Appendix A

Livistona australis - Cabbage Tree Palms – Transplanting Method Statement

prepared for

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Eight (8) Existing Cabbage Tree Palms (*Livistona australis*) are to be translocated on site at Campbell's Cove. Figure 0-1 illustrates their current locations.

Figure 0-1 Existing Cabbage Tree Palms

Figure 0-2 illustrates their new locations.

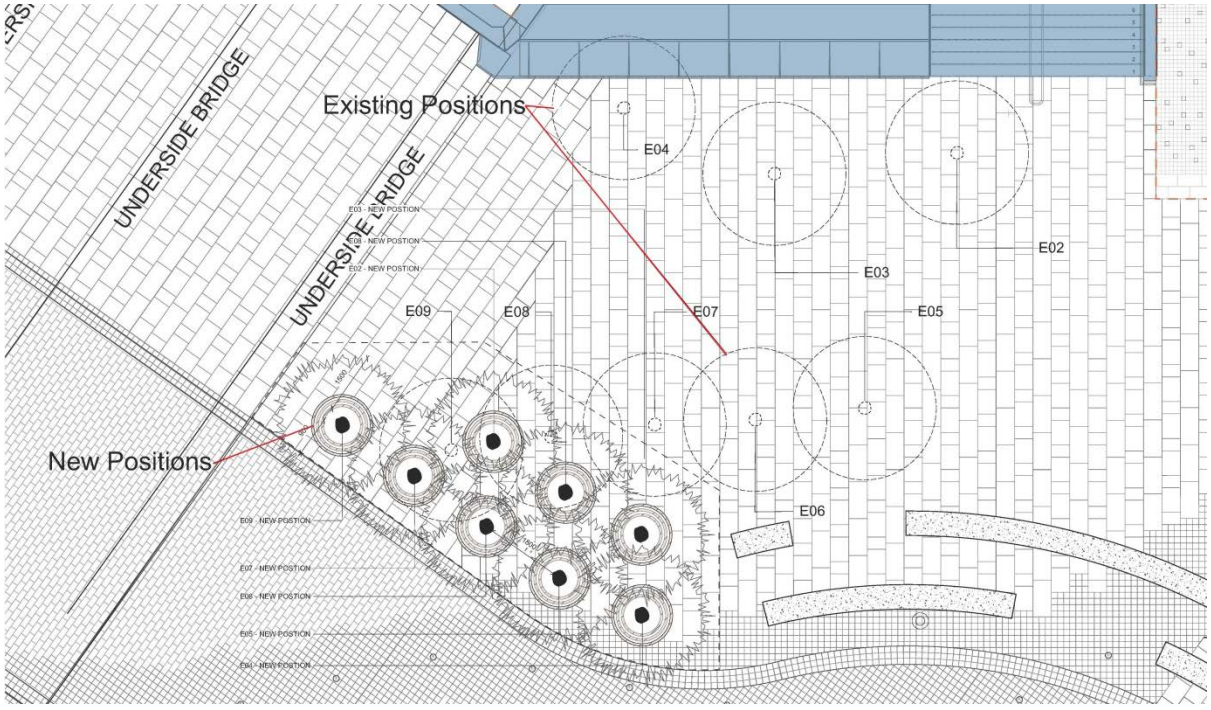

Figure 0-2 New Cabbage Tree Palm locations

Ideally the palms will be transplanted in one move to their new locations prior to any other works being undertaken. This would coincide with the best season for transplanting during the moist/warmer

months (late January-early February) to ensure as long a period as possible of active and sustained growth and to allow Bay X stairs to be built and concrete pavement slabs to be installed in proximity to the new palm locations.

Before commencing digging

1. Irrigate the soil thoroughly several days before the dig to ensure that the palm root-balls are well moistened but not wet for the entire depth profile for optimal water status and maximum soil adhesiveness
2. Remove shrubs, other vegetative matter and mulch from the soil surface around the palms
3. Remove lower palm leaves to the extent that 75% of the canopy remains and tie up the remainder to protect the centre bud and facilitate handling
4. Dial Before You Dig. Before commencing any excavation, locate and mark existing underground services in the areas which will be affected by the work. Do not excavate by machine within one (1) m of existing underground services.

DIAL 1100 BEFORE YOU DIG is a free service, from anywhere in Australia, of locating underground pipe and cables (possible within two working days). See www.dialbeforeyoudig.com.au.

5. Prepare the new palm locations by;
    a. Excavating entire planting area for the group of eight palms to the extents shown on the plan for structural soil to a depth of 1500mm.
    b. Scarify the base of the planting holes under “Soil Mix B” extents for a further 100mm
    c. Ensure that sufficient quantity of structural soil, and soil mix A and B are available on site
    d. Moisten but do not wet the base of the planting hole.

Digging

1. Mark out the inside edge radius of the digging zone at 800mm from the centre of the palm trunk measured at the base of the palm at ground level.
2. Dig vertically down by hand or with a small backhoe/excavator/trencher maintaining the 800mm radius from the centre of the trunk. A heavy sharpened spade is useful for final clean cutting of roots adjacent to the rootball
3. Dig to a maximum depth of 1500mm or to a depth where roots are no longer present or where bedrock is reached
4. If the soil surrounding the rootball is sandy and likely to fracture and fall off during lifting and moving, wrap the rootball and tie tightly in hessian to keep it intact before it is detached from the base of the hole
5. Once dug, wrapped (if required), and secured, undercut the base of the rootball by hand digging and cutting roots manually or alternatively, undercut by placing a loop of self-cinching cable in the base of the trench around the root ball and pulling or drawing it tightly by machine. If the rootball sits directly over bedrock, no cutting will be required.

Lifting

1. Ensure that the crane used for the lift is suitably sized for the estimated weight of the palms
2. Avoid excessive movement and shaking of the palm during lifting and moving. At all costs prevent the palm swinging or slewing and potentially hitting and damaging the growing tip

3. Where feasible lift palms from below the root ball, otherwise palms should be lifted by means of nylon slings wrapped around the trunk and protected with burlap, carpet, or similar material.

Planting

1. Measure the rootball and adjust the depth of the planting pit to suit the depth of the rootball and to bring the base of the trunk flush with design levels and to the depth at which it was previously. Use soil mix “B” under the rootball to adjust the level higher where required
2. Lift, place, centre and plumb the palm into the pre-prepared planting pit
3. Backfill with soil mix “B” and Structural Soil as shown on the drawings around each palm, allowing space for the next palm to go into position
4. Firmly tamp the backfilled soil in layers to remove all air pockets and continue to backfill, and tamping to within 300mm from top of the rootball to allow for Soil Mix “A”
5. Irrigate during backfilling but not to runoff so as to maintain a clean dry work space within the balance of the pit
6. Install temporary guy wires at two thirds up the length of the trunk. Strap short lengths of 100mm x 50mm timber to the trunk at the point of fixing to protect the trunk from damage and secure with stakes before proceeding to transplant next palm.
7. Repeat procedure until all palms are in place then flood irrigate several times.
8. Install network of ex-filtration/aeration pipes where shown on plan
9. backfill with the balance of structural soil and soil mix “A”. Flood irrigate several times during the final backfilling to ensure proper settling of the soil.
10. Compact structural soils as specified
11. Ensure external support bracing of trunks is secure and capable of withstanding high winds
12. Apply Liquid fertiliser Seasol Plus immediately after the final watering-in over the original rootball, extending out 300mm beyond the rootball edge at the manufacturers recommended rates and subsequent fertilisations also at the manufacturers recommended rates up until the end of the landscape maintenance period.
13. Untie the secured fronds after planting and guying is complete or after it is safe to do so.

After Care and Watering

1. Monitor transplanted palms carefully for secondary problems, such as pest infestations, diseases, and abiotic disorders, and treat appropriately
2. Adjust temporary guy wires to maintain stability and prevent damage to the trunk
3. Liquid feed regularly as above
4. Apply sufficient water at each irrigation to maintain the root ball, backfill, and surrounding site soil evenly moist to the depth of the rootball. Manual and visual inspection is necessary to determine soil moisture.