TREE MANAGEMENT

Peggy Hailstone Arbor Co.

Ask any greenie or conservationist and they will quickly and readily extol the virtues of trees; to the environment, to matters ecological; in the fight against land salinity and degradation, and ultimately to the survival of our planet and [its] future generations.

Aided by high profile public awareness campaigns such as Greening Australia and National Tree Day, and with a recent and renewed interest in Open Space and Urban Land Management, the humble tree does appear to have made a comeback.

Aside from the obvious role trees play in producing oxygen, trees offer shade, shelter, visual amenity, provide habitat, and add value to land and property. And many local councils are now showing evidence of adopting this new tree consciousness.

Inner eastern councils such as Banyule and Stonnington are enforcing strict policies on tree retention and removal, requiring that residents obtain independent advice from a qualified Arborist prior to granting a planning permit. Bayside City Council's recently amended environment law prohibits the 'cutting, trimming, pruning, or removal of any tree with a trunk diameter greater than 45 centimetres'. Monash too is in favour of retention, and in an effort to maintain and reinforce the Garden State character is actively encouraging the planting of canopy trees in all new developments.

In contrast to our rural and urban environments, however, a golf course is an environment designed specifically for a recreational [sporting] pursuit. Consisting predominantly of trees and turf, which are not homogenous, golf courses create an environment in which trees can be difficult to administer.

Yet trees and turf need not necessarily be toxic, assures Otto Leenstra, of Arbor Co Tree Care Consulting. Involved in the arboricultural and horticultural industries for over 20 years, and with qualifications and experience in turf management, Leenstra now specialises in Arboriculture Consultancy works. And featuring significantly on his organisation's Dossier of Services are Tree Management Plans (TMPs).

"The purpose of a Tree Management Plan is twofold," Leenstra explains. At the macro level a TMP manages a tree population. It protects and maintains valuable tree assets, allows for short and long-term budgetary projections, and is a tool for managing risk. At the micro level, a TMP establishes the all important tree history. A tree history allows a record of plantings, pruning, maintenance works, hazard assessments and removals, and a computerised means of prioritising works. At this level a TMP also offers regular reporting - an essential function where tree-care works are commonly outsourced.

Spring Valley Golf Course in Melbourne's south-east is one Club that has recently gone through the process of seeking and implementing a TMP. "Risk management was one of many reasons for implementation," explains Paul Glover, Course Superintendent. The other main reason was to expedite the council tree permit system. "Sometimes we could be waiting up to 6-8 weeks to receive a tree removal permit", Glover says. In the initial set up of a plan, a full tree inventory is recorded and provided. From this information, tree works can be prioritised as immediate or future, negating any procedural or organisational lag-time. Glover is extremely positive about Spring Valley's recent acquisition and projects that benefits to the Club will be 'vast'.

Having implemented a number of plans, Leenstra believes that golf clubs in particular stand to gain exponentially from a TMP. "Golf course trees are unique in that they play the additional role of directing and influencing play, and determining player skill level." A sick or dying fairway tree therefore poses significantly different consequences and responses to a street tree restricting a proposed driveway. It is the regular monitoring inherent in a TMP that enables disease or pests to be discovered (and treated), prior to encountering a major expense or having to solve a planning dilemma.

As with many schools and parks, it has been common in the past for golf courses to manage trees on an ad hoc basis. Immediate concerns have been for fairways, greens, tees, members and players, with trees often being viewed as a liability rather than an asset. Sharon Lilly in Golf Course Tree Management (1999) cites this situation as typical in America, with Superintendents commonly developing a love/hate relationship to arboricultural issues. "Superintendents may curse the trees for the problems trees cause in caring for the turf ... [but] they realise that trees are critical to the course."

Lilly also pushes the barrow for hiring a qualified, experienced and professional arborist when considering purchasing a plan. In Australia, a reputable arborist will belong to the International Society of Arboriculture and the National Arborists' Association. Make sure they have public liability insurance, Lilly advises, and a professional indemnity policy of at least $5 million. Membership in these professional bodies ensures that arborists stay up-to-date with the latest industry and technological advances, while the insurances protect both the client and the tree care company from worst case scenarios of accident, death, or injury to persons or property.

David Caldecott, Managing Director of Arbor Co and a Consulting Arborist for many years, says make sure you know what your needs are, and what you're getting, when you purchase a plan. Caldecott agrees that while the tree care company is selling a service, the Club (or school or Council) is purchasing a product.

And a successful product, it seems, is dependent on four basic components: data collection, mapping, assessment, and reporting.

Mapping is the process by which the consulting arborist chooses to graphically illustrate the location of individual trees or tree clusters. Sometimes undertaken by field survey, it is now also being done utilizing technological and computerised methods such as Global Positioning Systems, aerial photography or photogrammetry - and its derivative, digital orthophotography. Leenstra believes that any TMP worth its money will have a Geographic Information System (GIS) with a base platform derived from the orthophotography.

Keith Stove of Hydro Tasmania's Survey & Geographic Information Service has mapped over 1,500 parks Australia-wide and has worked with over 70 local councils in asset and infrastructure mapping.

"If assets are represented in their true spatial position, the physical fabric of the mapped area can be accurately detailed, measured and quantified to any extent," Stove explains. The investment in mapping, which may initially be interpreted as

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costly, pays enormous dividends in areas such as planning, design, budgeting for maintenance works, and in the on-going assessment of maintenance. The images derived are also a useful resource to provide to contractors and service providers who aren't familiar with course layout or design.

Data collection, the second component, is unarguably the most important. The information collected at this stage forms the foundation upon which the TMP is based so it is crucial to get it right. "The initial arboricultural inspection should be undertaken by qualified arborists, or minimally, persons with sound tree knowledge and very strong tree identification skills working under the supervision of a qualified Arborist," insists Leenstra. It's a view with which Lilly (Golf Course Tree Management) concurs.

It appears too that there is quite a diversity in the range of data that tree care companies will offer to collect. These data 'fields' can number as few as 4 or as many as 64! But more does not necessarily equate to better, according to Greg Groves, Gardens & Grounds Manager at the Melbourne Racing Club.

Groves is of the opinion that too many data fields causes the TMP to become 'too hungry', and you can end up managing the database and not the trees. "Maintaining a database shouldn't be arduous," he says. Prior to working in the racing industry, Groves spent time with both Dandenong Council and the City of Oakleigh. His responsibilities at Oakleigh included the conceptualizing of a computerized tree management plan and only four data fields were eventually chosen and used. 'It worked well," he assures.

So what data should be input?

Prerequisites are definitely tree location, species, anatomy and physiology, and the system should cater for information on tree structure, health and condition, presence or absence of pathogens (diseases and pests), as well as tree age and life expectancy.

Once trees have been mapped and data collected it is time for the Arborist to earn his keep. Applying technical and professional knowledge, the Arborist formulates recommendations for short and long-term tree management. The Arborist should also provide advice on removals, pruning and maintenance works, and where appropriate, replantation issues including advice on species selection.

Once completed, this arboricultural assessment leads to the final stage of TMP implementation: reporting. Leenstra explains the initial report that he provides to clients as a 'snapshot in time' view of a tree population. As living entities, however, trees are subject to change; they grow, suffer ill health, shed leaves, drop branches, fail, suffer dieback or pest infestation. Similarly, a static TMP is likely to fail. Hence the imperative need for regular reporting.

Reporting in this context equates to the ability to extract required information from the plan. Obviously, the information extracted will prove only as efficient as the information input. Reporting should deliver in a correct and concise manner the major outcomes and recommendations assigned to assessed trees. Reporting can illustrate maintenance requirements, short, medium and long-term management strategies, provide projected budget estimates, and show how individual trees or particular species are 'fairing' overall.

In the final analysis, it is important to understand that a TMP is tree-centered but not tree-exclusive. Utilising the TMP implemented at Wesley College, Arbor Co has made recommendations on irrigation requirements, understorey plantings, soil composition, and growing environments. For golf courses, the benefit is that areas such as roughs can be included in the inventory and analysed in a similar manner to trees. This is especially important for Clubs, as understorey planting and habitat can affect a tree's growing environment, often resulting in dire consequences for both tree and turf health.

On a similar par is the issue of 'selective management'. "Selective management is a concept that needs to be understood," says Leenstra. "Often course management want to manage their tree assets, but really, only a certain percentage of trees – those immediately adjacent to fairways or in highly frequented areas – need to be managed." The remainder will fair well with limited supervision and regular monitoring. In Urban Landscape Management, Hitchmough (1994) describes this process of selective management as 'holistic management'. It is perhaps best understood as placing the tree in a context.

Just as the 80s gave us TQM and the 90s the BAS, the new millennium and its fascination with risk management is fuelling the need for TMPs. And while the TMP may sound somewhat jargonistic, Leenstra, Groves, Stove and Arbor Co's Managing Director all agree that in lieu of our highly litigious society their necessity will continue to increase. Creatively, Caldecott foresees that insurance companies may eventually stipulate the need for a TMP. If he is right, and such a situation does evolve, organizations and companies who have had the foresight to implement one may well find themselves in the advantageous position of being able to negotiate lower premiums.

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