance towards Messina Avenue


from park southwards towards centre


inside 'depot' towards centre

4.2 Existing and previous use

Site history
Before the construction of theexisting buildings the site was open parkland.
The existing building was previously used as nursery with an outdoor play area within the fenced off compound. Public conveniences are located within the building.
Currently the building is not used but the fenced off compound and the garages serve as occasional depot for LBC Parks.

Right and following: Historical maps
Below: Historical photos Kilburn Grange Park, including The Grange

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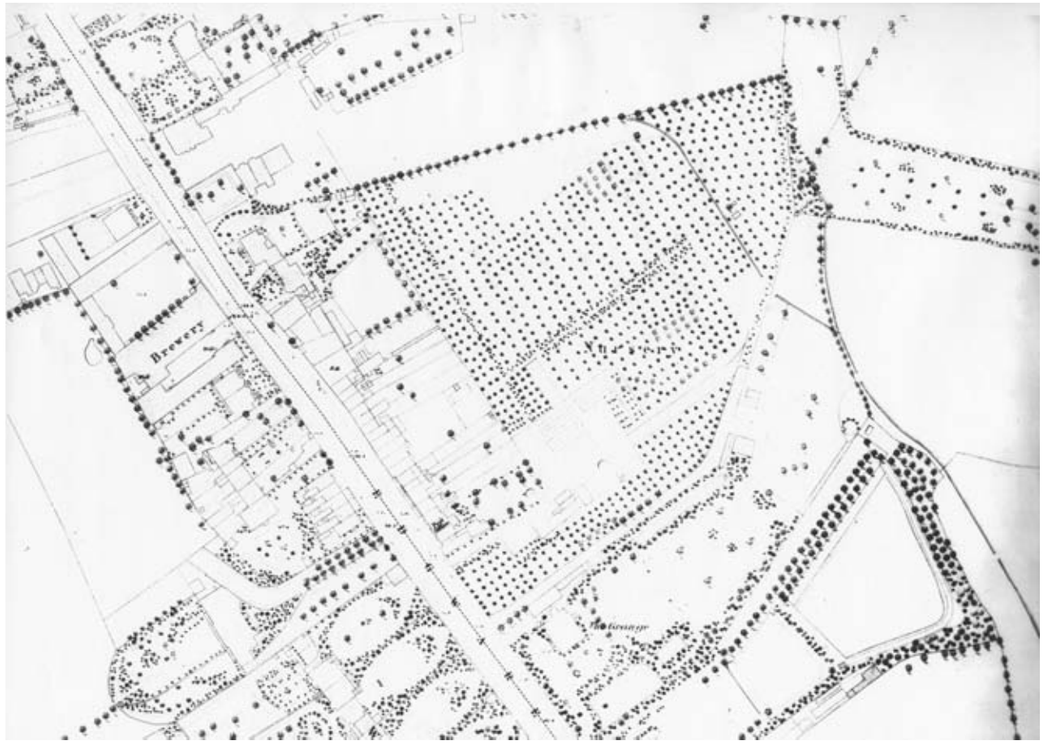

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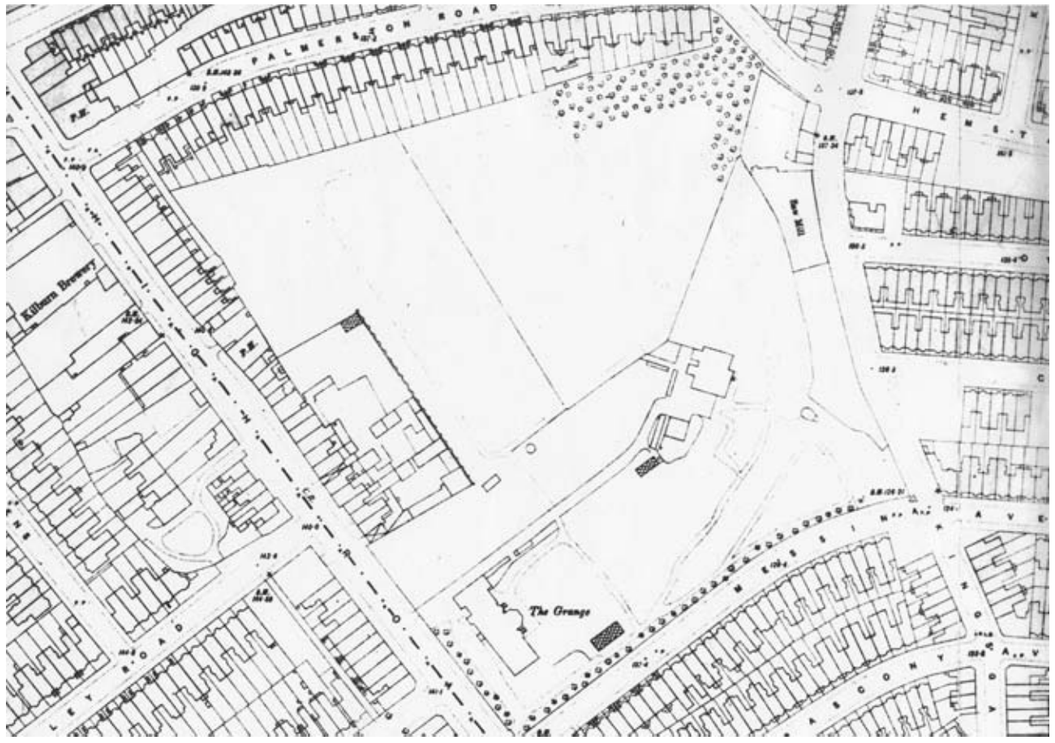

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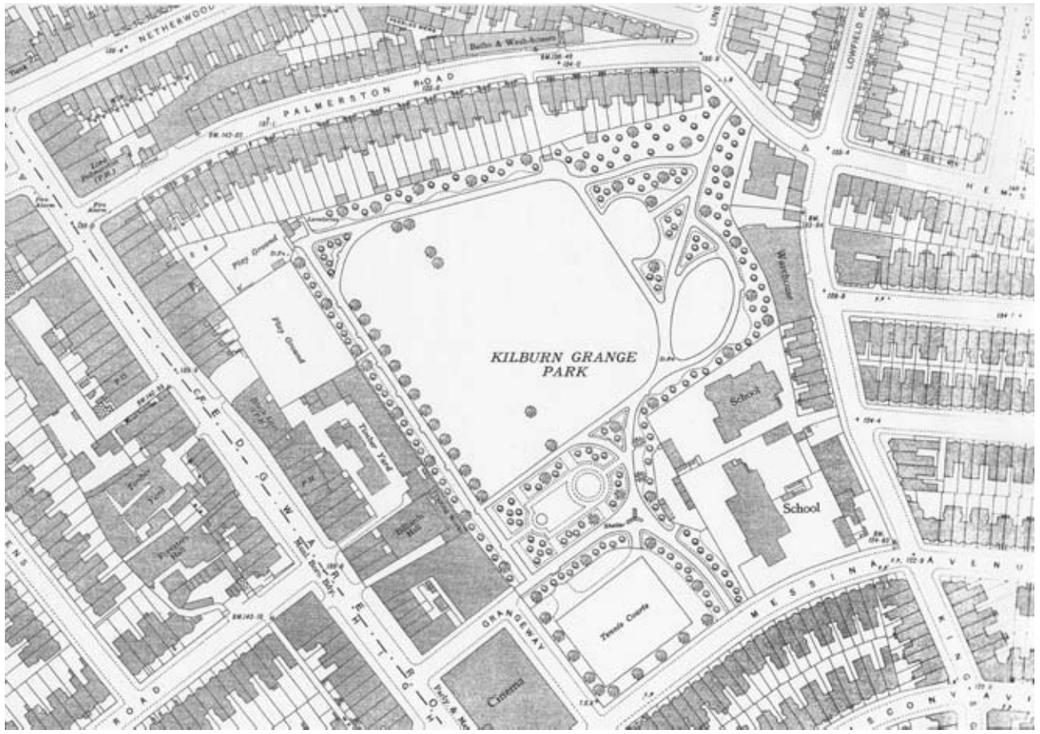

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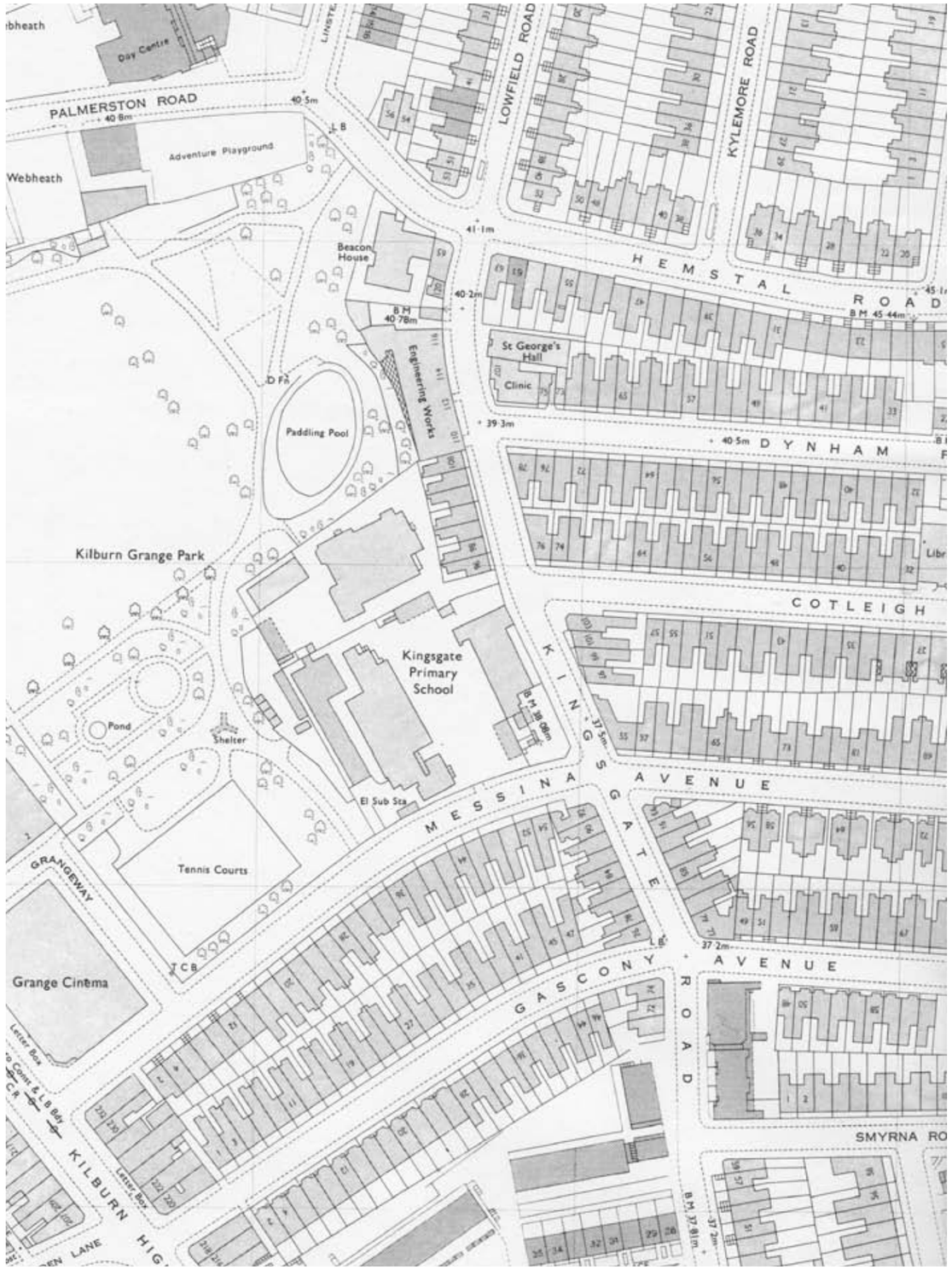

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4.3 Open space and topography

One of the key characteristics and strength of the site are its relatively mature trees. One of our key design objectives is to minimise the impact of the development on the trees.
The site is generally flat. Open views exist from Messina Avenue towards the ornamental garden.

4.4 Site location

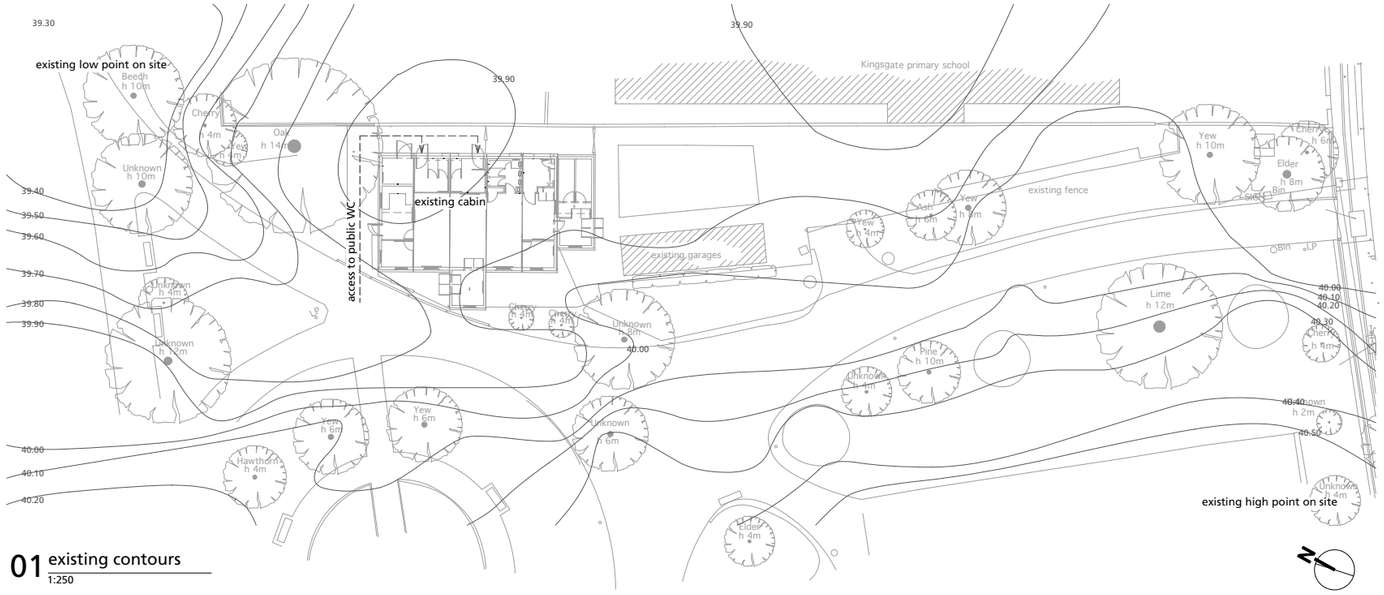
Before we began to develop the scheme for the new adventure playground, the location of the site within the park was consulted with the public. The vast majority of the consulted supported the proposed site. Main reasons stated were its current inaccessible state (which would be re-gained for public use) as well as the fact that the site is an 'appendix' to the actual park, which is predominantly used as thoroughfare.

The site called for the following strategic moves:
- The best location for the main entrance to the adventure playground and play centre is east of the ornamental garden, where many routes within the park meet. A secondary entrance to the playground (when open to all) should be off the path near Messina Avenue.
- The character and location of the existing mature trees and their root protection areas are the dominant factor in the placing of the individual zones and functions across the site.
- Community safety as well as supervision sightlines across the site are to be respected or created, the open view from Messina Avenue maintained.
- The view of the residents along Messina Avenue demands strategic placing of high elements to lessen the visual impact of the climbing structure. The ornamental garden demands an equally pleasing feature along the boundary of the adventure playground, which will be the orchard.
- Boundary treatments along the relocated pathway into the park are of great importance.

Born out of a desire to make the development meaningful and useable for the largest possible amount of children, LBC devised a strategy to make most of the playground accessible to all children outside the opening hours of the adventure playground (see below).
It was also of great importance that using the park remains a pleasure for all age groups.

4.5 Planning

An earlier version of this design was submitted to the Camden planning department for pre-planning advice. Planning officer Hannah Parker had in principle no objections to the development.
The design was also consulted with the arboricultural department of LB Camden. The design was subsequently developed following the comments made by Reuben Hayes. Reuben has prepared a tree report including recommendations for tree protection (see appendix).



01 existing contours
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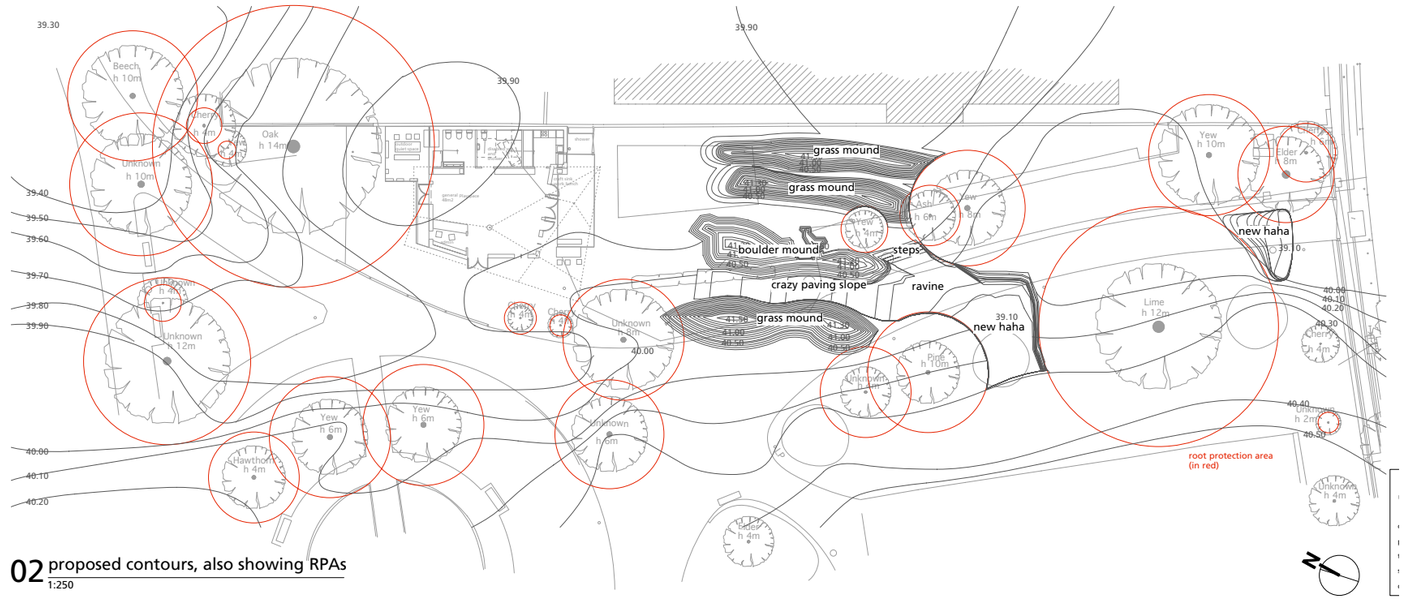

02 proposed contours, also showing RPAs
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Top: Site plan as existing, nts
Bottom: Site plan as proposed showing root protection areas, nts

5.0 Development proposal

5.1 Design development

Including and beyond the key issues of the site as outlined in the above paragraph our main objectives for the development were
- To create an inclusive, challenging and natural play environment, which provides rich play experiences in accordance with latest research by Play England and leading child psychologists
- To ensure the park remains a park for all through pleasant experiences and the observation and creation of sightlines, which prevents feeling excluded and ensures safety. The route into the park has to remain pleasant, the boundary treatments are important. A strategy was developed to make the facilities accessible to more users, allowing for open play for all during park opening hours when adventure playground is shut.
- To use and build on the existing strengths and features of site, such as the individual trees and views.
- To respond to surrounding park features such as the ornamental garden (by providing and equally pleasing environment immediately adjacent) and the tennis courts (by providing benches to watch play).
- To respect existing materiality of the park and build on its natural qualities using natural materials.
- Sustainability.

5.2 Organization of site and building

Access

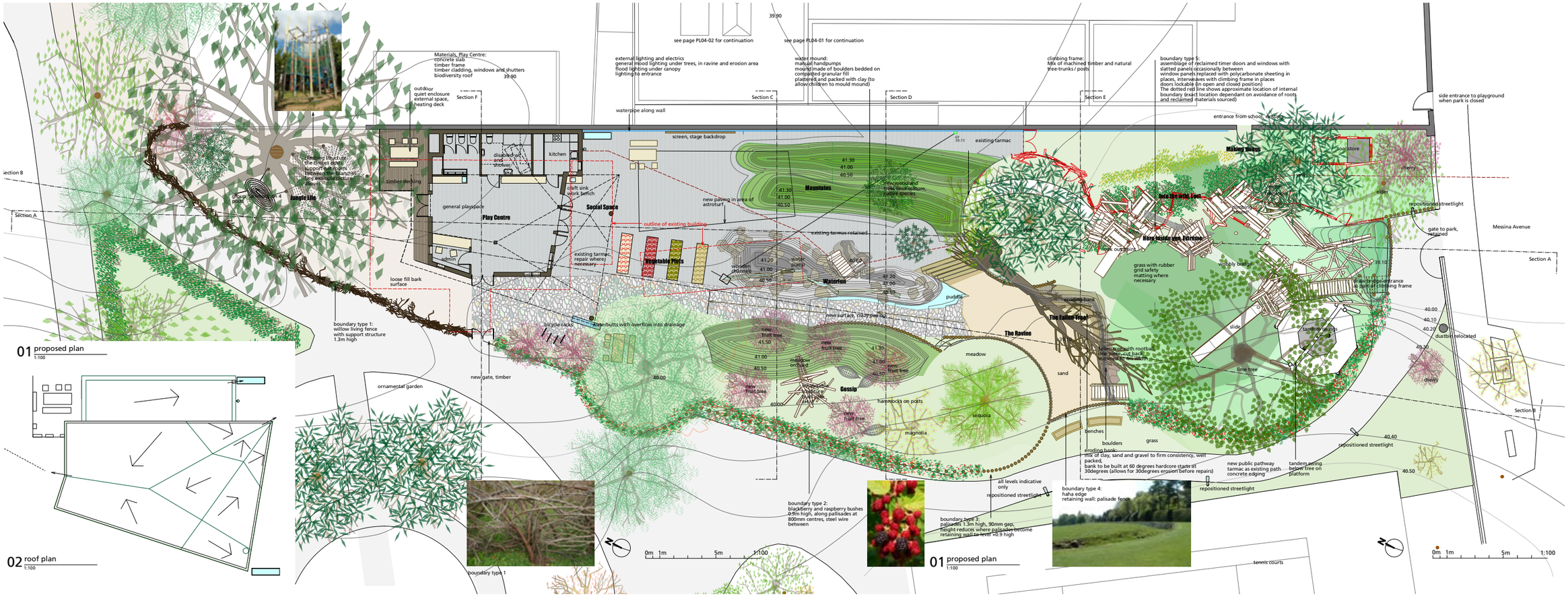
The main entrance to the adventure playground is through a gate at the eastern end of the ornamental garden, which at the same time is also a junction of several pathways within Kilburn Grange Park and therefore well connected. During the opening hours of the adventure playground, the site is accessed via this gate. During these hours the entire site is accessible for children who sign in for adventure play. Outside the opening hours of the adventure playground but during park opening hours all areas, except the play centre and the self-build area, can be accessed by everybody via the gate near the play centre as well as a drawbridge off the path near Messina Avenue.

Sightlines and community safety

Sightlines were important during the design of the scheme. The orientation and level changes of the new topography are designed to allow easy views into dips and ravines across the site.
The general public will be able to see into the adventure playground as they amble along the boundary not only in an effort to make the adventure playground belong to everybody but also to enable passive surveillance at times when the adventure playground is shut. As a key move to increase community safety, the public WCs were moved off site, which removed awkward overlaps of circulation and sightlines as well as hidden corners. Similarly the garages will be demolished to further reduce hidden spots across the site.
Another key concern for community safety was to maintain an openness and view when entering the park from Messina Avenue. This has been achieved by lowering the ground beyond the site boundary to create a haha. This allows for low fencing along the level change. The main components of the climbing structure have been located out of this sightline and at high level. Park users will therefore be able to see across the site when entering from Messina Avenue.
The existing street lighting will be relocated along the pathway. Low level lighting will illuminate the adventure playground during darker opening hours. The lighting will create mood lighting, emphasising specific qualities of features across the site. It will also reduce dark spots. Lighting around the centre will be integrated into the roof overhang and provide high light levels.

Top: Aerial view of existing site
Bottom left: Proposed view across site from park entrance off Messina Avenue: Climbing area towards fallen tree, concept model climbing area
Bottom right: Proposed view across site from fallen tree towards Messina Avenue, concept model climbing area

Top: Proposed long section looking towards school, nts
Bottom: Proposed plan, nts



Relationship to the park, the boundary of the adventure playground
It was paramount to provide inspiring, attractive and age appropriate external play opportunities for the children whilst protecting the interests of local residents and park users. The path into the park, while maintaining the location of the gate, is re-routed along the tennis courts. It curves to open up different views to the pedestrian. New benches along the tennis courts provide additional amenities for the park users.

The scheme proposes low impact natural boundary treatments. The boundaries are low (max height 1.3m) and materially in keeping with the park and the playground.
The different boundary types are

Boundary type 1:
Jungle life area (under the large oak tree at the northern edge of the park): Woven living willow hedge, height kept at max 1300mm
Boundary type 2:
Raspberry and blackberry hedge (between palisades at max 800 centres, wires between), kept at a height of max 900mm
Boundary type 3:
Palisades, 1300mm, high 90mm gaps to allow views in and out

Boundary type 4:
Palisades as boundary and barrier at edge of haha, 900mm above higher floor level
Boundary type 5 (Internal boundary around self-build area):
A wall of reclaimed doors and windows forms an internal, partially openable boundary. All glass will be replaced with polycarbonate sheeting, nets and wire mesh (max height 2100mm).
Boundary type 6 (along Messina Avenue):
Existing metal fence. Raspberry and blackberry bushes planted (max height 900mm).

Right: Concept model looking across site from path near entrance off Messina Avenue showing drawbridge, palisades and raspberry-bramble hedge
Below: Proposed elevation looking from tennis courts towards school. Shows all boundary types, nts

02 proposed section
1:100

boundary type 1: woven willow

boundary type 2: raspberry and bramble hedge with palisades

boundary type 4: haha
(edge palisade retaining wall becomes barrier)

boundary type 5: internal boundary
concept model of door-wall screen at ground level

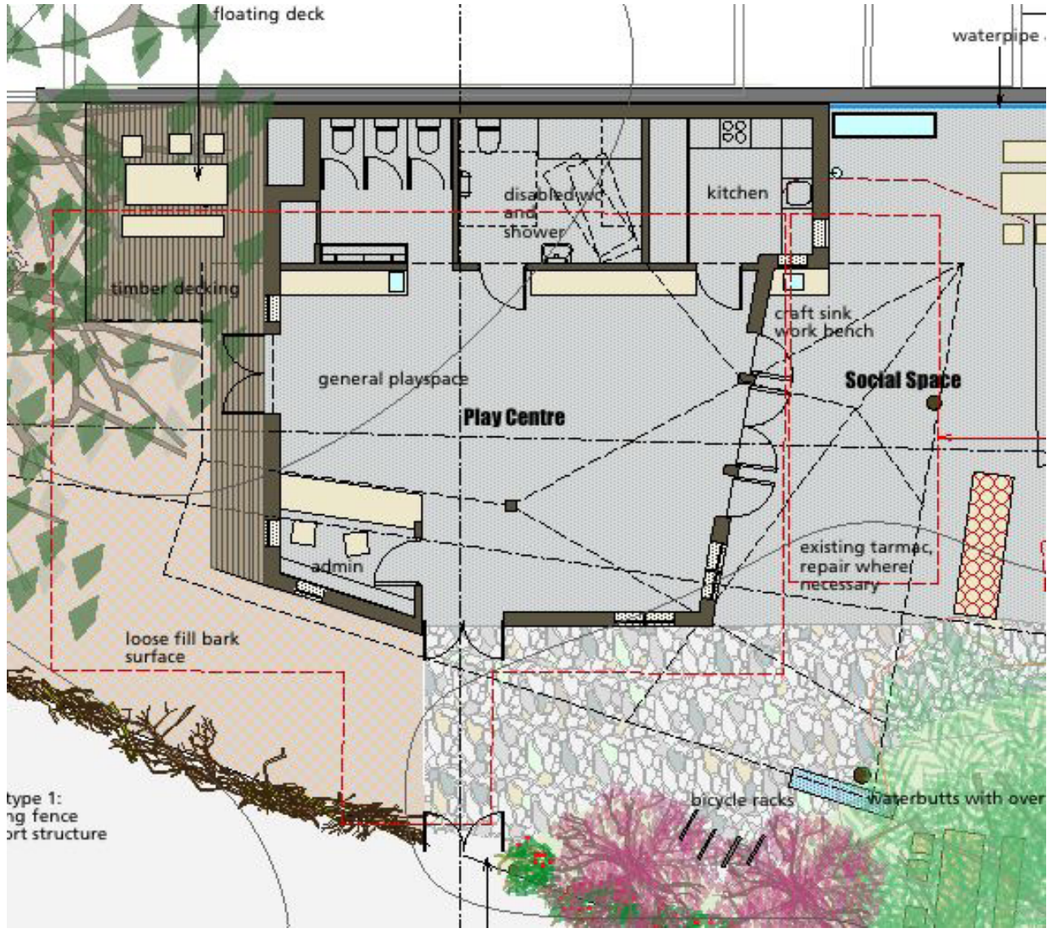
The centre
The proposed single storey building respects the scale of the existing building and the adjacent trees. It responds to the height of the boundary wall. Its footprint is smaller than the existing building and almost entirely moved out the root protection area of the oak tree, which should improve the condition of the tree by providing more unsealed surface area for water collection. The building responds to the natural environment by ducking under the tree canopies as it approaches them, complementing the language and spaces set up by the trees.
The roof of the building is used to develop an animated folded roofscape creating three dimensionally interesting internal and external spaces.

The building layout has been examined to make maximum use of the compact and constricted footprint. The plan of the play centre is organised to address the needs of the adventure playground and its users. The generous and hard working spaces maximise usability.

The covered entrance is orientated towards the ornamental garden. The entrance façade is a timber façade with windows allowing view connections and a welcoming appearance of the centre. Administration is located next to the entrance with clear sightlines to overlook the entrance, jungle life and the playroom.

Internal spaces and door widths are designed in compliance with guidelines and Approved Document M.

Covered outdoor play spaces
Towards the south, the playroom opens up onto a covered play terrace. A series of door openings encourage a fluid transition between internal and external play spaces.
Towards the oak tree a visually permeable timber screen with roof, which encloses a quiet creative space.
All covered areas around the building are visible from the park to enable passive surveillance. All openings in the façade will have security shutters, which will be closed when the adventure playground is closed.



Bottom: Impression of centre entrance from ornamental garden
Top right: Plan of play centre, nts
Bottom right: Elevation of centre across social space, nts

Outdoor play facilities
It is important to highlight again that the proposed design for the play environment will be subject to long-term as well as short-term change as its users and demands change. This is an important objective of adventure play.
As a more immediate issue, it must be stated that the play provisions shown on the drawings are design intent only and will depend largely on the layout of roots (where structures can be anchored without damaging the existing trees can only be established during excavation on site) as well as the availability of for example reclaimed windows and doors for the internal boundary or trees for the fallen tree and climbing structures.

Starting point of all design of the external play equipment and provision of features across the site were the children's ideas of adventure, but also their favourite spots across site. This was paired with our analysis and experiences specific to site: The experience of being under trees, in trees playing in and under trees (without physically being able to transfer onto them), building dens, sunlight patterns, proximity to play centre, flow of activities as well as views across the site.

The outdoor play facilities consist of the following features

Jungle life: Under the big oak tree at the northern end of the site, the children can experience jungle life in net structures, which allow for climbing up and sitting high in the tree (without being able to transfer). The woven willow boundary will reinforce the jungle/forest experience, as will a loose bark floor generating woodland smell.

The social space: Facing south, adjacent to the centre and the large covered outdoor play area is the social space, which will lend itself to impromptu (or prepared) performances, role play, social sessions, making things, … to name a few examples. A permanent timber screen will be erected along the boundary wall towards Kingsgate Primary School to serve as backdrop for theatre performances or as projection screen.

Vegetable plots: The vegetable plots are raised, accessible planting beds. They can be enclosed during times, when the adventure playground is shut to protect the crop. The plots are located closely to the roof edge so that rainwater harvested in water butts can be used for tending the plants.

Mountains: Several mounds and dips are introduced between the social and the climbing frame to create an exciting inhabitable topography. The mounds are grassy. Some slopes of the mounds will be of an angle encouraging erosion to create an environment prone to change, an environment shaped by use.

Gossip: The orchard is envisaged to be a quieter area. Hammocks structures are between fruit trees. The ground is covered by a wildflower meadow. An artist will work with the children as part of the construction process to develop an inhabitable structure. The topic of which will follow up some of the issues pursued during the initial outreach phase, such as trees and shadows. This area will present a pleasant interface with the adjacent ornamental garden.

Waterfun: One of the mounds is made from bolders and clay. A manual water pump is located the high point. The children will be able to build channels from wood and other materials or form channels by changing the malleable mound itself. By locating the vegetable plots in the direct vicinity of the mound, the children could also build irrigation systems for the plots.

The ravine: The water will eventually run into the sandy ravine and form the environment for messy sand and water play.

Top: Section parallel school wall showing jungle life and social space, nts
Bottom: Cross section through ravine showing climbing frame behind, nts

The fallen tree: A fallen tree will be brought in to enable the children to experience the scale of a tree but also to play in a tree. The tree will be located at the edge of the ravine to allow climbing but also tunnelling under in structurally safe circumstances. This will provide the tunnel experience many children demanded so fiercely in a manner also acceptable to community safety.

Hero inside you, Extreme: A large climbing structure will be located where the existing trees provide the most varied experience of being in and under trees. This is the area between the big lime tree and the two large yew trees along the edge towards Kinsgate Primary School. The proposed structures are high, are challenging, but also provide more accessible areas for the less able bodied. Several play towers provide different experiences: being in the tree, looking upwards, looking out, observing, being exposed, climbing trees (a dead tree), jungle life, climbing, extreme, hero inside you to phrase it in the words of the children. Each play tower is different in character, made from wood and timber from different stages of manufacturing. Two different routes access each play tower to allow for an alternative emergency route. Access and connections are made with bridges, ropes, nets, boldering walls, steps and ramps. All structures are suitable to be accessed by playworkers.

Into the wild, Lost: Bushes and hedges along the former boundary of the depot will be kept (largely located inside the inner boundary) to enable the children a feeling of being lost and conquering the wild.

Making things: Located within the inner boundary, this area will be subject to continuous change as the children can build anything they like, dens, playhouses, structures, etc. Materials and tools for this activity are kept in the new store, which will be built around the existing electric housing under the yew tree along Messina Avenue. The internal boundary, made from reclaimed windows and doors, will lend itself for 'docking on' – the children can attach their structures to it and make it part of their creations.

Photos of concept model climbing frame

5.3 Landscape strategy

Alterations to the existing landscape are proposed with the following key objectives in mind:
- Increase play value of the existing site
- Provide inspiring playable landscapes, which are also aesthetically pleasing to other park users
- Improve views across the site for the park user (eg. through the creation of hahas and the orientation of the mounds)
- Create an experience of nature and natural materials to the children
- Increase natural habitats and biodiversity
- Provide an environment capable of change as required by Play England guidance.
- Enhance the experience of the existing trees
- Provide good access across the site and its new features

5.4 Materials and appearance - Use contextual, familiar, durable and natural materials

Across the site wood will be the predominant building material. It appears at different stages of manufacturing: From the just fallen tree to the climbing tree with an enclosure with handrails of branches, to tree trunk columns (also as part of the building) to perfectly machined timber.

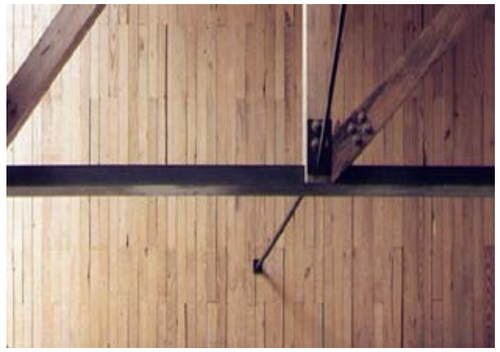
Play centre: The play centre will be a timber frame construction with timber windows, doors and shutters and a biodiversity roof. The building will be clad with natural (unpainted) timber slats.

Across site: For structures the predominant building material will be timber (of different qualities, see above). Reclaimed elements such as doors and windows will be used as part of the internal boundary and possibly the building.
Landscaping and topography are generally of natural materials, such as turf, meadow, sand, bark, earth, clay, bolders and stone paving. Safety surface underneath the climbing frame where necessary will be rubber matting (permeable to allow grass to grow trough).
As much as possible only native species will be used for the new planting.

Tarmac is used for the public pathway as requested by LBC Parks. The existing tarmac around the building will remain and be repaired where necessary. This does not apply for the area towards the old oak tree, where the tarmac is removed and covered with loose bark to allow more surface water to reach the roots of the old (and deprived) oak tree.

Colour will be used throughout the site. It is however paramount to the clients as well as the designers to develop a colour scheme, which integrates with the existing natural colours on site throughout the seasons and enhances the characters of the individual natural play spaces.

Easily legible signage will be incorporated into the structures, the play centre and the site boundary.







Top cluster of images: Key materials play centre
Bottom right: Materials Climbing frame range from natural timber and trees to machined timbers, nets, ropes; reclaimed door/window screen also visible below

6.0 Sustainability

The new adventure playground and play centre will meet current good practice in relation to sustainable building design. Materials with reduced impact on the environment will be used wherever possible. New planting will be native species, where practical. The scheme makes use of reclaimed elements within the design.
Within the play centre good day light levels to minimise the use of artificial lighting will be provided. Secure opening windows and skylights will be provided to naturally ventilate occupied spaces and limit mechanical ventilation to areas where it is absolutely necessary. We will provide high levels of insulation to limit heat loss in winter and allow limited solar gain in summer. All elements of the building envelope will be carefully detailed to minimise air leakage. Building service's systems will be of high efficiency.

All building services, in particular those that are external or accessible, will be robust to reduce the possibility of vandalism. The services installations will be designed to be easy to maintain and operate with low running and maintenance costs. Their methods of control will be developed with the building users in future design stages.

Heating and ventilation strategy
Rooms will generally be naturally ventilated with mechanical extract limited to toilets and kitchen. A condensing boiler with low surface radiators will be provided. The main playroom will be on separate controls. It is envisaged that the main playroom will only rarely be heated as a fluid inside-outside play activity will be encouraged. This will result in predominantly open doors, which negates the need for heating the internal playroom at most times.
Minor water and drainage works will be undertaken to suit the sanitary accommodation.

Lighting
The play centre is naturally lit. For south facing windows and doors the large roof overhang provides solar shading as well as covered external play space. On the west façade the roof overhang as well as the existing tree reduce solar gain.
High efficiency lighting will be installed.

Environmental control
The use of passive technologies should be conceived within a thorough understanding of the local environment. Each location will have very specific ambient conditions that will direct environmental strategy; equally a thorough understanding of the proposed occupation, activities and patterns of use will affect the solution. For example the main internal play space with fluid inside-outside play activity will result in frequently open doors. The room will require only a low ambient temperature as the children will be active. The space will therefore have very different requirements than a steady predictable occupation, such as the office.
Environmental control of spaces by the user should be simple and direct. Lack of control will inevitably lead to perceived discomfort. Lack of understanding of control can lead to misuse and high-energy losses. In an educational environment the control should be simple and legible. Acoustic sensitivity of these environments adds a further level of complication that needs to be understood at a strategic level.

Material and construction
Sustainable buildings should utilise sustainable materials. Choice of materials should prioritise renewable sources, low embodied energy, recyclable and recycled materials. These are becoming more available and commonplace in the construction industry and a number of green registers are available to source new materials. Within the proposed team of consultants there is a wide base of knowledge and a number of innovative research projects in this field. This knowledge will be centralised and made available to all members of the team.

Habitat creation
The play centre will have a biodiversity roof, which will attract local species of planting as slowly creating habitats for small animals. The proposal reduces the area of sealed surface within the site area. Throughout the proposal, the selection of native species of planting, where appropriate, will be cognisant of the Camden Biodiversity Action Plan.
The Kilburn Grange Adventure Playground however goes beyond usual environmental strategies and materials. It is a project in which children are encouraged to engage with nature and natural materials. Provisions such as vegetable plots and cooking activities as well as rainwater harvesting teach children about lifecycles and sustainable living.

Top row: Integrating sustainable living into scheme
Bottom row: Natural materials, biodiversity roof

7.0 Access

7.1 Transport

Kilburn Grange Park has currently a total of four entrances plus one side entrance. This situation will remain unchanged. The closest access to the adventure playground is, while suitable for vehicular access, not used due to necessary difficult driving manoeuvres. LBC Parks Department (Peter Stewart) has therefore confirmed that the new pathway only needs to suit pedestrian access.
During the opening times of the adventure playground, the playground site will be accessed through the entrance gate near the play centre. Outside the opening hours of the adventure playground most areas of the adventure playground are accessible to all children. The gate near the play centre will remain open and a further access, the drawbridge near Messina Avenue will be down to grant further access.

Background
The adventure playground expects to provide for 30 children at a time, supervised by a minimum of 3 up to 10 playworkers (the number of playworkers depends on demand, activities as well as number of special educational needs children).
The opening hours of the adventure playground during term-time will be 3.30pm to 7pm on weekdays and 11am to 5pm during one day on weekends. During holiday times the opening times are 11-5pm on weekdays and one day of the weekend. On special occasions the adventure playground will host sleepovers for children. The centre will operate throughout the year.

In winter, during earlier park closure times, access will be via the existing side entrance off Messina Avenue, a side entrance of Kingsgate Primary School, which was previously used for similar purposes.

User Group
The adventure playground addresses local need for adventure play, predominantly but not exclusively, for 8-13year olds. It is intended as facility that is accessed on foot by local populations.

As part of their sustainability policy LB Camden Play does not provide car parking spaces for their playworkers.

To encourage walking and cycling to the adventure playground cycle stands will be provided inside the site boundaries outside the play centre.

Drop-offs, deliveries and collections
The adventure playground will be an inclusive facility with provisions encouraging disabled children to use the facilities. Disabled children will arrive and depart from the adventure playground with small buses provided by LBC and dropped off outside the play centre.

Deliveries to the centre are very limited. They include occasional food deliveries (the children are expected to bring their own lunches for example) and materials for self-build as well as play equipment. It is envisaged that these deliveries will be very rare and not more frequent than those of the old nursery. The deliveries will use the existing path network within the park.

Conclusion
It is expected that vehicle trips into the park to the centre are infrequent and if they occur there will be not be more than 2-3 vehicle trips per day.

Right: Montage of proposed view from Messina Avenue

7.2 Access for emergency vehicles

Access for emergency vehicles is retained in principle as existing.

7.3 Inclusive access

The adventure playcentre is located on flat terrain, accessed through a pedestrian gate. Clear signage will be provided. The centre will be accessible for all users including those with disabilities and will comply with the general provisions of the Disability Discrimination Act and Part M of the Building Regulations.

Decoration: The colour scheme will be chosen to highlight walls, floors, doors and ironmongery. The guidance used will be from design guidance produced by ICI Paints and the Royal Institute for the Blind. Colour and colour contrast are key features of designing an environment that will be helpful and safe to visually impaired people. The visually impaired use colour change as their main means of orientation.

Signage: Signage will be integrated into the building and follow best practice guidance in terms of size, colours, positioning, etc

Entry points: Thresholds will be level with slip resistant surfaces, free from trip hazards. New doors will be glazed for visibility. Entrances will be signed with orientation information where necessary.

DDA and Approved Document M: Door details and dimensions generally will meet DDA and Part M requirements.

Landscape and play features: A new topography and play equipment are proposed for the site. The features will provide challenges for all, the able bodied as well as the disabled. Each facility will provide elements for disabilities of different kinds. We are closely working with LB Camden's specialist advisors to ease the use of the facilities for the disabled and create an enjoyable but also challenging play environment for all.

8.0 Conclusion

This document sets out the scheme design for the new Kilburn Grange Park adventure playground. We have illustrated the current state of the design and explained the ideas and discussions that have generated the proposal.

Appendix

Tree report and protection measures

Arboricultural assessment of the trees in Kilburn Grange Park in relation to the proposed play scheme.

Author:
Reuben Hayes
London Borough of Camden

Summary

This report is to outline the proposed development in relation to the impact that it may have on the nearby trees. It is to look at its impact and likely ongoing works associated. It will also look at methods for retaining the trees during construction.

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Appendices

1 INTRODUCTION:

1.1 **Instruction** I am instructed by Suzanna Tutsch, erect architecture ltd to inspect the significant trees at Kilburn Grange Park, and to provide an arboricultural report on the impact of a new development and erection of play equipment upon the existing trees.

1.2 **Qualifications and experience:** I have based this report on my site observations and the provided information, and I have come to conclusions in the light of my experience. I have experience and qualifications in arboriculture, and include a summary in Appendix 1.

1.3 **Documents and information provided:** A proposed architectural plan of the proposed site has been submitted. Historic information from the Council's records on the trees is also available, as well as plans.

1.4 **Relevant background information:** The park land is owned and managed by Camden Council. It has been included in a redevelopment of the land and as part of the development an existing building will be demolished and a new building will be erected near the original footprint. Other hard standing will also be removed and relocated as well as new play structures.

1.5 **Scope of this report:** This report is only concerned with the impact that the above proposal will have on the affected trees on the site. It includes a detailed assessment based on the site visit and the documents provided, listed in 1.3 above.

2 SITE VISIT AND OBSERVATIONS / COLLECTION OF DATA

2.1 **Site visit:** I carried out the site visit on the 26th August 2009. All my observations were from ground level without detailed investigations and I estimated all dimensions unless otherwise indicated. The weather at the time of inspection was dull, windy and damp, with average visibility.

2.2 **Brief site description:** Kilburn Grange Park is located in the residential area of Kilburn. It is a Council owned park with high public access during the day times and locked at night. There are differences in heights throughout the park area; however the area where the affected trees are is mainly level with only a gentle slope of no importance.

2.3 **Identification and location of the trees:** The trees in question are located on the North East side of the park. I have illustrated the approximate locations of the significant trees on the sketch plan included as Figure 1. This plan is for illustrative purposes only and it should not be used for directly scaling measurements. All the relevant information on it is contained within this report and the provided documents.

2.4 **Collection of basic data:** I inspected each tree and have indicated the numbering on the site plan extract enclosed as plan 1. For each tree, I collected information on species, height, diameter, maturity and condition. I stress that my inspection was of a preliminary nature and did not involve any climbing or detailed investigation beyond what was visible from accessible points at ground level.

3 APPRAISAL

3.1 **Relevant references:** British Standards (BS5837) Trees in relation to construction. Root Protection Area (RPA), the construction exclusion zone: barriers and ground protection.

3.2 Quercus robur (Seq 176)

3.2.1 Erection of building near Oak tree (Seq 176)

There is already an existing building within the canopy area of the Oak tree. This is a single storey building with associated facilities and drainage. The new proposal is to erect a new building, again this will be single storey and will be further away from the tree than the previous building. As foundations already exist for the original building then the move further from the tree will allow for future growth of the root structure. There will also be minimal works to the tree on a three year basis to include the lifting of lower branches away from the building.

3.2.2 There is also evidence of an existing drain

Available reports and plans have indicated that there is an existing drain running under the roots and trunk of the Oak tree. Certainly looking at the health of the tree, it is evident that the tree is under stress. This could be from previous works to the erection of the building and also to the installation and maintenance of the drain. It is likely this has been carried out several years ago and the moving of the drains at this time could cause further stress to the tree. It maybe of benefit to assess the location of the drains at a later date when the tree is in better health, or if there are problems with the flow of the drain.

3.2.3 Location of hammock under the tree canopy

The proposal is to erect a large hammock under the canopy of the tree. Due to the health of the tree, it would not be advisable to use any parts of the tree as an anchoring system. However, it should be possible to erect a free standing hammock under the canopy and near the main stem. This will be using poles secured into the soil by use of concrete holes. As long as there is hand digging in the ground and that no roots over a roll diameter of 250mm are severed or removed, then the hammock should have little or no impact on the tree. The final structure may differ slightly in the construction due to the location of roots.

3.2.4 Soil impact around the tree.

There is also a proposal to enrich the soil with bark and also to increase the drainage area around the base of the tree and also help to reduce yearly compaction from foot traffic. By relocating the path slightly further away from the tree. This can only help the tree by increasing available water in the area. It should be explored as to how the existing hard standing around the tree could be removed and a new path relocated.

3.3 Metasequoia glyptostroboides (Seq 2)

3.3.1 Location of 'Ha-Ha'

The proposal is to locate a Ha-Ha with palisade fence as a retaining wall. This majority will be outside of the Root Protection Area (RPA). There will be a slight infringement within the RPA but as the tree is young in open ground with little other development nearby then is should be acceptable to reduce the RPA on one side and increase on the rest of the RPA.

3.4 Tilia cordarta (Seq 3)

3.4.1 Location of 'Ha-Ha'

The proposal is to locate a Ha-Ha with palisade fence as a retaining wall. This majority will be outside of the Root Protection Area (RPA). There will be a slight infringement within the RPA but as the tree is young in open ground with little other development nearby then is should be acceptable to reduce the RPA on one side and increase on the rest of the RPA.

3.4.2 Play equipment

The proposal is to erect play equipment within the RPA of the Lime tree. The frame equipment will be to a maximum height of 7m in some areas, and will be of free standing design with no attachment to any trees. The major proportion of the structures will be outside of the RPA and will therefore be of little effect. There will however be a slight infringement. Again, as long as there is hand digging in the ground and that no roots over a roll diameter of 250mm are severed or removed, then the free standing structures should have little or no impact on the tree. The final structure may differ slightly in the construction due to the location of roots. There will be an ongoing maintenance and survey issue with the tree being near the play structure. There may also be associated costs to prune the tree and ensure there are no dead branches which could cause harm to the public using the structures.

2.5 Taxus baccata (Seq 211)

2.5.1 Tree room

This will be situated within the canopy area of the Yew tree. The height of the room will be approx 5m and there will need to be significant crown lifting in order to allow for this structure. This will ultimately leave the tree with an unbalanced crown and

yearly maintenance to remove new shoots will have to be carried out. Again, as long as there is hand digging in the ground and that no roots over a roll diameter of 250mm are severed or removed, then the free standing structures should have little or no impact on the tree. The final structure may differ slightly in the construction due to the location of roots. There will be an ongoing maintenance and survey issue with the tree being near the play structure. There may also be associated costs to prune the tree and ensure there are no dead branches which could cause harm to the public using the structures.

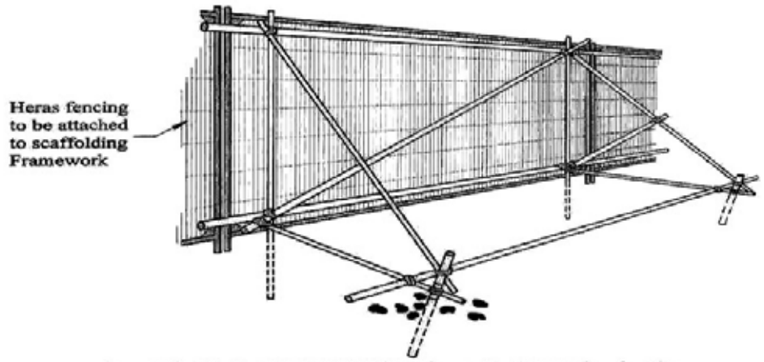
2.6 Creation of tree pit

2.6.1 Quercus ilex (Seq 180)

From on site inspection it was seen that the tree has no available moisture and that the tarmac is laid up against the trunk of the tree. Consideration should be taken to create a tree pit for this tree by the removal of some of the tarmac around the tree. This will help to aid the health of the tree as well as stopping some future cracking of the tarmac.

2.7 Tree Protection zone

All the trees within the development area will need tree protection during the construction stage. This should be carried out in line with British Standards (BS 5837) Recommendations for tree works. Only permitted works should be allowed within the area, and this will have to be kept to a minimum and no machinery will be allowed. Further method statements will need to be submitted to demonstrate how the erection of the poles will take place within the protection zone.



Appendix No 1 - BS 5837:2005, Figure 2 - Protective barrier

Showing idea of protection barrier to be used during the construction of the building and play equipment.

4 RECOMMENDATIONS

Table: Schedule of tree works

Tree No	Work Description	Time scale	Category
176	Inspect once a year and carryout necessary pruning works	Yearly	Medium
2	Inspect once a year and carryout necessary pruning works	Yearly	Medium
3	Inspect once a year and carryout necessary pruning works	Yearly	Medium
211	Inspect once a year and carryout necessary pruning works	Yearly	Medium
212	Fell	Before completion of works in park	High
217	Fell	Before completion of works in park	High
179	No works needed	----	----
180	Remove tarmac at ground to create tree pit area	Before completion of works in park	High
231	No works needed	----	----
232	No works needed	----	----

(All trees are to have a routine maintenance programme to be carried out 3 years as well as the recommendations listed above)

4.2 **Implementation of works:** All tree works should be carried out to BS 3998 *Recommendations for Tree Work* as modified by more recent research. It is advisable to select a contractor from the local authority list and preferably one approved by the Arboricultural Association. Their Register of Contractors is available free from Ampfield House, Romsey, Hants, SO51 9PA - Telephone 01794 368717; website www.trees.org.uk/contractors.htm.

4.3 **Statutory wildlife obligations:** The Wildlife and Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000 provides statutory protection to birds, bats and other species that inhabit trees. All tree work operations are covered by these provisions and advice from an ecologist must be obtained before undertaking any works that might constitute an offence.

4.4 **Future considerations:** The remaining trees should be inspected on a 3 year regular basis by a qualified arboriculturist.

Appendix 1

Brief qualifications and experience of Reuben Hayes

1. **Qualifications:** ND Arboriculture, HND Arboriculture

2. **Continuing professional development:** Professional tree inspection (Lantra course), Member of the Arboricultural Association (M.Arbor.A)

APPENDIX 2
Tree Schedule and Explanatory Notes

Tree No. (Taken from Confirm)	Species	Height (m)	Spread (m)	Trunk Diameter (cm)	Estimated Age	Condition	Observations and comments	Root Protection Zone
176	Quercus Robur	17	15	94	Mature	Fair	Ground conditions: Soil with shrubs underneath to a height of 1.5m (Approx.). Soil changes in the past at about 1m from trunk, soil levels are to a 1m drop to a tarmac base layer. Base: good solid condition with some buttressing. This is in good structural condition with no external signs of fibre buckling. No other wounds found. Main trunk: Good condition, no defects. Canopy: Fair condition, Over extended main branches with little to no reaction wood on top side of junction unions. During inspection it was seen that there was significant movement to the lateral branches in the wind. The main canopy of the tree was significantly sparse and could be under stress. There is also previous signs of pruning works with some callusing to old wounds and no callusing to recent pruning (see table below). No evident of dead wood within the canopy. Low leaf growth.	399.79m² OR a Radius of 11.28m
2	Metasequoia glyptostroboides	9	6	44	Semi-mature	Good	Ground conditions: Grass level ground, open land. Base: Good condition for age of tree. Trunk: Some fusion of bark with reaction wood. Previous crack/defect in trunk from above base extending to 1.7m on the South-West side of the tree. Now callusing over but evidence of dead wood underneath. Canopy: Good condition with good growth	87.60m² OR a Radius of 5.28m

APPENDIX 2
Tree Schedule and Explanatory Notes

3	Tilia Europaea	12	8	82	Mature	Fair	Ground conditions: Grass level ground, open land. Base: Epicormical growth on all sides of the tree, and within the buttress area and stem. This has recently been removed (as part of a programme of works). Good buttresses evident with solid reaction wood seen. Trunk: The main trunk forks at around 2.2m in to two main stems. There is also evidence of included bark from 1.5m and extending to 2m on the South side of the tree. Sound testing was carried out but no evidence of decayed material has heard. There is also some reaction material on the North side of the tree at the same heights indicating that there is a good reaction within the tree. There is also good unions of the fork with good structure and no indication of fibre buckling. Canopy: There is also epicormical growth throughout the canopy of the tree and on the main stems and leading to the main branches and canopy of the tree. Signs of previous branch reductions are evident on some of the lower branches, new growth has now occurred in the form of pollard knuckles. This is on the North, East and West sides of the tree. There was evidence of some dead wood within the upper canopy of the tree on the North East side of the tree.	304.24m² OR a Radius of 9.84m
211	Taxus baccata	8	8	42	Semi mature	Good	Ground conditions: Soil, with a wall to the North East and North West of the tree. Base: some bark wounding at the base of the tree on the North West side of the tree. This appears to be old and callusing over well. Trunk: Good condition no defects. Canopy: Good condition no defects.	79.81m² OR a Radius of 5.04m

APPENDIX 2
Tree Schedule and Explanatory Notes

212	Sambucus nigra	7	3	<25	Semi-mature	Fair	Ground conditions: Soil, with a wall to the North East side and a boundary railings to the West. Base: Some dead wood and an old dead stem evident. Trunk: Good condition no defects. Canopy: Good condition no defects.	
217	Prunus unidentified hybrid	4	2	<25	Young	Good	Ground conditions: Grass level ground, open land. Base: Good condition no defects. Trunk: Good condition no defects. Canopy: Good condition no defects.	
179	Quercus ilex	9	8		Semi-mature	Good	Ground conditions: Soil level ground, open land. Base: Good condition no defects. Trunk: Good condition no defects. Canopy: Good condition no defects.	
180	Quercus ilex	9	8		Semi-mature	Fair	Ground conditions: Tarmac around base of tree, up to stem. Evidence of cracking to tarmac near tree, possible root growth, now out grown area. Base: Good condition no defects. Trunk: Good condition no defects. Canopy: Good condition no defects.	
231	Prunus sargentii	4	2	8	Young	Good	Ground conditions: Soil level ground, open land. Base: Good condition no defects. Trunk: Good condition no defects. Canopy: Good condition no defects.	

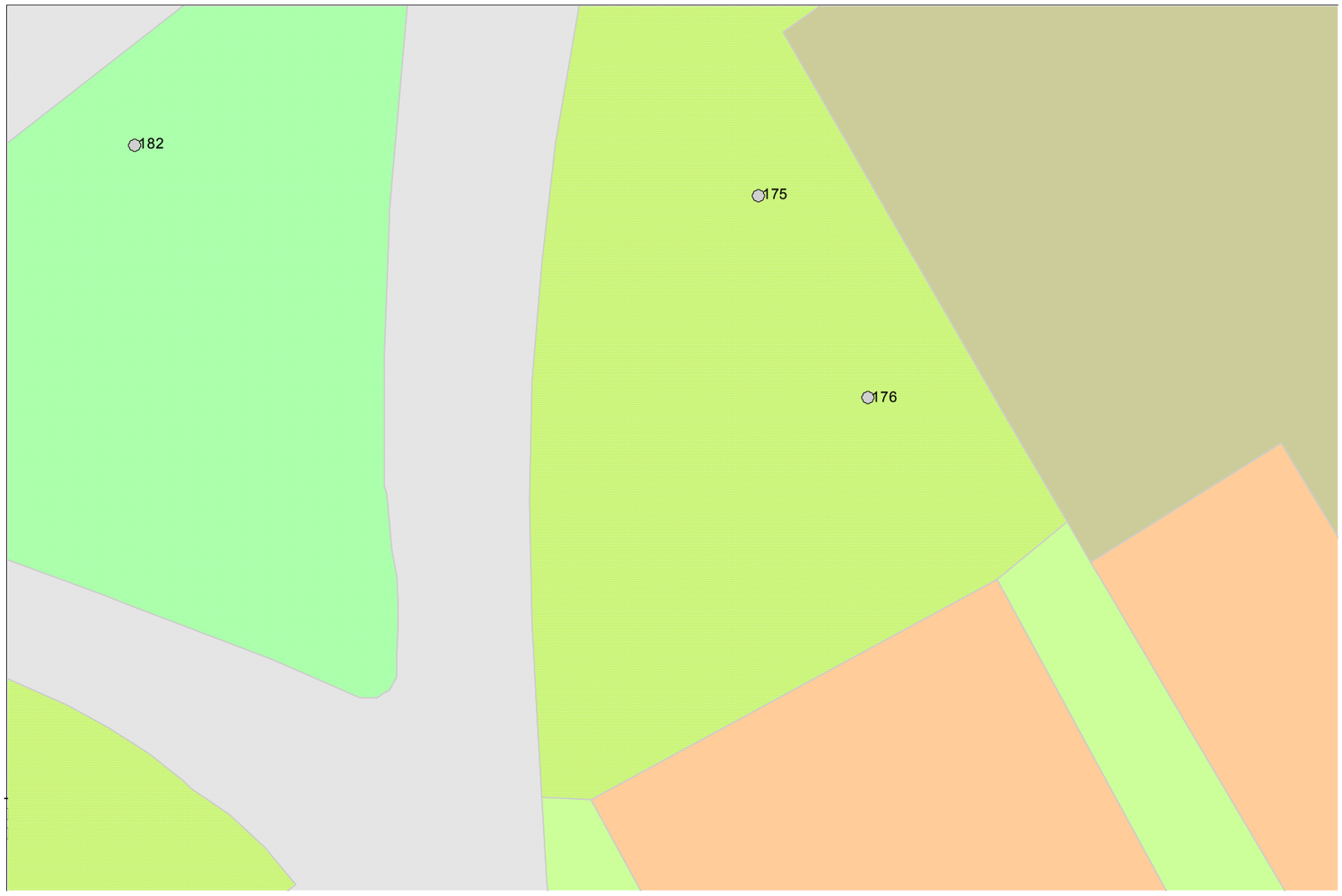
APPENDIX 2
Tree Schedule and Explanatory Notes

232	Prunus sargentii	4	2	8	Young	Good	Ground conditions: Soil level ground, open land. Base: Good condition no defects. Trunk: Good condition no defects. Canopy: Good condition no defects.	

Explanatory Notes

- **Mathematical abbreviations:** > = Greater than; < = Less than.
- **Measurements/estimates:** All dimensions are estimates unless otherwise indicated. Measurements taken with a tape or clinometer are indicated with a '*'. Less reliable estimated dimensions are indicated with a '?'.
- **Species:** The species identification is based on visual observations and the common English name of what the tree appeared to be is listed first, with the botanical name after in brackets. In some instances, it may be difficult to quickly and accurately identify a particular tree without further detailed investigations. Where there is some doubt of the precise species of tree, it is indicate it with a '?' after the name in order to avoid delay in the production of the report. The botanical name is followed by the abbreviation sp if only the genus is known. The species listed for groups and hedges represent the main component and there may be other minor species not listed.
- **Height:** Height is estimate height to the nearest metre.
- **Spread:** The maximum crown spread is visually estimate to the nearest metre from the centre of the trunk to the tips of the live lateral branches.
- **Diameter:** These figures relate to 1.5m above ground level and are recorded in centimetres. If appropriate, diameter is measure with a diameter tape. 'M' indicates trees or shrubs with multiple stems.
- **Estimated Age:** Age is estimated from visual indicators and it should only be taken as a provisional guide. Age estimates often need to be modified based on further information such as historical records or local knowledge.
- **Distance to Structures:** This is estimated to the nearest metre and intended it as an indication rather than a precise measurement.

APPENDIX 2
Tree Schedule and Explanatory Notes



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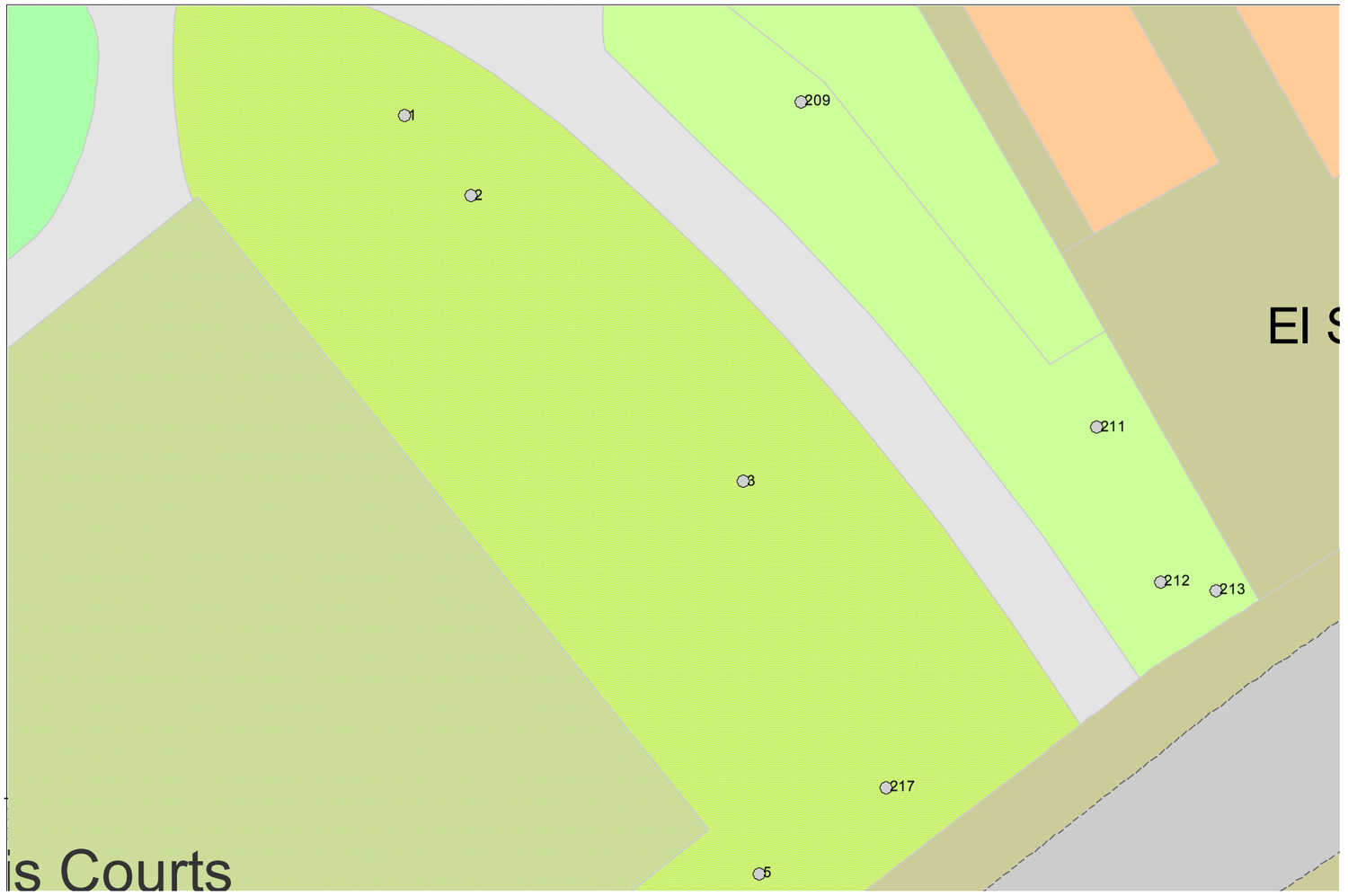
Tree Schedule and Explanatory Notes



APPENDIX 2
Tree Schedule and Explanatory Notes

Seq 176 Quercus Robur – Showing sparseness of canopy

APPENDIX 2
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Seq 176 Quercus Robur – Showing trunk and fork unions as well as previous pruning cuts.

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Seq 176 Quercus Robur – Showing trunk area and close proximity of hard standing and existing drains and building.

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Seq 2 Metasequoia glyptostroboides – Showing crack in bark with re-growth and full height of tree.

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Seq – Tilia Europaea showing size of tree and old fracture point in trunk.

APPENDIX 2
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Seq 180 - Quercus ilex showing shape of tree and tarmac around base of tree.