Appendix E: Mulching

An area of ground over the root system of a tree or group of trees may be mulched in order to provide the following benefits, which would occur under natural conditions where organic matter (e.g. dead leaves) accumulates on the ground under trees:

• moisture retention;
• weed suppression;
• encouragement of beneficial soil flora and fauna;
• relief from or prevention of compaction (especially by encouraging earthworm activity);
• mitigation of extremes of soil temperature;
• absorption of toxic materials;
• release of nutrients into the soil.

The materials that may be used for mulching include coarsely divided plant matter, such as wood chip, pulverized bark, or leaf mold, any of which may be combined with well-rotted animal manure. If the sole intention is to conserve moisture, a layer of gravel or well-secured sheets of material such as perforated plastic film, geotextile fabric, carpet or cardboard may be used, and may be covered for cosmetic purposes. Any such sheets should be maintained to avoid damage to the tree (e.g. by clogging, weed growth, restriction of air movement or constriction of the stem). Materials derived from plant species that have naturally occurring toxicity, such as couch grass or black walnut, should be composted for at least a month, preferably at a high temperature (c. 60 ºC), in order to make them innocuous. High-temperature composting should also be used to kill pests and pathogens. Materials that cannot be detoxified, including those that have been contaminated by herbicides or other chemicals, should not be used for mulching. The mulched area should extend over as much of the root system as can be allowed by other site-usage requirements. The depth of organic mulch should not be so much as to inhibit aeration of the root system or to cause overheating of none composted material (normally no more than 80 mm to 100 mm). The mulch should be periodically replenished as it decomposes, so that it does not become depleted. NOTE 1 Mulches that retain water encourage the development of roots near the soil surface and in the mulch itself. Mulches should be kept away from direct contact with the bark of the stem, or of major roots, since this might encourage infection by pathogens by maintaining wet conditions. NOTE 2 Although, by improving the soil texture and acting as a buffer for rainfall, mulches generally help to prevent extremes of soil wetness and dryness, they can prolong waterlogging on sites where drainage is seriously impeded. This in turn can harm tree roots and make them more susceptible to certain pathogens such as Phytophthora spp.

Formative pruning

This should be carried out to avoid any larger pruning operations when is larger and mature. This would involve the removal of crossing and rubbing branches and the removal of co-dominant leaders to produce one central apical stem. This should be carried out a year or two after establishment.

Watering

Newly planted tree species should be **watered immediately** after planting. Then every month during the first season where rain hasn't occurred. Watering is essential during the first couple of season, especially during the dry summer months.

Weed control

Weed competition can be the highest contributor to newly plated tree plantings. The suppression of weeds is essential to the longevity of the trees. Weeds can be suppressed by incorporating wood chip mulch or plastic mulch mats.