



Ecourban Limited
Radley House
8 St Cross Road
WINCHESTER
SO23 9HX

T: 01962 877 397 M: 07532 373 563

E: barrie@eco-urban.co.uk

W: www.eco-urban.co.uk

Mr Gargett
Arboricultural Manager
Havant Borough Council
Public Service Plaza
Civic Centre Road
Havant
PO9 2AX

Our Ref: **17931 - Let 3**

27 March 2018

Dear Mr Gargett

RE: TREE ISSUES AT YACHTHAVEN, COPSE LANE, HAYLING ISLAND

I write with regard to my ongoing involvement with the above project. During our site meeting on 5 February 2018 I agreed to write to you and set out the proposed forthcoming tree related activities on site. Please see below details of these in respect of the drainage issues (in so far as they relate to trees) and works required in mitigation of the recent tree related activities on site. I have set out each of these issues in the subsequent paragraphs below:

- **Ditch clearance:** As discussed during the recent meeting, there is a need for maintenance of the existing ditch to the west of the trees, adjacent to the existing access drive. In accordance with your views, I have arranged that I will be on site throughout the duration of these works and will supervise these operations, along with all the additional activities set out below (tree pruning, decompaction and tree planting) which will be scheduled concurrent with the ditching works. These have been provisionally scheduled for some time in April, but I will advise in due course via email on the exact timings. All works will proceed in accordance with the attached method statement.
- **Remedial tree pruning works and tree operations in main avenue:** Upton Specialised Tree Services Limited (USTS) have been appointed to carry out this work and a specification is included in the attached method statement. USTS are an Arboricultural Association Approved Contractor and company details can be found by following this link <http://www.treesurgerydorset.co.uk/>. All the

works will be carried out in accordance with the details set out in the attached method statement and also in line with BS 3998: 2010 Tree work - Recommendations.

- **Decompaction works:** This will also be undertaken by USTS using compressed air delivered into the affected area (as shown on the attached drawing) at approximately 0.3m spacings by means of a perforated spike driven into the ground. These areas will then be covered in woodchip to a depth of approximately 100mm.
- **New tree planting:** Nine new standard size oak trees (*Quercus robur*) 8-10cm girth will also be planted by USTS in the approximate positions shown on the attached drawing and in accordance with the details indicated in the appended method statement.

I trust that the information provided above (and in the subsequent attachments) is acceptable to the council, but please come back to me if you have any observations, or wish to see any amendments.

Yours sincerely



Barrie Draper BSc (Hons) Arb TechCert(ArborA) CertArb(RFS)
Arboricultural Consultant

Attached:

- 1: Arboricultural method statement
- 2: Specification for small excavator
- 3: Tree plan (ECO 5)

ARBORICULTURAL METHOD STATEMENT

Ditch Clearance:

1. **Overview of proposed works:** Minor works to clear the existing overgrown ditch to a width of approximately 1000mm and to a depth of 400mm. Works will be undertaken primarily using a large excavator with a suitable reach positioned on the main drive. However, for areas which are inaccessible because of the position of tree stems, work will be undertaken using a small excavator straddling the ditch.
2. **Small excavator use:** A lightweight rubber tracked excavator will be required for some of the ditch clearance works where access by a larger machine will not be possible. This will require working in close proximity to the trees to be retained. A <3 tonne Kubota machine (or equivalent) on rubber tracks is therefore proposed to carry out this work. A specification sheet for a <3 tonne Kubota machine is provided and indicates a typical ground contact pressure of 23.1 kpa, which appears to be significantly less than that exerted by a human being (http://en.wikipedia.org/wiki/Ground_pressure). It is therefore anticipated that the risk of soil compaction from the use of such a small excavator (and impact on retained trees) is likely to be minimal.
3. **Temporary protection of tree stems during ditching works:** The trunks of the retained trees will be protected by high visibility plastic barriers where this is possible. High visibility interlocking plastic barriers (Oxford Avalon or equivalent) will be placed around the trees to demarcate the work exclusion zones around the trees. The barriers will be locked in place in the immediate vicinity of the excavator to prevent unauthorised dismantling or movement during the period that the ditching work is in progress.
4. **Site supervision:** All works will be supervised by ecourban Ltd who will ensure that the details of this arboricultural method statement are known and understood by site personnel. All staff that could have an impact on trees during the ditching works will be briefed prior to the commencement of activities. The initial role of the consultant is to ensure that protective measures shown on the attached plan are in place before any works start. Once the ditching work is under way, the role will switch to monitoring compliance with this method statement and ensuring that adequate levels of tree protection are maintained during the course of operations.

Remedial tree pruning works and tree works in main avenue

Crown lifting:

- Defined in this instance as the removal of the lowest branches to provide up to 5m of headroom clearance to allow construction traffic (and future vehicles) to access the site and up to 3m of headroom clearance to allow the ditching activities to occur. This will generally not include the removal of large branches growing directly from the main trunks, as this can cause large wounds. Provided the desired level of clearance can be achieved, works will be restricted to the removal of secondary branches and/or branch shortening to a suitable live growth point rather than branch removal back to the main parent stem. In the unlikely event that branch cutting back to the main stem is unavoidable, these will be restricted so that the diameter of the final cut is no more than one-third of the parent stem.
- Where branches are shortened, the final cut will be made to a suitably large and healthy live side branch junction which will have enough foliage to sustain the parent stem or branch.
- All cuts will avoid damage to the branch collar or bark ridge. Each cut will be kept as small as possible by cutting at the correct and optimal angle. All works will be in accordance with BS 3998:2010 and supervised by **ecourban** Ltd

Crown cleaning:

- Defined in this instance as only removing dead, damaged or diseased branches from trees and consisting of all dead wood, diseased wood, fractured limbs, broken branches, stumps of branches left from previous poor pruning, dead climbing plants and any foreign objects (provided this does not involve damaging the tree). Broken, dead or defective branches shall be removed back to sound, live wood and the final cut shall be made to the branch collar or bark ridge. Again, all works will be in accordance with BS 3998:2010 and supervised by **ecourban** Ltd

New tree planting and maintenance

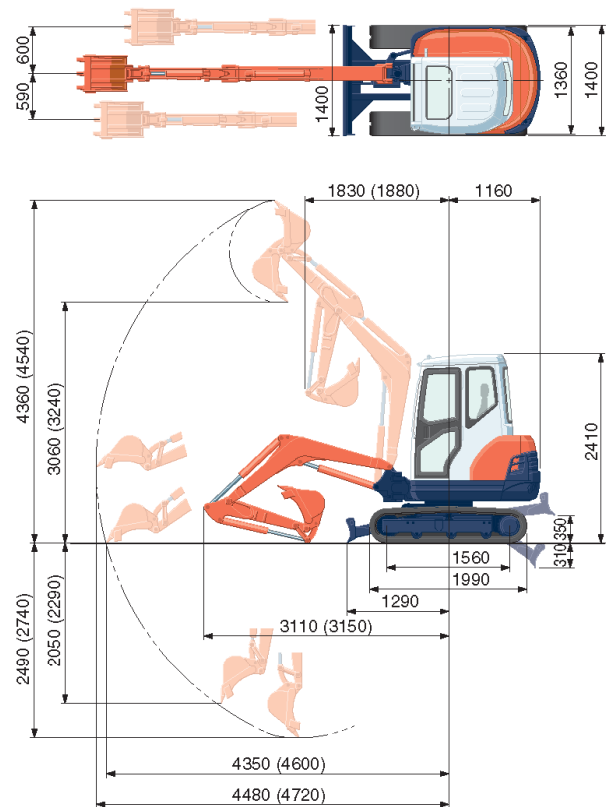
- Nine new standard size (8-10cm girth) oak trees will be planted in 0.75 x 0.75 x 0.75m deep pits, backfilled with clean good quality topsoil. All trees will be single staked with rubber ties and spacer blocks.
- Trees will be formatively pruned at the planting stage as necessary to remove any dead, diseased or damaged material or structural defects so as to create a balanced form for future growth.
- The new trees shall be closely monitored on a regular basis post planting to ensure they are upright, firm and stable and in good health. Mulch levels will be topped up with new material each spring to maintain the specified 100 mm depth.
- Stakes and ties will be regularly checked for firmness, tightness and support and adjusted as necessary. Tree stakes will be checked regularly for breaks and decay and replaced as necessary. If a tree with a defective stake has grown sufficiently to become self-supporting, then stakes can be removed, but trees should be monitored to check for deterioration in stability. In any event, it is anticipated that all stakes and ties will be removed in the region of 5 years post planting.

SPECIFICATIONS

*Rubber shoe type

Machine weight	Cabin (Std. arm/Long arm) kg	2590/2600
	Canopy (Std. arm/Long arm) kg	2485/2495
Bucket capacity, std. SAE/CECE		m ³ 0.06
Bucket width	with side teeth	mm 475
	without side teeth	mm 450
Engine	Model	V1505-E2-BH-9EU
	Type	Water-cooled, diesel engine
	Output ISO9249	PS/rpm 24.8/2100
		kW/rpm 18.2/2100
	Number of cylinders	4
	Bore x stroke	mm 78 x 78.4
Displacement		cc 1498
Overall length (Std. arm/Long arm)		mm 4270/4310
Overall height	Cabin	mm 2410
	Canopy	mm 2430
Swivelling speed		rpm 9.5
Rubber shoe width		mm 300
Tumbler distance		mm 1560
Dozer size (width x height)		mm 1400 x 300
Hydraulic pumps	P1,P2	Variable displacement pump
	Flow rate	ℓ/min 29.4+29.4
	Hydraulic pressure MPa(kgf/cm ²)	22.6 (230)
	P3	Gear pump
	Flow rate	ℓ/min 16.8
	Hydraulic pressure MPa(kgf/cm ²)	17.2 (175)
Max. digging force	Arm (Std./Long) kN (kgf)	14.7/12.4 (1500/1265)
	Bucket kN (kgf)	21.5 (2190)
Boom swing angle (left/right)		deg 80/60
Auxiliary circuit	Flow rate	ℓ/min 46.2
	Hydraulic pressure MPa(kgf/cm ²)	17.2 (175)
Hydraulic reservoir		ℓ 34
Fuel tank capacity		ℓ 45
Max. travelling speed	Low	km/h 2.8
	High	km/h 4.4
Ground contact pressure	Cabin kPa(kgf/cm ²)	23.1 (0.236)
	Canopy kPa(kgf/cm ²)	22.1 (0.225)
Ground clearance		mm 305

WORKING RANGE



(): Long Arm
Unit: mm

LIFTING CAPACITY

KX61-3(CAB) with standard arm: kN (ton)

Lift Point Height	Lifting point radius (2.5m)			Lifting point radius (3.5m)		
	Over-front		Over-side	Over-front		Over-side
	Blade Down	Blade UP		Blade Down	Blade UP	
2.0m	7.00 (0.71)	7.00 (0.71)	6.81 (0.69)	6.04 (0.62)	5.19 (0.53)	4.12 (0.42)
1.5m	8.65 (0.88)	8.55 (0.87)	6.61 (0.67)	6.38 (0.65)	5.13 (0.52)	4.07 (0.42)
1.0m	10.28 (1.05)	8.30 (0.85)	6.40 (0.65)	6.80 (0.69)	5.06 (0.52)	4.01 (0.41)
0m	11.62 (1.19)	8.10 (0.83)	6.17 (0.63)	7.17 (0.73)	4.97 (0.51)	3.92 (0.40)

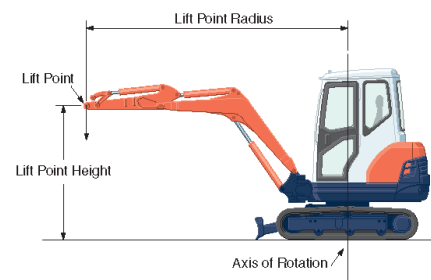
KX61-3(CAB) with long arm: kN (ton)

Lift Point Height	Lifting point radius (2.5m)			Lifting point radius (3.5m)		
	Over-front		Over-side	Over-front		Over-side
	Blade Down	Blade UP		Blade Down	Blade UP	
2.0m	5.95 (0.61)	5.95 (0.61)	5.95 (0.61)	5.46 (0.56)	5.22 (0.53)	4.15 (0.42)
1.5m	7.63 (0.78)	7.63 (0.78)	6.70 (0.68)	5.90 (0.60)	5.15 (0.53)	4.09 (0.42)
1.0m	9.44 (0.96)	8.35 (0.85)	6.45 (0.66)	6.42 (0.65)	5.07 (0.52)	4.01 (0.41)
0m	11.48 (1.17)	8.02 (0.82)	6.14 (0.63)	7.13 (0.73)	4.93 (0.50)	3.88 (0.40)

Please note:

* The lifting capacities are based on ISO 10567 and do not exceed 75 % of the static tilt load of the machine or 87 % of the hydraulic lifting capacity of the machine.

* The excavator bucket, hook, sling and other lifting accessories are not included on this table.



* Working ranges are with Kubota standard bucket, without quick coupler.

* Specifications are subject to change without notice for purpose of improvement.

