



**Title: TreeSong****Ward:** Clifton (Downs)**Officer Presenting Report:****Contact Telephone Number:**

**Recommendation:** We would like the Downs Committee to approve the installation of a temporary public artwork by the Bristol Ensemble and artist Jony Easterby.

**Project date:** 28<sup>th</sup> September – 5<sup>th</sup> October 2015 (including set up and removal)

**Summary:**

TreeSong is an arts installation commissioned by Bristol 2015 as part of the city's year as European Green Capital.

A specific beech tree has been chosen (see map) and as it prepares to shed its fruit in the autumn we will install a low level structure beneath the canopy which will catch the falling beechnuts. As each beechnut falls and makes contact with the sensors beneath, the installation will register vibrations and emit musical sound across an octave. For the visitor, a musical note will sound at the point of contact. All sounds will be recorded to capture the soundtrack of the tree and this data will be used in a new classical composition to be performed at St George's In November. During hours of darkness, each musical note will also trigger a subtle lighting. Over the period of the installation, people will be able to hear as well as see the fruit falling from the tree.

**Context**

TreeSong is a Bristol Green Capital project and part of the Nature strand of public events. It is based on an idea designed with three aims:

- Improving public knowledge and understanding of nature within the urban environment
- Connecting people to nature and encouraging their appreciation of the natural urban wealth through interaction
- Providing and artistic experience through the interpretation of a natural phenomenon

**Proposal****1) Installation**

The installation will take the form of a series of up to 64 sensors attached to tensioned nylon strings surrounding the trunk of the tree stretching from a cushioned ring around its trunk to ground mounted tensioning 'bridges'. These would be pinned to the ground around the edges of the canopy by steel pegs to a depth of 9 inches.

The selected tree is approximately 100 years old with a canopy that reaches to ground level. A natural gap in the canopy will be left open (free of any equipment) which will allow people to walk underneath the tree and inside the installation to experience 'the sound of nature'. Information and education materials will be available for people to read about the project and the tree itself. Post installation, the public will be able to hear the musical interpretation of the tree's fruitfall at the St George's concert scheduled for 4pm on a Sunday 28<sup>th</sup> November.

A small portacabin will be positioned close to the tree for the duration of the installation to house computer equipment and provide shelter for overnight security staff. A portable solar-powered generator will be positioned close to the cabin to provide environmentally-friendly electricity supply. The generator will be stored overnight in the cabin.

**2) Hours** of operation: 10 am – 10 pm

**3) Timetable:**

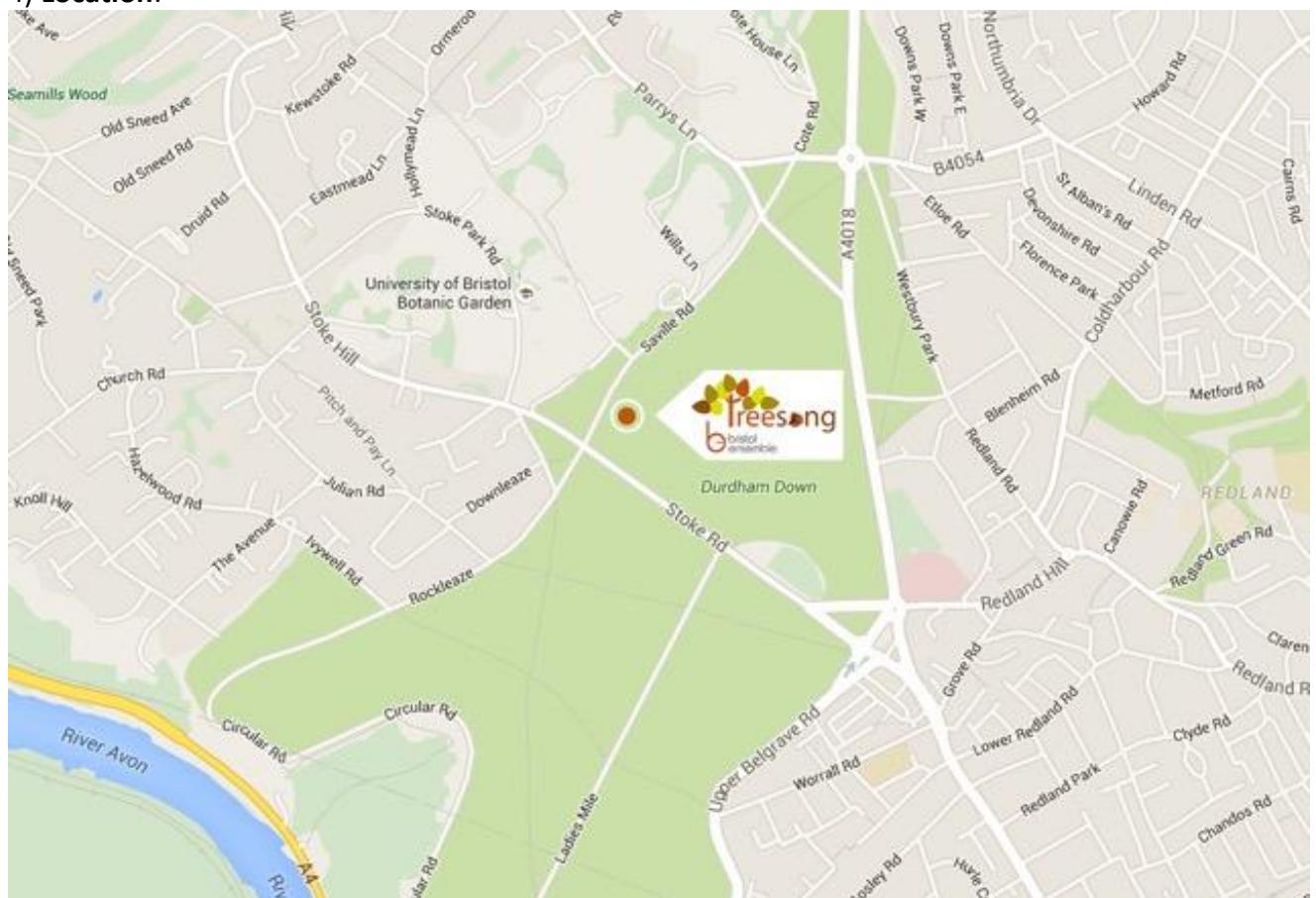
28<sup>th</sup> – 29<sup>th</sup> September: Installation fixing

30<sup>th</sup> September: testing and trouble-shooting

1<sup>st</sup> – 4<sup>th</sup> October: installation open to the public

5<sup>th</sup> October: removal of installation; make good the site

**4) Location:**



**Other options considered:**

Various public green spaces in Bristol were considered of which the Downs was one. Other trees were also considered such as chestnuts. The final decision was based on the optimum tree suitable for the project and its safe access and visibility by the public.

**Risk assessment**

A preliminary risk assessment has been carried out and this will be updated as the project progresses up to and including the technical installation period. We will:

- Ensure the construction of the installation is competently built
- Provide public liability insurance of £10m cover
- Ensure any damage to the ground can be repaired to reinstate as found
- Ensure fire prevention measures are in place
- Conduct a complete health and safety assessment
- Provide professional overnight security to prevent vandalism
- Provide stewards/marshals at all times

## **Legal and Resource Implications**

Bristol Ensemble is a company limited by guarantee No. 03496857 and a registered charity No. 1075201. Chair of Trustees is Stephen Hoddell CBE. It is funded by Arts Council England, Bristol 2015, Garfield Weston Foundation and other Trusts and Foundations.

The project is funded by Bristol 2015 and the PRS Foundation.

An application to Bristol City Council for an event licence is being prepared.

## **Personnel**

Lead organisation: Bristol Ensemble

Artistic Director: Roger Huckle

Lead Artist: Jony Easterby

Project Manager: Audrey Michel

Marketing: Judith Ogden

## **Appendices**

TreeSong Technical design



A creative arts project of  
Bristol European Green Capital 2015



## Technical Specifications

### SOUND

The installation will take the form of a series of up to 64 sensors attached to tensioned nylon strings surrounding the trunk of the tree. The sensors stretch from a cushioned ring around the tree's trunk to ground-mounted tensioning 'bridges' which are pinned to the ground around the edges of the canopy by steel pegs to a depth of 9 inches.

Each will have sensor (piezo) feeding the on/off information to a computer with a selection of samples with a pre-determined set of compositional rules relating to pitch, timbre, filter and velocity.

Sound will be triggered by the dynamics of the tree:

- Falling nuts
- Wind in branches.
- Wind through the string structure (harmonics)
- The swaying and movement of leaves and branches.

The strength and velocity of the falling nuts will allow for an extra level of dynamic response .

Hanging from the branches of the tree will be simple devices that pluck the strings as the branches move in the wind. These will made from fine lines with small stones and feathers attached. The movement of the branches will alter the sound of these.

Four waterproof loud speakers (JBL 28av - weighing up to 8kg each) will be suspended from sturdy branches on the tree canopy. The wires for these will be cushioned (with hosepipe and hessian) to counter any possible damage to the tree bark. The wires will also pick up other incidental sounds such as creaking and insect movement.

All cables and power will run from the tree to a small 3m x 2m x2m control station erected some 8m from the tree edge. Cables will be buried in shallow trench.

The sound level will audible for a distance of approximately 30m from the centre of the tree.

### LIGHT

Each hit will also trigger a circle of light from up to 128 - 3w LED (controlled through bespoke DMX boards) hung from the canopy of the tree relating to the zones under the canopy in which the nut has fallen, which will then fade after a few seconds.

Light will be provided by small 3w Led spots at various points and by a matrix of light wire relating to the shape of the strings under the canopy.

The outside of the tree will be lit by a number of DMX controllable LED floods/spots to create a dynamic up-lit feel.

The paths towards the tree will also be lit in a way appropriate to the form of the site.

## **TECHNICAL**

The installation will be created using up to 64 separate trigger inputs.

Each trigger will have a separate piezo transducer which will send an output voltage to a number of Arduino boards which will translate the vibrations into data.

This data will be used to trigger an individual sound from a selected series of sampled timbres and pitched notes to form the 'live composition'. All data will be stored at intervals as a binary and audio stream.

The playback of electronic and acoustic sounds will be relayed to a mixing consol and active four way speaker system mounted within the tree canopy.

Data output will also trigger a single 3w Led light source through bespoke DMX lighting boards creating a small circle of light above the triggered area.

# TreeSong

Layout of wires around tree canopy.

