**Foreword**

The Royal Botanic Gardens, Kew was inscribed on the World Heritage List on July 5th 2003. Documentation and a management plan supporting this nomination provided a comprehensive evaluation of the exceptional and Outstanding Universal Value of the Kew site, its assets and the organisation’s programmes. Yet a noticeable absence from these documents and the many planning documents Kew has produced over its 250 years was a comprehensive landscape master plan. Indeed, not since the 1840s partnership of William Nesfield with Kew’s first Director, Sir William Hooker, has a significant landscape master plan been implemented for the site. As a consequence, development and additions to Kew, as well as conservation of past landscape and architectural assets, has been piecemeal, often at the whim of past Directors and, more recently Boards of Trustees.

I am delighted to say that the present document rectifies this significant deficiency. Now, for the first time in 165 years, Kew has a forward plan and vision for the landscape of the site. The plan provides a framework, looking ahead three decades, which enables improved decision making and priority setting for conservation and enhancement of the site.

I have always regarded botanic gardens as primarily beautiful landscapes, enhanced and complemented by buildings, with associated scientific, horticultural, conservation and visitor engagement programmes. From this perspective, a landscape master plan is an absolute necessity. I commend this plan to all interested in Kew, and congratulate the superbly talented teams at Gross.Max and Kew who, together with an eminent Steering Group, and the support of the Board of Trustees, have delivered this visionary document.

Over the next five years, Kew will commence implementing the plan, as soon as priorities are assigned, subject to funding, need and urgency, across the spectrum of conservation and development proposals included herein. During the 250th anniversary celebrations of Kew in 2009, I read with a sense of missed opportunity the following comments of my predecessor Sir George Taylor, Director of Kew during the organisation’s bicentennial celebrations in 1959: “There are bound to be developments as the years go by in any large garden and, indeed, visitors to Kew may observe some current alterations in progress. However, the existing topography of the Gardens offers no scope for any major new developments even if such were desirable. The present layout was largely determined shortly after Sir William Hooker’s appointment in 1841.”

Hopefully, the present carefully researched and creatively assembled document will convince all Kew supporters that it is, indeed, possible to both honour the past and design and deliver tomorrow’s exceptional and universal values by expressing in the landscape today’s contemporary issues for Kew as a global botanic garden. In this plan are to be found imaginative concepts and programmes to repair and restore exceptional heritage, make Victoria Gate an entry befitting a World Heritage site, reconnect Kew to the River Thames, and reach out beyond the garden walls to Greater London and the world. With the continued and ever-increasing support that Kew enjoys, we can deliver Kew Gardens in better shape to our successors. I look forward to the next phase now in moving from planning to implementation of the first stage of this landscape vision for Kew.

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Royal Botanic Gardens, Kew
August 2010
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Executive Summary

In October 2008 RBGK commissioned GROSS MAX Landscape Architects to prepare a Landscape Master Plan. The plan provides an overall, long term vision for Kew Gardens and includes the outlines of a series of distinct project proposals. The landscape strategy is based upon reinforcing the (historic) landscape framework, articulating the Gardens’ different landscape characters and introducing a new 21st century layer to express the changing role of Kew Gardens in the 21st century. The Landscape Master Plan will enhance the visitor experience within the Gardens through the provision of improved orientation, interpretation and high quality visitor facilities and services. Key catalyst for change projects focus upon the River Thames Frontage, Victoria Gateway and the ‘Breathing Planet Walk’: a new innovative garden circuit connecting the display of various plant communities under threat of global climate change. In conjunction with the Landscape Master Plan a new, updated, World Heritage Site Management Plan has been prepared.
‘By the side of Kew Green is Cambridge House, and near it an entrance to the magnificent Botanical Gardens, among the finest in the World. Kew Gardens are not only among the most favourite resorts of the London holiday-maker, but have special value to the botanist and horticulturist. The judicious expenditure of public money has made the gardens and houses almost unique among public institutions of the kind. Here are to be seen flourishing in an atmosphere of their own, though in an uncongenial climate, the most beautiful tropical palms, plants, ferns, fern-trees and cacti; and the pleasure-grounds and arboretum contain in endless and exhaustive profusion specimens of the flowers, shrubs and trees indigenous to Great Britain.’

Charles Dickens, A Dictionary of the Thames, From Oxford to the Nore, 1880.
1.0 Introduction:
1.0 Introduction

In October 2008 RBGK commissioned GROSS. MAX. Landscape Architects to prepare a Landscape Master Plan. The research undertaken as part of the Kew Landscape Master Plan has created new understanding of the Gardens as a designed landscape as well as its unique contribution to plant collection, classification and botanical research as one of the world’s most pre-eminent botanical gardens.

A series of themed workshops as well as presentations to staff and trustees have informed the process, which was structured around regular project team, steering group and RBGK World Heritage Site Steering Group meetings.

The Landscape Master Plan provides an overall vision for Kew Gardens with long term aims looking forward 30 years. The vision and aims provide a long term continuum in which effective policies can be developed. The plan outlines a series of distinct project proposals and a strategy for their implementation. The Landscape Master Plan also includes a set of design guidelines including materials, furniture, interpretation and way-finding signage as well as documentation of ongoing structure planting and reinstatement of main vistas. In conjunction with the development of the Kew Landscape Master Plan a new, updated, World Heritage Site Management Plan has been prepared. The World Heritage Site Management Plan focuses upon a five year period to plan ahead effectively and prioritise a series of policies which can be developed into annual work plans. It is intended to be more operational in focus.

Since the World Heritage inscription of Kew (2003) a range of new capital projects has been successfully initiated and implemented. Award winning projects like the Sackler Crossing, Xstrata Tree Top Walkway, Davies Alpine House and the Shirley Sherwood Gallery for Botanical Art have provided new visitor experiences. The extension of the Herbarium and Library, and the new Wolfson Wing of the Jodrell laboratory provided additional space towards ongoing development of the scientific importance of the Gardens. Whilst each of those individual projects has proven to be successful it is also important not to forget the Gardens as a unified site. The commissioning of this first comprehensive Landscape Master Plan since William Nesfield in the 1840’s indicates a new emphasis on the landscape as a key driver for the future of Kew.

The Landscape Master Plan Vision builds upon a range of previously commissioned studies and reports, as well as introducing new proposals. The improved relationship between Kew Gardens and the River Thames has been suggested in various studies including the World Heritage Site Management Plan (2002) and Thames Landscape Strategy. The relocation of the riverside car park has been previously studied in considerable detail by WilkinsonEyre Architects in combination with new entrance arrangements for the Main Gate. WilkinsonEyre introduced the concept of ‘the Arc’ (Site Development Plan 2002) to create a new routing and connectivity between a series of contemporary interventions. The Landscape Master Plan Vision has developed the concept of a new garden circuit but the configuration of this route is less geometrically determined as well as directly connected to Victoria Gate. Most importantly the Landscape Master Plan Vision is based upon the Royal Botanic Garden’s Director’s Vision 2008-2011. This consultation document introduces the Breathing Planet Programme and puts forward proposals for a Plants & People Orientation Centre, a Lost World display habitat, a riverside cafe as well as redevelopment of the Queen Elizabeth Lawn and Sir Joseph Banks Precinct. The Landscape Master Plan Vision aspires to create a spatial cohesion and focus between these various projects in dialogue with the World Heritage status of the Gardens. The combination of the Breathing Planet Walk, new Victoria Gate entrance arrangements and a comprehensive approach to the River Thames frontage are key aspects of the vision. Ideas not previously introduced in the above mentioned documents include the footbridge across the River Thames, a potential connection to the Syon House Estate and riverside events area, a series of ‘Breathing Planet’ themed biome displays spread across the Gardens, and the introduction of an outlook facility to allow for orientation and interpretation of the Gardens and its wider riverside context. The Landscape Master Plan considers specific proposals and landscape management implications in relation to climate change and flood control.
‘Gardeners are not only Botanist but also Painters and Philosophers.’

William Chambers
2.0 Landscape Vision:
2.0 Landscape Vision

The purpose of the Landscape Master Plan is to provide the framework to conserve, enhance and develop the historic fabric of the Gardens for future generations.

The main considerations for conservation at Kew are:

- To conserve the outstanding universal values of this UNESCO World Heritage site
- To Interpret the Gardens as a palimpsest of history

Whilst the Landscape Master Plan promotes the strategic conservation of key aspects of Kew Gardens there is also the need for change and transformation. At present Kew Gardens lacks spatial clarity, does not optimise its unique riverside location and does not fully represent the changing role of a premier botanic garden in the 21st century.

The mission for Kew Gardens is to inspire and deliver science-based plant conservation worldwide, enhancing the quality of life. This mission should be reflected within the Gardens by means of a series of innovative visitor experiences as well as informed and inspired reinterpretation of the Gardens’ own unique heritage.

Key considerations for change are:

- To provide for continuous world class scientific research.
- To represent Kew Gardens’ Breathing Planet Programme.
- To optimise Kew Gardens’ unique riverside location.
- To improve the legibility and interpretation of Kew Gardens.
- To adapt the Gardens for climate change and allow for increased biodiversity.

Throughout its history Kew Gardens has represented innovative ideas regarding science, botany and arts. This spirit of innovation should continue and create Kew Gardens’ heritage of the future. The landscape should be used to look outwards, encourage public access, celebrate the science, and deliver on Kew’s contemporary mission - to inspire and deliver science-based plant conservation worldwide, enhancing the quality of life.

The challenge for Kew Gardens is to find the right balance between preserving the past and presenting the future.

The landscape vision can therefore be defined as conserving and interpreting the layered history of the World Heritage of Kew Gardens in dialogue with a new contemporary layer representing the role of Kew Gardens in the 21st century.
“Kew . . . In some respect superior to any botanic garden or botanical establishment in the world, is in point of design no higher than a chessboard. That breadth – i.e., an open spread of lawn here and there – is the most essential principle in garden design one would think known to anybody arranging or planting a public garden or park. Without this we cannot get anything but a confused effect – we cannot see the beauty and dignity of our now rich arboreal flora; without this we may have a thousand kinds of noble trees, and get little better effect than in an un-thinned plantation. It is, in fact, as impossible to make a really beautiful garden or park without open turf lawns as it is to make a lake without water. At Kew, both in general design and in arrangement of details, this principle is completely ignored, and the good old one adopted of putting in a tree wherever there is room for it. The result is that the largest botanic garden in the world is devoid of any picturesque beauty.”

William Robinson The Parks and Gardens of Paris, 1869
3.0 Aims and Objectives:
3.0 Aims and Objectives

In order to achieve and deliver the landscape vision a series of themes has been identified to articulate key issues and formulate aims and objectives to be addressed in the Landscape Master Plan.

Each of the themes below has been extensively researched and discussed with staff and stakeholders in separate workshops held during the early stages of the plan’s development.

- World Heritage
- Living Plant Collection
- Circulation & Interpretation
- Prospect & Aspect
- The role of the botanic garden in the 21st century

3.1 World Heritage

The Royal Botanic Gardens of Kew are part of a designed landscape of parks, estates and towns alongside the River Thames. The Gardens illustrate significant periods in the art of garden design from the 18th to the 20th centuries. They house extensive botanical collections which have been considerably enriched through the centuries.

From the 18th to the early 19th century, the property was a place of retreat for the royal family. Internationally renowned landscape architects Charles Bridgeman, William Kent, William Chambers and Lancelot ‘Capability’ Brown re-modelled the earlier baroque gardens in the 18th century to make a pastoral landscape in the English style.

The first botanic garden at Kew was founded in 1759. In the mid 19th century, when Kew became the national botanic garden under the directorship of Sir William Hooker, the architect and landscape gardener William Nesfield supervised the merging of several royal gardens which then became the focus of a growing level of botanic activity. Nesfield’s garden, which overlays the earlier landscape gardens, is centred on two iron and glass houses, the Temperate House and Palm House, the latter designed by the architect Decimus Burton and engineer Richard Turner and at the time of its construction the largest in existence.

The Gardens incorporate a historic layering of styles the predominant character is Victorian. The combination of corridor vistas and irregular pathways creates a complex lay-out.

Within this landscape is a collection of iconic and historically significant buildings and glasshouses. Structures such as the Palm House and the Temperate House have international significance and form a fundamental component of the site’s identity and character. In addition to these there are many other highly interesting buildings including the Dutch House (Kew Palace), the Pagoda and the School of Horticulture.

The Gardens have a rich and complex history stretching back hundreds of years. The site was, from the mid-18th century to the mid-19th century, predominately occupied by two royal estates and landscape gardens. The eastern half of the Gardens was formerly Kew Gardens, a ‘Chinoiserie’ style 18th century landscape designed, in part, by William Chambers. It has a fairly open character with strong formal plantings and a naturalistic edge, intertwined with pathways and plantings of trees, all focused on the Pagoda. The western area is more naturalistic and dominated by a strong woodland canopy underlain by grass. This area was part of the 18th century Richmond Gardens, and subject to extensive landscaping under the direction of Charles Bridgeman, William Kent and ‘Capability’ Brown, all leading exponents of the English Landscape Garden style.

The northern part of the site was not included in either royal garden. The area subsequently has a more varied character and is essentially a series of discrete spaces, including gardens, greenhouses, public and private buildings, all of which were peripheral to a large, open lawn.

Sir William Hooker, William Nesfield and Decimus Burton unified all these areas under one coherent landscape scheme beginning in the 1840s. They were also responsible for many of the other features now recognised as landmarks of the Gardens, such as the Palm House and its vistas and the taxonomic planting schemes for the trees. In essence the earlier Royal Gardens have supplied the basic character of today’s landscape while Nesfield and Burton’s design has supplied its enduring structure.
3.0 AIMS AND OBJECTIVES

Historic transformation of Royal Botanic Gardens, Kew

These historic landscapes were designed to accommodate visitors, and the site has a history of public access and formal visitor arrangements stretching back over 250 years. This long history has had a major influence on the development of the Gardens.

RBG, Kew's scientific role has also been of fundamental importance to the development of the site since about 1759 when the first botanic garden was established. The botanical role of the site grew rapidly after this date, and today the site remains an excellent living example of the rational and scientific approach to knowledge and learning that developed in Western Europe over the last 200 years.

In 2003 Kew Gardens was inscribed as World Heritage Site. The attributes that carry the outstanding universal values of Kew Gardens as a World Heritage Site need to be sustained and enhanced through their long term conservation. UNESCO places increased emphasis on articulating ‘Outstanding Universal Value’ and operational criteria to assess authenticity and integrity. Of importance is that the landscape setting and interrelationships of the designed landscape and listed buildings can, once again, be fully appreciated. This includes the removal or screening of intrusive features, as well as the preservation of surviving visual and contextual links, opening sight lines and the enhancement of key attributes.

One of the aims of the Landscape Master Plan is to interpret the Gardens as a palimpsest of landscape design and changing attitudes and values in respect to its scientific program, collections and taxonomic display. At present the historic transformation is difficult to ‘read’ on site.

Conservation of the Gardens’ key historic attributes should be put in dialogue with contemporary garden interventions representing the changing role of the botanic garden in the 21st century. The landscape framework of long vistas and sightlines combined with carefully composed serial vision and spatial sequencing along the Gardens’ main routings will contribute to legibility and cohesion.

In summary the main aims in respect of the conservation of the historic lay-out are:
- Conserve main vistas, avenues and sightlines.
- Improve settings of listed buildings, temples and follies.
- Re-connect to the river Thames and the wider Arcadian landscape beyond.
- Introduce comprehensive interpretation of the Gardens’ historic transformation. Conserve and interpret the extant evidence of the various layers of landscape designs within the Gardens.
3.0 AIMS AND OBJECTIVES

World Heritage Conservation Plan

- Conserve heritage trees
- Conserve formal geometric layout / axis
- Lost historic follies reinterpretation
- Conserve existing historic follies
- Historic vista sight lines / vista planting
- Reinterpretation of Pagoda’s wilderness
- Historic sight lines
- Historic vista planting
- Historic planting zones
- Sight lines / open spaces
3.2 Living Plant Collection

Kew Gardens is home to the world’s largest and most diverse collection of living plants. This living plant collection is not only a vital scientific resource; it creates much of the structure, character and identity of Kew today. Within these collections is a rich horticultural heritage of unique specimens and groups that need identification, interpretation and management. The collection is not static but evolving over time.

The initial Botanic Garden at Kew was founded by Princess Augusta, wife of Frederick, Prince of Wales and mother of George III. The 9 acre walled garden was formally inaugurated in 1759 with its first curator, William Aiton, being appointed in that year. The site consisted of an Arboretum and medicinal garden.

Princess Augusta died in 1772 and the Kew estate was inherited by her son and daughter in law, King George III and Queen Charlotte. Joseph Banks assumed the role of overall manager, unpaid, a post he held for nearly fifty years until his death in 1820.

Over the intervening period between the deaths of Sir Joseph Banks and King George III in 1820 and the start of William Hooker’s directorship in 1841, the garden was managed by the royal gardeners, W T Aiton and John Smith. Without scientific direction, the garden seriously declined and was criticized for its lack of systematic arrangement of plants.

In 1841 William Jackson Hooker (1785-1865) was appointed Kew’s first official director. The botanic garden was extended with the Pleasure Ground and comprised 178 acres. Ultimately, with the incorporation of the Palace Grounds and the land of Queen Charlotte’s Cottage and various parcels of land, the Botanic Gardens reached their present size of 330 acres (132 ha).

During the directorship of Sir Joseph Hooker from 1865 to 1885 the collections were reorganised to show relationships among the various genera and families of plants by placing related groups in close juxtaposition, thereby enhancing the educational value of the collection and permitting easy botanic comparison. Ultimately this corresponded with the Bentham & Hooker classification system as described in Genera Plantarum and first researched and implemented at Kew Gardens, becoming a widely accepted model for the arrangement of botanic collections in many countries. The Bentham & Hooker classification was based upon the grouping of plants from primitive to advanced displayed in sequence, and was closely related to the emerging evolutionary theories of Charles Darwin. With exceptions, the Bentham & Hooker classification system is still largely in place in the Gardens’ plantings at Kew.

Recently Kew is breaking away from the traditional classification system of Bentham & Hooker and has been adopting a system based on molecular systematics. Advances in DNA sequencing (especially within the last 15 years) have provided a completely new avenue of systematic research and have changed the way we view classification. A modern synthesis of molecular studies is ongoing, yet a consensus is beginning to emerge. Combined work under an umbrella group known as the Angiosperm Phylogeny Group (APG) has produced a widely accepted evolutionary tree. Ongoing redevelopment of the Order Beds at Kew represents this most recent system of plant classification.

Kew’s prominent role in plant discovery, taxonomic classification and its use as an ‘outdoor laboratory’ throughout history remains a compelling story to be told. The original Bentham & Hooker system of taxonomic classification of plants as one of the underlying guiding principles of Kew Gardens can be more fully interpreted. A series of botanic heritage trails and plant research inspired display gardens could be introduced, or further enhanced. The dialogue between the past and present concepts of plant collection and display will inform the visitor about the changing role of the Gardens throughout time. The Gardens’ unique position as a ‘Metropolis of Plants’ could be more distinctively utilised to engage a more ethnically diverse visitor population.

Strategic adaption of the living plant collection over time will have to accommodate the affects of climate change. Increased biodiversity within Kew Gardens presents opportunities for addressing Kew’s global mission on a local scale. The geomorphology of the river floodplain including its acid grassland habitats can be expressed and incorporated within the Gardens overall plant experience.

Aims in respect of the living plant collection are:
- Conserve the heritage value of the living plant collection.
- Interpret the changing role of the botanical collections through history.
- Adapt the living plant collection to accommodate the effects of climate change.
- Introduce contemporary gardens representing plant biodiversity and the need for worldwide plant conservation.
- Express the local floodplain and riverside terraces habitat of Kew Gardens.
Dicotyledonum:
1 Polypetalarum
2 Gamopetalae
3 Monochlamideae

Gymnospermeae:
3 CLXV Coniferae

Monocotyledones:
5 CC Gramineae

1 = most primitive
5 = most advanced

Original Bentham-Hooker classification system within RBG Kew

Bentham-Hooker classification system within RBG Kew 2009

Monochlamideae Series 7: Unisexuales
Monochlamideae Series 8: Ordines Anomali
Gymnospermeae
Monocotyledones
Polypetalarum Series 1: Thalmefflorae
Polypetalarum Series 2: Disciflorae
Polypetalarum Series 3: Calyciflorae
Gamopetalae Series 1: Inferae
Gamopetalae Series 2: Heteromeriae
Gamopetalae Series 3: Bicarpellatae
3.0 AIMS AND OBJECTIVES

- Replanting of minor vista with cedars – replanting of double avenue
- Opening of selected views towards the Thames, shelter planting to be maintained
- Continued Syon Vista replanting with pairs of Quercus ilex – replanting of double avenue with Fraxinus
- Continued care of heritage trees
- Crown lifting of selected trees allowing views from Victoria Gate to the Temperate House
- Continued maintenance / replanting of Bean’s evergreen screens with appropriate species
- Replanting of boundary edge mix of evergreens and deciduous species
- Replanting at Main Gate with appropriate species
- Continued Pagoda Vista replanting with pairs of deciduous species – replanting of double avenue with evergreens

Living Collection Plan
3.3 Circulation & Interpretation

Both circulation and interpretation are key issues to be addressed in order to improve the visitor experience of Kew Gardens. The present garden lay-out still reflects that the Gardens are not primarily designed as visitor experience and were historically evolved from the amalgamation of two separate gardens. Key to the future circulation and interpretation of Kew Gardens is that access is to be available to the widest visitor audience.

There is currently no orientation centre / facility on the site. This leaves many visitors relying on advice given by the Friends Desk at Victoria Gate and information gathered from other informal sources. Some material and aids are available for visitors, including: A site map for self-guiding; Four seasonal routes around the Gardens suggested in the Guide Book (there are special itineraries for the travel trade / groups); A set of functional directional finger posts around the site; Maps, mounted on boards, providing more comprehensive information adjacent to gates, major buildings etc; The Kew Explorer transports visitors around the site on a fixed route with an hourly service. In practice, visitors use it as a tour or amusement ride rather than as a means of access to different parts of the site.

However, even with this information, the site’s size, complexity and wooded landscape make navigation and orientation very difficult, even for the seasoned visitor and especially for the less-able or disabled visitors. This sense of unintelligibility hinders the exploration of the site and can lead to visitors becoming confused about both the purpose and nature of the site and its history and geography.

In practice, the large majority of visitors remain in the Entrance Zone, North-Eastern Zone and the Palm House Zone i.e. the north of the site. The Pagoda Vista Zone, which includes the Temperate House and Pagoda was, until quite recently, the next most popular area while the western zones (Western, Syon Vista and South western zones) are the least used. There are also seasonal attractions and events to highlight the many opportunities the site offers the visitor. These attempt to spread the visitor load across the year, although visitor numbers still peak at key times of the year.

There is a need to improve the information available to visitors, both in terms of on-site orientation and the provision of information about the site’s values and activities. This should be addressed within a wider visitor management strategy aimed at dispersing visitors and encouraging access to all parts of the site, within the bounds of environmental and historical constraints. It would also be appropriate to open up greater visitor access to behind-the-scenes areas, with staff and volunteers expanding activity as guides / rangers to offer assistance and information to visitors across the site and not just at central points.

Most importantly the path network lacks hierarchy and clarity of routing. Newly introduced attractions such as the Xstrata Tree Top Walkway have changed visitors’ circulation patterns, but this has not been reflected in the lay-out of the path system itself. Interpretation is of paramount importance to communicate Kew’s mission and core values. The current level of interpretation is insufficient, variable in quality and lacks consistency and on occasion distracts from the overall aesthetic experience. Kew engages with a diverse local, national and international community. A key objective as a visitor attraction is to ensure equality of access for all visitors. The Gardens should continue to reach out to many different sections of society and broaden their appeal and relevance. A pedestrian footbridge connection across the River Thames could provide new opportunities.

Aims in respect of circulation and interpretation are:

- A more distinct hierarchy of circulation routes which reduces the general need for signage and allows for a variety of experiences across the year.
- Visitor routings should take consideration of seasonal variations; themed routes including heritage trails should be promoted and interpreted.
- Improved orientation and visitor experience at key entrances e.g. Victoria Gate and Main Gate. Signage should be reviewed for effectiveness of way finding / correcting inconsistencies and omissions.
- Improved relation between the core ‘honey pot’ area and the wider gardens. Strategic positioning of new attractions will pull people away from the existing honey pot area and create new points of orientation within the Gardens.
- Provision, where necessary, of unobtrusive orientation and interpretation within the Gardens for a wide range of user groups and based on a clear narrative which reinforces the Gardens’ mission statement utilising both existing collections and new displays.
- Potential conflict between maintenance vehicles using the same access pathways as visitors must be considered. It may be necessary to restrict certain routes and allocate clear maintenance access routes to the Stable Yard and other service facilities.

- ‘Empowerment’ of the visitor and a wider variety of contemporary interpretation facilities could create a more interactive experience and stimulate overall engagement with the Gardens.

- Best practice in respect of disability equality.
3.4 Prospect & Aspect

Kew Gardens is located in a unique position along the meandering River Thames and forms part of a wider natural and designed landscape representing an ‘Arcadian’ vision across space and time. The landscape character is based upon a unique combination of natural landscape, with rural pastures and flood meadows and formally designed landscape of avenues and vistas. The historic value of Kew comes from its relationship to this wider green open space and especially its unique history of design continuity in respect of the two other Grade 1 listed landscapes within the WHS buffer zone, e.g. the Old Deer Park and Syon House Estate. This is one of the very few sites in London where both sides of the river are united by historic landscapes; ‘Capability’ Brown sculpted both Richmond Gardens and the Syon House landscape in the late 18th century and in effect created a unified English style landscape garden across the Thames. Of critical importance are the visual links across the river such as Nesfield’s triangle of avenues and the east-west axis through Syon house which itself is arranged on the cardinal points of the compass.

The greatest development pressures relating to the setting of the Gardens are currently situated in the Brentford area on the north bank of the Thames. Due to the economic recession various developments which could have a significant impact on Kew have either been cancelled or put on hold. Equally some of the Brentford related developments have great potential to improve the current urban and waterfront conditions and to start considering an integrated approach towards regeneration, access, routings and historic interpretation. The possibility for a reinstated foot ferry or even pedestrian bridge between Brentford Dock and Ferry Lane should be studied. It also needs to be considered that Kew’s riverside car park creates a negative visual impression.

Within parts of the Gardens, and especially along Pagoda Vista and the Broad Walk, the six tower blocks on the Hasvfield Estate have a detrimental effect on the skyline.

The Pagoda not only forms a key landmark, but from the upper stories also provides a unique outlook of approximately 40 miles radius across the surrounding landscape. Since the Pagoda is not accessible for the general public an alternative above treetop ‘outlook tower’ could be an attractive proposition.

Aims in relation to prospect and aspect:
- Reinstate relation between Kew Gardens and the river Thames.
- Protection of all major view lines. Stimulate awareness of local authorities to take account of World Heritage Site protection obligations.
- Introduction of an above tree top viewing / interpretation experience to see and interpret Kew Gardens in its wider landscape context.
3.0 AIMS AND OBJECTIVES

Surrounding buffer zone / proposed developments

01 Kew Bridge development
02 Thames Water development
03 Ferry Wharf, Goat Wharf, Soaphouse Creek developments
04 Somerfield development
05 Brentford Waterside development

- RBG Kew World Heritage Site buffer zone
- Proposed Thames towpath connections
- Proposed Thames footferry connections
- Development sites
- Development sites for waterside activities
- Proposed waterway access improvements
- Proposed Kew Bridge Station redevelopment
- Conservation area
3.5 The role of the botanic garden in the 21st century

Kew’s changing role from economic botany towards a renewed vitality through worldwide plant conservation, education and scientific research exemplifies Kew not as a monument of the past but an active and dynamic scientific institution which provides direction to the future.

The usage of the gardens has gradually shifted from world renowned scientific plant collection to become a major visitor attraction. Education and engagement of the public has now, alongside its scientific role, become fundamental to its funding and future development. The Gardens should continue to reach out to many different sections of society and broaden their appeal and relevance.

How to adapt the design and spatial organisation of Kew Gardens to the challenges and opportunities of the 21st century?

“For those who are neither botanist nor avid admirers of horticulture, plants and flowers, the topic of the botanical garden in the context of our media-saturated twenty first century might at first seem a little antiquated - more a specialist subject for eccentric gardeners and historians perhaps. Conjuring up a medley of exotic images – endless parterres with strange Latin names, shapely colonial lawns with ubiquitous white structures, colourful summertime flower displays, tropical glasshouses and unusual specimens, each carefully labelled with imprinted metal tags or bronze plaques – botanical gardens are today mostly tourist curiosities and emblems of bygone empires. Whereas many contemporary botanical gardens around the world are today striving to find renewed vitality through conservation, education and scientific research programs, visitor-ship and revenue continues to decline in most cases. Is the botanical garden as a significant cultural place today obsolete, or at least outmoded in the face of modern science, technology, media and globalization? Or is there scope for reinvention of the botanical garden as a cultural type, a type somehow newly popular and relevant for the 21st Century imagination?” James Corner

Kew’s mission is to inspire and deliver science-based plant conservation worldwide, enhancing the quality of life. This mission statement should become manifest in the lay-out and display of Kew Gardens. A key focus for Kew Gardens is the global impact of climate change and the potential irreversible loss of biodiversity.

Aspirations for Kew Gardens as a world class botanic garden of relevance for the 21st century are;
- Creation of a series of iconic displays of the world’s most threatened biomes in order to promote worldwide commitment to biodiversity and habitat protection.
- Excellence and innovation in respect of best practice in regards to sustainability, biodiversity and contemporary horticulture / landscape architecture.
- Leading by example e.g. demonstration of local plant biodiversity and celebration of the Gardens’ unique riverside setting.
- A continued role for the Gardens as a scientific collection and its use as an ‘outdoor laboratory’ of relevance to contemporary plant research and taxonomic classification.
- Introduction of new world class visitor’s facilities and the use of digital media to attract a wider and larger audience throughout the seasons.
- To conserve, enhance and interpret the World Heritage past in dialogue with the future.
- Access to be available to the widest possible visitor audience.
‘Gardens are never innocent: they are the interior landscapes which always record our relationship with man, with the world and with God. The quarrels of gardeners must be read as metaphysical quarrels.’

Michel le Bris
4.0 Spatial Strategy:
4.0 Spatial Strategy

The landscape Master Plan provides a long term vision for the spatial structure of the Gardens as a whole combined with a series of site-specific project design briefs and design guidelines which allow for gradual and flexible process-orientated implementation over time. The strategy is based upon reinforcing the (historic) landscape framework, articulating the Gardens’ different landscape characters and introducing a new 21st century layer to express the changing role of Kew Gardens in the 21st century.

The landscape framework provides structure and identity whilst allowing parts of the Gardens flexibility to adapt to changing demands and circumstances over time. The articulation of serial vision, spatial sequence, sight lines etc. will facilitate a clearer sense of orientation and destination. The ultimate aim is to draw visitors into the Gardens, leading from one experience into another.

4.1 Landscape Framework

Kew Gardens represents a palimpsest of successive layers of evolving and opposing landscape styles, a rational geometric matrix underlies the design and transformation of the former Richmond and Kew Gardens into a coherent composition integrating architecture and landscape as well as to transform the former Royal Gardens into a National Arboretum subsequently arranged by the latest Bentham & Hooker classification. Nesfield responded by creating broad masses and detached groups of trees in families with attention placed upon ‘irregularity of outline’ in order, and on clear instruction by Hooker, to preserve a park like character. The original design for the Arboretum is a careful adaptation of the original Brown / Bridgeman plantations of the former Richmond Gardens.

In contrast to the irregular outline of the plantations, Nesfield created two vistas from the west side of the Palm House, one south to the Pagoda and the other towards the Thames near Syon House to be terminated by an obelisk. These two main vistas are carefully situated across two main voids, respectively the central lawns of Chamber’s Kew Gardens and the openness between the woods in Brown’s composition. A shorter vista to a Cedar of Lebanon was added and as such a goose foot or ‘patte d’oie’ was formed. This composition, devised in close collaboration with Burton the architect of the Palm House and Broad Walk, became the new foci of the Gardens’ entire composition. The Palm House, a revolutionary construction for its time, creates a hemispherical figure form of glass roof which was calculated as best for the admission of the sun’s rays.

The spatial structure of Kew Gardens today is still largely determined by William Nesfield’s designed triangular lay-out of corridor vistas combined with the Broadwalk and the positioning of key buildings and garden structures. The vistas and central promenade provide an important sense of scale and orientation within the Gardens. The Palm House is the Gardens’ key pivot whilst the Pagoda creates an important visual marker. The triangular composition of Syon Vista, Pagoda Vista and Cedar Vista (added by Joseph Hooker in 1871) creates a distinct footprint and provides important visual reference for orientation. Each vista has a distinct character provided by the variety of tree species aligned.

The key ensemble of Kew Gardens is formed by the central axis of Syon Vista, Palm House, Palm House Pond and Museum No. One. It creates a formal alignment which links the Gardens to the Thames riverside and Syon House beyond.

The Broad Walk stretching between the Orangery and the Palm House Pond is the Gardens’ main promenade. It is positioned parallel to the Palm House at a 90 degrees angle to Syon Vista and its view is aligned with the Campanile across the Palm House Pond.

The formal composition of Kew Gardens overlays and contrasts with the network of meandering paths and irregular plantations. A series of secondary view lines provides additional visual connectivity. The arboretum is occasionally punctuated by clumps of evergreens which contain views and provide a sense of spatial layering and enclosure. Occasional sculpted landform adds to the sense of serial vision and allows for either elevated or contained views. The central lake alongside Syon Vista is carefully composed so as not to see its full extent at one glimpse.

The current structure of Kew Gardens is predominantly Victorian. Comparison between maps of today’s lay-out with those of the end of the 19th century reveals, however, a distinct loss of spatial definition. Gradual adaptation and incremental change during the 20th century have taken place without consistency and added to an increased ad-random and fragmented character. Especially the display of shrub planting at large has become too scattered across the Gardens and could be improved upon in terms of bolder groupings which ultimately could contribute to a stronger...
4.0  Spatial Strategy

Spatial definition, sense of serial vision and accentuation of the Gardens’ topography.

The juxtaposition of various historic layers can be more fully articulated to structure Kew Gardens as part of the overall Landscape Master Plan. On one hand the Landscape Master Plan proposes to strengthen the formal lay-out of the Gardens by means of re-instating the unifying elements of Vistas and Broad Walk whilst simultaneously contrasting this with the more natural flow of plantations expressing the style of ‘Capability’ Brown. The long term safeguarding of the Gardens’ (historic) spatial structure and plantations demands a careful, strategic process of ongoing re-planting and landscape management. Existing open space and corridor vistas should be protected from further encroachment. The ongoing conservation of Kew vistas is key to ensure the long term structure of the Gardens. The display of the woody shrub collection into more coherent and spatially attractive groupings could contribute to the Gardens’ overall spatial legibility.
4.0 Spatial Strategy

- Living Collection Plan
- Protected open space
- Protected sub vistas / secondary sight lines
- Protected / enhanced vista planting
- New Thames riverside frontage
- Protected open space
- New and enlarged Victoria Gateway Garden Plaza
- Evolution House events spaces
- Open space network / corridors
- Planted tree structure
- Vistas
- Protected open spaces
4.2 Landscape Character Zones

The landscape character of the Gardens can be divided into three zones; the original botanic garden (1759), the arboretum and the woodland conservation area.

The core of the current botanic garden contains the honey pot area around the Palm House and the two main entrance gates which are linked by the Broad Walk, the Gardens’ main promenade. Besides the historic core of the Botanic collection a series of thematic gardens and glasshouses create distinct atmospheres and sequence of experiences. The tree collection is not based on taxonomic organisation but ad-random, not unlike the rare book collection of a library.

The arboretum is organised on a taxonomic grouping of trees and shrubs. Nesfield’s original 1845 drawing shows a careful integration of the taxonomic collection ‘without materially altering the general features’. Over the years the extent of planting and maturity of the specimens has reduced the openness of the Gardens.

The conservation area (natural areas) can be characterised as a semi-natural woodland character zone with predominantly native trees. This area containing Queen Charlotte’s Cottage was ceded by Queen Victoria to RBGK in 1898 on condition that the area should be maintained as a natural area.

The Landscape Master Plan proposes a differentiated management strategy which articulates three distinct landscape character zones ranging from intensive to one of minimal intervention. This zoning represents the historic distinction between the original botanic garden (collection of specimen trees), the arboretum (taxonomic display) and the conservation or natural areas (semi-natural woodland). Each zone, accompanied with specific design guidelines, can be articulated and interpreted in a specific atmosphere to enhance the spatial structure of Kew Gardens. The management zones will inform maintenance operations such as grass cutting, irrigation and groundcover planting as well application of different design guidelines in respect of surface treatment of pathways etc. The original floodplain landscape of Kew Gardens can be reflected by careful management of groundcover and under storey planting incorporating wildlife habitats in relation to topography and soil conditions.

Aims in respect of landscape character zones are:
- Articulate the key attributes of the historic development of the botanic garden.
- Increase biodiversity and create distinct atmospheres.
4.3 Strategic Projects

The Landscape Master Plan will enhance the visitor experience within the Gardens through the provision of improved orientation, interpretation and high quality visitor facilities and services. These new facilities and services are carefully located in order not to compromise key attributes of the World Heritage Site. New facilities will be located to welcome visitors at the main entrances as well as being strategically spread across the site in order to allow visitors to explore the Gardens outside the current ‘honey pot’ area.

The Landscape Master Plan proposes to articulate the ‘Breathing Planet’ initiative by introducing a contemporary program of new world class horticultural biome displays to emphasise the importance of plant diversity on both global and local levels. The effect of climate change on the world’s most threatened and unique biomes will inform important and topical displays in order to promote worldwide commitment to biodiversity and habitat protection. The original taxonomic layout of the Gardens will be enriched with ecological displays of plant communities in representation of natural habitats.

To facilitate change three key projects are envisaged:
- A new River Thames frontage.
- A new entrance experience at Victoria Gate.
- A new ‘Breathing Planet’ themed walk.
4.3.1 River Thames Frontage

Kew Gardens is positioned in a unique location along the meandering River Thames and forms part of a natural and designed landscape representing an Arcadian vision throughout time. An important part of the Landscape Master Plan is that Kew Gardens will, once again, become focused towards the River Thames. An improved relationship with the River Thames provides a unique opportunity to create a historic, cultural and ecological dialogue between the Gardens and its setting. The improved relation to the River Thames is proposed as a series of interrelated projects including contemporary riverside gardens in place of the current riverside car park, provision of a riverside café, opened up views and consideration of a footbridge across the River Thames. The river frontage project could also include a series of integrally designed flood protection and mitigation projects including extended wetlands and redesign of the currently deteriorating ha-ha boundary. The Landscape Master Plan proposes to optimise the riverside zone adjacent to the Lower Nursery complex by concentration on horticultural and scientific glasshouse related activities, whilst relocating the Estates maintenance yard, as well as administrative offices, to the more central Stable Yard area. Provision of riverside mooring could promote sustainable riverside transport and allow for Kew organised ‘biodiversity discovery tours’ such as site visits touring the Aits.

Riverside tidal gardens

Riverside views

Extended wetlands

Riverside tidal gardens

Thames riverside frontage
4.3.2 Victoria Gateway

The current arrangement at Victoria Gate is congested and lacking in both interpretation and orientation. A new enlarged gateway garden plaza with iconic display, landmark orientation and a new ‘People and Plants Centre’ could create a new focus for the entire Gardens and become a key project to start a new garden circuit which allows the visitor various options to explore the Gardens. The new Victoria Gateway scheme will create an important first time impression and will represent the transformation of Kew Gardens as a whole.

4.3.3 Breathing Planet Walk

The ‘Breathing Planet Walk’ provides a new innovative garden circuit connecting various proposed biome garden displays. The routing draws visitors into the Gardens away from the existing ‘honey pot’ areas towards the river and incorporates already constructed and successful projects such as the Xstrata Tree Top Walkway and Sackler Crossing. New biome projects could include the Lost World Display, Riverside Wetland Habitat Gardens and Polar House. This Breathing Planet Walk allows for a sequence of landscape atmospheres such as meadow, woodland, lake, valley and floodplain. The articulation of serial vision, spatial sequence, sightlines etc. promotes a sense of orientation and destination. The ultimate aim is to draw visitors into the Gardens, leading from one experience into another. As an integral part of the garden circuit, the Broad Walk will be re-affirmed as the Gardens’ main promenade. The Breathing Planet Walk strategically connects various catering and event facilities. The new routing is part of a series of projects to articulate the hierarchy of pathways throughout Kew Gardens.
Breathing Planet Walk

1. Victoria Gate Garden Plaza
2. Contemporary Folly
3. Lost World Outlook Display
4. Sackler Crossing
5. Thames Footbridge
6. Polar Biome
7. Riverside Tidal Gardens
8. Joseph Banks Corporate Events/Museum
9. Economic Plant Garden
10. Temperate House
11. Palm House
12. Treetop Walk

**Royal Botanic Gardens, Kew – Landscape Master Plan**

**4.0 Spatial Strategy**
“Kew shows how well the landscape tradition can be adapted to an arboretum, given the space and good initial design. In the older part of the garden, originally laid out by Capability Brown, the botanic arrangement of tree species is raised from a mere collection to a landscape composition by being planted as woodland with open glades, and by the brilliant use of ground contouring, which gives reason to the groupings and a sense of rhythm to the design”.

*Sylvia Crowe Garden Design, 1958*
5.0 Landscape Programme
5.0 Landscape Programme

Within the overall long term spatial structure of the Gardens a flexible programme of activities and events can be developed. Important is not just to add, but also edit and to remove facilities which have become outdated or obsolete. The Site also contains a number of assets, such as the Pavilion Restaurant or location of the Evolution House, that actively degrade the Site's value and integrity. These need to be considered with the context of the Site’s overall significance and, if necessary, alteration, removal or restoration should be undertaken.

A comprehensive, updated, visitor management strategy should be developed and implemented as part of the overall Landscape Master Plan. This should enable the successful continuation of the high quality visitor experience and ensure that all visitors, whether able, less-able or disabled, continue to be accommodated on the Site with minimal adverse affects.

5.1 Facilities

The key strategic projects of the Thames River Front, Victoria Gateway and Breathing Planet Walk envisage a coordinated programme of new exhibits, displays and visitor facilities. These strategic projects should complement the existing Gardens with a series of world class landscape projects. New proposed projects include a Plants and People Visitor Orientation Centre, Lost World Habitat Display, Polar House and a purpose designed indoor / outdoor environmental play facility.

5.2 Events

Events have become a key factor to attract and diversify (fee paying) visitors and facilitate the marketing of Kew Gardens. A key aim is to promote a range of events which reinforce Kew's role as a premier botanical garden and (all year) visitor venue consistent with the cultural significance of the place.

The Landscape Master Plan incorporates three events areas, e.g. Temperate House, Kew Palace Lawn and Syon Vista. Each area has distinctive qualities which could be explored for a variety of event areas, mitigating potential damage and allowing for separate access arrangements. A refurbished Sir Joseph Banks Building can be utilised for various (commercial and catering) functions including out of opening hours events and to be considered in connection to a relocated car park and riverside location.

Major temporary art installations in dialogue with the Gardens’ setting, such as the Henry Moore sculpture exhibition, should become regular scheduled events. Whilst London has some of the World’s most important museums there is no significant display venue for outdoor sculpture. A possible working relationship with Tate Modern could be explored.

5.3 Education

Education on the Site falls under a number of categories including: informal education of visitors; schools education; formal adult education and horticultural training.

Education is crucial to the management of the Site. Kew Gardens has a unique position to inform and educate the general public in respect of sustainability, climate change and biodiversity. Kew provides ‘hands–on’ learning opportunities and provides a conduit for plant science and conservation stories to all audiences.

The natural areas provide an education environment for UK biodiversity and sustainability studies (pond-dipping, hazel coppice, charcoal production, stag-beetle loggery etc.).

Special garden displays such as the Order Beds are fundamental to understand the scientific foundations of the Gardens. Views into, or occasional guided access to, ‘Back of House’ operations, will provide valuable insight into the working of the Gardens.

New visitor facilities could also contribute to raise awareness of the wider cultural and natural landscape setting of Kew Gardens. Opportunities could be explored for guided field trips to river Aits and other sites of natural interest to explore the biodiversity of the River Thames floodplain.

The area of the ‘secluded garden’ could be considered for a potential community outreach garden.
5.4 Play

Kew Gardens can provide unique experiences for nature based play. The vision for play is to inspire positive environmental action through discovery learning and connection with nature. The general attitude to play within the Gardens is a ‘learning through landscape’ approach throughout. This could include incorporation of more permanent children / family orientated trails. The existing indoor play facility ‘Climbers & Creepers’ needs a permanent purpose designed replacement. The refurbishment of this facility should be extended with a world class outdoor environmental play area.
‘The abysmal problem of gardens somehow involves a fall from somewhere or something.
The certainty of absolute garden will never be regained.’

Robert Smithson
6.0 Landscape Management
6.0 Landscape Management, Sustainability & Climate Change

6.1 Landscape Management

The landscape management of Kew Gardens will have an important role to contribute to the delivery of the landscape vision. The evolution of the living plant collection and safeguarding the Gardens' spatial structure demands a long term, process-orientated approach. The structure planting needs to be gradually adapted to reflect appropriate tree species, age distribution, affect of climate change etc. Differentiated management regimes for various parts of the Gardens will provide an important tool to create distinct landscape character zones expressing a sequence from intensively maintained pleasure grounds to semi-natural woodland.

The interrelation between Master Plan vision, management and maintenance should become optimised as an operational strategy. Implications of (reduced or increased) maintenance budget allocations should become manifest. Standards of Horticultural practice will need to be developed in conjunction with Landscape Master Plan. For example the increased diversity and layering of groundcover treatments combined with a variety of management and mowing regimes can contribute to the creation of distinct character zones and improve the Gardens' legibility. Transforming lawns into more natural meadow areas is an attractive proposition in less formal parts of the Gardens.

6.2 Biodiversity and Conservation

Kew Gardens has become increasingly aware and adapted in regards to best practice in relationship to sustainability. This message of leading by example and driving sustainability forwards is however less well communicated and demonstrated as an integral part of Kew Gardens' visitor experience.

The overall nature conservation value of Kew Gardens should be maintained and enhanced in particular by maintaining and improving the biodiversity of groundcover and acid grasslands, leading to greater diversity not just of plants but also of other wildlife including birds and invertebrates.

- Maintain the existing areas of acid grassland.
- Improve the biodiversity of existing ground cover planting of the Arboretum by appropriate mowing and other maintenance programmes.
- Continue to encourage protected species.
- Express, where possible and appropriate, the original floodplain landscape e.g. topography and soil type distribution as indication of former river meanders.
- Extend the areas of riverside wetland in former gravel pits in the Conservation Area.
- Utilise a new Riverside Garden to develop (tidal) wetland habitats.
- Collate the environmental data available into maps of the ecological value of the WHS and incorporate in Kew Gardens’ GIS database.
Continued large scale planting of seasonal bulbs

Increased range and extent of various sward mowing regimes

Restoration / succession planting of ‘Bean’s’ evergreen screens
6.3 Climate Change

Kew Gardens will need to adapt to climate change including warmer and wetter winters, summers that are hotter and drier or much wetter, and more frequent and more intense extreme events such as droughts, heat waves, heavy rainfall and coastal storm surges.

RBGK will need to plan for the impacts of climate change. Consideration should be given to meet the cost of storm and flood repairs, and to adapt to the effects of climate change by installing water storage facilities and flood protection. RBGK will also need to prepare for a longer visitor season and, as result, greater visitor impact on the Gardens’ infrastructure. RBGK should demonstrate sound environmental practices to their visitors. RBGK can play an important role in raising awareness of environmentally sustainable practice which can minimise the effects of climate change on biodiversity, and identify areas for further research.

A key impact of climate change will be in relation to the living plant collection, increased risk of flooding and (seasonal variation) in visitation pattern.

Impact of climate change on landscape management:
- Gradual adaptation of the living plant collections including introduction of drought resistance species. A longer growing season and higher temperatures could make it viable to grow a wider range of species.
- The managing of drier soils in summer and wetter soils in winter including water conservation and drainage.
- Increased need for shelterbelt planting to reduce potential wind damage.
- Special preparation / protection of Heritage trees.
- Increased risk of new plant diseases.

Flood risk:
The Thames Landscape Strategy ‘Restoration of the Lost Floodplain’ project initiative provides a holistic and co-ordinated way forward to reduce flood risks:
- Optimise the use of the floodplain for water to spread during a flood event.
- Identify ways to restore and reconnect the natural rhythms of the river corridor to create a ‘living landscape’ – a mosaic of habitats (created at a landscape scale) allowing wildlife to flourish and move about in as climate changes.
- Create a network of sluices, controls and channels linked to a real time flood forecasting model to enable flooding to be carefully controlled across a large area reducing the risk and disruption to people.
- Restore the historic landscape framework of fields, avenues, creeks, ponds, woodland, grazed wet meadows and native hedges.

More specifically the constraints and risks for Kew Gardens are:
- Periodic flooding of parts of the Gardens. Whilst the Gardens are predominantly flat; the predicted areas of unprotected flood risk do not seem to include areas of main build fabric and listed buildings. Periodic flooding will affect circulation.
-Whilst it is anticipated that the vegetation can withstand temporary inundation the possible affect of water logging needs further research.
- Re-contouring the westerly part of the Syon Vista zone could contain further flood risk to the Gardens. Earlier re-contouring work around the main Lake has been successfully integrated.
- Serious flood risk to Kew Palace and Herbarium if the River Thames Flood wall would fail.
Opportunities for Kew Gardens could be:

- To work in partnership to re-create, conserve, connect and enhance the natural character of the River Thames floodplain in response to climate change for people, wildlife and occasionally water.

- To transform the riverside car park into a wetland habitat demonstration garden which contributes as riverside floodplain and reflects the natural rhythms of the river corridor.

- Introduce more wetland habitat along the riverside Towpath and Ha-ha boundary.

- Extend area of wetlands in the conservation area.

- Extended dynamic floodplain and wetland habitat in surrounding World Heritage Site buffer zone.

3D modelling of the surface terrain
6.0 LANDSCAPE MANAGEMENT
“A garden is not an object but a process.’

Ian Hamilton Finlay
7.0 Project Proposals
7.0 Project Proposals

The Landscape Master Plan distinguishes between landscape conservation and catalyst for change projects.

The landscape conservation projects aim to conserve, enhance and interpret key attributes of the outstanding universal values of Kew Gardens as an inscribed World Heritage Site.

The catalyst for change projects aim to enhance the visitor’s experience of the Gardens by presenting the importance of plant diversity and improving circulation, orientation and interpretation.

The Landscape Master Plan project proposals can be defined as either: site specific, route specific or area specific.

Within the overall vision the Landscape Master Plan identifies a series of sixteen strategic projects.

Conservation Projects:
1. Vistas and Broadwalk
2. Site Boundary
3. Living Plant Collection
4. Augusta Walk (Setting of Pagoda, Temple of Victory, Ruined Arch)
5. Temperate House
6. Digital Interpretation network
7. Pathways

Catalyst for change projects:
8. Victoria Gate Garden Plaza
9. Breathing Planet Walk
10. Lost World Display
11. Polar House
12. Riverside Gardens
13. Sir Joseph Banks Precinct
14. Main Gate
15. Climbers and Creepers refurbishment
16. Foot bridge connection across the River Thames.
7.0 PROJECT PROPOSALS
7.1 Landscape Conservation and Interpretation Proposals:
7.1 Project one: VISTAS & BROAD WALK

Project Outline:

Conservation and restoration of main vistas, avenues and the secondary sightlines to create spatial legibility and cohesion. The vistas and Broad Walk were originally designed by William Nesfield and William Hooker as part of unifying the two previously separate royal gardens into one coherent composition. The vistas and avenues combined with the positioning of Palm House, Museum no 1, Campanile, Temperate House, Pagoda, and Orangery have established Kew Gardens’ overall spatial structure and provide orientation and sense of scale. Successful conservation work and succession planting have taken place in recent years. This work needs to be continued and extended to replanting / recovering of the outer row planting of the original double planted vistas. Every 5-10 years the vistas need crown lifting to improve view and spatial framing.

Aims:

- Restored vistas and sightlines according to William Nesfield / William Hooker original vision. This is to include Joseph Hooker’s Cedar Vista.

Implementation:

Project can be implemented as part of annual work program and financed out of allocated core maintenance budget.

Pagoda Vista:
- Inner avenue – pairs of mixed deciduous trees
- Outer avenue – cedrus trees

Syon Vista:
- Inner avenue – pairs of quercus ilex trees
- Outer avenue – tilia trees

Cedar Vista:
- Avenue – cedrus + pinus trees
- Inner avenue – pairs of quercus ilex trees
- Outer avenue – tilia trees

Broadwalk:
- Tree avenue – cedrus atlantica tree
- Kidney beds – rhododendron / evergreen species
7.0 PROJECT PROPOSALS

ROYAL BOTANIC GARDENS, KEW – LANDSCAPE MASTER PLAN

Historical double avenue

Existing situation with double avenue lost

Future situation with double avenue restored

Vista / double avenue replanting
7.0 PROJECT PROPOSALS

7.2 Project two: SITE BOUNDARY

Project outline:
This project addresses the boundary of Kew Gardens, e.g. strengthening of screening alongside Kew Road / Deer Park and back stage areas and more opened up views across the River Thames. Kew’s boundary has adapted according to change in circumstances. The riverside was originally planted up to screen the emerging industrialisation of Brentford. The current boundary planting has in places become neglected which has resulted in either gaps along Kew Road and overgrown planting elsewhere. The boundary project also will consider the riverside ha-ha and improved setting and plantings associated with the Main Gate.

Aims:
- Restored screening effect of site boundary planting.
- Opened view lines to River Thames.
- Improved setting of the Main Gate.

Implementation:
Project can be implemented as part of annual work program and financed out of allocated core maintenance budget (except the ha-ha).

Existing ha ha / river edge

River edge and ha ha treatment / restoration
[ 7.3 Project three: LIVING PLANT COLLECTION ]

Project outline:

Kew Gardens has one of the finest - temperate zone - living plant collections in the world. Managing the collection needs strategic aims and objectives. Due to limited space and changing mission of Kew Gardens the value of the collection needs careful assessment against a clear set of criteria. Key criteria need to include scientific research and reference value, public education, conservation, arboriculture and horticultural training, arboricultural risk assessment and visual impact. As new more accurately documented plant material is introduced with improved provenance, existing collections may be removed or replaced. The selection and planting of new specimens will increasingly become climate driven with the focus on drought or flood tolerance. The development of the Living plant collection should take landscape design aspects into its overall consideration. Regrouping of the various woody plants and shrubs can improve the spatial structure of parts of the Gardens.

Aims:

- Conserve the heritage value of the living plant collection.
- Interpret the changing role of the botanical collections through history.
- Adapt the living plant collection to accommodate the effects of climate change.
- Improved spatial structure.

Implementation:

Project can be implemented as part of annual work program and financed out of allocated core maintenance budget.

Boundary succession planting
7.4 Project four: AUGUSTA WALK (pagoda setting, temple of victory, ruined arch)

Project outline:

Reconstruction of a section of the original William Chambers designed Augusta walk to provide improved settings for the Ruined Arch and Pagoda as well as to introduce a new landmark on the former location of the Temple of Victory. Augusta Walk was originally a gravelled loop around the perimeter of Kew Gardens punctuated with temples and follies. The most intact section runs along Kew Gardens’ south easterly boundary alongside the Kew Road. The path was originally winding alongside numerous follies and temples creating a spatial sequence of open and enclosed areas. The Pagoda was originally situated in a Wilderness comprised of winding paths in dense vegetation. The current path lacks a structured experience and planting has become fragmented. This project entails the redesign of a remaining section of Augusta Walk in line with its original configuration recreating the relationship between the path and the follies along its length. Reconsideration of the ground flora and woody plant collection will contribute to the improved setting of the Pagoda, Temple of Victory and Ruined Arch. The original Wilderness setting of the Pagoda can be reinstated with the introduction of Chinese woodland plants. The resurfacing of the pathway with a treatment more in keeping with its design and history will be considered. The hillock of the former location of the Temple of Victory (and more recently Kew’s flagpole) can become the location of a new distinct vertical landmark.

Aims:

- To reinstate the spatial experience of the original William Chambers designed perimeter garden walk.
- To provide enhanced settings for the Ruined Arch and Pagoda and reinstate a vertical landmark at the former location of the Temple of Victory.

Implementation:

The improved setting of the Pagoda and Ruined Arch should be considered as integral parts of a funding application for conservation work of both structures. The project forms part of a series of projects to improve the setting or Kew’s garden follies and temples. The boundary planting should be redesigned to ensure spatial containment as part of Kew Gardens’ overall structure planting.
Existing Pagoda setting

Impression of the proposed Pagoda wilderness setting
Project outline:

The project will provide an improved setting for the Temperate House by introducing a new structured garden display and provision for temporary event spaces. The events space to the eastern side of the Temperate House should include the infrastructure to enable facilities to be set up to accommodate staged performance and other large public and community events which might require a range of temporary covered spaces and canopies.

Refurbishment of the Evolution House will provide new facilities for temporary events and exhibitions. Further events and spill out spaces should be created either side of the Evolution House which would allow for a more appropriate scale of space around the Evolution and Temperate Houses.

A more distinct spatial definition of the planting on the north and south sides of the Temperate House could spatially balance the two sides. Raffles avenue towards the Temperate House is to be redesigned as an integral part of the Breathing Planet Walk.

Aims:

- Improved setting for the Temperate House including incorporation of provision for temporary events.
- Redirecting visitors away from existing ‘honey pot’ area.
- Re-routing of pathways as part of the Breathing Planet Walk.

Implementation:

The improved setting of the Temperate House could be brought forward as part of its overall conservation plan. The project is part of the overall landscape strategy to improve the setting of listed buildings and garden structures. The site will become part of the Breathing Planet Walk.
Impression of the proposed Temperate House / Evolution House setting and events space
[ 7.6 Project six: DIGITAL INTERPRETATION NETWORK ]

Project outline:

Achieving the vision of the Landscape Master Plan will require visitors to be able to choose from and follow a multitude of different narrative layers. The current interpretation and way finding across the Gardens is by plant labels, sign boards and fingerposts. The project introduces new interpretation and way finding across the Gardens by means of a digital interpretation network providing state of the art information in respect of the living plant collection, heritage and way finding. Digital platforms which are envisioned to be utilized include information screens at gates, small touch screen kiosks and, most preferred, visitors own mobile devices. Different modes of use for mobile devices could include ‘guide mode’ (provision of routes and narratives around the garden), point of interest mode (access to detailed information in front of specific features such as plants and structures), ‘Community mode’ (communication between users), ‘Augmented reality’ (superimposed information on existing landscape) and ‘take me to mode’ (direction to particular feature or facility). The Digital Interpretation Network also can be applied and linked to assist virtual online visits to Kew Gardens.

Aims:
- To utilize state of the art digital technology to provide targeted interpretation for specific user groups telling a multitude of narratives.
- To allow for worldwide access; relating virtual Garden tours to on-site information provision.
- To provide unobtrusive ‘opt-in’ interpretation and reduce visual clutter in the Gardens.

Implementation:

The digital interpretation project can be implemented and expanded over time; adding choice of narrative layers. Digital interpretation needs to be part of a strategic interpretation plan including a mix of signage, leaflets and path indicators.

[ 7.7 Project seven: PATHWAYS ]

Project outline:

Resurfacing of (existing) pathways with a carefully selected palette of materials to express hierarchy of routing and improved aesthetics. It is envisaged that in most cases this can be achieved by redressing existing tarmac pathways. The pathway project should consider the possible improvement of circulation by removal of redundant routes and introduction of path indicators to allow interpretation and defining of specific trails and routings. Part of the consideration will be vehicular access for maintenance operations. The strategic location of conduits for power and other services as integral part of the pathway resurfacing programme could drastically reduce the patchwork of repairs. The current pathways are dangerously slippery whilst frozen during winter time; the resurfacing should provide improved anti-slip by means of its applied surface dressing.

Aims:
- Improved legibility and orientation.
- Improved design performance in response to usage.

Implementation:

The pathway project is part of a series of Landscape Master Plan design guidelines which can be implemented over time.
<table>
<thead>
<tr>
<th>Natural stone paving</th>
<th>Resin bonded gravel - colour 01</th>
<th>Resin bonded gravel - colour 02</th>
<th>HGV access routes</th>
<th>Removable paths</th>
</tr>
</thead>
</table>

**PATHWAYS**

- Natural stone paving
- Resin bonded gravel - colour 01
- Resin bonded gravel - colour 02
- HGV access routes
- Removable paths
6.2 Catalyst for Change Projects:
Catalyst for change projects
7.0 PROJECT PROPOSALS

7.8 Project eight: VICTORIA GATE GARDEN PLAZA

Project outline:

Victoria Gate has, due to its location in relation to public transport, become Kew Gardens’ main entrance. The gate is congested at peak times and is lacking in both interpretation and orientation. The current lay-out is overtly domestic in scale and lacks connection to the wider Gardens beyond. The Victoria Gate Garden Plaza project proposes the design of a new entrance garden plaza including facilities for interpretation and orientation. A new ‘People and Plants’ visitor orientation centre could become an important landmark and integral part of the enlarged garden plaza design. Important is to communicate Kew’s mission in respect of global plant conservation, provide ease of movement and a sense of welcome.

Aims:
- The creation of a landmark arrival experience.
- Provision of a ‘People and Plants’ visitor orientation centre.
- Improved circulation.

Implementation:

The Victoria Gate garden plaza is considered as an important start/finish point of the newly proposed Breathing Planet Walk. The project needs to be developed in conjunction with an architectural feasibility study in respect of part refurbishment of existing facilities. The project is part of a wider reconsideration of all Kew Gates including the redesign of Main Gate in connection to the relocated public car park.

1. Existing entry gates
2. New entry kiosks with sloping directional hedges
3. New Stone Plaza / gathering space
4. Sloping hedges
5. Landscape / planting displays
6. Water fountains
7. Refurbished building housing shop
8. New orientation centre with adjacent pergola
9. Breathing Planet Walk
10. Temple of Bellona
11. Palm House
12. Kew Road

Victoria Gate development framework

Existing Victoria Gate

Victoria Gate Garden Plaza plan – proposal 01
Image of the proposed Victoria Gate Garden Plaza
[Project eight: **VICTORIA GATE GARDEN PLAZA**]

1. Existing entry gates  
2. New entry kiosks with sloping directional hedges  
3. New stone plaza / gathering space  
4. Rounded hedges  
5. Landscape / planting displays  
6. Refurbished building housing shop  
7. New orientation centre with adjacent pergola  
8. Breathing Planet Walk  
9. Temple of Bellona  
10. Palm House  
11. Kew Road

Victoria Gate Garden Plaza plan – proposal 02

Victoria Gate garden plaza forms a gateway to the gardens - tree crown lifting opens views towards the Temperate House drawing visitors away from the Palm House / existing 'honey pot' area

Iconic landscape gardens

Existing Victoria Gate
Proposal illustration of the proposed Victoria Gate Garden Plaza
Project outline:

The introduction of a new garden walk which will connect a series of Breathing Planet related projects. The proposed routing connects various existing attractions in the Gardens including the Xstrata Tree top Walkway and Sackler Crossing. The routing connects a series of biomes representing world plant habitats under threat of climate change. The design of the route is based on serial vision leading the visitor from one display to the next. The route will articulate a sequence of distinct character zones ranging from meadow, forest, lake, valley and riverside floodplain wetland. The design of the actual pathway should become distinct in its overall design, alignment and surface treatment.

Aims:

- To carefully articulate the movement of visitors to provide an improved legibility of the Gardens.
- To manifest Kew’s mission in relation to world wide plant conservation within the local context of the Gardens.

Implementation:

The project allows for a phased implementation over an extended period of time. Other projects which are an integral part of this walk are the Victoria Gate Garden Plaza, improved setting of the Temperate House, the ‘Lost world’ display, Riverside gardens and Broad Walk.
Existing Broadwalk

Impression of the proposed Breathing Planet Walk, Broadwalk section
Project nine: **BREATHING PLANET WALK**

Breathing Planet Walk – sequential experience
Breathing Planet Walk: materiality

Visualisation of the proposed Breathing Planet Walk through the Arboretum
7.10 Project ten: LOST WORLD DISPLAY

Project outline:
The ‘Lost World’ biome display is to exhibit plant communities under threat of climate change with special reference to the relation of geological formations and flora. The display focuses upon floristic regions of old weathered nutrient deficient landscapes such as the Venezuelan ‘tepuis’ table top mountains, South African Cape fynbos, and granite inselbergs of Southwest Australia. The existing site includes the current Rhododendron Dell (original Hollow walk introduced by Lancelot ‘Capability’ Brown). The display could incorporate a strategically positioned outlook tower / hanging garden which acts as an observatory providing views across the Gardens and the wider landscape beyond.

Aims:
- to communicate world biomes under major threat of climate change.
- to interpret Kew Gardens in its wider settings.
- to create new visitor attractions outside the existing ‘honey pot’ area.

Implementation:
The Lost World Display is an integral part of the Breathing Planet Walk and has been previously introduced as part of the 2008 - 2011 Director’s vision.
Roystone Botanical Gardens, Kew – Landscape Master Plan

Illustration of the proposed Lost World Display looking north with the Outlook Tower in the distance

Existing Rhododendron Dell

Illustration of the proposed Lost World Display looking north with the Outlook Tower in the distance
Project outline:

An iconic, partly subterranean, new ‘ice house’ displaying the fragile vegetation of the polar regions under threat of climate change. The site is proposed in the North Eastern zone of Kew Gardens. The site is in close proximity to the Georgian ice house. The polar house creates a unique polar biome experience in a contemporary ‘ice house’ inspired setting. The structure would complement the two existing contemporary glasshouses in its vicinity e.g. The Princess of Wales Conservatory and the Davies Alpine House.

Aims:
- To display the fragile vegetation of the Polar regions under threat of climate change.
- To raise awareness about the affect of climate change.
- To relate the polar display to Sir Joseph Hooker’s 19th century expeditions to the polar regions.

Implementation:

The Polar House is an integral part of the Breathing Planet Walk. The heat generated by the cooling process could be utilized elsewhere in the Gardens’ such as heating of the Princess of Wales Conservatory as part of the Gardens overall sustainability strategy.

Photographs from Hooker’s trip to Antartica

Plants of Antartica – Hooker
Proposed Polar Biome – exterior

Existing site location

Proposed Polar Biome – interior
Project outline:

Contemporary riverside wetland habitat garden with special reference to effect of climate change and reinstatement of former Queen Elizabeth lawn. The site is currently occupied as Kew Gardens’ riverside public car park. Wetland display gardens are to be part of the new Breathing Planet Walk circuit and separated from the towpath by an extended Kew boundary ha-ha. Board walks across the garden will allow for close observation of vegetation. It is envisaged that sluices could allow for tidal interaction with the River Thames. The interpretation of the garden could inform the visitor about the effect of climate change on floodplain plant diversity. The current site around Kew Palace is isolated from the river and fragmented in character. The project envisions an improved setting to Kew Palace, and its outbuildings as part of a distinct ‘Georgian Quarter’ precinct. Proposals by Historic Royal Palaces to restore and present the former Georgian Kitchens can be complemented with a period kitchen garden. Direct access and ticketing to Kew Palace from the riverside could be considered as part of the Georgian Quarter development. The relocation of Kew Estates office accommodation from its Lower Nursery site location will create additional space for an improved relationship to the river Thames and proposed riverside gardens.

Aims:

- To reconnect Kew Gardens with the River Thames.
- To create a new garden experience as part of the Breathing Planet Program.
- To reinterpret the former Queen Elizabeth Lawn and provide an improved setting for Kew Palace as part of a ‘Georgian Quarter’ precinct including a kitchen garden related to the proposed restoration of the former Royal kitchens.

Implementation:

This project is part of a series of interconnected projects which include the relocation of the car park to the back of the Herbarium, the provision of a redesigned Main Gate, the improved setting of Kew Palace, the refurbishment of the Sir Joseph Banks precinct including introduction of a riverside café and River Thames mooring. The possibility of improved connection to Brentford should be an integral part of the feasibility study for the development of this riverside area. The improved setting of Kew Palace will need to be considered and developed in collaboration with Historic Royal Palaces.
Proposed Tidal Riverside Gardens
[ Project twelve: **RIVERSIDE GARDENS & QUEEN ELIZABETH LAWN** ]

- Proposed tidal Riverside Gardens section
- Proposed footferry crossing
- Service yard buildings relocated and Stable Yard complex redeveloped
- Relocated car park
- Service Yard entrance maintained

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7.0 **PROJECT PROPOSALS**
1. Relocated public car park
2. New Tidal Riverside Gardens
3. New Sir Joseph Banks Precinct with direct access from car park
4. New Economic Plants Garden
5. New Riverside Cafe available for out of opening hours use
6. Broadwalk continuation
7. New Main Gate Plaza / Nash Welcome Centre accessible from car park and Main Gate – out of pay zone
8. New pay zone line formed through hedging / planting
9. New Breathing Planet Walk
10. Orangery Restaurant
11. New childrens environment
12. Kew Palace
13. Lower Nursery
14. Service access maintained to Lower Nursery
15. Existing access road to relocated car park
16. River Thames towpath
17. River Thames
18. New Quarantine House

Proposed riverside development plan
Project outline:

The Sir Joseph Banks building, which includes the Economic Botany Collections, was constructed in 1990 including its 3 hectare garden setting. The building is one of the largest earth covered complexes in the U.K. and is currently not open to the public. The site around the Sir Joseph Banks centre has been neglected due to lack of maintenance resources. The area is isolated from the main garden experience and lacks identity and focus of botanic display. Historically the area was part of a series of private riverside houses and gardens outside the Royal Kew and Richmond estates. The proposed relocation of the public car park towards the back of the Herbarium allows for the utilisation of the Sir Joseph Banks precinct for corporate events and retail. The project entails the redesign of the Sir Joseph Banks precinct between the Herbarium and Kew Palace into a new corporate events and entertainment area including a riverside café and orchard / food production gardens. The Economic Botany Collection housed in the Sir Joseph Banks building will again become an integral part of the overall visitor experience and be extended in the outdoor orchard / food production gardens displaying the relation between food and botany.

As part of the Sir Joseph Banks Precinct a new enlarged plant retail nursery could be closely located to the newly relocated car park.

Aims:
- Provision of riverside café and restaurant.
- Refurbishment of Sir Joseph Banks centre.
- Provision for plant retail and corporate events.
- New focus on botanic display e.g. outdoor experience focused on Economic Botany.
- Extension of the Broad Walk.

Implementation:

A feasibility study for the use of the Sir Joseph Banks Centre for corporate events is currently in preparation.
7.0 PROJECT PROPOSALS

ROYAL BOTANIC GARDENS, KEW – LANDSCAPE MASTER PLAN

Existing Joseph Banks Precinct

Image showing the proposed Joseph Banks Precinct / Economic Botany Garden
Project outline:
The relocated car park can only be considered with the provision of new entrance arrangements. This project proposes such new entrance arrangements as part of reconsideration of Kew’s Main Gate. The existing ticket booth at the Main Gate is below standard, the gate is congested at peak times and lacks orientation and interpretation. A new designed entrance will integrate the Nash conservatory as an integral part of the overall entrance sequence. The area between the Main Gate and Nash Conservatory could include a key horticultural display and allow for interpretation. The boundary planting adjacent to the Main Gate needs replacement with more representational tree species.

Aims:
- To combine Main Gate with relocated car park.
- To enhance the formal setting and detailing of the Main Gate.
- To provide orientation and interpretation.

Implementation:
The project is linked to the relocation of the riverside car park to the back of the Herbarium. Part of the development will include realignment of existing pathways and (fee paying) boundary.

1. Main Gate(s)
2. The Nash Conservatory / Ticket and Orientation Centre
3. New natural stone entry plaza
4. New hedging forming pedestrian route for car park
5. New access pathway
6. New hedging to form payline barrier
7. New planting / fencing
8. Re-surfaced Little Broadwalk
9. Relocated car park
Existing Main Gate

Illustration of the proposed Main Gate Entry Plaza
Project outline:
This project will replace the existing Climbers and Creepers and White Peaks structures with a purpose built indoor/outdoor environmental play facility, with associated café, shop, teaching and visitor facility. The play facility is envisaged to include themed gardens with engaging and interactive activities. The juxtaposition of a large fenced off outdoor environmental play and learning facility with a south facing café where carers can have a relatively relaxed refreshment experience will fulfil growing demand and can substantially increase visitation. The vision for this project is to inspire positive environmental action through discovery learning and connection with nature. Studies have shown that an outdoor learning environment has a marked effect on the positive development of children’s motor skills, senses of emotion, intellect, individual growth and social interaction.

Aims:
- Creation of an exciting interactive environmental play & discovery facility.
- Connecting children with nature.
- Facilitating education through engagement and connection with nature.

Implementation:
The project is linked to the relocation of the riverside car park to the back of the Herbarium. Part of the development will include realignment of existing pathways and (fee paying) boundary.
Images of Naturescape environmental play facility at Perth's Kings Park and the Moreton Arboretum play facility in Chicago
### Project outline:

The riverside location of Kew Gardens and Syon House Estate is one of the few locations in London were both sides of the river Thames are bordered by Grade I listed landscapes. The proposed footbridge across the river Thames and public Towpath allows for extended (combined ticket) visitor experience e.g. views across river Thames, tidal floodplain meadow and access into ‘Capability’ Brown designed landscape. The occasional use of the new Syon House Hilton car park could support Syon Vista as unique Kew riverside events area. The elegant footbridge design could be slightly curved and should carefully consider its visual impact. Alternatively the bridge could be envisaged as a green ‘Living Bridge’ and become an iconic contemporary garden intervention and horticultural display in its own right.

### Implementation:

This project is to be considered a long term ambition and needs careful and extended collaboration between various parties and stakeholders. The overall feasibility for the footbridge across the River Thames should also consider the possible alternative for a footbridge connection between Kew and Brentford. Such alternative option could be an important element of the River Thames walk and cycle way network as well contribute towards the overall regeneration of Brentford.

### Aims:

- Extended visitor experience.
- Utilising riverside setting and integration of two historic landscapes.
- Alternative access for events.
Existing situation

View of the proposed River Thames footbridge connection to Syon Park
‘The artificial order of the garden keeps the memory of Nature alive.’

Peter Handke
8.0 Design guidelines
8.0 Design Guidelines

8.0 Design Guidelines

Design guidelines and a coherent palette of materials are to be adopted in order to create visual clarity and reinforce a sense of place and identity. They should contribute to create a contemporary and dynamic environment with qualities that confirm Kew as a world class botanic garden and one looking forward to the future.

In general the aim should be to reduce clutter and / or modify intrusive visual elements. Care should be taken to avoid adding new elements within Kew Gardens that have no compelling relevance to the place. Many elements of the Site’s landscape are currently ‘tired’ including signposting, interpretation boards, path edges, surfacing materials etc. Replacements for these and the development of a particular and contemporary landscape style need to occur according to the development of in-house design guidelines which will benefit the intelligibility and cohesiveness of the landscape and help create a high quality landscape that reflects RBG Kew’s significance and aspirations.

Excellence in sustainability, Health and Safety and Disability Equality are to be considered at all levels including design guidelines.

8.1 Interpretation & Way finding

Kew needs an easy-to-understand interpretation and way finding system designed to provide information through its gardens, linking diverse collections and attractions, helping the visitors to make the most of Kew’s many attractions, welcoming visitors and communicating Kew’s mission. Information and legibility need an integrated recognisable framework.

The interpretation and way finding system should seek to provide a common, recognisable language for the provision of way finding information where it is needed and in the most useful form. It should develop a consistent language of information for the user to integrate. Clear, distinctive, recognisable information available at the start of a journey at the gates combined with guidance at key points throughout the Gardens.

The basic information system, signs, maps, icons and components need to be developed to a standard where they conform to the highest measure of visual clarity, simplicity and universal recognition. Where sight impairment presents difficulties it could be considered to develop audio signs to fulfil the goal of openness and accessibility to all.

As well as seeking to provide a clear, baseline information system, Kew could consider to build up accessibility to digital information readily available in the Gardens and quick and efficient to access and interrogate.

The way finding and interpretation strategy should be based upon a purpose designed identity framework or visual language. This should consist of a number of key elements: A typeface, colours, icons, and pictograms, a mapping system and product design. The typeface selected should be highly readable, making it ideal for delivering information within the public realm. White out text is more readable at distance, and the use of lower case letters aids the recognition of words.

The visual language should be successfully used throughout all the Kew projects and initiatives: from sign systems, communications, publications, and installation projects.

The design of usable maps is of importance in route-finding concepts. The designs could be based upon ‘heads-up’ viewpoint maps with the addition of three-dimensional landmarks. The majority of the population do not have the specialist dimensional skill to read a north-south map and calculate direction. ‘Heads-up’ maps can be used on panels throughout the gardens which are oriented according to where they are situated, and not north-south. What you see on the map is right in front of you. Each panel is therefore designed individually. To assist and aid in orientation, certain landmarks can be picked out and represented with 3D illustrations – all drawn according to your viewpoint.

In addition to the detailed local area map, an abstract garden map indicates where you are in the context of the whole Garden. It should be possible to navigate throughout the gardens by heading in the general direction to the next panel and taking on new directions. Walking times between attractions could be indicated.

The maps on the panels are just one aspect towards a mapping system for the Gardens. All developed and stored digitally, the maps contain layers and a language that is being adapted for different uses – a walking map, arrival maps and maps for brochures and communications.

The choice of materials is crucial to delivering a level of quality that would reflect positively on the identity of Kew. Using high quality materials ensures longevity and an enduring appearance, essential if a positive identity is to be sustained. The system requires durable materials that will minimise vandalism and offer easy maintenance. A vitreous enamel finish could be specified for the map and monolith panels. This is a glass like finish within which the graphic elements can be embedded, therefore, leaving a surface that is easy to clean.
The choice of high quality materials involves a higher than normal capital investment, but delivers sustainability and best value through its life cycle. The long term maintenance and replacement costs are significantly lower, both financially and in use of resources. Even though information will need to be updated from time to time, the main physical structures have the ability to last for decades.

The guidelines and specifications should include information on: the basic visual elements, the range of components, the detailed information content, directional sign information, positioning and artwork, location positioning and the garden plan.

Map panels help the visitor identify where they are and help them plan their journey through a combination of text and map information. Each panel could be double sided, with the same type of information repeated on each face, but orientated towards the direction in which you are looking.

The maps could have innovative features forming a comprehensive mapping system. Two types of map could be provided, a diagrammatic map of the Gardens and a more detailed head up map of the immediate area. The diagrammatic map would show the principal garden and main attractions.

8.2 Garden Furniture

Furniture elements and their placing are particularly significant to express Kew Gardens’ identity. These elements have to meet standards in respect of function, use and visual expression. The careful positioning and placing of garden furniture elements will express their function, for example a more comfortable seat in a location of a beautiful view and a ‘perch’ style seat beside a long route to act as a temporary resting place. Utility of design in terms of performance, ageing and weathering over time and resisting heavy use are essential features of the selected furniture. Kew Gardens is a long-term enterprise and the furniture elements need to have a rigour of design that transcends taste or fashion. The design must embrace simplicity of form; to state the maximum using the minimum. The existing park benches provide a traditional element that belongs to the collective memory of the ‘British Park’ and thus are entirely appropriate and should be retained. These can be considered representational examples in the landscape.

The positioning of elements in the landscape needs to be carefully considered as even a piece of furniture that has been designed according to the above principles can become clutter if it is poorly positioned or inappropriately grouped. The existing benches are often moved around by the public and the landscape becomes cluttered with these poorly grouped elements. The alignment therefore has to be carefully considered by the designers and the seats should be ground fixed in position. Benches should only be sited on level and even gradients.

8.3 Pathways

The key aim of the pathway design guidelines is to establish a distinct typology that facilitates improved performance, reinforces the character of the different areas and provides a hierarchy of routes to improve legibility for the visitor. In order to achieve this four different finishes are suggested: a natural stone pavement in key gathering spaces; a resin bonded gravel in a warm colour to highlight the Breathing Planet Walk; a resin bonded Gravel in a lighter colour for the main circulation routes; a ‘French’ Bound Gravel/Clay Bound gravel for natural areas. The beauty of the Gardens is that the public can wander over the lawns but there are areas where ‘desire lines’ have worn the grass and a reinforced grass would be advisable. Detailing of the pathways can be utilised to express specific trails and routes.
**[MATERIALITY]**

- **Entry spaces / plazas / Broadwalk**
  - Natural stone paving
  - Resin bonded gravel surface - colour 01
  - Resin bonded gravel surface - colour 02
  - Hoggin / clay bound gravel
  - Bark mulch
  - Non visible re-inforced grass

- **Breathing Planet Walk**
  - Resin bonded gravel to existing pathways:
    - A quick to install, low maintenance surface
    - Depth: 20mm layer of resin bonded gravel
    - Base: Applied to existing path surfaces
    - Finishes: Colour variation dependent upon location

- **Main circulation routes**
  - Resin bonded gravel surface - colour 01
  - Resin bonded gravel surface - colour 02

- **Natural areas**
  - Hoggin / clay bound gravel

- **Events spaces / highly trafficked vista zones**
  - Non visible re-inforced grass

**Paving surface defines footpath hierarchy**

**Existing pathway treatment**

- Resin bonded gravel to existing pathways:
  - A quick to install, low maintenance surface
  - Depth: 20mm layer of resin bonded gravel
  - Base: Applied to existing path surfaces
  - Finishes: Colour variation dependent upon location

**Wooden park bench**
- Benches to be fixed with hidden underground fixings

**A simple monolith bench**
- Acts as a short resting point on stone paved areas
- Positions to be fixed with underground fixings

**Contemporary wooden bench**
- Solid / simple design
- Positions to be fixed with underground fixings

**Principles of bench selection – type dependent upon location**
1. Natural stone paving
2. Grey gravel edge
3. Tightly mown lawn
4. Structural Cedrus trees
5. Evergreen planting beds
6. Monolith stone benches

1. Resin bonded gravel surface - colour 01
2. Existing arboretum trees
3. Mown lawn
4. Tertiary sward

1. Resin bonded gravel surface - colour 02
2. Flush mild steel edge
3. Existing arboretum trees
4. Mown lawn
5. Tertiary sward

1. Self binding gravel surface
2. Flush mild steel edge
3. Existing arboretum / Natural area trees
4. Tertiary sward type 1
5. Tertiary sward type 2

Broadwalk
Breathing Planet Walk
General pathways
Minor pathways
8.0 DESIGN GUIDELINES

[ MANAGEMENT ZONES – OLD ARBORETUM ]

- Natural stone paving
- Resin bonded gravel surface 02
- Resin bonded gravel surface 01
- Resin bonded gravel hgv overrun
- Hoggin surface

- Existing broadwalk
- Proposed broadwalk

- Frequently mown sward
- Formal bedding / bulb planting
- Fixed wooden park benches
- Monolith seating to stone plazas
- New signage and digital interpretation
- Path surfacing
[ MANAGEMENT ZONES – ARBORETUM ]

- Naturalistic bulb planting
- Mown and tertiary sward / mown pathways
- Contemporary benches within new landscapes
- Fixed wooden park benches
- New signage and digital interpretation
- Resin bonded gravel surfacing
- Existing asphalt paths
- Proposed resin bonded gravel paths
- Resin bonded gravel surface 02
  - Resin bonded gravel surface 01
  - Resin bonded gravel hgv overrun
  - Hoggin surface
[ MANAGEMENT ZONES – NATURE ZONE ]

- Path surfacing
- Existing hoggin paths
- Hoggin / gravel pathways
- Hoggin / self binding gravel surface

- Natural bulb growth
- Tertiary and bi-annual swards with mown paths

- Fixed wooden park benches
- New signage and digital interpretation
9.0 Implementing the Plan:
9.0 Implementing the Plan

The Landscape Master Plan aims and policies can be achieved through a range of projects, ranging from capital projects to maintenance plans. This section focuses on how the landscape vision can be achieved and how the Master Plan will be operated in terms of implementation, costs and viability, flexibility, monitoring and review.

The Landscape Master Plan has to operate as a strategic document, to be used by Kew Gardens to inform strategic decisions, to assist in planning capital and revenue expenditure, space planning, discussion with potential funding partners, preparation for applications for grant aid and guide annual work plans.

Coordination between various strategies and plans needs to be developed. The Landscape Master Plan relates to a wide variety of operational procedures and could in due course benefit from additional planning studies.

9.1 Implementation Strategy

The Landscape Master Plan is envisioned as a process of transformation over a prolonged period of time. The availability of funding will determine the rate of implementation. A clear sequence of project implementation will ensure that projects are not seen in isolation and operate in tandem. Projects which are interdependent are presented in distinct packages. Equally important is a certain flexibility to allow the plan to respond to successful bids and project sponsorships. Not all aspects of the Landscape Master Plan require additional capital funding and some can be achieved by prioritizing existing landscape management and maintenance programs. The provision of design guidelines will assist in creating an overall sense of coherence and identity.

Kew Gardens is funded by Defra, visitor income and fundraising. It is anticipated that the operational model of Kew Gardens will need to be regularly revised to reflect changes in funding and financial climate. Key questions to be asked are: Does the proposal match core values, does it help to fulfil Kew Gardens’ mission?

Assessment criteria, as utilised in the prioritising of conservation of the built fabric, need to be introduced to assist budget allocation and prioritising work in relation to the living plant collection.

Closer working relationships with stakeholders and community partnerships will become increasingly important. Joint funding applications could be considered especially in relationship to the Towpath and River Thames waterfront. The Landscape Master Plan envisions several joint initiatives with Historic Royal Palaces such as the creation of a ‘Georgian Quarter’ and a woodland garden adjacent to Queen Charlotte’s Cottage.

Development of joint initiatives with Syon House Estate can create mutual benefit in respect of combined access, historic and biodiversity interpretation, corporate events etc.

Projects which can be (gradually) implemented without substantial additional funding:

This category of projects can be achieved by means of a variety of landscape management works to be carried out in the short and medium term.
- Improve vistas / sightlines and reinforce perimeter structure planting.
- Introduction of a differentiated management regime.
- Adaptation of the Living Plant Collection.
- Implementing design guidelines & reducing visual clutter.
- Develop hierarchy of pathways.
Essential short term priority projects in need of capital funding

In this category projects are identified as priority either as safeguarding key attributes to the World Heritage (Temperate House, Pagoda), contributing to future revenue (Sir Joseph Banks Centre) or acting as catalyst in improving the current lack of interpretation and orientation (Victoria Gate and Digital Interpretation) and introducing Kew’s global mission to the visitors of the Gardens.

- Conservation of Temperate House and improved setting.
- Conservation of Pagoda and improved setting.
- Victoria Gate / Kew Gardens Orientation Centre.
- Sir Joseph Banks Precinct.
- Climbers & Creepers refurbishment.
- Digital interpretation Pilot Project.
- Improve way-finding signage.

Projects to be addressed when funds are available and grouped according to location:

The area grouping of projects promotes the notion that projects are not implemented in isolation but as a sequence of interrelated improvements. Each area has a distinct emphasis. The importance of the Breathing Planet Walk is to connect the ‘necklace’ of these area based projects into a coherent and well sequenced experience. The capital funding for the separate projects should be promoted by a comprehensive fund raising campaign.

- Conservation of Temperate House and improved setting.
- Conservation of Pagoda and improved setting.
- Victoria Gate / Kew Gardens Orientation Centre.
- Sir Joseph Banks Precinct.
- Climbers & Creepers refurbishment.
- Digital interpretation Pilot Project.
- Improve way-finding signage.

Summary and sequence of projects:
- Redesign Victoria Gateway incl. rearranged ticket booths, enlarged garden plaza, (digital) information display.
- Redesign pathway connection / start of Breathing Planet Walk.
- Opened up view lines to Temperate House and Palm House.
- Refurbishment or eventual replacement of existing Victoria Gate building.
- Visitor Orientation Centre.

Victoria Gateway / Palm House

This area forms the key ‘honey pot’ of Kew Gardens. Since Victoria Gate is the main point of arrival / departure of visitors to Kew Gardens it is key to communicate Kew’s mission and introduce improved orientation, restaurant facilities and retail.

South-East Temperate House / Pagoda Zone

This part of the Gardens lacks spatial cohesion and contains a variety of major conservation projects such as the Temperate House, Pagoda and Augusta Walk. The urgent conservation and repair work needed for both the Temperate House and Pagoda could start the overall rejuvenation of the wider precinct. Improved (visual) connectivity, re-established structure planting and improved visitor facilities will further rejuvenate this area. The conservation works for the Temperate House also provide rationale to prioritise the routing in between Victoria Gate / Temperate House / Xstrata Tree-Top Walkway and Sackler Crossing as the first instalment of the Breathing Planet Walk.

Summary and sequence of projects:
- Conservation of Temperate House including - landscape setting, relocation of Evolution House, events space etc.
- Breathing Planet Walk in between Victoria Gate / Temperate House / Xstrata Tree-Top Walkway and Sackler Crossing.
- Conservation of Pagoda including ‘wilderness’ landscape setting.
- Augusta Walk / perimeter planting.
- Reconsideration of canal beds shrub planting.
- Renovation of Pavilion restaurant.
- New vertical landmark on former location of the Temple of Victory.
9.0 IMPLEMENTING THE PLAN

ROYAL BOTANIC GARDENS, KEW – LANDSCAPE MASTER PLAN

- Pagoda zone
- Victoria gateway
- North east Garden zone
- North west riverside zone
- Central riverside zone
- Conservation area
- Project areas / zones
North - West Riverside Zone

This zone contains the possibility to unlock unrealised potential in relation to the Thames riverfront, and combine contemporary garden intervention with improved historic setting. The works contain a series of interlinked and interdependent projects which have to be developed in tandem to operate. The complexity of this area demands a comprehensive master planning exercise including assessment of built fabric. It is envisaged that some of the initial investment could create increased revenue in the future.

Summary and sequence of projects:
- Combined visitor / staff car park at back of Herbarium.
- Refurbishment of Sir Joseph Banks building.
- Refurbishment / relocation of Climbers and Creepers.
- Reconfiguration of Main Gate.
- Extension of riverside moat (ha-ha).
- Riverside Gardens / Queen Elizabeth Lawn.
- Riverside cafe.
- Relocation of Estate Department to Stable Yard.
- Georgian Quarter / kitchen garden.
- Riverside Mooring.

Central Riverside Zone

This zone contains a series of ambitious projects which introduces new visitor attractions representing Kew Gardens’ 21st century mission in combination with optimising the unique setting of Kew Gardens and the wider landscape beyond.

Summary and sequence of projects:
- Improved setting of Princess of Wales Conservatory / Davies Alpine House.
- Improved setting of Order Beds.
- Polar House / Georgian Ice House.
- Redesign of Secluded Garden.

North - East Garden Zone

This zone contains the original nine acre Botanic Garden formally inaugurated in 1759. The extended former pleasure ground area still contains a variety of specimen trees, a range of diverse gardens as well the Princess of Wales Conservatory and the more recently developed Davies Alpine House. Future projects can improve the historic interpretation of the area and re-structure the fragmented garden experiences into a more unified whole.

Summary and sequence of projects:
- Improved setting of Princess of Wales Conservatory / Davies Alpine House.
- Improved setting of Order Beds.
- Polar House / Georgian Ice House.
- Redesign of Secluded Garden.

Conservation Area (South-West)

The Conservation zone is situated in the south-west corner of the Gardens, which includes the Queen’s Cottage Grounds. The area is utilised as a means of interpreting woodland management with the creation of improved UK habitats for biodiversity in tandem with an existing biodiversity management action plan. Future projects are to be sensitive to the biodiversity value of the area and improve the historic riverside landscape setting.

Summary and sequence of projects:
- Extended wetland wildlife observation area.
- Renovation of riverside Ha-Ha.
- Reinstatement of Bridgeman’s mount.
- Extension of perimeter walk.
- Queen Charlotte’s Cottage woodland garden.
Impression of the proposed Queen Charlotte’s Cottage Woodland Garden
Costs and viability

The costing of various projects presented in the Landscape Master Plan are identified in global estimates.

The Master Plan recognized that it would be inappropriate if capital project proposals would impose disproportionate maintenance costs and unnecessarily constrain ongoing commitment and obligations. Regard has to be taken of the resources likely for implementation, cost in use and long term maintenance. Also important is to ensure that all facilities and assets used for functions and events return adequate revenue to recover costs of development and maintenance.

Individual proposals need to be appraised on the basis of sustainability and disability equality throughout preparation stages to ensure positive effects for Kew Gardens as a whole.

Flexibility

The Landscape Master Plan has been prepared to be flexible to enable it to deal with changing circumstances. General changes could include changes in government funding and economic climate affecting private sector donations. History has proven that unforeseen events such as storm damage can have significant effect. The implementation of the Landscape Master Plan should therefore be process orientated and adaptable over time.

Monitoring and Review

The landscape master plan needs to be regularly reviewed and monitored in conjunction with the World Heritage Site Management Plan. As part of this process a strategic five year review of the Landscape Master Plan is proposed to coincide with the plan period of the World Heritage Site Management Plan. Such review should check that the plan remains relevant to Kew’s mission and scientific strategy.

The Landscape Master Plan identifies the need for ongoing specialist landscape advice and advocacy. Of importance is the integration and ‘joined up’ development with other evolving strategies such as in respect of sustainability, visitor management, disability equality, etc.

To meet the aspiration of the Landscape Master Plan ongoing and increased community engagement and working with partner organisations is of key importance.

Strong support and involvement of staff, visitors, local community and stakeholders is essential. Kew will continue to provide a rich variety of social activities and interactions that help to forge community, citizenship and sense of ownership.

Key projects proposed in this Landscape Master Plan need public consultation at an early design stage with Kew’s user community and respond to updated visitor expectation survey(s) to be conducted in the near future as part of an updated visitor strategy.

All projects are to be designed, implemented and monitored in accordance with Kew’s ambition to achieve exemplary practice with reference to World Heritage, sustainability and challenges posed by climate change. Most important, the projects should engage, stimulate and broaden the imagination of increasingly diverse visitors and contribute to the widest possible access and inclusiveness for all.
### ESTIMATED PROJECT COSTINGS ± 25% ON 2010 VALUES, SUBJECT TO REVISION ON DETAILED PLANNING

* Costing figures are for masterplan guidance only and should not be used for any project costing or funding submissions.
** Accurate costings are required to be produced by a quantity surveyor during the future development of any project.
*** Gross.Max. Ltd. Does not accept any liability for the use of these figures.

<table>
<thead>
<tr>
<th>Conservation projects:</th>
<th>Approx area</th>
<th>Approx £/m²</th>
<th>Estimated cost</th>
<th>Estimated ongoing maintenance cost</th>
<th>Investment / funding Type</th>
<th>General notes</th>
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<tbody>
<tr>
<td>1. Vistas / Broad Walk planting</td>
<td>-</td>
<td>50 £/m²</td>
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<td>6. Digital Network / Interpretation</td>
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<td>8. Victoria Gate [New Entry Landscape]</td>
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<td>10. Lost World Display [Lost World Habitat / Outlook Tower]</td>
<td>8,000 m²</td>
<td>£75 / £1000/m²</td>
<td>£6.0 Million</td>
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<td>Includes landscape / Outlook tower</td>
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<td>11. Polar House</td>
<td>400 m²</td>
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<td>12. Riverside Gardens</td>
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<td>13. Joseph Banks Precinct [Including refurbished building]</td>
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### Implementing the Plan

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<tr>
<th>Approx area</th>
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<td>14. Main Gate [Including Nash Conservatory Conversion]</td>
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<td>Main Gate - Relocated Car Park</td>
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<td>15. Childrens Environment</td>
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<td>16. River Thames Pedestrian Footbridge</td>
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<td>17. Ongoing Specialist Landscape Advice / Consultation [Landscape / Heritage issues, Strategic implementation, Landscape Master Plan Development]</td>
<td>- m²</td>
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Bibliography:
Bibliography

London Borough of Hounslow, Unitary Development Plan.


WEBSITES:

www.kew.org

www.thames-landscape-strategy.org.uk

www.environment-agency.gov.uk
Appendices:
Soil moisture content

Taxonomic tree collection
1. Castanea sativa, early 1700
2. Ginkgo biloba, 1762
3. Styphnolobium japonicum, 1762
4. Platanus orientalis, 1762
5. Robinia pseudoacacia, 1762
6. Zelkova carpinifolia, 1762
7. Quercus x hispanica, 1773
8. Quercus x tatarica, 1768
9. Cedrus libani, 1814
10. Liriodendron tulipifera, 1770
11. Quercus Alexandra, 1846
13. Pinus pinea, 1846
14. Fagus sylvatica 'Purpurea', 1760
15. Castanea sativa
16. Castanea sativa
17. Quercus robur
18. Castanea sativa
19. Robinia pseudoacacia
20. Robinia pseudoacacia
21. Fagus sylvatica 'Purpurea', 1760

* Old / Lion trees

Taxonomic shrub collection
Heritage trees - a selection
Spatial structure

Vistas / sub vistas / open spaces

Botanical trails

Flowering ribbon

Wilson conservation Trail / programme

Cherry walk
Node 2.09

Modelled tidal levels (maodn)

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Node 2.14

Modelled tidal levels (maodn)

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© Thames tidal defences joint probability extreme water levels study: 12.05.2008

© Environment agency
### Fluvial flow levels per node:

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World Heritage sight lines

SIGHT LINES WITHIN RBGK:
1. From within Kew Palace
2. From the top of the Pagoda
3. Along broadwalk / little broadwalk [both directions]
4. Along Syon / Pagoda / Minor vista towards Palm House
5. Along Syon / Pagoda / Minor vista from Palm House
6. Along Cedar Vista [both directions]

SIGHT LINES FROM RBGK:
7. From Main Gate towards Kew Green
8. From within Herbarium towards the River Thames
9. From Syon vista towards River Thames / Syon House
10. From Victoria Gate towards Kew Station

SIGHT LINES TOWARDS RBGK:
11. From North end of Kew Bridge
12. From Kew Green
13. From Lichfield Road towards Victoria Gate
14. From Brentford Reach
15. From Brentford Marina
16. From Twickenham Bridge towpath
3. View along Broadwalk
4. View from Pagoda towards Palm House
6. View along Cedar Vista

9. View from the end of Syon Vista

World heritage sight lines
11. View from Kew Bridge
12. View from Kew Green towards Main Gate
14. View from Brentford Reach
15. View from Brentford Marina
Pathway specifications

New resin bonded / coat & scatter gravel paving surface for pedestrian overrun on existing base
* 1-3 mm bauxite aggregate surface layer broadcast evenly on to a resin binder.
* Resin binding layer applied to a level, sound, clean, contamination free and dry substrate layer.

New resin bonded / coat & scatter gravel paving surface for pedestrian overrun
* 1-3 mm bauxite aggregate surface layer broadcast evenly on to a resin binder.
* Resin binding laid on to 50mm depth of dense bitumen macadam base course layer.
* Base course laid on top of 150mm depth layer of Compacted Highways Agency Type 1 granular material.
* Compacted type 1 layer laid on to a geotextile layer on top of a leveled and compacted subgrade.

New resin bonded/ coat & scatter gravel paving surface for HGV overrun
* 1-3 mm bauxite aggregate surface layer broadcast evenly on to a resin binder.
* Resin binding laid on to 60mm depth of dense bitumen macadam base course layer.
* Base course laid on top of 100mm depth dense bitumen macadam road base.
* Road base laid on top of 250mm depth layer of Compacted Highways Agency Type 1 granular material.
* Compacted type 1 laid on to a geotextile layer on top of a leveled and compacted subgrade.

Surface dressed gravel paving surface:
* New self binding gravel surface path to existing path
* 50mm layer of self binding gravel to match existing rolled to provide a flat and even surface.
* Self binding gravel laid on existing leveled and compacted type 1 with a recommended thickness of 150mm.
* Gravel to be minimum of 6mm lower than edge restraints to minimize loss of material
* Note Self binding gravel not suitable for paths with a gradient of more than 1:12

Notes:
* Surface application should not be undertaken if temperatures are lower than 5 degrees.
** A wet edge should be left between areas and the contents of the next gravel pack should be applied as soon as possible to avoid the ‘joint’ effect.
*** Excess aggregate should be swept off once the resin system has cured (24 hours minimum)
**** All paving to comply with BS 4987-1 and 2.
***** HGV loadings and structural build up to be agreed by structural engineer.