Poole Park Tree Strategy – 2017-2021 and beyond

5.30pm – 6.30pm Poole Park Tree Strategy

- Surveys and background
- Decisions based on re-design
- Losses and plantings
- Overview and summary

Background

Poole Park Life Round 1 (2013-14)

- Used the 'EasyTreev' software that BoP uses to catalogue its tree stock, record surveys and monitor tree health/issues etc.
- Worked with the BoP Open Spaces Arb officer to discuss trees in Poole Park:
  - Tree Numbers
  - Age/lifespan
  - Health
  - Amenity Value
  - Maintenance
- Set aspirations for a tree strategy, no net loss of trees as a result of the project and within the Round 1 bid:

A new tree planting scheme linked to traffic mitigation and landscape improvements, including the phased replacement of some of the line of Horse Chestnuts.

The line of Horse Chestnut trees planted in the early 1900's are, in places, beginning to be diseased, supressed and in need of replacement. The tree planting programme will plant trees to mitigate future loss of these Horse Chestnuts and maintain a line of trees alongside the road of the park.

Corsican Pines will also be planted to provide 'leaning' trees for future generations of children to play on.

Development Phase

Tree Surveys

BoP Arb officer with landscape designer and project manager:

- What have we got – focused along the Park drive and adjacent areas such as tree screens and individual landscape trees.
- Linked to the development of design work, i.e. what area would be impacted by new design, both in terms of mitigating impact on trees and opportunities for replanting and strategic removal of poor quality trees.

Timing

2016 – Feb 2017 the survey assessed 295 trees and 14 groups of trees:

- plotted and recorded as an individual tree or a tree group in accordance with the criteria detailed in section 4.4.2.5 of BS 5837:2012
- Trees were assessed from ground level using the Visual Tree Assessment (VTA) method

Survey results

The tree survey area consisted of the horse chestnut avenue along the Drive and nearby parkland trees and boundary tree belts which were assessed to be in the zone of influence of the proposed development.

It also included the area of Copse Close car park and parts of the Freshwater Lakes where development is proposed; and the Cygnet and Westfield play areas.

BS 5837:2012 quality classification defines four value groups:

- Category ‘A’ – attractive trees with high visibility and no significant defects, which are able to make a substantial contribution for a minimum of 40 years.
- Category ‘B’- healthy attractive trees with remediable defects and that are in a condition as to be able to make a significant contribution for a minimum of 20 years.
- Category ‘C’ – trees that are unremarkable of limited merit that are easily replaced, small growing, young species which have a relatively low potential amenity value, and low landscape benefit.
- Category ‘U’ – trees that cannot realistically be retained in the current context for longer than 10 years.

Survey results - *Seldown Entrance to Fountain*

23 no. horse chestnut trees were surveyed in this section of the Drive

- 10no. trees were classified as category 'B' trees (20 years lifespan)
- 11no. trees were assessed as category 'C' (Low amenity value)
- 2 no. trees were assessed as category 'U' (<10 years and recommended for immediate removal)

The single avenue of horse chestnuts from the west gate entrance were planted in **narrow verges** and may have grown reasonably well in the early phase of their lives. As time passed and new features were introduced, such as carriageway and footpath hard surfacing, more environmental pressure was applied

In the last three or four decades, as the **perimeter screening trees to the north** (not under hard surfacing) have become more established and have become dominant in the northern border, their overarching canopies have led to suppression of the horse chestnuts in places throughout the avenue

To add to this pressure on the avenue trees, many are affected by **pests and diseases**, especially as their vigour decreases. Bacterial canker (Pseudomonas syringae pv. aesculi) is evident on many of the tree stems and lower main branch structures with typical symptoms of tarry exudate (some dried from infection in previous years), bark splitting and bark death

With **lowered vigour** and internal resources being utilised for repairing damaged bark, the trees are susceptible to secondary damage from Guignardia leaf blotch (Guignardia aesculi) and Horse chestnut leaf miner (HCLM)(Cameraria ohridella). Guignardia is a fungal pathogen that attacks the leaves and causes reddish or dull brown blotches with bright yellow borders around the perimeter.

Together with **horse chestnut leaf miner**; (the larval stage of the moth) which began to come into the park around 2008, the pressure on the trees is greater. Leaves are almost completely dysfunctional by the end of July and photosynthates are not produced when the leaves are either mined or blotched. The physiological effect is cumulative and the overall vigour of the tree gradually declines. Leaves are smaller and fruit production has all but ceased.

Some of the affected trees are now dying, two are dead. This trend is likely to continue despite reasonable horticultural practice such as removing fallen leaves from around the trees to prevent overwintering of the HCLM larvae and production of their next generation.

In addition to 2 no. category ‘U’ trees, 7 no. category ‘C’ trees were recommended for removal for arboricultural reasons. This will create a number of gaps in the line of trees.

Survey results

Western Entrance Gardens

14 no. trees were assessed in this area. 3 no. trees were categorised as ‘A’. These included a late mature yew to the west of the area and a mature maidenhair tree to the east. 5 no. trees were assigned category ‘B’ and another 5 no. trees were identified as category ‘C’ trees. 1no. tree was identified to be unsuitable for retention (Leyland cypresses with poor structural qualities).

Norton’s Gate

23 no. Horse chestnut trees were surveyed; 5 no. trees were classified as category ‘A’ trees, 16no. trees were assessed as category ‘B’ and 2 no. trees were assessed as category ‘U’ for removal.

This avenue has been more successful with **mature trees of roughly uniform size**. This is likely to be due to the open areas of grass on either side of the trees to west and east with no competition from other trees nearby; the higher amenity grass to the west is irrigated and the trees to the east have some shelter from their companions to the west.

There is hard surfacing between the trees, used as *ad hoc* parking for visitors to the bowling green. At present, vehicles park between the trees and tend to drive over the verges to achieve this. Inevitably, there is compaction of the rooting zone and some damage to bark through direct contact from time to time.

Survey results

East of Norton's Gate to War Memorial

This section along the Drive does not contain avenue tree planting. 21no. trees were assessed consisting of a mixture of ornamental conifers and parkland trees and a group of bay laurel. 17no. trees and one group were assigned as category 'A' and 4no. trees were classified as category 'B'.

War Memorials Area

8 no. trees which form part of the tree belt were surveyed either side of the Memorial Gates. These were mainly holm oak and Corsican pine and were assessed as category 'A' trees with one tree being category 'B'. 3 no. large oak trees are located along the eastern approach of the Memorial landscape. These trees are thriving despite the exposure and particularly wet ground conditions. These trees were assessed as category 'A'.

Survey results

War Memorial to Middle Gate (including Oak trees south of Drive)

22 no. horse chestnut trees were surveyed; 13 no. trees were classified as category ‘B’ trees, 8 no. trees were assessed as category ‘C’ and 1 no. trees was assessed as category ‘U’. Further 6 no. oak trees were surveyed on the south-side of the Drive; 3 no. trees were assessed as category ‘A’, 2 no. trees as category ‘B’ and 1 no. tree as category ‘C’.

A remnant of the single avenue remains in the mid-section of the Park, east of the war memorial to south of the rose garden. Several of the trees are in decline and have a limited useful life expectancy. The remaining trees are of low vigour, are not expected to thrive and may live for up to another 20 years (category B1). Photo – right.

The line of five oaks (Photo middle right, trees on the left of the drive) have grown reasonably well over the years. The Turkey oak is in poor physical condition compared to the English oaks and should be removed at this point. There is space for future crown growth of two replacement English oaks at the same location.

The double line of horse chestnuts leading up Middle Gate entrance is in relatively good condition. However, two trees just to the east past the junction to Whitecliff Road 2no. trees have been recommended for removal.

Survey results

East of Middle Gate to East Gate Entrance

13 no. horse chestnut trees were surveyed; 4 no. trees were classified as category ‘B’ trees, 9 no. trees were assessed as category ‘C’ and 1 no. trees was assigned category ‘U’. There are 11 no. trees planted in continuous line. The trees are growing in a particularly narrow verge and are in direct competition with the large trees in the adjacent tree belt to the north. This is reflected in their relative small size and low quality classification. 8 of the 11 trees are recommended for removal due to arboricultural reasons

Tree belts to northern boundary

These strips of border trees are often Holm oaks which were originally treated as screening shrubs for the perimeter of the Park. Although these evergreen trees have significant value as a screen against buildings and the urban environment generally, their highly successful growth now prevents virtually any ornamental species. In order to allow any future ornamental planting in these northern borders adjacent to the main driveway, the overhanging canopies of the Holm oaks need to be lifted to a substantial degree to allow more light to the borders

Survey results

Monterey Pine (T182) (photo below) is situated along the boundary opposite the Ark Café. This is a locally notable tree of nearly 5 metres in girth. It is estimated that the tree is around 150 years of age. The tree has a large canopy and is visible from some distance away. Over time, the tree canopy has expanded over the horse chestnut avenue causing suppression of these trees to the point where they are now not worth retaining.

Survey results

Copse Close Car Park

This small parking area on the east side of the Park has a number of maturing and mature specimen trees surrounding it (11 no. trees, including 10 no. category A and 1 no. category 'B').

There is a lapsed hedge consisting of Leyland cypresses (G12), category 'C', to the south of the car park that are to be removed. Multiple upright branching growths indicate that this line of conifers was originally maintained at about two metres

Freshwater lakes

29 no. trees and 2 no. groups have been surveyed along the banks of the Freshwater Lakes and the island on the small Freshwater Lake. Species contain a large proportion of oak and willow trees which appear to thrive in the wet ground conditions. The area generally contains a number of dead or dying alders. An initial assessment carried out by the Forestry Commission in December 2016 indicated the potential presence of Phytophera (Alder dieback disease).

Vegetation of trees on the islands has received little management in the past years and requires selective clearing, coppicing and replanting to rejuvenate.

Survey results

Cygnet Play Area

6 no. trees were surveyed; these contained 3 no. oak and beech trees assessed a category ‘A’, 2 no. category ‘B’ trees (oak and lime) and 1 no. poplar pollard. The later is recommended for removal due to its limited useful life.

Westfield Play Area

5 no. trees were surveyed along the southern boundary of the play area containing a mixture of Corsican pine and holm oak; 3 no. trees were assessed as category ‘A’ and trees as category ‘B

Survey results - Summary:

Irrespective of any development proposals, the survey demonstrates that the trees in Poole Park are in need of strategic management.

59% of the surveyed trees are mature or late mature and are therefore being in their in the final third of their life expectancy or having exceeded their life expectancy.

44 no. trees and one group were identified to be removed in the interest of sensible and reasonable arboricultural recommendations; and 15 no. trees were assessed for removal under category ‘U’ classification.

Two groups within the Freshwater Lakes were recommended for selective clearing under a vegetation management regime.

Survey results - Summary:

A total of 75 no. trees are proposed for removal. The reasons for removal are as follows:

- 15 no. individual assessed trees were identified as being unsuitable for retention (Category ‘U’)
- 44 no. trees and one group were recommended to be removed in the interest of sensible and reasonable arboricultural management
- 15 no. trees were proposed to be removed to allow the strategic replanting of the avenue
- 1 no. tree, a mature Hawthorn (T131) of low vigour through long term suppression by larger specimens near the War Memorial entrance gates, will be lost due the direct implementation of the development.
- In addition selective clearing of the vegetation on the islands of the Freshwater Lakes will result in the removal of further trees, some that are already dead.

Development - Mitigating impacts to trees

In the improvements we will ensure trees are protected and through the design process have considered the impact on park trees.

This includes:

- Replacement planting for all proposed tree removals.
- Re-considering the path layout at Western Entrance Gardens to avoid impacting on a late mature yew tree.
- Using non-dig, permeable surfacing at Norton's Gate and the new path link between Parkstone Road leading to the War Memorial.
- Omission of kerbs to avoid excavation in RPAs where possible; and
- Provision of individual mulched circles and larger contained areas of mulching to existing trees to improve growing conditions.
- Provision of raised kerb edging and cut stone blocks to serve as vehicle barriers for the trees in the grassed island of the Copse Close car parking area.

Strategy for Renewal:

As part of the design process two options for replanting have been explored. The overall aim is to conserve the avenue as a tree structure with a high visual amenity.

Option A. Retain trees until dead, dying or structurally unsafe. Replant gaps as they appear.

Pros

- Continued mature, although visually poor, tree structure in the short term.

Cons

- Results in an uneven aged avenue with trees at different shapes and size; low visual amenity.
- Restricted planting area in order to avoid the roots of adjacent trees.
- Future budget pressures are likely to limit implementation.

Strategy for Renewal:

Option B. Removal of larger sections of trees now and replant

Pros

- Opportunity to create a better growing environment by incorporating a suitable tree pit layout and irrigation in the improvement works to the Drive. This will improve the establishment and long term health of the trees.
- Consistent age and therefore more uniform and formal appearance as expected of an avenue.
- More control over species selection, sourcing of trees and quality of installation.
- Availability of funds (subject to HLF grant bid outcome)

Cons

- Initial visual impact created by the removal of a long section of trees

Option B provides an 'active management approach' compared to ad hoc replacement, which will replace the avenue in lines to ensure future uniform character of the avenue; this an approach also outlined in the '*Arboricultural practice Note APN 09, Management of Avenues*' published by the Arboricultural association. The benefits outweigh the negative short term visual impact and make the best use of the HLF capital funding.

From an arboricultural and amenity aspect it is considered that the most significant and visually prominent surveyed trees on site have been retained.

Strategic Planting

Strategic planting proposals have been prepared. It is important to try to 'future proof' trees in the park from increasing incidences of pests and diseases that are entering the UK and are predicted to increase with rising average temperatures and milder, wetter winters. To do this three species are being proposed for replacement planting, retaining the avenue format and planting gaps.

The proposed development provides the opportunity to plant new trees in a much improved rooting volume, in turn improving vigour and therefore is likely to give the trees more resistance to pests and diseases and a longer life span.

There is proposed tree planting of 80 no. trees.

This is considered adequate and reasonable mitigation measure to address loss of amenity. It is considered that the resultant loss of amenity associated with the works, detailed above, will have a relatively low, short term impact on the treed character of the Park. Although there will be a temporary loss of mature trees, these trees are already in decline and their removal is anticipated to be within the next 10-20years. The proposed strategic replanting will ensure that a quality tree stock remains in the Park for the future

Strategic Planting

Species selection is based upon site knowledge, the assessment of site conditions and following discussions with national tree suppliers. To mitigate future pests and diseases a varied species selection has been made, diversifying the largely single species avenue. Trees will be planted in lines of single species groups to provide some continuity, selecting the most appropriate species according to the conditions:

1. English oak, Quercus robur, to be planted in areas that can accommodate a large crown and there is a chance for rooting into adjacent lawn areas; and in wet areas. Currently thriving in the area between the Middle gate and War Memorial.
2. Small Leaved Lime, Tilia Cordata ‘Greenspire’, is a compact clone with a relatively small pyramidal crown and shall be used in places where there is crown competition from other trees. The Greenspire is known to have fewer problems with aphids and is therefore acceptable in parking areas.
3. Common Hornbeam, Carpinus betulus, is suitable due to its parkland character and will tolerate for more confined, and dryer growing spaces.
4. Pin Oak, Quercus pinnata, will provide an alternative to Common Oak for the wetter areas of the site.

Strategic Planting

Size of new trees.

Trees will be specified at a girth of 18-20cm or 20-25cm (nursery measurement).

The photo below shows a tree in the foreground (A) that was planted within the last 2-3 years and is still at nursery size. This is the size of tree we are proposing to plant and should resist casual vandalism.

The tree in the background (B) has been planted some 10 years or so ago and is now nicely maturing.

Tree planting is not just confined to the avenue, areas around car parks and other landscape trees shall also be planted to increase the diversity and age structure of the tree stock, similar to the trees in this photo.

Timings

Phased programme of Tree work

Any emergency tree works or those identified as dead or dangerous will be removed under normal park maintenance operations.

Landscaping works to the War Memorial, Freshwater Lakes and other areas are likely to be 2018 onwards.

The programme for work in the *Access, parking and movement theme* (drive and car parks) is to take place in 2019-20.

Replanting will take place as areas are redeveloped, or after construction.



Future Tree Strategy – Issue 1

Executive Summary

The Poole Park Life project has provided the opportunity to strategically assess Poole Park's trees, our management of them and how we should provide for them in the future.

This document is Issue 1 and as such a draft whilst two significant pieces of work are finalised:

1. The Poole Park Life Development Phase submission to the Heritage Lottery Fund (HLF)
2. A planning application in support of the above project.

Even when these two documents are submitted in March 2017, further work is required in order to fully assess and determine the future tree strategy for Poole Park, namely:

Additional tree surveys, there have already been over 280 individual surveys

Arboricultural assessments by compartment areas based on the surveys

Linking of strategic policies, namely the Conservation plan (CP) and Management and Maintenance Plan (MMP).

The impact of the proposed development within the Poole Park Life project and the evolution of these plans through the Delivery Phase.

This information will be collated and brought in to the strategy. Conclusions and policy will then be set that determines how BoP manages Poole Park's trees for the next 50 years, the period 2020 – 2070.