TREE TENT STRUCTURAL DETAIL.

CENTRAL RIGGING EYE. DIN 582 M16 STAINLESS STEEL EYE BOLT. SWL: 700KG / BL: 1900KG CAP ASSY. FIXED WITH 2 OFF AN BOLT, 06–40, (³) DIA) & K NUTS I-BEAM HUB. 10MM 6082 T6 ALUMINIUM ALLOY PLATES TIG WELDED TO EXTERIOR ALUMINIUM TUBE AND FIXED WITH 2 OFF AN BOLT, 06−40, (³" DIA) & K NUTS I-BEAMS. 6082 T6 ALUMINIUM ALLOY LASER CUT PLATES TIG WELDED TO FORM STRUCTURAL I-BEAM SUPPORTS. CENTRAL SUPPORT POLE. 3" X 1/8" 6082 T6 ALUMINIUM ALLOY. OUTER FRAME MEMBERS. 50 X 20mm STEAM BENT ASH FRAME MEMBERS LINKED TO PLYWOOD FLOOR AND CEILING RING PANELS BY 6mm STAINLESS STEEL BRACKETS. FLOOR PANELS. 18MM STRUCTURAL, EXTERIOR GRADE PLYWOOD FLOOR PANELS IN 4 SECTIONS EDGE SUPPORTED BY ASH MEMBERS TO RESTRICT I BEAM BENDING FORCES. ALL FIXINGS IN NON-CRITICAL LOCATIONS M8 STAINLESS STEEL WITH NYLOC NUTS UNLESS

Tree Tent Construction Details Scale 1:50

TREE TENT RIGGING DETAIL.

A. TREE ATTACHMENT POINTS: 1-1/4" STAINLESS STEEL GARNIER LIMB TREE ATTACHMENT BOLT RATED TO 3628KG LOADING.	
	SI
B. RIGGING ROPES:	
MARLOW DYNALINE 12 STRAND UHMPE DYNEMA WITH ARMOURCOAT - 8mm	SIT
MAX WL: 3240KG SPLICED BL: 6480KG	BEI
UV RESISTANCE: 50% STRENGTH RETENTION AFTER 3 YEARS.	
TUBULAR THIMBLE SPLICED AT BOTH ENDS.	QU
EN 29001 / ISO 9001 / BS 5750	
	AN

C. RIGGING / ATTACHMENT LINKS:

OUTER RIGGING POINTS: MAILLON RAPIDE, LARGE OPENING, STAINLESS STEEL. 10MM WLL: 1600KG / BL: 8000KG EN 12275 & EN 362 CERTIFICATION. CE SELF CERTIFIED.

CENTRAL RIGGING POINT: MAILLON RAPIDE, LARGE OPENING, STAINLESS STEEL. 12MM WLL: 2200KG / BL: 11000KG EN 12275 & EN 362 CERTIFICATION. CE SELF CERTIFIED.



0m	1m 1	2m	3m	4m	5m
Scale	e 1:50				
0m	2m	4m	6m	8m	10m
Scale	e 1:100				

10 0 10 20 50 100mm NATURAL SCALE ORIGINAL DRAWING SIZE 841 x 594

SUPPLEMENTRY SAFETY SYSTEMS.

A. INTERNAL SAFETY WIRE: STEEL SAFETY WIRE RUNNING THROUGH CENTRAL TUBE CONNECTION UPPER AND LOWER HUBS TO TOP CENTRAL RIGGING EYE AS BACKUP TO CENTRAL POLE FAILURE.

B. INTERNAL SIDE WALL NETTING: SAFETY NETTING FIXED INTERNALLY BETWEEN FLOOR AND EQUATORIAL ASH MEMBERS TO STOP FALL THROUGH FRAME.

C. SECONDARY SUSPENSION BACKUP LINE: SECONDARY RIGGING LINE FURTHER TO OUTER RIGGING LINES TO TAKE LOAD FOLLOWING OUTER RIGGING LINE FAILURE.

MANUFACTURE / ENGINEERING OVERVIEW.

A. DESIGN PERSONNEL: OVERALL DESIGN BY BEng(HONS) QUALIFIED PROFESSIONAL / DESIGN APPROVED BEng(HONS), MEng, CEng, M.I.Struct.E QUALIFIED PROFESSIONAL.

B. MANUFACTURE: ALL FABRICATION, MACHINING, ASSEMBLY BY CIVIL AVIATION AUTHORITY APPROVED MANUFACTURER.

C. TEST / SIMULATION: ALL DESIGNS AND COMPONENTS FEA SIMULATED WITH CRITICAL WELD POINTS TESTED TO BS EN ISO 17635

IGN OFF / INSPECTION REGIME.

TE STAFF TO PERFORM VISUAL SITE, RIGGING & INTERNAL INSPECTION CHECKS TO CHECK LIST FORE EACH OCCUPANT STAY AND/OR AT WEEKLY INTERVALS.

UARTERLY INSPECTION BY PROFESSIONAL ENGINEER OR QUALIFIED TREE TENT PERSONNEL.

NNUAL DISASSEMBLY AND THROUGH INSPECTION BY QUALIFIED TREE TENT PERSONNEL.



Tree Tent Elevation Scale 1:100

Tree Tent Plan

Scale 1:100

It is proposed to make best use of the site, which as outlined in the reports by both the Arboricultural Study and Ecology Study, has been left unmaintained for many years and consequently has become neglected and somewhat overgrown.

The first intention was to see if the design of log cabins to the south could be continued into the site. But with its significant levels, it would prove difficult to site the units successfully. Therefore, this application is for the installation of Tree Tents. Detailed information about the tents are included later in this document. However, woodlands are our future, and to help sustain this future woodlands need to be used for more than just harvesting timber during their lifetimes, or as a simple backdrop to the character of a neighbourhood. Research, conservation, work, play and retreat are all important activities that can be enjoyed as part of the forests cycle.

Tree Tents aim to offer comfortable and low impact inclusion into the woodland at any time of year whether it be for recreation, research, conservation or education.

The Tree Tent concept is a culmination of over 3 years of work and research (and decades of experience) in sustainable shelter systems, fabric structures and tree top living. They offer a lightweight and efficient structure using sustainable, recyclable, recycled and natural materials. A structure that can be easily transported and assembled on-site with minimal, non-permanent impact on its environment. They are a unique, hybrid aluminium and green ash static airframe combined with an expertly tailored 100% cotton canvas skin.

The spherical structure is 3m in diameter, sizable enough to comfortably accommodate two adults. 100% wool, winter thermal liners allow for all year round accommodation while wood stove, water and electric options offer the extra creature comforts

Tree Tents are lightweight, hybrid aluminium and steam bent ash airframes and offer a comfortable, low impact shelter at any time of year. The spherical structure is encompassed by a 16oz rot and waterproofed, 100% cotton canvas. Its dirigible structure blends two very different but complementary engineering materials - aluminium and wood; with inspiration and design ques taken heavily from early zeppelin engineering and lightweight aircraft design.

Tree Tents are also available as stand-alone ground mounted structures which reduce the required aluminium framing and rigging complexities but still offer the advantage of a raised structure. The easily installed spiral ground mounts offer minimal impact and the variable length, stilted legs can adapt to uneven and difficult terrain.

Importantly to note, is that the greatest benefit of this proposal is that each tent, its access and orientation will be determined by the specialist manufacturer on site, with the ecologist and tree consultant. So, each pod will be bespoke to its setting and environment, with the impact on the character being very minimal.

The pre-app response raised the concerns over DDA access. With the sites undulating levels and the very nature of the tree tents themselves, it is hard to see how a fully DDA compliant site could be created allowing for level access. However, Tree Tent 3 on the proposed plans could be one that is sited at a lower level on a tripod frame, which would allow a small ramped access. With the Dis WC facilities in close proximity, and disabled parking space adjacent this would give the site flexibility to offer accessible facilities.

The manager's pod, will simply be another proprietary tree tent, in which the person responsible for site can welcome visitors, and present to them the site rules, regulations and facilities. The office is likely to only be managed part time, to coincide with arrivals and departures of guests, and would have display boards and the usual tourist information leaflets. It would also have an emergency contact of the site manager who would live off site

The shower/toilet facilities are shown as being housed in more traditional (proprietary) timber frame/log cabin structures in clearings fairly central to the site. These are proposed as single storey, timber frame construction, set on simple raised stone setts or slabs.

The toilet and wash up areas are proposed as simple "shed like" structures, which could be self-composting, although there is mains drainage running across the site. We would suggest that a drainage scheme is set as a conditional item, and this can be controlled during the Building Control stage.

								Drawing
								TRE
			Rev.	Drawn	Date	Change		
partner LABC	This drawing is the copyright of Morgan Design Studio Ltd. All dimensions to be checked on site by contractor and not scaled from this drawing. Morgan Design Studio Ltd accept no liability for any expense, loss or damage of whatsoever nature and however arising; from any variation made to this drawing; or in the execution of the work to which it relates, which has not been referred to them and their approval obtained. This drawing may not be copied or distributed or displayed without prior consent.	Chartered Institute of Architectural Technologists Registered Practice	Sca As	le (at show	^{A1)} /n @ A1	Date 05.11.16	Drawn SJM	Client



Tree Tent Stilt Detail Scale NTS



Tree Tent Ground Cradle Detail A Scale NTS



Tree Tent Ground Cradle Detail B Scale NTS

