

MASTERPLAN – MANAGEMENT AND MAINTENANCE PLAN

Crystal Palace Park

LONDON
DEVELOPMENT
AGENCY



November 2007

CRYSTAL PALACE PARK
PAST PRESENT FUTURE

Produced on behalf of the LDA by Land Management Services Ltd

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EXECUTIVE SUMMARY

This Management and Maintenance Plan (MMP) for Crystal Palace Park has been commissioned by Latz + Partner on behalf of the London Development Agency (LDA). The MMP is one of a series of documents prepared in support of the Crystal Palace Park Masterplan, prepared by Latz + Partner.

The majority of the Park is currently owned and managed by the London Borough of Bromley. The LDA took over responsibility for the National Sports Centre (NSC) from Sport England in 2006 under a 125 year lease. A key element of the Masterplan vision for the Park is to re-unite these two largely disparate elements and to bring the whole Park into one management unit. The LDA hold an option to take over the whole Park by March 2009.

The MMP includes a review of the current condition, management structures and maintenance of the existing Park. The plan sets out management prescriptions and desired maintenance standards for each character zone and the various elements of the proposed Park Masterplan. The plan also examines options for an overall Managing Organisation for the unified Park, and Park Management Structures to support the anticipated levels of investment, improved facilities and increased use of the Park. The final sections include an outline maintenance and whole life cost plan for the Park Masterplan.

The MMP draws on information from the Crystal Palace Park Draft Planning Framework (October 2005) and other reports prepared in support of the Masterplan.

This MMP represents an interim plan that sets out the strategy for Park management and maintenance to be developed in parallel with Masterplan implementation. Detailed proposals and supporting design guidance would be prepared as each element or phase of the Masterplan is implemented.

1. INTRODUCTION

1

1.1 Scope of the Management and Maintenance Plan (MMP)

1.1.1 Background

This Management and Maintenance Plan (MMP) for Crystal Palace Park has been commissioned by Latz + Partner on behalf of the London Development Agency (LDA). The MMP is one of a series of documents prepared in support of the Crystal Palace Park Masterplan, prepared by Latz + Partner.

The publication of the Draft Crystal Palace Park Planning Framework in October 2005, defined a vision and strategy for the rejuvenation of the Park. The Masterplan represents the next stage in this process, articulating and developing the concepts and outline proposals set out in the Draft Planning Framework. The Planning Framework and Masterplan have been developed through extensive public consultation and this has generated considerable support amongst local stakeholders. An addendum to the Planning Framework was published in February 2007.

Implementation of the Park Masterplan would be phased over a period of up to twenty years. A phasing strategy is currently being developed as implementation will be dependant on a range of factors linked to the planning process, available funding, site issues (in particular in relation to contaminated material) and the continued support of the local community.

1.1.2 Current Management of the Park

Management responsibilities for the Park are currently split. The London Borough of Bromley owns and manages the majority of the Park, with the exception of land associated with the National Sports Centre (NSC and the Athletics Stadium, which occupy the central areas of the Park) and other smaller leased areas. The LDA took over responsibility for the National Sports Centre (NSC) from Sport England in 2006 under a 125 year lease.

A key element of the Masterplan vision for the Park is to re-unite these two largely disparate elements and to bring the whole Park into one management unit. The LDA hold an option to take over the whole Park by March 2009.

The area of the Park currently managed by the London Borough of Bromley is covered by the Crystal Palace Park Management and Maintenance Plan (2004 to 2014) prepared by the London Borough of Bromley (Summer 2004). The 2004 plan was prepared on the completion of restoration and improvement works to parts of the Park funded by the Borough and the Heritage Lottery Fund (Phase 1 HLF Scheme). The 2004 MMP addresses the management of the whole Park and will remain as the formally adopted Park Management Plan as long as the Park remains in the custodianship of the Borough of Bromley.

1.1.3 Purpose of the Management and Maintenance Plan

A clear understanding of the management and maintenance implications associated with proposed changes to the Park is clearly essential to the realisation of the Masterplan.

The purpose of this MMP is, therefore, to inform the LDA and other bodies involved with the Park, of the anticipated management and maintenance implications associated with the implementation of the Park Masterplan with particular regard to:

- Park management structures
- Procurement of park maintenance
- Necessary resources and skills
- Performance requirements and maintenance standards
- Compliance with current legislation and other legal requirements in respect of the management of public open space
- Surveys and monitoring

The text of this MMP focuses on the management and maintenance of the hard and soft landscape elements of both the existing Park and the Masterplan. Park Management Structures and Costings also address interpretation, visitor management, events and the management of

buildings and structures. These Parts of the MMP have been informed by reports by other members of the consultant team, and these are referenced where appropriate.

Although the MMP has been written as a stand-alone document, it should be read in association with other documentation produced in connection with the Park Masterplan. In addition to information referenced to other reports, sections relating to issues such as planning context, heritage and ecology which might otherwise be extensive, have been summarised from other reports and the Draft Planning Framework.

It is anticipated that this MMP would form the basis for a comprehensive Park MMP, which would be developed as the various Masterplan phases are completed.

This document has been prepared in accordance with current guidance for the preparation of management and maintenance plans for parks, open spaces and heritage landscapes, principally that published by CABE Space¹ and the Heritage Lottery Fund².

¹ 'A guide to producing parks and green space management plans' (May 2004)

² 'Parks for People 10 year Management and Maintenance Plan Guidance (May 2006)

1.2 MMP Layout

Part 1: Introduction

Defines the scope and purpose of this MMP.

Part 2: The Existing Park

This part of the MMP provides an overview of the context, condition and current structures currently in place for the management and maintenance of the Park. Close reference is made to the current MMP (2004 to 2014) prepared by the London Borough of Bromley and the Crystal Palace Park Draft Planning Framework (October 2005). This part of the MMP includes a review of the Phase 1 Restoration Works (Section 2.9).

Part 3: The Vision

Part 3 describes the Park Vision and Design Concepts which have been developed through consultation as part of the Planning Framework and the Masterplan.

Part 4: The Park Masterplan

Part 4 provides an overview of the proposed Park Masterplan.

Part 5: Issues and their Resolution

Part 5 of this MMP considers key issues raised in the assessment of the existing Park (Part 2) and options for future management and maintenance.

Part 6: Landscape Management Prescriptions

Part 6 describes Management Prescriptions by Character Zone for the Park Masterplan. The design principles and key elements of each Character Zone are described and Management Prescriptions are set out to achieve desired Performance Requirements described in Appendix C, and the specific requirements of individual features or elements.

Part 7: Proposed Park Management Structures

This part of the MMP describes the proposed management structures, together with recommendations in relation to the procurement of park maintenance, associated with the various levels of Park regeneration.

Part 8: Outline Cost Plan

Cost plans for Park maintenance have been prepared in support of this MMP. The Outline Cost Plan draws on costings and management prescriptions for all

2. THE EXISTING PARK

elements of the Park and references other supporting reports to the Masterplan.

2

Part 9: Monitoring and Review

This section describes proposals for plan monitoring and review. As described in the introductory sections to this MMP, a full park MMP would be built up as the phased implementation of the Masterplan is delivered.

2.1 A Brief History

This section of the MMP provides a very brief overview of the history of the Park. Close reference has been made to the following documents, which provide a comprehensive description of the Park history and its heritage significance.

- Crystal Palace Park Conservation Plan (Prince Research Consultants Ltd Nov 2004)
- Restoring the Vision, Crystal Palace Park (LB Bromley undated)
- Crystal Palace Park Management and Maintenance Plan (LB Bromley Summer 2004)
- Crystal Palace Park Conservation Management Plan (Sarah Couch Historic Landscapes Ltd 2007)
- Crystal Palace Park Cultural Heritage Assessment (MoLAS 2004)

2.1.1 The Park

The legacy of Crystal Palace Park derives from the relocation of the Crystal Palace, designed by Sir Joseph Paxton to house the Great Exhibition of 1851, and relocated to Sydenham in 1854. Paxton created a Park in a style reminiscent of Versailles and other great landscapes. The Park was notable for taking an innovative approach to design with formal, symmetrical areas placed next to informal landscapes, such as the English Landscape Gardens.

The Park spread down the hill from the Palace Terrace on the crest of the ridge. Paxton created a strong, symmetrical design for the landscape through the Grand Centre Walk with features on either side including the rosary, north mound (in Paxton's time – the Maze was constructed in 1870-1), cascades, basins and the gravity powered fountains on either side. Although Paxton's full intentions for the park were never fully realised, the Park was a vision of Victorian grandeur and innovation.

The Park and Palace played host to numerous events and exhibitions throughout the latter half of the 19th century. In doing so, the Park maintained the same air of prosperity and pioneering mentality that had accompanied the Great Exhibition. The life sized dinosaur models and the geological islands, displayed the latest palaeontological ideas whilst making a bold statement on the then developing notion of evolutionary theory.

Following the destruction of the Palace by fire in 1936, the Park fell into decay and decline. Much of the upper sections of the Park (Palace Terrace and Italian Terraces) remained closed for 40 years. The lower, eastern sections of the Park became the main public Park in the post war years and these areas continue to be maintained by the London Borough of Bromley.

2.1.2 The Palace

Following its relocation, the Crystal Palace suffered from a number of setbacks over the years. A great gale in 1861 caused the North Wing to collapse, and five years later a fire destroyed the North transept. Financial problems and waning public interest saw the building deteriorate in condition through the early part of the 20th century. In 1923 a fire partially gutted the South Wing, and then in 1936 the great fire resulted in the complete destruction of the Palace.

2.1.3 Sports

The Park has had strong links with a variety of sports dating back as far as 1857 with the creation of the cricket ground. This ground would eventually become the home of London County Cricket Club, founded and captained by W.G. Grace in 1899 (Grace also captained England's lawn bowls team and took part in race meets in the park).

Crystal Palace Football Team was established in 1861 and played in the Park. Between 1895 and 1914 the Park hosted the FA Cup final, an event which would draw crowds in excess of 100,000 people.

Throughout the latter decades of the 20th century, motorcycle and motorcar racing became dominant sports in the Park, culminating in the construction of a 2.3 mile speedway circuit located in the central section of the Park. Although racing was halted during the Second World War, it was resumed in 1953 and continued successfully until 1972.

Following the destruction of the Palace, sports became more of an important focal point for the park's development. The National Sports Centre (NSC) was constructed between 1960-1964, including an athletics stadium, indoor arena and swimming pool complex.

2.1.4 Park Stewardship

Until 1951 the Park was held and managed by the Crystal Palace Trustees. The 1951 London County Council (Crystal Palace) Act dissolved the Trustees and the Park was transferred to the London County Council (LCC). The Park remained in the custodianship of the LCC until 1986, when ownership was transferred to the London Borough of Bromley. Management of the NSC remained with Sport England until 2006, when the land was

transferred to the LDA. The NSC is currently managed by Greenwich Leisure Limited (GLL) on behalf of the LDA. The remainder of the Park, with the exclusion of a number of smaller leased areas remains with the Borough. A full description of the leased properties in the Park is given in Section 2.3.

2.1.5 The Phase 1 HLF Restoration Scheme

In 1999 the Park was awarded £4.4 million for restoration works, principally focussed on the dinosaur sculptures and the landscaped areas around the Tidal or Lower Lake. The scheme also extended to the areas around the Cricket Ground and the lower sections of the English Landscape around the Intermediate Lake. The scheme was completed in 2004 (see Section 2.9).

2.2 Significance of the Park

2.2.1 Planning Context

The Draft Planning Framework (October 2005) provides a succinct overview of the National, Regional and Local Planning context for the Park.

All of the Park lies within the London Borough of Bromley, although the upper, western sections of the Park adjoin boundaries with four other Boroughs (Lewisham, Southwark, Lambeth and

Croydon). As such the principal planning policy documents currently covering the Park are:

- The Mayoral London Plan
- Bromley Unitary Development Plan

The sections below summarise the key national and local designations covering the Park.

Metropolitan Open Land

The majority of the Park is designated as Metropolitan Open Land through the London Plan and the Bromley Unitary Development Plan. The designation has three main functions;

- Protecting open space to provide a clear break in the urban fabric and contribute to the green character of London.
- Protecting open space to serve the needs of Londoners outside their local area.
- Protecting open space that contains a feature or landscape of national or regional significance.

Crystal Palace Park Conservation Area

The bulk of the Park lies within the Crystal Palace Conservation Area. The areas outside the Conservation Area include the leased areas to the Caravan Club, Thames Water and the BBC Transmitter, together with part of the former Palace site.

Register of Historic Parks and Gardens

The whole of the Park is Grade II* listed on the English Heritage Register of Historic Parks and Gardens.

Listed Structures and Buildings

There are a number of listed structures and buildings in the park. The 27 dinosaur sculptures and geological illustrations have recently been upgraded to Grade 1 Listed. All other buildings and structures listed below are Grade II* listed:

- The National Sports Centre (NSC)
- The Crystal Palace 'low level' railway station.
- The bust of Sir Joseph Paxton.
- The gate piers to the former Rockhills villa.
- The Italian Terraces and sphinxes below the Palace Terrace.

The park also contains 10 locally listed buildings. A full list of the national and local listed structures and buildings and a description of these features are included in the Conservation Management Plan³.

Site of Nature Conservation Importance (Borough Grade I)

The majority of the park area (approximately 49 ha) is designated as a Site of Nature Conservation Importance (Borough Grade 1).

A Site of Nature Conservation Importance (SNCI) is a non-statutory designation applying to a site of local importance. The designation seeks to provide recognition of the wildlife value of these sites to the local community and, where possible, to prevent significant damage arising from development.

South East London Green Chain and London Loop Walks

Although not statutory designations, the Park is an important destination on two London walks. It forms the beginning of the Green Chain, a 16_ mile network of open spaces stretching across south east London and is also located on the London Loop walk.

2.2.2 Acts of Parliament

There have been three Acts of Parliament affecting the Park. The overriding purpose of the Acts is to ensure that the land "is held in place for education and recreation and for the promotion of industry commerce and art" (Planning Framework 2005).

The provisions of the first Act, the 1914 Crystal Palace Act were largely superseded by the 1951 London County Council (Crystal Palace) Act 1951.

London County Council (Crystal Palace) Act 1951

The Act provided for the vesting of the Crystal Palace and Park in the London County Council for the dissolution of the Crystal Palace Trustees and for other purposes. This is the primary Act that still covers the park today.

Bromley London Borough (Crystal Palace) Act 1990

In June 1990 Parliament passed the Bromley London Borough (Crystal Palace) Act 1990. The main purpose of the Act "was to empower the Council to lease land at Crystal Palace and Park to promote the use and enjoyment of the land by the public."

Full descriptions of the Acts are given in Appendix 2 of the Draft Planning Framework⁴.

³ Crystal Palace Park Conservation Management Plan (Sarah Couch Historic Landscapes 2007)

⁴ Crystal Palace Park Draft Planning Framework (October 2005)

2.2.3 Crystal Palace Park By-laws

Crystal Palace Park, as with all parks owned and managed by the London Borough of Bromley, is controlled by by-laws made under section 164 of the Public Health Act 1875, sections 12 and 15 of the Open Spaces Act 1906. The council is empowered to use them according to Section 98 (4) and (5) of the Local Government Act 1985.

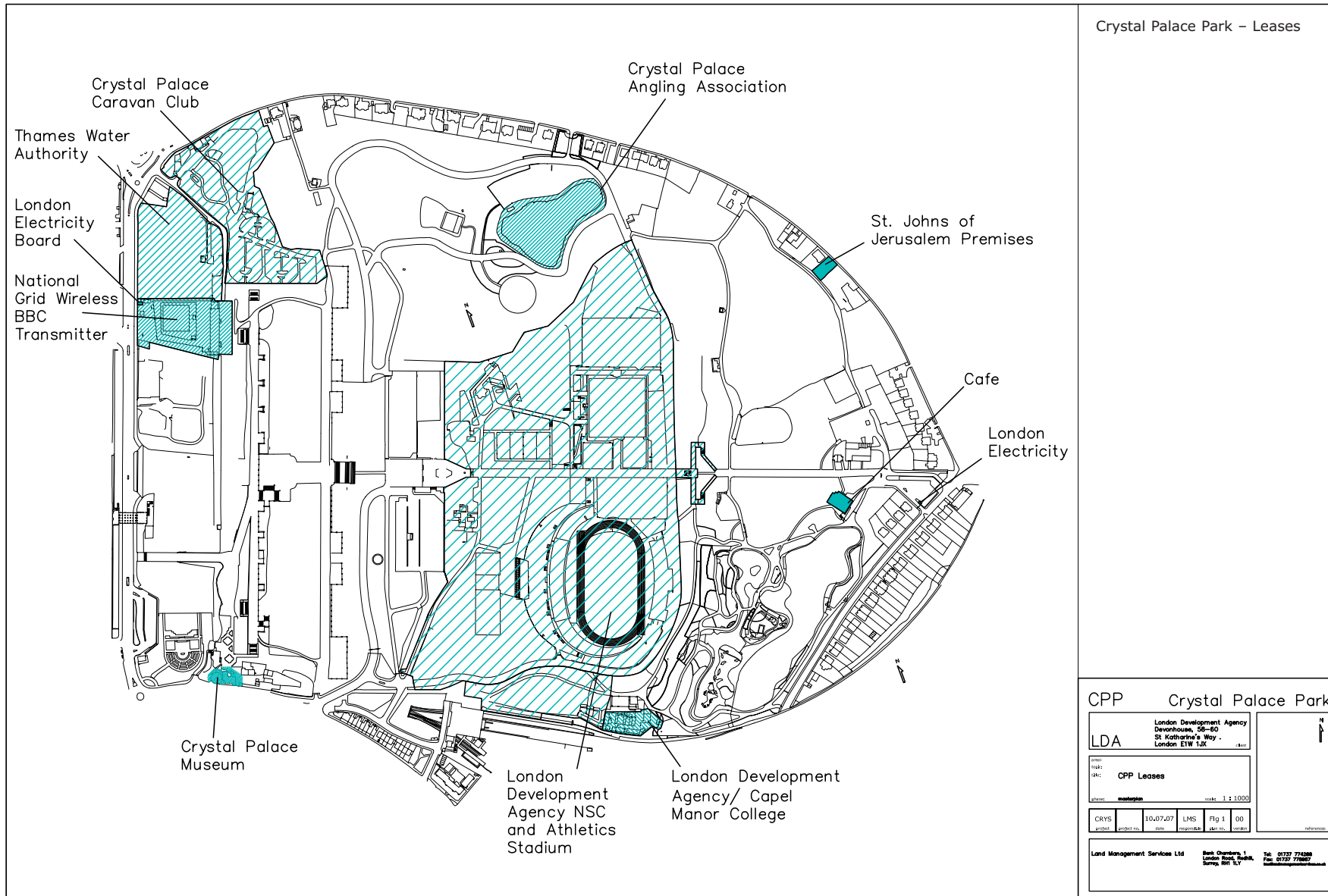
2.3 Ownership and Leases

The whole of the Park falls under the ownership of the London Borough of Bromley, following the transfer of ownership from the Greater London Council in 1986. There are a number of leased areas within the Park boundary, with varying levels of public access.

Table 1 provides a summary of the current leases operating in the Park. The areas covered by the respective leases are detailed on the Ownership and Leases Drawing.

Table 1: Crystal Palace Park: Leases

Site	Leased to	Public Access
BBC Transmitting Station	National Grid Wireless	No
Reservoir Site	Thames Water Utilities Limited	No
Caravan Site	Crystal Palace Caravan Club	Site users only
Fishing/Intermediate Lake	Crystal Palace Angling Association	Club members only
The Farm	Capel Manor College	Access at set times
National Sports Centre and Athletics Stadium	Leased to the LDA Maintained by Greenwich Leisure Ltd (GLL) Grounds maintenance by Waterers	Yes
Crystal Palace Museum	Staffed by Crystal Palace Museum Trust	Yes
St Johns Jerusalem Premises	St John's Ambulance	Restricted access
Park Café	Cafe Operator	Yes
Electricity Sub Stations (2 No.)	London Electricity Board	No



2.4 Ecology

A full list of ecological surveys commissioned as part of the preparation of the Masterplan are included in Appendix A of this MMP. This survey information, which references other earlier surveys, provides a comprehensive overview of the ecological interest and value of the park, supported by some specialist surveys. The text below has been drawing largely from information provided by the Ecological Consultancy as part of the Design and Access Statement to the Masterplan.

The Park is one of the largest single areas of open space in South London, and whilst a substantial part of this area is devoted to buildings and hardstanding (principally the NSC) the remaining green space is sufficiently large and varied to provide for a range of habitats and species. Some of the principal habitats include:

- Amenity grassland – largely of low value for wildlife although potentially providing foraging habitat for a restricted number of bird species. Includes a few small areas species poor rough grassland, often in a mosaic with scrub and tall herb species that has greater value.
- Tall herb vegetation – Often to be found as a mosaic with grassland and scrub habitat. Good habitat for a range of wildflower species, the

invertebrates that they support and thus for seed eating and insectivorous bird species.

- Woodland and plantation – planted and self-established woodland is present throughout the Park especially in the north. This provides a variety of habitat conditions likely to favour invertebrates, birds and bats.
- Scrub – a significant habitat type, especially on the upper terrace, and valuable for invertebrates, and as foraging and nesting habitat for a variety of bird species.
- Standing water – the Park includes three significant water bodies. These are generally of restricted interest for wildlife, although they have significant potential. The Tidal Lake is one of the most important places for waterfowl in the London Borough of Bromley

These habitats support:

- 230 species of flowering plant (including the rare broad-leaved helleborine)
- 4 species of bat (Legally protected UK and European legislation)
- A variety of bird species including breeding, passage and over wintering
- 172 species of invertebrate – of these 14 species are considered Nationally Scarce and 11 species are of Local Importance.

Amphibians appear to be restricted to frogs and common newts, there is currently no evidence of the presence of the protected great crested newt, and reptiles appear to be absent.

Much of the ecological interest in the Park has occurred largely spontaneously without any deliberate attempt to attract or enhance wildlife value. In addition large areas of the Park are currently devoted to regularly mown amenity grassland and hard standing, both of which are of low value for wildlife. A key objective of the Masterplan, which is carried forward to the prescriptions set out in the MMP, is the conservation, enhancement and monitoring of the biodiversity of the Park.

Biodiversity Action Plans

The Park falls within the scope of both the Mayors Biodiversity Strategy and the Bromley Biodiversity Action Plan. Both strategies include specific Habitat Action Plans for urban parks and open spaces. The preparation of the Masterplan and implementation of the principles set out in this MMP will contribute to Action Plan Targets in the respective plans as follows:

- Surveys will contribute to targets relating to biological records for parks and open spaces

- Programmes for education, interpretation and volunteer involvement will contribute to targets to raise awareness and enjoyment of wildlife in parks and open spaces
- Management and monitoring programmes will enhance wildlife habitats within the Park and contribute to Targets set out in individual Species and Habitat Action Plans

2.5 Trees

A full tree condition survey of the park was completed in 2007 by John Cocking Associates Ltd (JCA). The survey recorded just under 2,000 trees, which included some identified as groups of trees, so the actual number of trees will be greater. A separate survey to identify trees of heritage significance was carried out by Sarah Couch Historic Landscapes Ltd and forms part of the Conservation Management Plan (2007). Key issues identified in the two surveys are summarised below:

- Tree management works have been insufficient for a number of years. Recommendations in the JCA survey identify works to a number of trees necessary for safety reasons.

- A large number of Horse chestnuts are suffering from bleeding canker and the remainder will, in all likelihood, become infected within the next few years. Future management will need to plan for the replacement of trees as they become infected and losses occur.
- The historic trees assessment identified an estimated:
 - 43 trees dating from pre 1852
 - 33 trees dating from 1852 to 1865
 - 136 trees dating from 1866 to 1900

The full tree condition survey and management recommendations are set out in the report by JCA (2007). Appendix B sets out a summary schedule of the recommended tree works from the 2007 survey, programmed over a five-year period. The recommendations of the survey are that these works should be addressed as a priority, in order to bring the tree stock into an acceptable condition. These works have been costed as part of the Financial Plan presented in Part 8 of this MMP.

The schedule does not include tree removals which may be required as part of the implementation of the Masterplan. These are costed separately as part of the Masterplan Cost Plan.

2.6 Existing Park Facilities

The following sections provide a summary of the main existing facilities in the Park.

The National Sports Centre

The NSC and Athletics Stadium were constructed in the 1960s with the addition of the Jubilee Stand in the late 1970s. In addition to the wet and dry sports facilities provided within the NSC building, there are outdoor tennis, all weather sports and other facilities.

The Concert Bowl

The original concert bowl was constructed in the early 1960s and replaced with the current Corten steel structure in 1997.

Information Centre

The Information Centre is located close to the Penge entrance. The centre also provides office accommodation for the Park Rangers.

The Museum

The Museum is run by the Crystal Palace Museum Trust and is located in a building which formed part of the former Engineering School.

One O' Clock Club

The One o'clock Club provides pre-school activities for young children and is located close to the new car park in the north east corner of the park, off Crystal Palace Park Road.

Cafe

The café is located close to the Penge entrance.

Car Parking

There are three car parks in the park:

- The largest car park is located between the Italian Terraces and the NSC with access via the Ledrington Road entrance (off Anerley Hill)
- The Penge Gate car park is the closest to the Children's Play Area, Café and the Tidal Lakes.
- The new car park (off Crystal Palace Park Road and opposite Sydenham Avenue) is the closest to the One o'clock club.

All car parking is free.

The Play Area

There is one play area in the park located close to the Information Centre.

The Farm

Originally the site of a zoo and then re-developed as an urban farm by the Borough when they took over the site. Although substantially re-developed as part of the Phase 1 HLF works, the farm is closed due to a combination of vandalism, low visitor numbers and shortcomings in respect of the facility itself.

The LDA and Cape Manor have agreed a lease of the farm area for educational purposes and to make the facility open to the public.

Opening Hours

The park is currently open everyday from Monday to Sunday from 7.30am to half an hour after dusk, although as the Park is not fully enclosed it is not possible to secure it out of hours to prevent entry.

The Tidal Lakes (dinosaur area) remains closed until 9:30am and is closed an hour before the main park closes.

2.7 Existing management and maintenance

2

2.7.1 Management structure

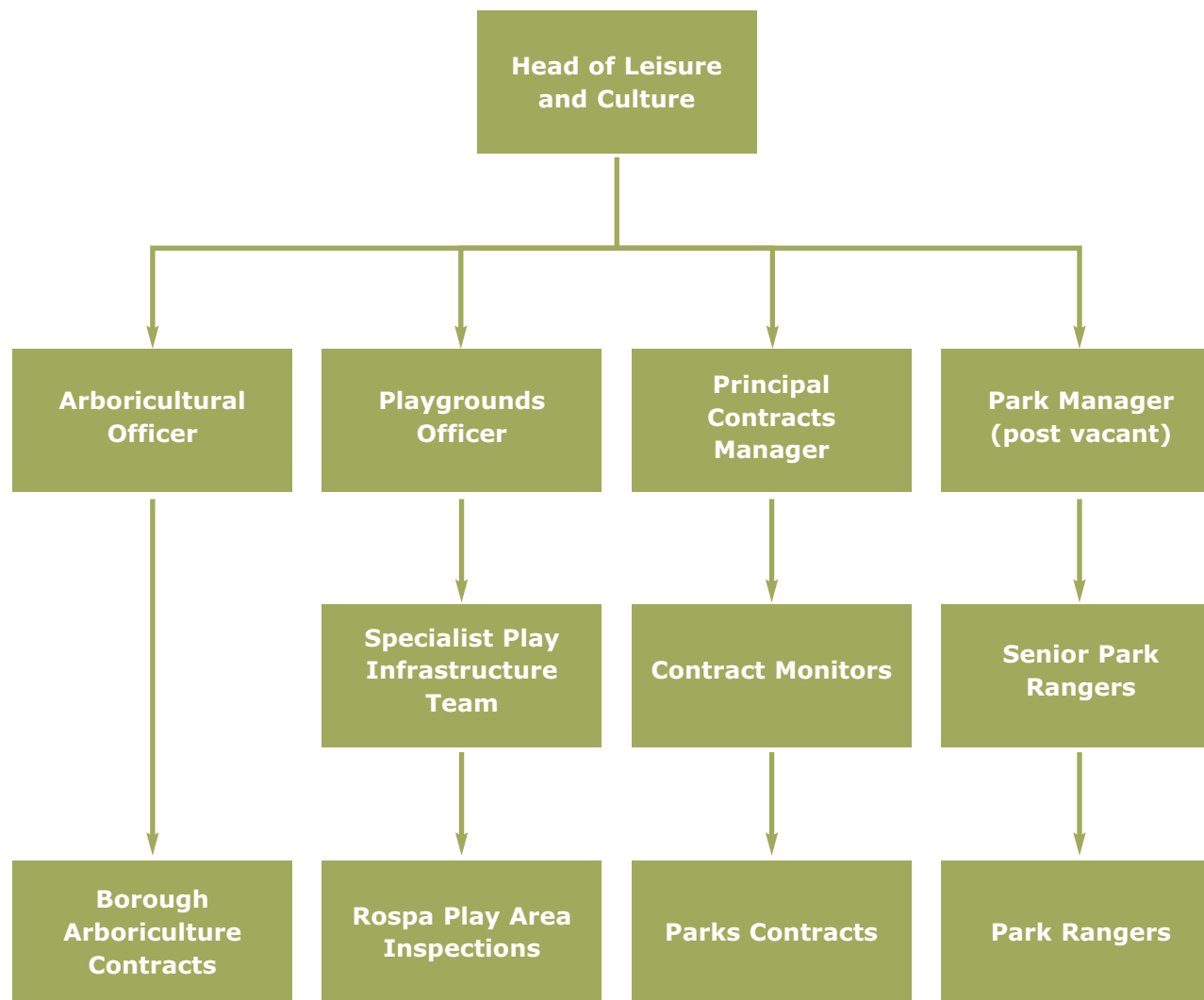
The majority of the existing park is managed and maintained by the London Borough of Bromley Environment and Leisure Services.

The Senior Parks Management Structure is predominantly based at the Borough Civic Centre, as summarised right.

The Park Manager post is identified in the current Park Management Plan⁵ but has not been filled since the resignation of the Manager in 2006. The Borough currently have no plans to replace this post.

There are ten Park Rangers (including two Senior Rangers), employed by the Borough, based in the Park from the Information Centre. This team currently includes five rangers transferred on the closure of the Farm. The Rangers undertake events and visitor management, education and interpretation, community outreach, Park security and some minor maintenance/repairs to park furniture and features. They operate a shift system in order to cover all Park opening hours and to provide additional resources during peak times and for major events.

⁵ Crystal Palace Park Management Plan 2004-2014 (2004)



2.7.2 Maintenance procurement

Current contracts for the management and maintenance of the park operated by the Borough are summarised below:

- Grounds maintenance Contract (inc. some cleansing duties) – English Landscapes Ltd
- Arboricultural Contracts – 5 year Condition Surveys, Inspections and Management
- Play Areas – Rospa inspections by Playsafe
- Planned Maintenance Contract – Premises, pest control, graffiti.
- Historic structures (Dinosaurs and Geological Illustrations – Eura Conservation Ltd).

Grounds maintenance is carried out through a term maintenance contract currently held by English Landscapes. The contract expires in December 2007. The Borough is currently re-tendering all Grounds Maintenance contracts across the Borough. Under the proposed new ten-year contract to commence in January 2008, Crystal Palace Park will form part of a wider parks and highways contract. The contract will contain break clauses to allow the Park to be taken out of the contract pending planning approval for the Masterplan and possible transfer of ownership.

The grounds maintenance contractor currently operates from the Maintenance Depot located off Crystal Palace Park Road in the north eastern section of the park. A team of seven is based in the Park, working to a full time Supervisor. The Borough Contract Administrator is based from the Civic Centre and also covers a number of other parks and open spaces across the Borough.

Tree condition surveys and works are undertaken by Contractors reporting to the Borough Arboricultural Officer.

The Borough Specialist Play and Infrastructure Team undertake daily surveys and inspections of play areas and repairs are undertaken by contractors.

The Planned Maintenance Contract addresses the maintenance of premises and other structures, together with items such as pest control, graffiti and vandalism.

All Park Contracts are administered by the Borough contracts team(s) based in the Civic Centre.

The NSC is managed by Greenwich Leisure Limited (GLL) for the LDA. Routine grounds maintenance, including the athletics track is carried out through an annual term maintenance contract by CSS Waterers administered by GLL. There is a small depot within the NSC area. The maintenance of buildings and structures is also carried out by

contractors, instructed on an as required basis by the NSC Manager. Arboricultural Works are not within the scope of the routine contracts and are instructed on an as needs basis.

Current maintenance standards throughout the Park are as defined in the respective maintenance contracts operated by the Borough and other lessees.

2.7.3 Community Involvement and Park Management

There is currently no formal structure or forum for community/stakeholder liaison and involvement in the management of the park. The Dialogue Process⁶ for the Park Masterplan, has generated a strong grounding for continued community involvement in the management of the park. The Park Working Group established in February 2003, provides a forum for ongoing stakeholder involvement both in the Masterplan process but could also be extended to address Park management.

There has been involvement by volunteer groups undertaking tasks in the management of the Park, but this has declined in recent years.

⁶ See Crystal Palace Park Statement of Community Involvement

2.7.4 Events

GLL manage events in the NSC and the Athletics Stadium. The Athletics Stadium hosts international, national, regional and local events and has also been used as an entertainment venue, most recently for the concert by Coldplay which attracted around 60,000 spectators over a two day period.

The NSC also hosts national and regional swimming and other dry sports events, and GLL promote the NSC facilities for local schools and club athletics events.

Other events in the Park are managed by the Ranger teams for the London Borough of Bromley. The Borough, with the support of the LDA, has recently revived a programme of summer concerts at the Concert Bowl, with a series of classical and popular concerts being held in August 2007.

Other national events held regularly include the various car runs from London to Brighton, which start from the Italian Terraces. These include the annual mini and commercial vehicle runs.

More local events include the annual fireworks display, schools cross country runs and other occasional day or weekend events such as the Victorian weekend held in the summer of 2007.

The Rangers also organise children's summer clubs, school visits and events such as natural history and heritage walks, craft workshops and talks.

2.8 The Existing Park Character – Summary

The section below provide an overview of the character and condition of the existing Park landscape. Detailed descriptions of the Park ecology, the tree stock, buildings and structures are provided in other supporting reports to the Masterplan. The Park is described by reference to the Character Zones which underpin the Park Masterplan (see Character Zones Plan overleaf).

2.8.1 Anerley Hill Edge (Zone A/1200)

This area includes areas of unmanaged scrub and woodland, a small formal garden and areas of mown grass. The formal garden is maintained to ornamental standards with close mown grass areas and a combination of bedding and shrub beds. The woodland and scrub areas are largely unmanaged. The existing Museum is located on the southern boundary and includes small gardened areas around the building.

2.8.2 The Palace Terrace (Zone B/1300)

The Palace Terrace currently comprises areas of self sown scrub and trees with mown and unmown grass. There are some remnant avenue trees (mainly planes and limes). The mown grassed areas in the central and southern sections are in

poor condition with large areas of bare ground. The northern sections are less intensively managed areas of secondary woodland and scrub.

The BBC Transmitter is located at the northern end of this Character Zone.

The unmanaged scrub and secondary woodland extends to the steeper slopes with areas of remnant stonework on the steep slopes between the Palace and Terrace sites.

2.8.3 The Italian Terraces (Zone C/1400)

The Italian Terraces combine areas of mown grassland with wide aggregate base paths. Grass cover and the paths are in poor condition in places.

2.8.4 Transitional Landscape (Zone D/1500)

The western section of the transitional landscape is predominantly under hardstanding for car parking. The eastern section, which forms part of the NSC land, is managed mainly as close mown grass. There are a number of mature specimen trees both within the NSC land and in the northern sections on the boundary with the English Landscape. There are a few small ornamental shrub beds mainly around the existing buildings on the NSC land.



Crystal Palace Park –
Indicative Masterplan
and Character Zones

2.8.5 The Central Sports Area (Zone E/1600)

The bulk of the Central Sports Area is taken up by the NSC building itself, together with the Athletics Stadium and other associated outdoor facilities, parking and structures. Soft landscape elements comprise areas of mown grass (mostly for sports), a few specimen trees and tall conifer hedges.

2.8.6 The Tidal Lakes (Zone F/1700)

The Tidal Lakes were the focus of the Phase 1 Restoration works completed in 2004. The restoration of the Tidal Lakes included extensive re-planting to reflect the character of different geological time zones and the planting of mixes of ornamental trees and shrubs and naturalistic areas to form a Woodland Garden. The current condition of these areas has been subject to a detailed review (see Section 2.9 below).

There is very limited marginal planting around the lake, largely due to poor water quality.

This zone also includes the Farm (currently unoccupied) and an area of semi natural woodland and parkland to the west of the Farm.

The character zone also includes the southern section of the plane avenue on the Paxton axis and the areas of mown grassland, bedding and planting around the café.

2.8.7 The Cricket Ground (Zone G/1800)

The Cricket Ground is predominantly a large open area of mown grassland, with trees, woodland and shrub planting on the perimeters. A number of new specimen trees were planted on the southern and eastern edges to the as part of the HLF scheme. A play area is located in the south west corner of this character zone. There are belts of ornamental and native shrub planting around the maintenance compound, One o'clock Club, lodge and car park on the north eastern edges of the park.

The character zone includes the northern section of the plane avenue on the Paxton axis.

The Information Centre is located on the road leading into the Park from Thicket Road.

2.8.8 English Landscape (Zone H/1900)

The main areas of the English Landscape comprise mown grassland with groups and individual parkland trees surrounding the concert bowl. The northern edges are predominantly unmanaged woodland with some ornamental shrubs, mainly rhododendron. The Intermediate Lake and the maze are located in the eastern sections of this character area. The more recent HLF funded rhododendron dell is described in more detail in Section 2.9 below.

Access to the Park can be gained from the Fishermans Gate, which was extensively replanted as part of the HLF scheme, and the Westwood Hill entrance.

The Crystal Palace Angling Association manages the Intermediate Lake under a leasing arrangement. The English Landscape also includes two other leased properties, the caravan site, which is mainly under hardstanding, but includes areas of ornamental planting and a number of significant specimen trees, and the Thames Water land which is predominantly mown grass.

2.9 Phase 1 Heritage Lottery Funded Restoration Works

The Phase 1 Park Restoration Scheme was funded through the Heritage Lottery Fund (HLF) National Heritage Memorial Fund, the Government Single Regeneration Budget (SRB) and London Borough of Bromley. The scheme was allocated in the region of £4.4 million and commenced on site in early 2001 and was completed in the summer of 2004.

The Phase 1 Scheme focused on approximately 40% of the total park area, with restoration of landscape and park infrastructure in three principal zones or areas of the park. These are summarised below and cross referenced to the Character Zones described in the sections above and the Park Masterplan.

A Landscape Performance Specification and Management Plan was prepared by Gustafson Porter Ltd (December 2003) which described in detail design concepts and maintenance schedules for the various landscape zones. The Phase 1 scheme has now been incorporated as part of the overall Park Grounds Maintenance Contract.

The condition of the landscape elements of the Phase 1 scheme has been reviewed as part of the preparation of this MMP (excludes the dinosaur statues and the Farm). The conclusions to this review are summarised below:

- Plant losses are high in many areas, with up to 100% failures in some sections. In total plant failures are estimated at around 50 % across the whole scheme. It is difficult to ascertain the exact reasons for failures in each individual area. It is thought, however, that the following have been critical:
 - Ground conditions during planting. It is known that the ground conditions were poor in some areas of the Tidal Lakes and there is also some debate as to the pH of the soil in the rhododendron dells around the Intermediate Lake. Runoff from the bound gravel paths would also be alkaline in character and would contribute to rhododendron losses.

Table 2 : Summary of Phase 1 Park Restoration Scheme

Phase 1 – Location	Masterplan Zone	Principal Elements
01 The Tidal Lake	Zone F – 1700 Tidal Lakes	<ul style="list-style-type: none"> ■ Marginal, edge and shrub planting to the lake ■ Re-laying of paths
02 Dinosaurs and Geology	Zone F – 1700 Tidal Lakes	<ul style="list-style-type: none"> ■ Restoration of the dinosaur statues and geological strata; ■ Planting reflecting geological time zones; ■ Re-laying of paths
03 Ornamental Gardens	Zone F – 1700 Tidal Lakes	<ul style="list-style-type: none"> ■ Predominantly ornamental planting reflecting transition from the woodland through to the waterbody edges ■ Re-laying of paths
04 Farm and Woodland Garden	Zone F – 1700 Tidal Lakes	<ul style="list-style-type: none"> ■ New farm building ■ Planting to create woodland garden and provide a screen to the NSC
05 Cricket Field	Zone G – 1800 The Cricket Ground	<ul style="list-style-type: none"> ■ New Maintenance Building ■ New tree and shrub planting to re-establish parkland character
06 The English Landscape Garden, the Dell and the Maze	Zone H – 1900 The English Landscape	<ul style="list-style-type: none"> ■ Planting of 1850s and contemporary rhododendron gardens or dells ■ Improvements to Fishermans Gate entrance and screening at and Westwood Hill entrance. ■ New water feature providing an overflow from the Concert Bowl lake to the Intermediate Lake

- Maintenance is carried out in accordance with the Park Term Maintenance Contract. It is not clear whether planting was watered during the establishment phase. A lack of watering would certainly have contributed to the high losses in relation to rhododendrons and also ferns on the islands, amongst others.
- Lack of control of waterfowl grazing in particular of ferns and perennials on the dinosaur islands.
- Water quality in the Dinosaur/Tidal Lake is constraining marginal vegetation
- There were major problems in controlling pernicious weeds in the woodland garden in particular during the early years, resulting in slow establishment of the perennials and bulbs in the woodland understorey
- The quality of the waterbound gravel paths is poor in places, with waterlogging and rutting, widespread in the winter months. The surface has been used on a number of steeply sloping paths, resulting in widespread runoff both to adjacent planting areas and runoff of soil and mulch from the beds onto paths. The fencing, erected following a Rospa inspection (see below) contributes to this waterlogging in some locations by preventing runoff from the paths.
- Visitor pressure in unfenced areas, in particular on the mounding with views to the Dinosaur Island and through the Woodland Garden, resulting in erosion of planting and desire lines.
- The character of the original planting is also being eroded through replacement planting from the term maintenance contract palette of plants, as opposed to species from the original planting specification.
- Some areas of planting, in particular shrub areas, are not being managed in accordance with original design concepts resulting in overcrowding and the loss of views.

This review identifies significant areas where the scheme has failed, and provides some suggestions as to the reasons for this failure. Without immediate intervention, the character of the scheme will be further eroded as current maintenance regimes and replacement planting are, in many locations, not addressing the design concepts and maintenance regimes recommended in the original performance specification and management plan⁷. The replacement of the waterbound gravel paths is proposed as part of the overall Park Masterplan.

Fences have been erected around the waterbodies, and much of the planting in Zones 1 to 4 of the Phase 1 Scheme, following an inspection of the

restored areas by the Royal Society for the Prevention of Accidents (Rospa), initially carried out in July 2003. The report⁸ required the erection of fencing to a defined standard in addition to signage and rescue equipment to address risks identified in the report. The removal of the existing fences is considered critical to public enjoyment of the scheme, but would require significant investment and the introduction of measures which could conflict with design objectives and affect the overall character of the scheme.

⁷ Gustafson Porter Performance Specification and Management Plan (September 2003)

⁸ Crystal Palace Park Water Safety Audit (Rospa July 2003)

3. VISION STATEMENT

The following Vision Statement was adopted by the LDA, London Borough of Bromley and English Heritage as part of the Draft Planning Framework Addendum dated February 2007:

“Crystal Palace Park is one of the most important 19th century urban parks in the country. It contains not only significant remains from its original Joseph Paxton design, but also later layers of history that reflect its changing use and stature over the years.

Our vision is to rejuvenate Crystal Palace Park as a metropolitan park, heritage asset, cultural, leisure, educational and recreational resource for the 21st century to meet the needs of local people and the public at large, while interpreting and conserving its national significance.”

The framework also sets out 5 core principles that will guide and planning, design and management of the Park:

- A revived metropolitan park and heritage asset
- A sports and events park
- A sustainable park
- An accessible and integrated park
- An educational park

These five core principles have underpinned the preparation of the Park Masterplan and the other supporting reports and strategies. The Management Structures and prescriptions set out in this MMP are designed to support the management and maintenance of the Park to achieve these 5 core principles.

4. THE PARK MASTERPLAN

The Latz + Partner Park Masterplan (below) would re-unite the whole Park. The Masterplan combines the preservation and restoration of historic elements with bold, innovative design to revitalise and rejuvenate the Park. The design concepts and realisation of the Masterplan are described in depth in the Design and Access Statement and other supporting documents to the Masterplan.

The principal elements of the scheme are summarised below:

- Re-uniting the Park and improving accessibility for all through the removal of the barriers between the NSC and the remainder of the Park, the removal of structures within the NSC land and improvements to circulation and path surfacing throughout the Park
- Preservation and renovation of the principal historic elements of the Park such as the Italian Terraces and the Paxton Axis
- The re-establishment of the drama of the Park with wide sweeping views from the Palace Terrace and Italian Terraces
- The rejuvenation of the Park through the provision of new facilities and the creation of new events spaces

- Improved facilities and supporting staff structures for interpretation, education and enjoyment of the Park
- The creation of a sustainable Park landscape which combines heritage and contemporary design with a strong emphasis on water management, biodiversity and habitat management

As described in previous sections the supporting reports to the Masterplan present the proposals as eight Character Zones. The Character Zones reflect the history of the Park and contemporary uses and issues. The proposed phased implementation of the Masterplan is primarily set out by Character Area, although it is also likely that different phases will incorporate elements from other areas, which may be led by funding or other priorities. Other elements, for instance improvements to the woodland areas, which will be achieved through management as opposed to capital investment, are also likely to be introduced in the short term.

The Park rejuvenation and levels of investment have also been presented by reference to the Park as a Revived Local, Enhanced Regional and potential National/International destination. The balance between these elements will also influence future phasing, levels of investment and the potential of the Park as a major destination.

In the context of the Masterplan, these Levels of Park Regeneration are summarised as follows:

- *Revived Local Park*: The Park continues to serve the local community, principally those living in the surrounding Boroughs, but also provides facilities and occasional events likely to draw visitors from the wider area
- *Enhanced Regional Park*: The Park provides facilities to serve the Capital and also draws visitors from outside London to major events
- *National/International Destination*: The Park represents a potential National and International tourist destination both for the facilities and stature of the Park itself and also with regard to the profile of events held regularly in the Park

The key elements and features attributed to each level of regeneration within the Park Masterplan are summarised on Table 3 (overleaf). These levels of regeneration have formed the basis for the Outline Cost Plan set out in Part 8 of this MMP.

Part 6 of this MMP describes Management Prescriptions by Character Zone for the Park Masterplan. This part of the MMP also describes the general character, design principles and key landscape elements of each Character Zone.



Illustrative Crystal Palace Park Masterplan

Table 3: Levels of Park Regeneration and Management



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level 1
Revived Local Park

- A: Anerley Hill
- B: Palace Site
- C: Terraces
- D: Transitional Landscape
- E: Central Area
- F: Lower Lakes
- G: Cricket Pitch

- PA/A&S
- Palaces Site Extras
- Palace Site Kiosks (6)
- Meeting Pavilion (16)
- Penge Gate Café (13)
- Green Waste Compound
- Dinosaur Lake
- Rockhills Public Facilities (8b)
- Park Ranger Building (10)
- Fishing Lake
- Water System
- Lighting
- UXO

- Paxton Fountain (E)
- Multi Playground Palace Site (D)
- Palace Fountain (B)
- ECO Palace Water Ponds 1/2/3/4 (C)
- Upper Walk (K)
- Lower Walk (N)
- Alcove Fountain (J)
- Sunken Garden South (M)
- Sunken Garden North (L)
- Water Tables (O)
- Terrace

level 2
Enhanced Regional Park

- Subtropical Dry Greenhouse (2)
- Temperate/Tropical Greenhouse (9)
- Sydenham Cricket Pavillion (12)
- Subway/Museum/Viewing platform (7)(excluded)

- Waterrill (U)
- Landscape Channel (V)
- Adventure Playground Part A/B (T)
- Rosary (A)
- CP Bell
- Concert Bowl (Q)
- The Maze (S)
- Cricket Pitch (X)

level 3
National/International Destination

H: English Landscape

- Tree Top Walk (R)
- Paxton Aquarium
- Mist Garden (G)
- Paxton Spring (I)
- Energy Tower (4a)(excluded)

5. ISSUES AND THEIR RESOLUTION

The condition of the Park today reflects of many decades of decline in the general infrastructure and also uncertainty over the long-term future for the park in terms of both overall vision and custodianship.

The Masterplan presents an aspirational vision for the Park. The process of developing the Masterplan has raised the profile of the Park and provided a

forum for engaging local stakeholders in the future. The delivery of the Masterplan would address the physical rejuvenation and re-unification of the Park and the conservation of the heritage asset.

Realisation of the Masterplan will require a commitment to the necessary levels of investment to manage and maintain the Park. The review of the existing Park set out in Section 2, supported

by more recent survey work, has identified a number of issues associated with the management and maintenance of the existing Park, which should be addressed prior to any consideration of options for the future stewardship of the Park.

The priority issues are summarised in Table 4 below:

Table 4: Issues and their Resolution

Issue	Resolution
Lack of figurehead or champion for the park following the resignation of the Park Manager in 2006	The Park Manager post must be re-instated as a matter of urgency. This post must be given the authority to administer and manage the Park.
Low profile of both the Park and the Park Management Team	The re-instatement of the Park Manager would be a significant step towards raising the profile of the Park Management Team. The existing Ranger Team does provide a public face for the Park, but lacks a clear remit in the management of the Park. Individual officers should be given defined roles in specific areas such as park maintenance, biodiversity, interpretation, visitor management and education.
Deterioration of recent capital investment in the Park, in particular the Phase 1 HLF Works	Partners involved in the original scheme need to formally review the scheme and agree a programme for re-instatement and/or re-design which ensures the scheme can be maintained to meet design intentions. This review should address water contamination issues and the fencing of the Tidal Lake. Weaknesses have been identified in the Farm and new Maintenance Building, which restricts their use and need to be addressed. Resourcing maintenance should build on opportunities currently being developed such as the relationship with Capel Manor and other skills and training schemes as part of the maintenance contract

Table 4: Issues and their Resolution

Issue	Resolution
Lack of a defined stakeholder forum	A key task for the re-instated Park Manager should be to establish a Park Stakeholder Forum, which builds on the Masterplan consultation process.
Deterioration of tree stock.	The 2007 tree survey has identified the need for significant investment (estimated £423,000 – see Appendix B) in order to bring the tree stock into an acceptable condition for a public park, and to address anticipated tree condition issues, in particular the deterioration of the Horse chestnuts. Implementation of these recommendations must be evaluated against current programmed works by the Borough.
The need to consider management of the park as a single unit.	At present large areas of the Park are subject to limited investment and management. These areas, principally the woodlands should be brought into active management in order to maintain these areas in a safe condition, reduce anti-social behavior and protect their biodiversity and heritage value.
Organisational Transfer	The Park Masterplan envisages the unification of the whole Park under one organisation. If there is to be a clean break between the current Borough/GLL led management and the establishment of a new organisation, the process of transfer must allow for appropriate management structures to be put in place at handover. Serious consideration should be given to the retention of some basic maintenance services eg current grounds maintenance contracts, through handover.
Site Specific Contracts	Crystal Palace Park merits consideration as an individual site. The current planned incorporation of the Park as a part of a wider parks and highways contract could be to the further detriment of both the profile of the Park and standards of maintenance.

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The majority of the above relate to the Park as it exists today and previous investment and commitments to the management and maintenance of the Park.

In the longer term Park handover and implementation of the masterplan would need to be accompanied by the development of expanded management structures, to support the investment and enhanced profile of the Park (Part 7).

6. LANDSCAPE MANAGEMENT PRESCRIPTIONS

The sections below describe proposed outline management prescriptions for the Park Masterplan. Section 6.1 describes whole site management prescriptions. Sections 6.2 to 6.9 describe outline management prescriptions for each Character Zone of the Park Masterplan. Each section below describes the following for each Character Zone:

- Design Principles adapted from the Design and Access Statement
- Key Landscape Elements or Features
- Management Objective
- Management Prescriptions for hard and soft landscape features

These prescriptions are strategic at this stage and set the principles to be applied in order to realise the design concepts described in the Masterplan. Management prescriptions and, ultimately, maintenance schedules would be prepared as part of the detailed design of each element or phase of the Masterplan.

Appendix C of this MMP describes typical baseline Performance Requirements which should be applied to a site with the status of Crystal Palace Park. The Performance Requirements address baseline safety and grounds maintenance standards, but do not provide any indication of

how design intentions will be realised or the quality and character of the Park landscape will be conserved and enhanced. The Performance Requirements have also been used as the basis for the outline costings set out in Part 8. Maintenance standards for the existing Park, at handover, should meet the desired standards and Performance Requirements in Appendix C and described below.

6.1 Whole Site Prescriptions

Heritage Features

Management and maintenance of the various heritage features throughout the Park will be essential to retention and interpretation of the Park history. The restoration of the Italian Terraces and the conservation and interpretation of other elements of buildings, structures and the wider Park are all central to the overall Park Masterplan.

The report prepared by Eura Conservation Ltd 'Restoration of Geological Illustrations and Statues of Pre-Historic Animals and Dinosaurs' (undated) provides a comprehensive design guide and recommendations for the maintenance of these elements of the Park. The recommendations of this report have been built into the prescriptions relating to the Tidal Lakes.

Until such time as restoration of other Park elements is progressed, maintenance is likely to be restricted to annual structural surveys and repairs for health and safety reasons.

The restoration and creation of views over and within the Park are key elements of both the Conservation Management Plan and the Masterplan. Management prescriptions and maintenance schedules will address the vegetation manage in order to maintain these views.

Once restoration of the various elements has been carried out, detailed management prescriptions and design guides for each element would need to be prepared.

Water Management

The proposed water system seeks to re-instate water as a connecting element through the Park, echoing this aspect of Paxton's Park, in a modern, sustainable management system.

All of the existing and proposed water features will be linked by a complex of channels, swales, ditches and underground pipes. The existing water bodies and new features, will contribute to storm water retention and purification through natural vegetative systems. All park features will be designed to maximise the potential to harvest rain water and run-off, to be fed into the Park Water System.

Water from the existing artesian borehole located in the eastern sections for the park, will also top up the system in conditions of extreme drought.

Management of the Water System and the individual features will be an integral element to the sustainable management of the Park and will incorporate:

- Management of water pumping systems
- Management of individual water features; fountains and cleansing of smaller ponds and hard landscape channels/rills
- Vegetation management and occasional desilting of semi natural ditches and swales
- Management of reed beds and other marginal vegetation
- Overall system and water quality monitoring

Waste Management

Waste management in the Park will combine measures to minimise production of waste, efficient collection schemes and procedures for the re-use and recycling of waste, on site wherever this can be achieved sustainably. As a minimum systems will meet the Mayor's Green Procurement Code (see Sustainability Statement, ZEF July 2007).

The proposed recycling area near to the Farm will provide for the recycling of all green waste on site. The Park Maintenance Yard will also provide facilities for the temporary storage of other materials to be re-cycled offsite (plastics, glass, etc). Separate bins for recyclable materials (plastics, glass, tin, paper) would be provided at key locations around the park to ensure as much material as possible is fed into the re-cycling system.

Timber produced on site through woodland management provides a potential renewable energy resource. This is an attractive option, but there is a need to understand the volumes and consistency of supply necessary to maintain supplies. The example below describes typical fuel and output requirements associated with a park visitor centre:

- Size of heater: 100 kW
- Output 300,000 kWh
- 140 tonnes of fuel per annum required
- Estimated supply from around 9.5 ha/per annum Short rotation coppice (willow) or over 15 ha/per annum traditional coppice or other sources.

Such systems at Crystal Palace Park would require supplementary timber/biomass supply from other sources.

Litter and Cleansing

- Litter picking to be carried out every other day to all areas of the Park.
- Additional litter picks may be required during summer months (daily operations)
- As Park use increases may require twice daily litter collections at certain times eg summer weekends
- Hard surfaces (excluding waterbound gravel and other re-inforced turf areas) to be swept on a weekly basis.

Litter bins/ Dog bins

- Bins to be emptied daily
- As Park use increases consideration would need to be given twice daily emptying
- Repairs and replacements as required. Where damage constitutes a safety hazard, repairs would be carried out immediately or bins removed and replaced.
- Bins to be cleaned once every month.

Signage and Interpretation Panels

- Repairs and replacements as required.
- Cleaned once every month as a minimum and on a reactive basis as required.

Vandalism/ graffiti

- As required by the KPIs any damaged structures would need to be made safe immediately. Removal of offensive graffiti is required within 24 hours.

6.2 The Anerley Hill Edge (Zone A/1200)

Landscape Design Principles

- To re-connect the Park to its urban surroundings by opening up the park edge from Norwood Triangle to Crystal Palace Station
- Creation of a broad, meandering path network, within informal tree planting
- Provision of clear, welcoming park entrances
- Improved accessibility and connection with the rest of the park and surrounding area.
- Use of urban influenced hard surfaces for areas of high usage
- Allow for mix of informal uses on a quieter, greener route up Anerley Hill
- Provision of new park facilities: toilets, catering, cafe

- Improved interpretation of the key historic features
- Conservation and interpretation of the remaining sections of the back wall of the Crystal Colonnade, running from the Low Level station
- Subject to tram link proposals, works to minimise the impact of the proposed tram on the park, the setting of historic structures and on archaeology
- Re-location of the Museum to a new building on Crystal Palace Parade and conversion of the existing Museum building to Ranger and Park Staff accommodation and offices

Key Landscape Elements

- Contoured grass mounds maintained as close mown grass
- Retained mature trees
- Hard surfaces predominantly tar and chip with areas of paving
- Trees maintained clear stemmed to allow user access and good visibility into the Park
- Proposed location for the South Greenhouse and the College and Lodge

Management Objectives

Maintenance of an open, welcoming series of entrances to the Park from Anerley Road and Crystal Palace Parade and areas for quiet, informal relaxation, with improved interpretation of the key historic features. Management and maintenance will seek to retain views into the Park beneath the tree canopies.

Management Prescriptions

Grassed Areas:

- All grassed areas would be maintained as close mown grass

Retained Trees:

- Surveys and Inspections in accordance with Performance Requirements
- Crown lifting and removal of epicormic growth to maintain clearances to provide views into the Park

New trees:

- Establishment maintenance during early years with particular emphasis on watering and formative pruning to achieve raised canopies

- Crown lifting and removal of epicormic growth to maintain views into the park

Hard Surfaces: Spray and Chip paths and Paving

- Sweeping and additional weed control as required
- Inspections and repairs

Leaf Clearance

- Leaf clearance in late autumn/early winter to all areas

Furniture, Signage and Interpretation panels

Regular cleaning, repairs and replacement as required

Furniture Type: Polymer bollards
Cast Iron Litter Bin
Concrete Benches

6.3 The Palace Terrace (Zone B/1300)

Landscape Design Principles

- Create a new sense of place in keeping with the grandeur & scale of the former Crystal Palace, which becomes the main entrance to the Park and the start of the Paxton Axis
- Formal tree planting on a grid which replicates the structure of the Crystal Palace, to create a series of 'rooms' reflecting the old palace layout; an untouchable footprint
- Re-open the key views along the former length of the nave and along the former centre transept to the Axis of the Park, beyond the Park in both directions, across London and over the Italian Terraces into the Park itself
- Creation of a clear and strong form to the eastern edge of the Palace Terrace through creation of a steep, reinforced slope to be planted with a mixture of grasses and small shrubs as an ecology habitat in ornamental patterns
- Improved connection to and visibility from Crystal Palace Parade principally through the main entrance to the Paxton axis

- Creation of a vibrant Park 'promenade' parallel to Crystal Palace Parade, connecting the five boroughs
- Reintegration of the current fenced off areas into the site wherever possible; review ecological value of area of scrub which has developed in the former caravan site in relation to the park and the wider ecological context
- Facilitate public use and events within a high quality, well designed and well serviced space, which relates to the park and the wider setting
- Provide for a variety of uses, including all day leisure, farmers' market, ice rink and fairs or other big events
- Conserve, protect and interpret surviving features including the curving walls and railings which formed the entrance to the centre transept and the vaulted subway'. Investigate uses which will allow greater access to and understanding of these features
- Exploit opportunities to investigate, record and interpret surviving buried remains of the Palace
- Subject to tram link proposals, work to minimise the impact of the proposed tram and interchange on the Palace Terrace, its setting and on archaeology

- Series of water features (Paxton and Palace Fountains) introduce movement, drama and fun to the formal landscape

Key Landscape Elements

- The main entrance to the Park leading from Crystal Palace Parade on to the Paxton Axis
- Tree planting on a formal grid pattern to be managed in order to retain high canopy clearances to permit access to events spaces and maintain visibility through the Palace Terrace and across the Italian Terraces
- Tar and chip path way forming the main walk with waterbound gravels and re-inforced grass areas beneath the trees
- Areas of native tree and shrub planting and meadow grass in the ecology area
- Water features, fountains (Paxton and Palace Fountains) and play areas beneath the trees
- Steep embankment (6 metres in height at 1:1 slope) forming the transition between the Palace Terrace and the Italian Terraces planted with a mix of grasses and low growing shrubs
- Proposed location for the new Crystal Palace Park Museum building
- Proposed Play Area

Management Objectives

Establishment and maintenance of a vibrant, contemporary open space. The southern and central sections of the Palace Terrace would be formal in character based on the tree grids with a combination of hard surfacing, waterbound gravel and re-inforced grass beneath the tree canopies able to cope with the anticipated heavy use of the area. The character and management of the various 'rooms' will be reflected by the use of these areas, but in general management of these areas will be less intense in the northern, ecological areas.

Management Prescriptions

Grassed Areas:

- Reinforced grass areas and grassland in the southern and central sections maintained as close mown grass
- Grassed areas in ecology areas maintained to a range of regimes with meadow areas cut annually or biannually and mown paths

Leaf Clearance

- Leaf clearance in late autumn/early winter to all areas with exception of the ecology areas (see below)

Retained Trees:

- Surveys and Inspections in accordance with Performance Requirements
- Crown lifting and removal of epicormic growth to maintain clearances to provide views into the Park

New trees:

- Establishment maintenance during early years with particular emphasis on watering and formative pruning
- Crown lifting and removal of epicormic growth to maintain views into the park

Scrub and Woodland (Ecology Areas)

- Management to retain varied structure and character to create range of habitats from woodland, through woodland edge and scrub and meadow grassland.
- Scrub and woodland edge management through rotational coppicing on rotations to be advised by Ecologist. Suggest no more than 1/3 of areas to be coppiced at any one time.
- Ecological monitoring on an annual basis with full repeat surveys every five years.

Re-inforced bank

The re-inforced bank would be steep and planted with a mix of drought tolerant, low growing native and ornamental shrubs and grasses. Maintenance of the bank will need to low intervention due to difficulties of access and, as a consequence, planting design and construction will be critical. The principal maintenance operation is likely to be occasional cutting back in order to maintain open views across the Italian Terraces.

Hard Surfaces:

Sweeping, weed control and repairs

Waterbound Aggregate Surfaces

Weed control and repairs/topping up as required.

Furniture, Signage and Interpretation panels

Regular cleaning, repairs and replacement as required

- Furniture Type:
- Polymer bollards
 - Cast Iron Litter Bin
 - Timber Benches
 - Concrete Benches

Heritage Feature

- Cleaning and maintenance of Paxton Bust

Water Features:

- Regular inspections, litter removal and vegetation management
- Emptying and cleaning once per annum
- Maintenance of fountains

Play Area

- Daily safety checks and annual Rospa Inspection
- Maintenance and repairs to equipment as required

6.4 The Italian Terraces (Zone C/1400)

Landscape Design Principles

- To maintain the impressive scale of the Italian Terraces
- Repair and conserve the retaining walls steps and balustrades in accordance with the Morton Partnership recommendations, including replacement of missing or failed sections of balustrades in stone or

reconstituted stone, to allow safe access throughout terraces and up to balustrades

- North and South Greenhouses to reflect the original setting of the Italian Terraces which were previously sheltered by the Palace and its wings.
- Keep as a wide, open space, retaining the very large scale and predominantly laid to lawn
- Pursue opportunities to investigate, conserve and interpret any buried remains of the sunken fountain basins and their service installations

Upper Terrace

- Retain views over the park
- Create terrace promenade path along full length of terrace, adjacent to balustrade
- Encourage quiet recreation – provide benches, etc
- Repairs to the retaining walls steps and balustrades and replacing lost staircases, which will aid accessibility and ensure that new elements are clearly distinguished from the old
- Interpret the missing elements through contemporary features reflecting the massing of the historic layout

Lower Terrace

- Repair and replant as high quality spaces, and manage as a site for display of horticultural innovation and sophistication
- Plant with a mix of lawn, ornamental grasses and meadow grass areas
- Encourage mixed uses, picnics, ball games, special events etc
- Improve access between levels by creating sunken gardens with on level entrances at the missing stairs in the lower wall and stair and ramp systems in the slopes of the sunken voids. These gardens contain quiet spaces for recreation and contemplation

Key Landscape Elements

- Broad flat terrace areas planted as meadow and lawns, with mown/mulch paths through the taller grasses and areas of ornamental grasses, principally around the Sunken Gardens
- Two Sunken Gardens set into the Italian Terraces providing access to the terraces from the transitional landscape
- Southern Sunken Garden based around patterns of formal 'parterre' hedging

- Northern Sunken Garden based around a central water feature
- Slopes of Sunken Gardens planted with ornamental, perennial planting
- The Italian Terraces would provide a focus for temporary garden/landscape exhibitions, art and sculpture
- Steep, close mown grass embankments linking the Italian Terraces and Palace Terrace
- Trees will combine retention of existing trees with planting mainly of cedar of Lebanon and magnolia

Management Objectives

The landscape treatment and management of the Italian Terraces will retain the open character and drama of this key historic area of the park. The large areas of open flat grassland will combine areas of ornamental grasses and meadow with areas for picnicking and recreation. Maintenance of the Italian Terraces areas will reflect both the formal, dramatic character of the terraces, with new features, principally the Sunken Gardens being a focus for more intensive maintenance, but with semi natural areas of meadow grassland.

Management Prescriptions**Grassed Areas:**

- Steep slopes between Italian Promenade and Upper terrace, maintained as close mown grass
- Informal picnicking and recreational areas on the Italian Terraces maintained as amenity grass with areas of meadow grassland and mown paths

Ornamental Grasses and Perennials

- Ornamental grasses cut back in late winter. Leave dead grass heads over the winter to provide winter interest and food source/cover for birds
- In early year will need to cultivate around the grasses (use of leaf mould/mulch) to control invasive weeds. As grasses/perennials establish this should be reduced to occasional hand weeding to remove pernicious weeds – bindweed, thistle, etc.

Leaf Clearance

- Leaf clearance in late autumn/early winter to all areas

Retained Trees:

- Surveys and Inspections in accordance with Performance Requirements

New trees:

- Establishment maintenance during early years.

**Parterre Hedging
(Southern Sunken Garden)**

- Trimmed twice per annum in June and September

Shrub Planting

- Maintained to meet performance requirements.
- Pruning regimes to promote healthy growth form, habit and flowering. Where appropriate pruning of berried species to be delayed to provide a food source during winter months

Hard Surfaces – Tar and chip paths and paving:

- Sweeping, weed control and repairs

Waterbound Aggregate Surfaces

Weed control and repairs/topping up as required.

Furniture, Signage and Interpretation panels

Regular cleaning, repairs and replacement as required

Furniture Type: Cast Iron Litter Bin
Concrete Benches
Timber Benches

Heritage Features:

Terraces and balustrades and statues to be inspected and maintained in accordance with recommendations of Conservation Architect

Water Features (Northern Sunken Garden):

- Annual vegetation maintenance
- Emptying and cleaning once every 1 to 3 years

**6.5 The Transitional Landscape
(D/1500)****Landscape Design Principles**

- The reintegration of the Transitional Landscape as part of the Park by reducing hard surfacing and parking areas and returning tarmac to turf
- Transition from the more formal landscape of the Italian Terraces to areas of naturalistic planting in the central and eastern sections of the Transitional Landscape
- Creation of a flowing landscape, through a series of terraces and grass slopes, similar to rice terraces, with varying shape and form
- Re-establishment of the Paxton Axis through the Transitional Landscape and re-contouring to raise levels at the base of the central steps on the Paxton Axis
- Retention of existing mature trees and additional tree planting, including orchards
- Recreation of the Rosary Mound and replanting as a park feature and viewpoint.
- Removal of the existing fences, hedges and visual barriers and reopening views between main features, including views from the rosary mound towards the terraces.

- Removal of ancillary NSC structures and location for the Central Pavilion
- Provision of two major integrated play areas including an adventure playground and skate park in the remains of the Lodge Tower
- Rainwater management features (eg open watercourses that fill in heavy rain)

Key Landscape Features

- The Paxton Axis runs through the heart of the Transitional Landscape. The Paxton Bust will be relocated
- Large swathes of meadow grassland set on a series of terraces and grassy slopes
- New ponds located either side of the Paxton Axis providing water storage and treatment. The Terrace Ponds will incorporate areas of reed beds and other marginal planting to provide a natural water filtration system
- Open swales/ditches running across the terraces providing drainage and feeding into the Park water system
- Water steps and rill running down the centre of the Paxton Axis

- New tree planting would combine native and ornamental species with a number to be maintained as multi-stemmed trees. Tree planting on the Paxton Axis would be more formal in character in the form of an avenue of plane trees. The transitional landscape also includes a proposed orchard
- The Rosary mound would be a contemporary interpretation combining shrub roses and herbs set on a spiral pattern
- Two new playgrounds (adventure play ground and skate park and a young children's play area)

Management Objectives

The formal character of the Paxton Axis will contrast with the more informal character of the much of the Transitional Landscape. The water features on the Paxton Axis will require frequent maintenance in order to retain the character and quality of the features. Management of the meadow areas and groups of trees will provide valuable habitat and colour to this area of the Park.

Management Prescriptions

Grassed Areas:

- Meadow area maintained to a range of regimes cut annually or biannually – regimes to be advised by Ecologist and will be dependent on seeding mixes. Intention will be to create varied colour and interest with spring, summer and late summer flowering meadow mixes.
- Perimeters to meadow areas, Rosary and stepped slopes maintained as amenity grass

Leaf Clearance

- Leaf clearance in late autumn/early winter to the Paxton Axis, Rosary and play areas only.

Retained Trees:

- Surveys and Inspections in accordance with Performance Requirements

New trees:

- Establishment maintenance during early years with particular emphasis on formative pruning to retain desired visibility into the park.
- Management of orchard trees – need for annual pruning to promote fruiting

Hard Surfaces: Tar and Chip and other surfaces

Sweeping, weed control and repairs

Waterbound Aggregate Surfaces

Weed control and repairs/topping up as required.

Rosary

- Shrub roses and herbs managed to create formal character to the planting and mound. Shrubs to be allowed to tumble over path edges.
- Managed to meet performance requirements for shrub areas

6

Furniture, Signage and Interpretation panels

Regular cleaning, repairs and replacement as required

Furniture Type: Polymer bollards
Cast Iron Litter Bin
Concrete Benches

Heritage Features:

Cleaning and maintenance of Paxton Bust.

Water Features:

- Monthly maintenance of stepped water features and rill to include cleansing and removal of debris
- Daily removal of litter
- Open ditches/swales – Vegetation management as required to maintain serviceability of water features. Occasional de-silting to be carried out on rotation to ensure swales retain varied character and habitat.

Play Area and Adventure Playground

- Perimeter hedges trimmed annually in later summer
- Daily safety checks and annual Rospa Inspection
- Maintenance and repairs to equipment as required

6.6 The Central Sports Area (E-1600)**Landscape Design Principles**

- To re-open views, particularly views across and along the Paxton Axis.
- Relocation and re-design of sporting facilities to allow greater access to and appreciation of the Park, making this area suitable for multifunctional activity, including sports, events, festivals, shows, etc
- Integration of the NSC and Athletics Stadium into the Park, by raising the ground level around these two structures
- Transformation of NSC into a multi-use 'pavilion' for indoor events, sports, etc with on level inside and outside connection
- Integration of the new Regional Sports Centre (RSC) into the Park by setting the building into the slope from the Transitional Area to the Central Sports Area
- Creation of landscaped spectator areas to reduce the extent and prominence of the stands around the athletics stadium
- Improved pedestrian and Park environment, by provision of parking set into the landform wrapping around the Athletics Track/Sports Arena

- Removal of the tall Leylandii hedges, fences and other barriers
- Use of sculptural plantings of hedges bordering the Paxton Axis
- Provide less obtrusive lighting
- Provide new children's play areas integrated into the landform above the Cricket Pitch to replace the existing play area

Key Landscape Elements

- Continuation of the water feature/rill along the central Paxton Axis
- Retained existing trees and new planting to re-establish the parkland character to the landscape
- The Sports Arena is far more closely integrated into the landscape with grass terraces and benching cut into the landform
- The hedge garden located on the Paxton Axis

Management Objectives

The landscape will be managed to re-establish the parkland feel to the landscape and to enhance the setting of the Paxton Axis, NSC and the sports arena. The bulk of the landscape areas will be managed as regularly mown grass with parkland trees.

Management Prescriptions

Grassed Areas:

- All grassland maintained as amenity grass

Leaf Clearance

- Leaf clearance in late autumn/early winter to all areas.

Retained Trees

- Surveys and Inspections in accordance with Performance Requirements
- Crown lifting and removal of epicormic growth to maintain views across the Paxton Axis and through the park

New trees

- Establishment maintenance during early years with particular emphasis on formative pruning to retain desired visibility into the park.

Hedge Garden

- Hedges managed at varying heights (0.5 to 1.5 m) to introduce variation and fun. Hedges trimmed up to two times per annum depending on species. Hedge height and maintenance will be guided by species selection

Hard Surfaces: Spray and chip paths

- Regular sweeping, weed control and repairs

Waterbound Aggregate Surfaces

- Weed control and topping up as required on an annual basis.

Furniture, Signage and Interpretation panels

- Regular cleaning, repairs and replacement as required

Furniture Type: Polymer bollards
Cast Iron Litter Bin
Concrete Benches

Water Features:

- Monthly maintenance of water rill to include cleansing and removal of debris
- Daily removal of litter from water rill
- Daily inspections of other water features and removal of material/debris blocking channels as required

Play Area

- Daily safety checks and annual Rospa Inspection
- Maintenance and repairs to equipment

6.7 The Tidal Lakes (F-1700)

The Phase 1 restoration scheme formed part of the overall Gustafson Porter masterplan for the park. At the heart of the scheme for the Tidal Lakes was the conservation and re-creation of the Dinosaur sculptures and the Geological Illustrations and the rejuvenation of the landscape setting to the Tidal Lakes and the Dinosaurs. The scheme incorporated planting to reflect the geological ages depicted by the statues and the Geological Illustrations, ornamental gardens on the banks above the lake and a woodland garden on the higher areas. The 2003 Management Plan describes the design concepts for various zones forming the Tidal Lakes and detailed maintenance requirements.

6

As described in Section 2.9 elements of the scheme have fallen into state of repair and the original design intentions are being eroded.

Design Principles

- Re-profile lake edges, replant and protect planting at lake edges until established, to allow fencing to be reduced or removed and lake's ecology to be improved.
- Extend woodland to Crystal Palace Station

- Removal of the fencing around the lake to be achieved through a combination of marginal planting and review of the management of lakeside vegetation
- Repair of the Paxton fountain basin and improve setting, providing space for access and seating, possibly as forecourt to farm complex.
- Follow existing maintenance plan for the statues and geological illustrations.
- Renovation of the existing planting through re-planting and, where necessary, re-design.
- Scheme for repairs to the coal measures and geological illustrations
- Improved drainage and path surfaces; consider a fully bound surface, particularly on steep slopes.
- Protection to new marginal and edge planting through the use of temporary protective fencing on lake edges during the establishment of new planting
- Bring new farm building into use with public access in association with Capel Manor
- New green waste recycling compound located to the north of the Farm
- Reintroduce pleasure boating to at least part of Tidal lake

Key Landscape Elements

- Restored gardens to the Dinosaur area, incorporating planting to reflect different geological time scales, new ornamental and woodland planting
- Water features including the cascades, the complex of lakes and islands and the Paxton pond
- New marginal planting to the Tidal Lake and renovation of other areas of planting associated with the Phase 1 HLF Restoration
- The Farm and proposed recycling area
- Southern section of the mature plane avenue on the Paxton axis
- Landscape setting to the proposed Cafe and Dinosaur Interpretation Centre.

Management Objectives

The Tidal Lakes will remain as one of the key visitor attractions in the Park. The high level of complex planting, in particular associated with the Dinosaur Areas requires a high level of maintenance and horticultural skills. Resources will be focussed on these areas through a combination of the in house gardening team and as part of the Capel Manor education/training schemes. The renovation of the Phase 1 HLF areas

will require a significant level of capital investment, to improve ground conditions, replace planting and in establishment maintenance. The establishment of marginal and edge vegetation and subsequent management will seek to address safety concerns raised by Rospa in order that fencing can be removed. Tree and woodland management will be carried out in accordance with the recommendations of the Gustaffson Porter Management Plan (December 2003) in order to maintain views and visibility.

Management Prescriptions

Grassed Areas:

- Main parkland areas managed as amenity grass
- Grassland beneath the woodland north of the Farm to be maintained as meadow grass

Leaf Clearance

- Leaf clearance in late autumn/early winter to paths, Dinosaur Interpretation Centre and areas of ornamental planting

Retained Trees:

- Surveys and Inspections in accordance with Performance Requirements

- Tree works as required by tree condition survey and to maintain views and visibility as described in the Gustaffson Porter Management Plan (Dec 2003)

Woodland Garden

- Understorey: Control of invasive species – bramble to retain woodland ground flora
- Paths: Paths to be surfaced with re-cycled chippings from woodland management operations
- Regeneration: Monitor and protect natural regeneration of native species of trees to promote new canopy trees.
- Opportunities to retain dead standing or fallen timber to be are maximised. Other arisings to be chipped and re-cycled on site in path surfacing, mulch, etc
- Safety and Security: Maintain good visibility through the woodland
- Ecological monitoring on an annual basis with full repeat surveys every five years

Tidal Lake

- Monitoring of water quality and measures to improve quality in the existing lake and long term supply from recommendations of future hydrological survey

- New marginal planting to be protected using temporary fencing eg heras style fencing during establishment
- Once established marginal planting to be managed through cutting back of selected areas, to promote re-growth in following seasons, control of invasive species and maintenance of views over the lake

Shrub and Herbaceous Planting

The Gustafson Porter Management Plan (December 2003) sets out detailed prescriptions and schedules for the maintenance of planting associated with the Phase 1 HLF areas. The proposed transfer of these areas from a term contract to a combination of an in house gardening team and as part of the Capel Manor education programme, should enable the more intensive horticultural maintenance necessary to be adopted in these areas. Detailed prescriptions will also be dependent on the nature of any re-planting/re-design of these areas. The prescriptions below provide for general standards to be achieved.

- Perennials/Grasses: Annual programmes of manuring beds, cultivation, staking, cutting back, dead heading, lifting and separating as required for individual species, in accordance with the detailed Maintenance Schedules (based on Gustafson Porter Management Plan).

Frost protection and other detailed pruning requirements to be itemised.

- Irrigation system to be installed on the Dinosaur Island and other selected areas to provide for improved establishment.
- Installation of temporary protective measures to deter grazing by wildfowl
- Beds to be managed to meet minimum performance requirements in relation to weed control
- Liaison with Rospa to ensure design and management solutions address safety concerns for the lake edges to permit the removal of safety fencing

6

Hard Surfaces Spray and chip paths

- Sweeping, weed control and repairs

Waterbound Aggregate Surfaces

- Weed control and topping up as required on an annual basis.

Furniture, Signage and Interpretation panels

- Regular cleaning, repairs and replacement as required

Furniture Type: Polymer bollards
Cast Iron Litter Bin
Concrete Benches

Heritage Features: Dinosaurs and Geological Illustrations

- Management, maintenance and repairs in accordance with the report entitled 'Restoration of Geological Illustrations and Statues of Pre-Historic Animals and Dinosaurs' prepared by Eura Conservation Ltd (undated)
- Annual cleaning with low pressure water lance
- Annual inspections and recording of signs of damage or decay and repairs in accordance with specification set by the Morton Partnership and currently addressed through the term contract with Eura Conservation Ltd
- Inspection of all illustrations, limestone cliff, cave and lead mine entrance for evidence of differential settlement, shrinkage, vandal damage or general movement
- Removal of rubbish from grilles to lead mine exit and cave

6.8 The Cricket Ground (G-1800)

Landscape Design Principles

- Reinstatement of the former cricket pitch, through levelling, drainage, re-instatement of the cricket table and maintenance of pitch
- Renovation of the memorial to HMS Crystal Palace
- Provision of additional tree & shrub planting to strengthen the existing character of this area
- Management to enhance ecological value in the surrounding areas
- Re-design of the existing car park to improve the security and connectivity to the park
- New water feature following the eastern edges of the Cricket Pitch

Management Objectives

Management will seek to strengthen the parkland setting to the cricket pitch. The pitch itself would be managed in partnership with a local club. The new play area would be integrated and managed as part of the landscape, in contrast to the existing play area. Boundary shrub planting will be managed so as to allow views into the park from properties on Crystal Palace Park Road.

Key Landscape Elements

- Re-instated cricket pitch and pavilion
- Management and re-inforcement of Plane avenue on the Paxton axis
- Re-inforced shrub planting on the north eastern boundary
- Re-located maintenance building and yard
- New water retention channel incorporating reed bed filtration systems and other marginal planting

Management Prescriptions

Grassed Areas:

- Main areas managed as amenity grass (with exception of cricket table)
- Potential to introduce meadow grassland regimes to perimeter areas, in particular woodland edge areas to the north and west of the cricket pitch
- Meadow grassland in the small ecology area between the properties on Crystal Palace Park Road

Leaf Clearance

- Leaf clearance in late autumn/early winter to all areas with exception of the less frequently mown perimeter areas (see above)

Retained Trees:

- Surveys and Inspections in accordance with Performance Requirements
- Tree works as required by tree condition survey and to maintain the avenue

New trees:

- Establishment maintenance during early years.

Scrub and Woodland (Ecology Areas)

- Scrub and management through occasional removal to retain mix of meadow grassland, scrub and trees
- Ecological monitoring on an annual basis with full repeat surveys every five years.

Cricket Pitch

Maintained to meet local club standards in partnership with cricket club.

Waterbound Aggregate Surfaces

- Weed control and topping up as required on an annual basis.

Furniture, Signage and Interpretation panels

- Regular cleaning, repairs and replacement as required

Furniture Type: Polymer bollards
Cast Iron Litter Bin
Concrete Benches

Water Features

- Regular removal of litter and debris, with particular attention to grilles and filter
- Management of reedbeds and other marginal vegetation by cyclical cutting and removal to restrict growth to defined areas
- Draining and cleaning as required

Play Area

- Daily safety checks and annual Rospa Inspection
- Maintenance and repairs to equipment
- Pruning of boundary hedging

6.9 English Landscape (H-1900)

Landscape Design Principles

- To enhance the nature of the classic park character of this area, through additional tree and shrub planting, and provide a background to the Concert Bowl
- Restoration of the Rockhills entrance and extension of the zone character to the top corner of the Park
- Provide interpretation of Paxton's former garden at Rockhills
- Improve the setting to the Concert Bowl through topographical change and reshaping of the lake
- Connect the water bodies by marshland zones with filtration function
- Open up views to the fishing lake through vegetation management in association with the Angling Club
- Re-establish woodland management to the main areas of woodland on the park perimeters
- Renovate the Maze and improve security
- Conserve, protect and interpret surviving features like the partly excavated remains

of the Aquarium and base of the north water tower. Investigate uses which will allow greater access to and understanding of these features

Key Landscape Elements

- Large areas of existing woodland and parkland trees, with enhancements focussed on retention of heritage trees and habitat enhancement through management and introduction of new features
- Rolling, parkland landscape provides the setting for the Concert Bowl
- Recent HLF planting in the rhododendron dell
- New wetland area between the concert bowl lake and the Intermediate Lake
- Improvements to the park entrances at Rockhills and Fisherman/Westwood Hill, with proposals include features such as community gardens
- Renovation of the maze
- Proposed location for the tree walk

Management Objectives

Management of the English Landscape will combine the retention and enhancement of the

parkland character of the English Landscape, particularly through the management of the tree stock and new planting in the areas around the concert bowl, with ecological enhancements through a combination of design and management. Management of this character area will need to strike a balance between these two overriding objectives, for instance with regard to the management of understorey which may provide valuable habitat be detrimental to the parkland character. Proposed management of the surroundings to the Intermediate Lake would need to be developed in consultation with the Angling Club.

Management Prescriptions

Grassed Areas:

- Main parkland areas managed as amenity grass
- Potential to introduce meadow grassland regimes to perimeter areas, in particular woodland edges around the maze and to the woodland on the northern boundary
- Occasional cutting and scrub removal from the wetland area

Leaf Clearance

- Leaf clearance in late autumn/early winter to the Concert Bowl surrounds and park entrances only.

Retained Trees:

- Surveys and Inspections in accordance with Performance Requirements
- Tree works as required by tree condition survey
- Removal of dense rhododendron and other understorey growth around selected trees on the perimeter of the Concert Bowl

New trees:

- Establishment maintenance during early years.

Woodland Management

- Understorey: Cyclical management of woodland understorey combining coppicing of selected 'coups' or areas on rotation and removal of undesirable species, principally rhododendron.
- Paths: Understorey to be cut back twice per annum up to 1 m back from the paths through the woods to maintain safe access. Paths to be surfaced with re-cycled chippings from woodland management operations
- Regeneration: Monitor and protect natural regeneration of native species of trees (principally oak, ash, beech) to promote new canopy and understorey growth throughout the woodland.

- Tree Management: Programme for the selective fell undesirable species such as sycamore and in order to create clearings within the woodland, which will promote natural regeneration. Where trees are to be felled for safety reasons, methodology to be assessed to ensure opportunities to retain dead standing or fallen timber are maximised Other arisings to be chipped and re-cycled on site in path surfacing, mulch, etc
- Safety and Security: Maintain good visibility through the woodland
- Ephemeral ponds: Occasional management to clear invasive scrub and to perimeter areas
- Boundary hedge: Trim 50% biannually to leave sections unmanaged to provide food source and cover during winter months
- Ecological monitoring on an annual basis with full repeat surveys every five years.

Intermediate Lake

- Selective removal of trees and understorey, principally on the lake edges
- Ongoing programme to monitor water quality with Angling Club

Hard Surfaces Spray and chip paths

- Sweeping, weed control and repairs

Waterbound Aggregate Surfaces

- Weed control and topping up as required on an annual basis.

Timber Decking (Intermediate Lake)

- Sweeping and clearing as necessary
- Inspections and repairs as required.
- Treatment – Only if required

Furniture, Signage and Interpretation panels

- Regular cleaning, repairs and replacement as required

Furniture Type: Polymer bollards
Cast Iron Litter Bin
Concrete Benches
Timber benches

Community Gardens

- Community gardens to combine fruit and vegetable gardens managed by local groups.
- Management of perimeter hedges and planting.

7. MANAGING ORGANISATION & MANAGEMENT STRUCTURES

This part of the MMP considers the options for both the overall managing organisation for the Park and the management structures considered necessary to support the level of investment to be made through implementation of the Masterplan. The LDA currently hold the option to take over the whole Park from March 2009.

7.1 Managing Organisation

There are many options and models⁹ for the organisation and funding of parks and open space management. Opportunities, benefits and the risks associated with different options are reviewed in both the Draft Business Plan produced by URS and the Draft Interpretation Strategy. The Park Outline Business Plan (Draft Report July 2007) sets out six options for Managing Organisations and considers the advantages and disadvantages associated with each option.

Key considerations in the assessment of options for the Managing Organisation are:

- Security of funding for the Park from the Park owner, partners and other sources

- The level of investment to be made in the Park and the facilities and infrastructure to be supported
- Ability to secure and ring fence Park income, either through grant aid or other commercial funding streams (events, sponsorship, etc)
- Degree of independence to be attributed to the Managing Organisation
- Effectiveness and efficiency of the Managing Organisation
- Accountability of the Managing Organisation to local stakeholders
- Ability of the Managing Organisation to secure the expertise necessary to manage and maintain the Park to the desired standards
- Overall risk to Park Owner and Managing Organisation

There are various options or vehicles which could be adopted as the Managing Organisation for the Park. Different organisations and underlying management structures may well be appropriate to different stages in the regeneration of the Park and the level of investment. The principal options are summarised below:

- **London Boroughs** The Park remains in local authority stewardship. LB Bromley currently has sole responsibility for the Park (with the exception of the leased areas). The proximity of the Park to other Boroughs and the perceived benefits to adjoining communities from a Park of the size of Crystal Palace Park with the range of facilities offered, would support a case for increased involvement and resourcing from these adjacent Boroughs. There are examples of Parks within London which straddle Borough boundaries and are managed and financed jointly. Retention of the Park solely within Borough stewardship would not be an option in the event that the Masterplan is to be implemented, as the Boroughs would not be able to support the levels of investment necessary. The principal benefit of the Park remaining in Borough stewardship would be that local government has long established structures for parks management. The principal concerns would relate to motivation for investment in the Park and the potential need to retain the current split in management responsibilities in relation to the NSC and the remainder of the Park.

⁹ See 'Paying for Parks: eight models for funding Green Space (CABE Space Oct 2006) and 'Is the grass greener? Learning from International innovation in green space management (CABE Space July 2004)

- **London Development Agency** New owner (LDA) takes on the traditional local authority role and is directly responsible for the administration and management of the whole Park. The principal value of this approach would be that the stewardship of the Park is brought under one organisation. Disadvantages would relate principally to the fact that the Park would be managed largely in isolation. Management structures necessary to support the Park would need to be established. Many of the more successful examples of centrally managed city parks, such as in Paris, are based on the management of all parks across the city, rather than one or a limited number of few individual parks.
- **Partnerships** There may be opportunities for a new owner to work in partnership (either formal or informal) with other organisations or to retain some services currently supplied by the Boroughs eg arboriculture or grounds maintenance. Such arrangements would, inevitably, lead to more complex management structures and the need for clarity in the definition of the responsibilities and liabilities of the various parties
- **New Park Authority** The Lee Valley Regional Park (LVRP) Authority which is funded through both central and local Government is the principal examples of this approach in the Capital. LVRP, or a similar independent organisation, is being considered as one of the vehicles for the management of Legacy Park. A new authority would retain a strong degree of independence, but would need strong political support at national, regional and local level. It is unlikely that Crystal Palace Park in isolation would merit the establishment of a separate Park Authority.
- **Independent Trust or Company** Perhaps the most successful example of an independent trust with responsibility for a single park is the Central Park Conservancy in New York. From small beginnings the Conservancy now generates significant income through partnerships and sponsorship, in addition to the baseline income provided by the city. Establishment of a separate trust or company would be reliant on some form of guaranteed financial support (similar to the Central Park Conservancy) or a dowry. A trust would benefit from a strong level of independence and may be more attractive to stakeholders as the Park is taken out of government/local authority management.

Risks would relate principally to the potential failure of the organisation and the fact that any independent organisation would be answerable to trustees or shareholders. Unless part of a wider organisation, a separate trust or company would also need to set up management structures to support the Park.

Options based on the establishment of an independent Managing Organisation may enhance opportunities for fund raising and should also provide for more security in the ring fencing of Park revenue budgets. An independent body may also be seen as more responsive to local issues and the views of stakeholders. There is, however, an associated element of greater risk to the Park owner (assuming the Park remains in the ownership of regional or local government) in that with greater independence there may be less direct control over the actions of the managing organisation. Terms of Reference would need to be clearly defined to ensure that management of the Park aspires to realisation of the Park Masterplan, the Vision and Core Principles.

7.2 Park Management Structures

This section describes potential Park Management Structures at various stages in the Park regeneration (see Table 3, Section 4). The long term objective for Park management must be to

establish a strong team within the Park, with the authority and resources to manage the Park. The re-establishment of the Park Manager is essential.

The nature of the overall Managing Organisation would influence the degree to which some skills or staff posts could be centralised eg events, marketing or other specialist advisory roles. The Management Structures in this section illustrate typical staffing levels and options for the procurement of surveys, inspections and maintenance, which it is considered would be required to support the management of the Park, irrespective of the overall Managing Organisation. This management of the Park is considered at three key stages:

- *Existing Park:* This section considers changes considered necessary to manage the existing Park as a single unit, unifying the areas currently managed by LB Bromley and the NSC land managed by GLL
- *Revitalised Local Park.* The management structure appropriate to the unified, existing park landscape would build towards the revitalised local Park providing a structure for enhanced management and maintenance of the Park landscape and to develop interpretation, visitor and events management in the Park

- *Enhanced Regional Park:* The elevation of the Park towards the status of Enhanced Regional Park and potential national or international destination would demand a more complex management structure and should support more specialist skills in house. The potential elevation of the Park to a national/international destination is also considered.

Park Management Structures are shown on organograms (Figures 1 and 2 overleaf) illustrate typical staffing levels and options for maintenance procurement, to support the various levels of Park regeneration. These structures have been used as the basis for costings in Part 8 of this MMP. The Management Structures should not be regarded as fixed, but are presented as examples of the level of investment and staffing appropriate to the various stages of the Park rejuvenation. In reality structures would change progressively as Park rejuvenation proceeds.

Existing Park

Part 5 (above) considers issues and their resolution which should be addressed prior to any consideration of a handover of the Park from the current Borough ownership and stewardship. The continued stewardship of Crystal Palace Park must be led by a Park Manager based in the Park. There is also a need to review the existing Rangers teams

in order that these posts are focussed on the delivery of particular aspects of park and premises management and maintenance, events, visitor management, interpretation and education.

There are examples of London and other major urban parks of a similar scale and complexity which are effectively managed through a combination of site and centrally based staff. Battersea Park is of a similar scale to Crystal Palace Park and has been the subject of substantial recent investment from a variety of sources. The teams based in the park include senior and site specific park management staff, events and parks police. Other services such as Borough ecology are also based from the park. Other services such as arboriculture and some contract administration remains centrally based.

Revitalised Local Park

The Management Structure shown in Figure 1 assumes that the whole of the Park would be brought under a single Managing Organisation at handover. The Structure seeks to build a strong management base in the Park. The degree to which some individual posts or services could be delivered centrally eg posts with a Borough or possibly London wide remit would be dependent on the nature of the overall Managing Organisation. The preparation of the Masterplan has been built

on close stakeholder involvement and community consultation. This approach must be carried forward to the management and maintenance of the Park.

Initially the team may need to be based from the existing Information Centre and other park buildings, but in the longer term would be based from the Dinosaur and Woodland Interpretation Centres and the Park Ranger Building. This Management Structure refines the current structures operated by the LB Bromley and, to a lesser extent GLL, in three main areas:

- Parks staff have dedicated areas of responsibility
- Key staff are to be based in the Park
- Specialist maintenance tasks are brought in house rather than contracted out

Three key senior management posts are identified in this Management Structure:

Key Posts:

Park Manager

Team Leader: Community and Premises

Team Leader: Rangers and Contracts

The Park Manager would fulfill the following roles:

- Principal point of contact and authority in the management of the whole Park
- Co-ordinator of all park management and maintenance procurement with authority to manage park budgets on a day to day basis
- Report directly to the Park Managing Organisation and forms the principal point of contact to the major stakeholder groups
- Principal co-ordination role in management of the park as part of the phased implementation of the masterplan. The Park Manager would be a member of the Masterplan Project Team and would co-ordinate activities in relation to the existing Park during construction, mainly with regard to partial closures of areas of the Park
- Close liaison with Marketing and Fund Raising Teams/Officers and GLL in developing the profile of the Park as an events venue and promotion of the facilities offered by the Park

Initially it is envisaged that the Park Manager would be supported by two Team Leader Posts, which would effectively mirror the existing Senior Ranger Posts. The two Team Leaders would have specific responsibilities for particular aspects of Park Management.

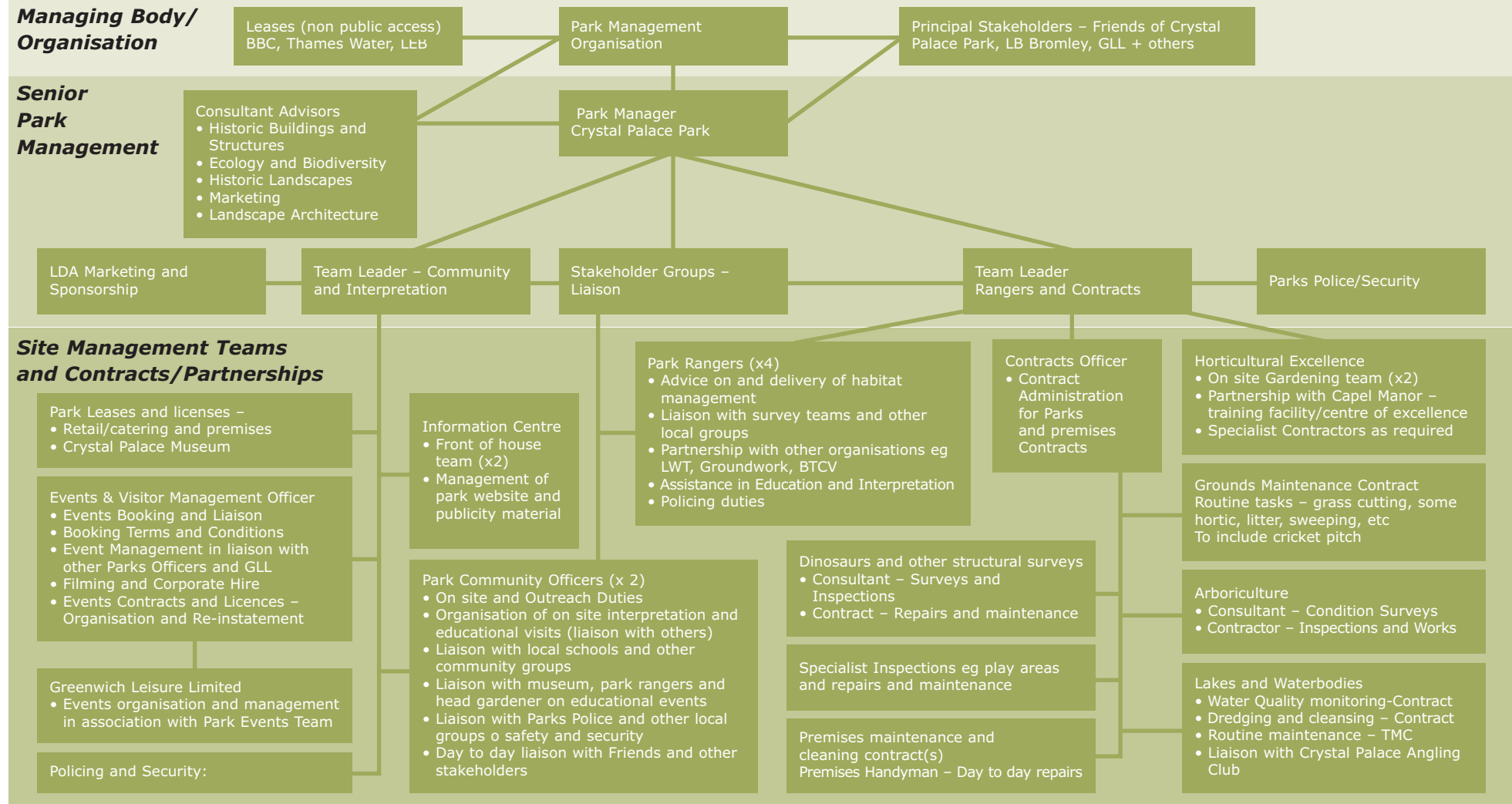
The Team Leader (Rangers and Contracts) would initially head a team comprising:

- Park Rangers (4 no.)
- Contracts Officer
- Gardeners (2 no.)
- Handyman

The Rangers Team would focus on management of semi natural areas of the Park, principally the woodlands and other ecology/habitat areas. This role would include:

- the development of partnerships with conservation and other volunteer organisations in undertaking woodland and other habitat management tasks
- co-ordination of ecological surveys
- co-ordination of educational activities and interpretation with particular regard to ecology and some heritage aspects
- day to day policing and visitor management duties

Figure 1: Typical Full Park Management Structure – Revitalised Local Park



The Contracts Officer should be based in the Park and would administer all parks maintenance contracts. It is anticipated that all contracts would be Park specific. The principal contracts to be set in place are:

- Grounds maintenance: Term maintenance contract for all hard and soft landscape elements (with the exception of elements of the Tidal Lakes – see below). This service could be delivered through a continuation of the existing term contract, possibly working to a revised specification to reflect desired changes to current maintenance regimes and procurement in key areas such as the Tidal Lakes (see below).
- Arboriculture: 5 year condition surveys and annual inspection (Arboricultural Consultant); term arboricultural maintenance contract (Arboricultural contractor). As above this service could be provided through an extension of one of the existing Borough contracts.
- Water system: Maintenance of the water system (storage, pumping and features); water quality monitoring
- Play areas: Rospa Inspections.

- Historic Structures: Annual structural condition surveys and maintenance/repairs. This service could be provided through an expanded form of the current contract with Eura Conservation Ltd.

- Premises: Annual Structural Condition surveys and maintenance/repairs

It is suggested that specialist horticultural maintenance tasks associated with the Phase 1 HLF Scheme (principally the Tidal Lakes Character Zone) could be taken out of the routine grounds maintenance contract and undertaken by an in house gardening team, in association with Capel Manor.

Management of the existing buildings and premises would be co-ordinated by the Contracts Officer, reporting to the Team Leader (Rangers and Contracts).

The Team Leader (Community and Interpretation) would initially head a team comprising:

- Park Community Officers (2 no.)
- Events and Visitor Management Officer
- Sports Manager
- Information Centre Front of House and admin (2No.)

Park Community Officers would have a specific remit for day to day stakeholder liaison, community outreach, interpretation and development of educational links with schools and other local groups.

Initially a single Events and Visitor Management Officer would be appointed to co-ordinate and develop a programme of events and visitor activities in the Park. This post would work closely with GLL with regard to major sporting and other events to be held in either the NSC or the Athletics Stadium. It is anticipated that the athletics stadium will continue to provide a venue for major athletics and other events leading up to 2012. Initially it is proposed that Marketing and Sponsorship be dealt with centrally either by the Managing Organisation or through consultant advisors.

The Sports Manager would have a remit to develop sports activities in the Park, with regard to both major events and use of the Park facilities by local schools, colleges and other groups. This post would work closely with both GLL and the Events and Visitor Management Officer.

Leases and Policing

The existing leases would transfer to any new Managing Organisation. In the Management Structure shown in Figure 1, administration of the principal park leases falls within the remit of the Park Manager. Day to day liaison on leases forming part of the public park (Café, Museum and the Intermediate Lake) would fall within the remit of the Team Leader (Community and Interpretation).

It is anticipated that Policing would be carried out through a service level agreement with the Metropolitan Police, supported by Community Police Officer and Park Rangers.

Enhanced Regional Park

The typical Management Structure relating to the Park as Regional or potential National/International destination would be built up progressively as the Park Masterplan is implemented (see Figure 2). The structure builds in more staff specialism and brings more services in house. This structure is more akin to that operated by a body such as The Royal Parks Agency as opposed to the more traditional local authority model.

The principal areas developed from the Park Management Structure for the Revitalised Local Park (Figure 1) are as follows:

- Appointment of Crystal Palace Park Chief Executive Officer
- Appointment of two Park Managers with remits for Community/Interpretation and Landscape
- Expanded Leadership Team of four staff, each with a specific remit but working as a team to promote all aspects of the Park rejuvenation
- Expanded Events and Marketing Teams and full time Marketing and Sponsorship Officer
- Full time Premises Officer to support the significant number of new buildings associated with the Park

The structure does not address the staffing of the following:

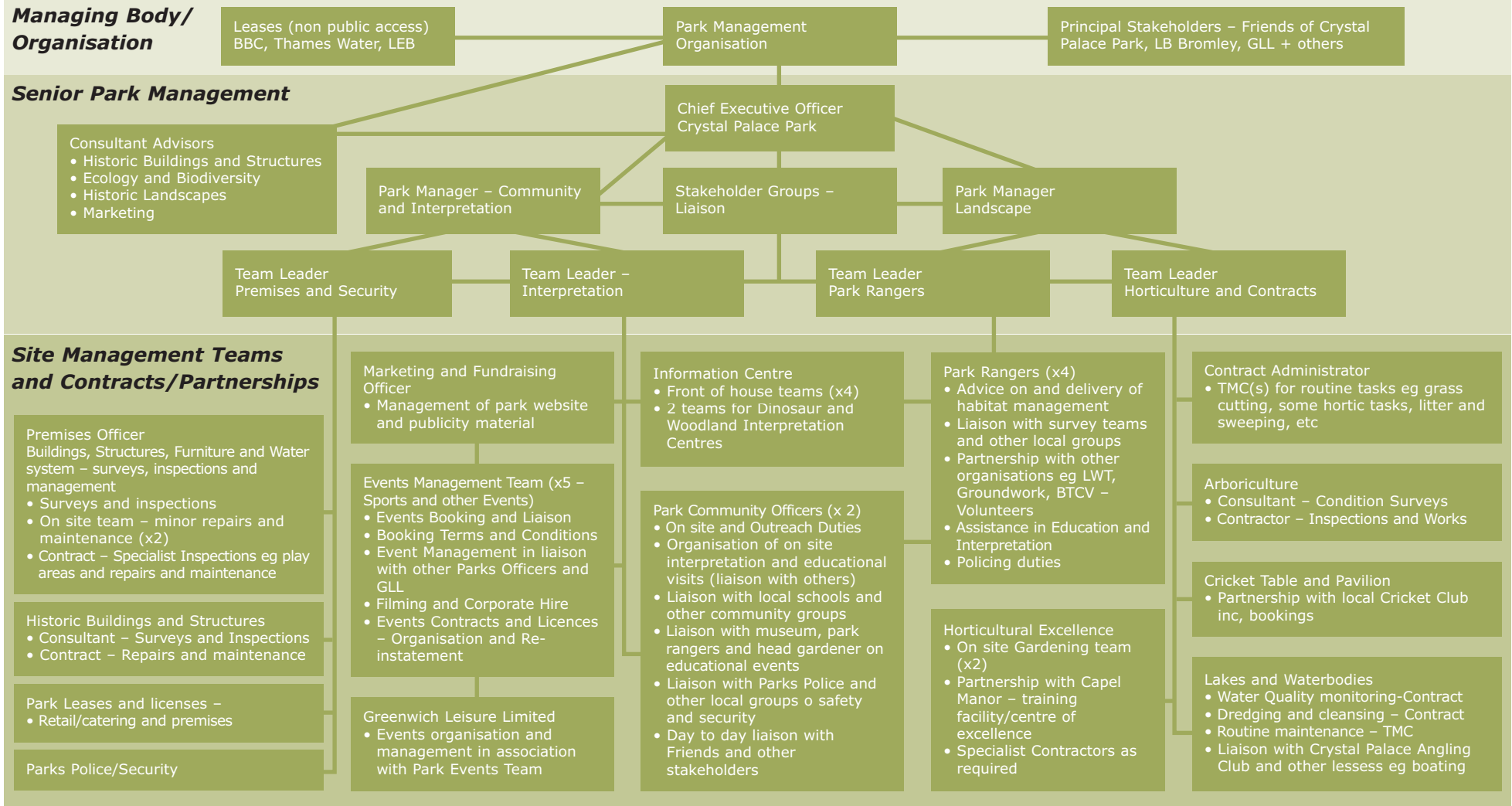
- The new Crystal Palace Park Museum
- The South and North Greenhouses
- The Central Meeting Pavilion
- The NSC and proposed Crystal Palace Regional Sports Centre

The Park Interpretation Strategy and the Business Plan assess the options for the staffing and management of these key buildings in the Park. An allowance is made in the organogram for additional front of house staff, which it is envisaged would be based in the Woodland Interpretation Centre forming part of the Park Management Team.

The staffing levels reflect the following:

- The structure in Figure 2 envisages that the Park would be managed either by the LDA or by an independent Managing Organisation, as discussed in Section 7.1 and would not, therefore, benefit from support services which might otherwise be provided by other local or regional authority departments
- The structure seeks to bring a number of specialist skills in house, in order to achieve desired standards, greater flexibility and economies
- The events and marketing/fundraising team are designed to support and promote the profile of the Park and to generate income which would be re-invested in the Park

Figure 2: Typical Full Park Management Structure – Enhanced Regional Park



The major change from the local park model (Figure 1) is the appointment of a Park Chief Executive Officer, supported by two Park Managers. This level of investment and complexity of structure would only be supported by the full rejuvenation of the Park in accordance with the Park Masterplan and the corresponding development of the Park as an income generator through events, leases, franchises and the operation of catering and other retail outlets within the Park. The potential to develop these aspects of the Park and the levels of risk associated with such investment are reviewed in the Park Interpretation Strategy and Business Plan.

There is a careful balance to be struck between promotion of the Park as an events venue together with other fundraising which would be necessary to support the Park, and protection of the Park as a heritage, biodiversity and landscape resource. Events Teams are now an integral part of many parks management teams. In the more successful examples of events management in parks the Events Team work closely with Park Managers in the licensing, administration and management of Events. Good examples of this approach in the capital include those operated by the Royal Parks, which generated upwards of £8 million income in 2005/06 and Battersea Park which combines a dedicated events space within the Park with rapidly expanding areas such as use of the park as a filming venue.

7.3 Phased Handover and Management Structures

It is emphasised that the Management Structures set out in this section describe typical structures to support the respective levels of investment made in the Park. The issues associated with any transfer in Park stewardship will be complex and will require a substantial lead in time.

The Park Manager(s) would form part of the overall Masterplan Project Team and would manage partial closures of the Park, provide information to Park users and establish and manage alternative circulation, access or facilities within the Park.

The phased handover of areas post construction can introduce difficulties in contract administration, in particular if areas are subject to extended defects liability periods. The objective would be to ensure handover of all tasks to Park maintenance staff as soon as possible on completion. For this reason the involvement of the Park Manager would be critical as part of the Masterplan Team, to ensure Parks staff are content with the condition of handed over areas.

All completed areas would be supported by a detailed Management Plan and supporting maintenance requirements and design guide.

8. OUTLINE COST PLAN

This MMP focuses on the management and maintenance of the hard and soft landscape elements of the Park from the existing landscape through to realisation of the Park Masterplan.

Table 5 below provides a summary of the current Park annual maintenance budget, as administered by the London Borough of Bromley.

The NSC expenditure on Grounds Maintenance (excluding major structural works) is of the order of £100,000 per annum (this figure excludes occasional works such as arboriculture). The figures above set out annual maintenance costs and not whole life costs.

The above give a total current annual grounds maintenance and arboricultural cost of approximately £360,000 for the whole Park (LB Bromley + NSC)

The Cost Plan for the proposed Park Overleaf) draws on cost information from the following:

- The Crystal Palace Park Masterplan Cost Plan prepared by Davis Langdon (Issue 4, 1st September 2007) sets out the capital cost plan for implementation of the Masterplan. Costs and area estimates set out in the plan have been used to prepare annual landscape maintenance budgets and whole life costs for hard and soft landscape elements of the Masterplan, at the various stages of Park regeneration

Table 5: Crystal Palace Park Annual Maintenance Budget – London Borough of Bromley

Budget 2006/07	Expenditure
Staffing	298,000
Premises	107,000
Transport	9,000
Supplies and Services	58,000
Grounds maintenance and Arboriculture	260,000
Other Support services	162,000
Other recharges	1,000
Park Maintenance Costs	£895,000
Capital Financing	£440,000
Total Expenditure	£1,335,000
Income (Leases/catering and other charges)	(£192,000)
NET PARK EXPENDITURE	£1,143,000

- The Whole Life Costing – Crystal Palace Park report prepared by Davis Langdon (14th August 2007) sets out anticipated Whole Life Costs for all existing and proposed buildings in the Park (see Table 6 below).
- Recommendations from the Morton Partnership in respect of the survey, monitoring and maintenance of the Italian Terraces, the Dinosaurs and the Geological Illustrations.
- Tree Condition Survey and Tree Maintenance Cost Plan prepared by JCA Ltd. The cost plan identifies a programme of remedial works to be completed over a five-year period and then defines an anticipated annual maintenance budget (see Appendix B).
- Park Annual Landscape Maintenance Cost Plans prepared by Land Management Services Ltd.

All of the above are issued under separate cover. Table 6 provides an overview of the Whole Life Costs associated with the various buildings in the Park, drawn from the Davis Langdon Whole Life Costing report.

Table 7, below sets out anticipated Whole Life Costs for the management and maintenance of Crystal Palace Park, drawing on the findings of the above reports.

Table 6: Buildings Calculations and Level of Park Regeneration			
	Revived local park	Enhanced regional park	National/ International destination
South Greenhouse		73050	73050
Existing museum building to be converted to Ranger offices	33527	33527	33527
New Site Kiosks x 3	20664	20664	20664
Crystal Palace Park Museum		142392	142392
Central Meeting Pavilion	2058	2058	2058
Dinosaur Interpretation Centre	63567	63567	63567
New Cricket Pavilion		9873	9873
Existing Farm Building			
North Greenhouse		114690	114690
Tree Top Walkway			13875
TOTALS	£119,816	£459,821	£473,696

Source: David Langdon Whole Life Costing Report (14th August 2007)

Table 7: Crystal Palace Park Masterplan – Annual Maintenance and Life Cycle Costs

Item	Existing Park at Handover	Revived Local Park	Enhanced Regional Park	National/ International destination
Grounds Maintenance (1)	425000	660389	691811	691811
Hard Landscape Repairs and Replacement	Inc in buildings	429880	429880	494200
Furniture Replacement	Inc in buildings	63280	63280	70560
Arboriculture (2)	76800	40000	40000	40000
Buildings and Structures (3)	107000	119816	459821	473696
Services – Allowance	55000	75000	80000	80000
Water System – Allowance	–	15000	20000	20000
Water Quality Monitoring – Allowance	1500	2000	2000	2000
Dinosaurs and Geological Illustrations	12000	12000	12000	12000
Staff Costs (4) (5)	333000	435000	815000	875000*
Policing – Park Allowance	120000	180000	180000	250000
Italian Terraces – Inspections and repair	25000	25000	25000	25000
Surveys and monitoring – Ecology	1500	1500	1500	1500
TOTALS	£1,156,800	£2,058,865	£2,820,292	£3,035,767

- (1) Assumes maintenance of whole park
(2) Assumes annual works from Appendix B. Costs spread over 6 years
(3) See Table 6
(4) Costs at handover existing + Park Manager @ £35 k inc. overheads
(5) Other staff costs see Appendix D
* Staffing cost includes allowance for museum staff

Estimates are not included for Park income, currently just under £200k, which would offset expenditure costs, provided these are ring fenced to the Park. The Draft Park Outline Business Case (URS July 2007) identifies the potential of both the existing Park facilities and the proposed facilities as venues for events and for private hire. The potential for income generation will increase as both the profile and the range of facilities offered within the Park increase.

9. MONITORING AND REVIEW

This MMP sets the framework for the implementation of the Masterplan and the structures to be set in place with respect to the management and maintenance of the Park. The plan focuses on the establishment of standards, principles and structures to achieve the transition from the existing Park through the various construction phases and in relation to different levels of investment from Local, through Regional to National/International Destination.

Until handover, the existing 2004 Management Plan will remain as the operating Park Management Plan, as it relates directly to the current Management Structures and operations in the Park. Management and maintenance of the NSC land will continue under the administration of GLL.

This MMP would be applied to the site on the handover of land ownership from the LB Bromley to the LDA or other agreed Managing Organisation.

The prescriptions described in this MMP are based on the outline proposals for each Character Zone, as shown on the Masterplan. These prescriptions will be refined as detailed designs are prepared for each Character Zone. It is anticipated that an overall full Park Management Plan will be built up over time as the Masterplan is implemented. Park Management Structures would also be established progressively in order to support the ongoing capital and revenue investment in the Park.

As such this MMP does not define target dates for the completion of management tasks or operations. The plan defines management structures and standards which are considered essential to the realisation of the Masterplan and protection of any capital investment made in the Park.

All aspects of detailed design, management and maintenance will be assessed against the overall standards defined in this MMP. The MMP should therefore be reviewed on the completion of each phase of the Park rejuvenation in order to ensure that these standards are being applied.

Programmes for survey, monitoring and review of individual elements or aspects of the Park, principally heritage features, ecology, water quality and arboriculture, would be as defined in the main body of this report.

APPENDIX A: CRYSTAL PALACE PARK MASTERPLAN ECOLOGY SURVEYS

Ecology Consultancy Ltd 2007. Crystal Palace Park. Phase 1 Habitat Survey and Protected Species Assessment. A report for the London Development Agency by Ecology Consultancy Ltd, May 2007.

Ecology Consultancy Ltd 2007. Crystal Palace Park. Report of Bat Survey. A report for the London Development Agency by Ecology Consultancy Ltd, June 2007.

Ecology Consultancy Ltd 2007. Crystal Palace Park. Report of Reptile Survey. A report for the London Development Agency by Ecology Consultancy Ltd, May 2007.

Ecology Consultancy Ltd 2007. Crystal Palace Park. Report of Breeding Bird Survey. A report for the London Development Agency by Ecology Consultancy Ltd, July 2007.

Ecology Consultancy Ltd 2007. Crystal Palace Park. Report of Butterflies and Other Invertebrates Survey. A report for the London Development Agency by Ecology Consultancy Ltd, July 2007.

Note: References to earlier park surveys are included in the above reports

APPENDIX B: SIX YEAR COSTED TREE WORKS SCHEDULES

Specification	Days	No of People	Rate £	Cost inc VAT £
Year 1				
B Removal of large (mature) trees, including Horse Chestnuts.	40	4	£250	£40,000
Removal of smaller (semi mature and young) trees.	5	4	£250	£5,000
Removal of deadwood and dangerous wood adjacent footpaths	15	4	£250	£15,000
Removal of deadwood and dangerous wood not over footpaths	8	4	£250	£8,000
Emergency clearance (e.g. following storm damage)	4	4	£250	£4,000
Tree monitoring / survey/ decay detection / report and recommendations.	1	–	£4,000	£4,000
Maintenance of clearance distances.	6	4	£250	£6,000
General remedial work (branch stubs, broken branches etc)	10	4	£250	£10,000
Miscellaneous other (cable bracing, stump grinding)	10	4	£250	£10,000
Total				£102,000
Year 2				
Removal of large (mature) trees, including Horse Chestnuts.	25	4	£250	£25,000
Removal of smaller (semi mature and young) trees.	5	4	£250	£5,000
Removal of deadwood and dangerous wood adjacent footpaths	15	4	£250	£15,000
Removal of deadwood and dangerous wood not over footpaths	8	4	£250	£8,000
Emergency clearance (e.g. following storm damage)	4	4	£250	£4,000
Tree monitoring / survey/ decay detection / report and recommendations.	1	–	£4,000	£4,000
Maintenance of clearance distances.	5	4	£250	£5,000
General remedial work (branch stubs, broken branches etc)	10	4	£250	£10,000
Miscellaneous other (cable bracing, stump grinding)	5	4	£250	£5,000
Total				£81,000
Running total				£183,000

Specification	Days	No of People	Rate £	Cost inc VAT £
Year 3				
Removal of large (mature) trees, including Horse Chestnuts.	20	4	£250	£20,000
Removal of smaller (semi mature and young) trees.	5	4	£250	£5,000
Removal of deadwood and dangerous wood adjacent footpaths	10	4	£250	£10,000
Removal of deadwood and dangerous wood not over footpaths	10	4	£250	£10,000
Emergency clearance (e.g. following storm damage)	3	4	£250	£3,000
Tree monitoring / survey/ decay detection / report and recommendations.	1	–	£4,000	£4,000
Maintenance of clearance distances.	5	4	£250	£5,000
General remedial work (branch stubs, broken branches etc)	10	4	£250	£10,000
Miscellaneous other (cable bracing, stump grinding)	5	4	£250	£5,000
Total				£72,000
Running total				£255,000
Year 4				
Removal of large (mature) trees, including Horse Chestnuts.	20	4	£250	£20,000
Removal of smaller (semi mature and young) trees.	4	4	£250	£4,000
Removal of deadwood and dangerous wood adjacent footpaths	10	4	£250	£10,000
Removal of deadwood and dangerous wood not over footpaths	10	4	£250	£10,000
Emergency clearance (e.g. following storm damage)	3	4	£250	£3,000
Tree monitoring / survey/ decay detection / report and recommendations.	1	–	£4,000	£4,000
Maintenance of clearance distances.	5	4	£250	£5,000
General remedial work (branch stubs, broken branches etc)	5	4	£250	£5,000
Miscellaneous other (cable bracing, stump grinding)	2	4	£250	£2,000
Total				£63,000
Running total				£318,000

B

Specification	Days	No of People	Rate £	Cost inc VAT £
Year 5				
B Removal of large (mature) trees, including Horse Chestnuts.	15	4	£250	£15,000
Removal of smaller (semi mature and young) trees.	4	4	£250	£4,000
Removal of deadwood and dangerous wood adjacent footpaths	8	4	£250	£8,000
Removal of deadwood and dangerous wood not over footpaths	8	4	£250	£8,000
Emergency clearance (e.g. following storm damage)	2	4	£250	£2,000
Tree monitoring / survey/ decay detection / report and recommendations.	1	-	£20,000	£20,000
Maintenance of clearance distances.	3	4	£250	£3,000
General remedial work (branch stubs, broken branches etc)	4	4	£250	£4,000
Miscellaneous other (cable bracing, stump grinding)	2	4	£250	£2,000
Total				£66,000
Running total				£384,000
Year 6				
Removal of large (mature) trees, including Horse Chestnuts.	10	4	£250	£10,000
Removal of smaller (semi mature and young) trees.	4	4	£250	£4,000
Removal of deadwood and dangerous wood adjacent footpaths	5	4	£250	£5,000
Removal of deadwood and dangerous wood not over footpaths	5	4	£250	£5,000
Emergency clearance (e.g. following storm damage)	2	4	£250	£2,000
Tree monitoring / survey/ decay detection / report and recommendations.	1	-	£4,000	£4,000
Maintenance of clearance distances.	3	4	£250	£3,000
General remedial work (branch stubs, broken branches etc)	4	4	£250	£4,000
Miscellaneous other (cable bracing, stump grinding)	2	4	£250	£2,000
Total				£39,000
Running total				£423,000

APPENDIX C: PERFORMANCE REQUIREMENTS

Park management and maintenance would be delivered through a combination of contract, in house teams and partnerships with key stakeholders (see Part 7). This appendix to the MMP defines proposed baseline standards to be applied to the landscape typologies across the Park. Part 6 of the MMP applies these standards in the management prescriptions to each character area in order to achieve specific design objectives such as retaining key views, the setting for particular features or habitat enhancements.

The standards defined in this section, referred to as Performance Requirements would provide a basis for subsequent maintenance specification clauses and a basis for benchmarking in measuring both the success of this MMP and subsequent detailed plans prepared in support of each Masterplan phase. Performance Requirements address general standards to be applied to the whole site, for instance in relation to sustainability or litter, in addition to indicators for specific landscape typologies or features such as different hard surface treatments or planting types. Performance Requirements in respect of general categories would relate to the whole site area, whilst those specific to landscape elements would relate only to that particular feature or element. These standards underpin the management prescriptions in Part 6 and have provided the basis for the annual maintenance cost plans (Part 8).

For each landscape element or feature a general performance aim is given together with specific targets to achieve that overall aim.

Hard Surfaces: Roads and Footways/Cycleways

To be maintained in a serviceable condition to permit safe access for all Park Users:

- Surfaces to be maintained free of potholes and trip hazards
- Surfaces to be repaired with materials to match existing specification
- Surfaces to be maintained free of litter and debris
- Surfaces to be maintained 90% weed free

Waterbound aggregate and other porous surfaces

To be maintained in a serviceable condition to permit safe access according to location and access requirements:

- Levels to be maintained as appropriate for surface use:
- Surfaces to be maintained free of litter and debris

- Surfaces to be maintained 90% weed free
- Surfaces to be maintained free of standing water
- Surfaces to be repaired with materials to match existing specification

Lighting and CCTV cameras

- Maintain 100% of lighting and CCTV columns operational at all times
- Maintain visibility requirements for each lighting and CCTV columns
- Maintain lighting quality and spread for lighting through cleaning and vegetation management

Grassed Areas

Maintenance requirements for grassed areas are defined in accordance with categories in British Standard 7370 Grounds Maintenance Part 3: Recommendations for maintenance of amenity and functional turf (other than sports turf).

C

C

Grass Maintenance Categories		
Grass Type	BS 7370 Category	Typical Areas
Ornamental Grass	B1 or B2	Fine grassed areas
Amenity Grass (High)	C2	Most general grassed areas around the Park
Amenity Grass (Low)	F	Infrequently mown grassed areas eg on woodland edges
Meadow/Conservation Grass	H	Meadow areas

Operations/ Tolerances	Grassed Area			
	Ornamental Type B2	Amenity (High) Type C2	Amenity (Low) Type F	Meadow Type H
Cutting tolerances	15-25 mm	20-50 mm	75-150m	N/A
Cuttings removed	Yes	No	No	Yes
Leaf clearance	Yes	Yes	No	No
Edge Trimming	Yes – By hand	Yes – By hand	No	No
Winter maintenance	Yes	If required	No	No
% Total Cover (tolerance)	90	85	70	N/A

Overall Management Prescriptions

Cutting regimes (all areas)

- Grassed areas would be maintained in accordance with cutting tolerances for each grass category as summarised in the table above.
- Where specified, cuttings to be removed following every cut (ornamental grass areas only)
- Meadow grass areas – Timing of cuts would be agreed with ecology consultant and reviewed with Park Rangers. Timing of cuts will vary depending on species content for each meadow area.

Leaf Clearance (Ornamental and Amenity (High))

- Clearance of autumn leaf fall would be required in all areas of ornamental and amenity (high) grassed areas.

Edge trimming and re-forming (Ornamental and Amenity (High))

- Edges to paths, beds or hard surfacing to be trimmed once prior to the main growing system and then following every cut during the main growing season

- Edges to paths, beds and hard surfacing to be re-formed with a half-moon or other suitable tool.

Winter Maintenance (Ornamental and Amenity (High))

- Aeration and scarification to ornamental/close mown grass areas to be carried out annually
- Aeration and scarification would only be carried out where considered necessary to amenity grass areas.

Meadow Grass

- The wildflower meadows are a key element of many areas of the Park masterplan, in particular in the Transitional Landscape. Management and maintenance of these areas would need to be subject to regular monitoring by park rangers and/or ecological consultant.
- Annual maintenance regimes, in particular the timing of cuts would be determined on the basis of ecological advice.

Repairs and re-seeding

- All damaged/ dead areas of grass to be cultivated and re-seeded during autumn/spring to meet performance requirements (see Section 5).

- Upgrade ground conditions by working in aggregate eg sand, if necessary

Trees

Trees are essential to the heritage, character and biodiversity of the Park. Management of tree stock must achieve a balance between the maintenance of desired standards for health and safety and the need to preserve trees of particular importance to the fabric of the Park and its history and ecology. New tree planting combines formal areas of planting requiring specific regular maintenance to preserve views and access with areas of semi natural woodland planting.

Management of tree stock will follow the recommendations of five yearly condition surveys and annual inspections by a qualified arboricultural consultant. The report prepared by JCA Ltd (2007) will provide the baseline tree condition survey and should form the basis for tree works over the next five years (see Appendix A). The following points summarise the key performance standards to be achieved in the management of trees.

- Tree condition survey to be carried out every 5 years by a qualified arboriculturalist
- Tree works to be carried out by a qualified arboricultural contractor registered with the Arboricultural Association

- Works to trees identified in the Conservation Management Plan as being of particular heritage importance to be agreed with Park Heritage Consultant.
- Annual tree safety inspections to be carried out annually by a qualified arboriculturalist to review any planned annual works.
- Weekly safety inspections carried out by grounds maintenance staff/park rangers.
- Routine maintenance to be carried out in accordance with the requirements of the five year condition survey and the prescriptions set out in the Character Zones Section of this MMP.
- Emergency works to dead, diseased or damaged trees to be carried out to ensure all reasonable measures have been taken to ensure park user safety.
- Tree crown management to maintain clearances described in the Character Zones management prescriptions section of this MMP.
- New specimen tree planting to be subject to establishment phase maintenance (watering, weed control, formative pruning and replacement of failures).



Planted areas

Areas of ornamental and semi natural planting reflect the character of different areas of the Park and specific design objectives. Much of this planting is complex in character and requires a range of horticultural skills. The necessary skills base will be addressed through a range of measures and procurement methodologies including in house staff, term/routine and specialist maintenance and partnerships with educational establishments and local societies. Management objectives and prescriptions for individual planting areas are described in the Character Zones section of this MMP. The KPIs below define basic tolerances and maintenance standards to be applied to planted areas:

All planting

- Species composition – where replacement planting is to be carried replacements should be on a like with like basis or % to comply with the original planting specification.
- Changes to the original planting specification would be subject to ratification by the Park Management Organisation and specialist advisors (heritage, ecologist and landscape architect).

Ornamental Planting:

- Planting beds generally to retain 90% of planted species cover at all times during the growing season. Exceptions would be beds subject to rotational coppicing.
- Planting beds to be maintained 90% weed free.
- Beds to be maintained litter and debris free.
- Where mulched mulch to be topped up at least twice per annum.

Semi Natural Planting

- Planting beds to retain structure and species composition and as described set out in the Character Zone management prescriptions (Part 7) and advised through subsequent ecological surveys
- Litter and debris – Maintain litter and debris free

Hedges

- Hedges to be trimmed in accordance with frequencies and to specifications set out in each Character Zone section.

- Bases to ornamental hedges to be maintained weed free and mulched. Weeding to pay particular to the removal of climbers such as bind weed.

Lakes and waterbodies

The Park water circulation system seeks to ensure that all runoff generated on site is captured and recycled. The system combines the two main waterbodies (the Angling and Tidal Lakes), new water features and ponds, water retention tanks, open water courses and piped/culverted drainage and pumped replenishment systems. The system will incorporate natural filtration and cleansing systems using reed beds and other emergent and marginal vegetation.

- % species cover and composition of marginal and channel planting to be in accordance with Character Zone management prescriptions and detailed planting plans
- Litter and debris to be cleared on a daily basis
- Annual water quality monitoring to be carried out
- Ecological monitoring to be carried out in accordance with management prescriptions

Sustainability – Park Maintenance Operations

The Park Sustainability Statement (Draft July 2007) defines overall standards and performance targets in respect of Sustainability. Park management and maintenance will comply with the Mayor's Green Procurement Code, the National Green Specification, EU legislation and the use of BREEAM low-embodied energy materials.

The sections below describe the key elements to be addressed through site maintenance. Sustainable site maintenance should reflect both operations and machinery and the recycling of waste generated on site:

- The Park Water System maximises the re-use of site runoff and rainwater harvesting
- Chemical use will be kept to a minimum and restricted to use to control injurious or pernicious weeds
- Vehicles and other machinery to utilise low carbon emission fuels wherever possible
- All green waste to be recycled and re-used on site
- Plant material, soil improvers and other products to be supplied from accredited or certified sustainable sources

- Separate bins for the recycling of glass, plastic and paper/cardboard packaging to be located around the park for use by the public
- Opportunities to utilise timber products as a fuel source to be assessed in the design of new park buildings

Injurious Weeds

- Regular inspections for the presence of injurious weeds as defined under the 1959 Weeds Act, 1981 Wildlife and Countryside Act and other species specific legislation (Ragwort Act 2003) any subsequent legislation to be carried out.
- Treatment by hand or chemical means to ensure, as a minimum, maintenance meets obligations under current legislation

Wildlife and Habitat Protection

- Annual inspections would be carried out by a qualified Ecologist (full Member of MIEEM) to ensure park maintenance is being carried out in accordance with current legislation in respect of protected habitats and species and to advise on habitat management throughout the Park.

- Ecologist to advise on any construction of maintenance operations with the potential to impact on wildlife habitats or protected species.
- No operations likely to cause harm or disturbance to nesting birds to be carried out between end February and end July, unless necessary for health and safety reasons and carried out under the guidance of a qualified Ecologist.

Litter and Fly Tipping

- Park to be litter picked daily to maintain as close to a litter free condition as possible with fly tipping cleared immediately

Signage, Interpretation panels, bins and other furniture

- To be maintained in clean, safe serviceable condition

Graffiti

- Park to be maintained clear of graffiti

C

Whole Life Costs

Whole life costs have been prepared in association with annual maintenance costings (see Part 8)

The table below presents an overview of the anticipated lifespan and lead in replacement times for soft landscape features. These may vary depending on:

- The age of the feature;
- The biological complexity of the habitat or feature;

The timescales given below set out lead in times for replacement to re-establish the character or appearance of the feature.

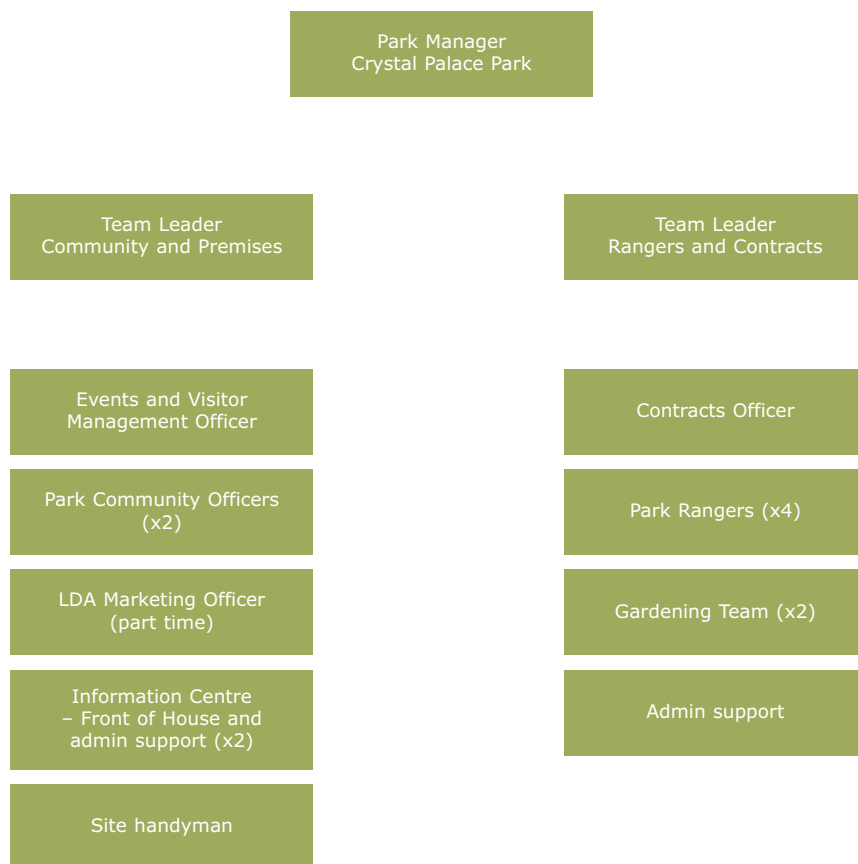
Table 4: Soft Landscape Lifespan and Replacement		
Soft Landscape Feature	Typical Lifespan	Lead in time for replacement
Specimen Tree	Up to 150 years	20 to 30 years
Tree/shrub belt	Up to 50 years	Minimum 10 years
Long lived shrubs	10-25 years	5 years
Herbaceous/perennial	10 years	3 years
Ornamental Grasses	10 years	3 years
Short lived shrubs	5 years	2 years
Hedge	50 years	5 years
Wildflower Grass	N/A	5 years
Marginal planting	N/A	2 years
Grass	N/A	1 year

Typical Lifespans for hard landscape features and finishes are given below.

Table 5: Hard Landscape Typical Lifespans		
Hard Landscape Feature	Typical Lifespan	Lead in time for replacement
Spray and Chip Tarmac	25 years	1 year
Resin Bound Aggregate	25 years	1 year
Timber Decking	15 years	1 year
Waterbound aggregate surfacing	Indefinite if topped up annually	1 year

APPENDIX D: TYPICAL STAFF COSTS

Park Management Structure Options Summary proposed in house staffing levels – Revived Local Park



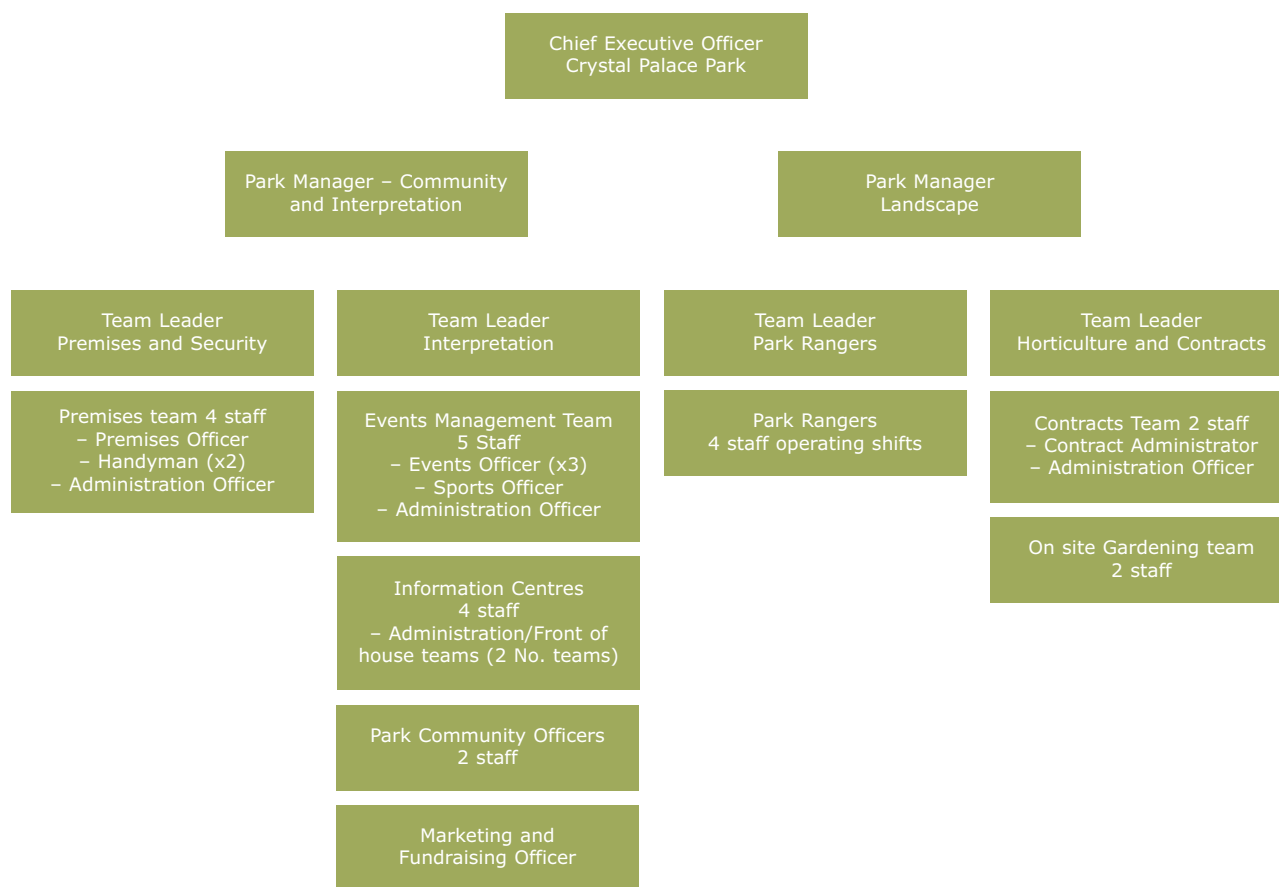
Staffing Salary Levels – Summary	
Staffing Salary Budget Figures (Salary + c.25%)	
Senior Managers (1 No. @ c.£35k pa)	£45,000
Team Leaders (2 No. @ c.£28k pa)	£70,000
Park Officers (8 No. @ c.£20k pa)	£200,000
Administration/Front of house (3 no. @ c.£15k pa)	£55,000
Operatives (3 No. @ c.£15k pa)	£55,000
LDA Marketing Officer (part time) – Allowance for c. £10,000 pa	£10,000
Total in house staff	= £435,000

Note: Excludes Glasshouses and Policing

D

Park Management Structure Options
Summary proposed in house staffing levels – Enhanced Regional Park

D



Staffing Salary Levels – Summary	
Staffing Salary Budget Figures (Salary + c.25%)	
Chief Executive (1 No. @ c.£45k pa)	£60,000
Senior Managers (2 No. @ c.£35k pa)	£90,000
Team Leaders (4 No. @ c.£28k pa)	£140,000
Park Officers (12 No. @ c.£20k pa)	£300,000
Administration/Front of house (8 no. @ c.£15k pa)	£150,000
Operatives (4 No. @ c.£15k pa)	£75,000
Total in house staff	= £815,000*

Notes:
 * Excludes staffing costs associated with Glasshouses, Museum(s) and other possible retail/catering operations