ABN 69 538 328 392

Gardens Renewed

15 Stamford Ave
Cabarita NSW 2137
Ph: 9743-3462
Mob: 0403 112 200
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Garden and Lawn Maintenance Specifications

Phillips Landing
247 Burwood Rd
Concord NSW 2137

Requested by
Phillips Landing Community Association DP 270051
247 Burwood Rd
Concord NSW 2137

Prepared by
Peter Langtry
Horticulturist

April 2010

1.

Garden and Lawn Specification

Contents:

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1. Introduction

The objective of the Community Association is to maintain the Community's gardens and lawns at an affordable cost in an ecologically friendly manner at a level that continues to add value to the complex.

The Community Association has requested a specification that divides the gardens and lawns on the site into clearly defined sections. In turn, the specification for each section needs to be developed to satisfy Part A and Part B requirements of the quote invitation.

Part A requirements

- Recommend changes, if any, needing to be made. There is a concern that in some section inappropriate shrubs and trees were planted by the developers 13-15 years ago. In particular, attention is drawn to the trees on Frenchman's Walk between the path and the sea wall which is the Community Association's responsibility to maintain. In some sections there may be too many trees

Part B requirements

- Specifies the work that needs to be performed on an ongoing basis
- Specifies the fertilisers, watering, wood chips etc that should be used, the time and frequency of application and the estimated cost per annum
- Recommends the average labour hours required per week over fifty weeks per annum to achieve the recommended standard

2. Executive Summary

2.1 Overview of the gardens and lawns

In general, the condition of the gardens and lawns is very good. The garden plants, with a few exceptions, are in a healthy state and should remain so into the foreseeable future. Similarly, the lawns are generally in good condition except for those areas where they are subject to excess shade.

The dedicated garden and lawn maintenance undertaken by the existing contractors has been acceptable but it is difficult to place a value on their contribution.

I believe there is scope for improvement in the management of ongoing maintenance. Parts of the site are quite well maintained (northern areas near Burwood Rd) but other areas fall short of an acceptable standard (the southern areas near the bay).

The existing labour commitment of 40 hrs per week/160 hours per month is adequate to cover the ongoing maintenance workload, but the existing self management model is not appropriate to deliver the best results.

An independent level of management has been recommended in item 2.5 to monitor work performance and to provide guidance to the garden and lawn labour to achieve the desired maintenance outcomes.

There are also a number of areas within various sections that need dedicated effort to deal with problems that have developed over the years. These are referenced in Appendix 1 to the report.

The majority of the existing trees and shrubs are well suited to the site but there are some specimens that need to be removed or reduced in number and replaced by more suitable specimens. These are also referenced in Appendix 1 to the report.

For general interest, I have also prepared a list of the most commonly observed plants at Phillips Landing in Appendix 4.

2.2 Maintenance Sections

The Phillips Landing site has been examined and it is considered that a division into 9 sections would be appropriate for the purposes of effective and efficient garden and lawn maintenance.

Each of the 9 sections is shown at Appendix 2 (pages 1 to 9). The areas are described in Appendix 2 and can be married up with an aerial view of the Phillips landing site showing the boundaries of each section.

The factors considered to determine the proposed partitions are listed below:

- Achieving a section size appropriate to a realistic workload and representing an achievement when completed

- Minimising the lost hours of productive effort caused by a larger section needing more non productive down time to move tools and equipment around from place to place within the section

- Achieving equitable maintenance outcomes across the whole site. In a section too large some parts would not receive adequate attention as is evident with the current one site/one section arrangement

Although Section 1 is a small site it is physically separated from the other Sections and the main workload is mowing. It is ideally dealt with as single entity

Section 2 is not as large as most of the other Sections but it occupies a key position having the Captains Club within the Section confines. The Captains Club surrounding gardens and lawns need close attention because it is focal point for numerous community activities and stands as a testament of community pride. The workload hours estimated for this Section are not out of kilter with other Sections but the smaller area is more conducive to special attention.

The size of Section 8 results from carving off the seawall precinct gardens to become Section 9. The Section 8 gardens are in need of dedicated maintenance and this will come about with a stand alone Section status.

2.3 Part A Recommendations

A number of improvements in most sections are recommended for consideration by the Community Association.

These are tasks that by and large fall outside the charter of the ongoing maintenance activities.

As a result of vegetation achieving maturity over the last 13 to 15 years and other changes to the plant stock in that time there are certain areas on the site needing rejuvenation and change to better present a more consistent image for the whole site

A total of 18 major and minor changes are recommended and would add value to the complex as well as improving the general amenity of the site for the residents and their guests.

The major and minor changes have not been costed for this report. A proper costing really involves seeking quotes etc. A rule of thumb estimate at this stage would not take proper account of all the work elements involved to arrive at a realistic assessment of the labour and material costs for the planned work.

Priorities for these works need to be agreed, quotes sought and a timetable for implementation established to properly manage them.

Some of the minor works or at least part of them could be undertaken by the garden labour where appropriate. This would result in some savings for the implementation of the agreed works.

Rather than fill the Executive Summary with the individual Part A recommendations they have been placed in Appendix 1.

2.4 Part B Recommendations:

1. The existing available hours do not need to be altered to satisfy the estimated workload

2. Independent management of the available hours should be considered to acquit the estimated workload in a timely and effective manner

Workload Hours and Available Hours

The calculated workload hours have been dimensioned on a monthly calendar basis. For the purposes of simplicity a 4 week period has been equated to one calendar month.

The total estimated workload for ongoing garden and lawn maintenance equates to 163 hours compared to the existing available 160 hours for each month. (2 persons x 20 hours per week x 4 weeks)

On an annual basis totalling 50 weeks, estimated workload labour hours sum to 2038 hours compared to a total 2000 available hours.

Whilst the workload hours slightly exceed available hours, the difference of 1.9% is not significant within the context of the total work. Some of the recommended changes will reduce the workload within the available labour hours.

To save time on hedge maintenance it is recommended that all hedges be maintained to a maximum height of 1.5m.

There are a number of Bottlebrush hedges which are 1.8m and higher and need to be reduced to the recommended standard to avoid time consuming work trimming the hedges at their existing height. Also the higher hedges result in the foliage being too high above the ground and the view is mainly woody stems of the hedged concerned.

Estimated workload calculations for each Section are shown at Appendix 2.

Estimates for fertiliser, mulch and water usage are shown at Appendix 3.

2.5 Conclusion to the Executive summary

The management of both ongoing maintenance and one off improvements proposed in this report extends beyond the charter for the garden and lawn labour.

Therefore, some presence to oversight and guide the garden labour would be advisable to give effect to the proposed recommendations.

I would be able to provide this assistance to the Community Association. My inputs would certainly not mean a daily presence at Phillips Landing. Rather an arrangement for my role could be agreed with the Community Association or its delegated authority.

I would expect my role to include delivery of maintenance standards for the garden and lawns within the available hours; gathering quotes and preparing recommendations for any improvement works not appropriate to be undertaken by the garden labour; gathering and examining quotes for garden labour hire for garden and lawn work deemed to be in excess of the existing capacity.

My work at the site would be limited to such activities as reviewing progress on maintenance activities and one off improvements and, where necessary, escorting contractors visiting the site to quote on proposed lawn and garden works.

Depending on the role agreed with the Community Association, a settlement can be reached for a mutually acceptable monthly fee. The agreed role should be reviewed after 12 months.

A reporting and instruction regime between myself and the Community Association would be agreed as appropriate.

3. Ecological responsibility

3.1 Measures to sustain and enhance the ecology of this site

Whilst the concept of ecological responsibility is still a relatively new consideration in the way people go about their business and there are still many things to be discovered, numerous initiatives have been implemented over the years to limit our impact on the natural environment and to make more considered use of the resources available to us.

As far as practicable, the work activities undertaken at Phillips Landing need to be aware of the restraints and opportunities afforded by new ways of working to enhance and protect our natural environment.

This approach manifests in a number of measures:

- Limiting water use by applying mulch to the garden beds to assist maintain soil moisture levels
- Maintaining mature trees, where practicable, to provide shade to reduce ambient air temperatures in summer
- Encouraging the health of all plants as part our contribution in reducing the carbon footprint for this site. Plants removed are replaced by appropriate plant materials to maintain plant aggregates in each section
- Recycling grass cuttings, shrub trimmings etc for mulch in appropriate places around the site
- Limiting the number of plants that need more maintenance attention than other specimens
- Using environment friendly organic additives as far as practicable to maintain plant health
- Considering the implications of maintenance work activities. For example, if lawn grass is cut too low, overnight dew is burnt off early in the morning. Slightly longer grass will trap any moisture for use by the lawn grass roots. Also maintaining adequate areas of shade is very important for soil moisture retention and to provide some shelter to the residential buildings. Trees and large shrubs need to be managed carefully to protect this shade asset as far as practicable

These measures are just some of the actions that are available to meet our ecological responsibilities. It should be noted that a number of the measures discussed above are already used on this site.

4. Part B Specification Summary

4.1 Workload Labour Hours

The workload indicators and the estimated workload quantities along with the matching labour hours needed for each section and referred to in the Executive Summary are shown at Appendix 2
The total hours needed each month to satisfy the ongoing maintenance workload, and the available labour hours are detailed below:

	Workload hours/month	**Available hours/month**
Sections 1 to 9 excl roadways	148.3	160.0
Plus: Roadways (3510m2) cleared 3 times per month	14.5	
Total	**162.8**	**160.0**

As mentioned in the Executive Summary it is expected that available hours can be managed to cope with the estimated workload when proposed changes to plant configurations are put into place.

4.2 Model to Calculate Workload Hours

The model used to arrive at a labour hours need is explained below:

1. Identify the major workload indicators such as lawns, hedges, small trees and shrubs, pathways, soil and plant additives and roadways

2. Quantify the indicators and determine unit benchmarks. For example, 10m2 of hedge could be used as a unit

3. Apply a work rate conversion factor to each of the quantified benchmark units to calculate the labour hours needed for each unit

4. Determine the intra month maintenance frequency needed for each of the workload indicators

5. Use labour hours needed for each unit and the maintenance frequency each month to calculate the total hours required for each section

Roadway labour hours needs were calculated for the site as a whole and added to total labour hours for the 9 sections as shown above.

Table of Appendices

Appendix 1

Part A

Recommendations for change

Pages 1 to 4

Part A Recommendations for change

It should be noted that the recommendations in Appendix 1 do not represent every activity that may be worthwhile considering for future action. The sub committee may wish to pursue other issues that I have not raised in this report.

Sections 2, 3, 4, 5, 6 and 7:

Observation:

Plumbago hedges are very high maintenance compared with the maintenance needs of other hedge plantings on the site.

Where they are located in shaded areas they tend to look scrappy compared with the other main hedge plants on the site. In sunnier aspects, Plumbago grows very vigorously producing elongated stems emerging from trimmed hedge. Whilst the stems produce attractive blue flowers the hedge overall begins to look neglected within a short space of time.

Recommendation:

1. Remove the Plumbago hedges over time and replace with slower growth rate plant materials such as Fijian Fire-Plant in high sunlight areas and Lilly Pilly (Acmena smithii) or Gold Dust Tree (Aucuba japonica) for the more shaded areas

Section 3:

Observation:

There are 3 Lilly Pilly Trees standing very close to the eastern wall of Fitzroy. They have grown into large specimens and display a blanketing effect limiting the sunlight from entering the windows of the affected units. Summer shade is already afforded by the Liqidambers nearby.

Recommendation:

1. Remove the trees very close to the wall and replace with suitable shrubs managed to a height of 1.5m

Section 4: Page 2

Observation:

The line of trees in the buffer zone between Flinders and Lawson needs to be rationalised to reduce the pathway gloom and to allow more light into shade affected dwellings.

Inspection of this pathway reveals the trees reaching a height of about 10m on either side of the path are closely spaced and their foliage forms a continuous sunlight barrier for the length of the pathway.

Recommendation:

1. Remove every second tree on both sides of the path to increase the amount of sunlight onto the path and onto the units near and adjacent to the pathway.

   There is a total are of 48 trees lining each side of the path, so 24 trees would need to be removed. The individual trees whilst quite high are not bulky and could be removed by tree loppers within a day or so. It is not a job appropriate for the garden and lawn labour.

Observation:

At the moment, the appearance of the 8 Chinese Elms trees bordering the circular lawn is somewhat dysfunctional with this part of the section. The issues here are mainly ones of health and aesthetics.

They need to be restored to a more natural shape suited to this species to protect the health of the trees and to improve their presentation.

These trees are quite fast growing and would need to be attended to, at least once each year, preferably at the end of winter.

Recommendation:

1. The trimming of these trees would ideally be undertaken by a tree management person with appropriate qualifications. These trees are an integral part of the site presentation for this section. They need to be carefully trimmed and pruned to sustain the attractiveness of this lawn and garden area.

Observation:

At the far end, beyond the lawn and garden area, there are a number of native shrubs near the western property boundary, some of which are becoming overgrown by a rampant climber. If this continues the shrubs' longevity will be severely curtailed.

Recommendation:

1. Remove the offending climber as soon as possible

Section 6:

Observations:

The gardens on either side of the creek between Macquarie and Elizabeth are overcrowded and need attention to present a more attractive vista.

The vegetation displayed in this area consists mainly of Palms, Lilly Pillys, Lomandra and Native Rosemary. The Lomandras occupy a significant proportion of the garden space and create a feeling of congestion as well as making the area feel uninviting.

There are also a number of Native Rosemary shrubs that are partly dead and need to be made good by removing the dead material

The part occupied by the Palms, Bottlebrushes and Melaleucas also needs attention to allow more light in to reduce heavy shadowing caused by these trees.

The Lily growth in the middle pond is fast approaching congestion point and is impeding the intended water flow down the creek bed to the bottom pond.

Recommendations:

1. Remove 50% of the Lomandras to free up the plant congestion in this area

2. Remove dead material from the affected Native Rosemary shrubs

3. Reduce the tree foliage near the creek opposite the western end of Elizabeth

4. Remove some of the Lilies from the middle pond to reduce the plant congestion

5. Remove the weeds growing in the creek bed between the 3 ponds

Section 8: Page 4

Observations:

The unchecked growth of the Hibiscus shrubs in front of Barrington at the eastern end has become very messy and unsightly

The Bottlebrush tree in front of Barrington is in a state of decline because of the very limited growth space. This specimen is not considered viable

There is a vigorously growing climber starting to choke several trees in the area beside the garage at the western end of Scarborough

Recommendations:

1. Cut back the Hibiscus shrubs back to just above the picket fence and maintain at that height into the future.

2. Remove the Bottlebrush and replace with a suitable small shrub

3. Remove the climber from the trees near the garage at the end of Scarborough

Section 9:

Observations:

The gardens on either side of the seawall pathway need special attention to upgrade the presentation afforded by the existing landscape. The area at the eastern end of Frenchman's Walk is overcrowded and the shrubs on top of the retaining are overbearing

The presence of over 180 Lomandras is overwhelming and needs to be rationalised. Their overcrowding presence impedes efficient maintenance in these gardens

Many of the native Rosemary shrubs are either partly or completely dead.

The She Oaks planted between the pathway and the seawall do not appear to serve any useful purpose, either functionally or aesthetically, and represent a threat to the structural integrity of the seawall and the pathway.

A number of empty spaces in the gardens resulting from the earlier removal of dead specimens are an eye sore and need attention

It is difficult to maintain this section effectively in the existing configuration, particularly with the predominance of Lomandra plantings

There are 3 Port Jackson Fig trees on either side of the entrance path between Wentworth and Chisholm. A separate arborist report has been prepared by Active Trees on their status and is to be considered by The Sub Committee

Recommendations:

1. Remove excess growth from the eastern end of Frenchman's Walk including the overgrown shrubs on top of the retaining wall

2. Remove at least half of the Lomandras and replace with a more suitable small trees and shrubs such as WA Gum (Corymbia ficifolia) and various small Grevillea and Banksia species

3. Trim back the damaged Native Rosemary shrubs and remove the dead specimens

4. Remove the She Oaks located between the path and the seawall

5. Plant out the empty spaces with appropriate small trees and shrubs

Appendix 2

Part B

Workload measurement and quantified labour hours

Pages a and 1 to 9

Section Boundaries:

Section1	The front nature strip and front fence hedges extending the full length of the Phillips Landing boundary with Burwood Rd
Section 2	Common area gardens/lawns for Borrowdale and the Captains Club
Section 3	Common area gardens/lawns for Bligh, Hunter and Fitzroy. The southern boundary for Hunter west side is the path way from the roadway opposite the Captains Club to the Hunter entrance
Section 4	Common area gardens/lawns for Flinders and part Lawson A dividing line runs (southern boundary of the section) from the roadway along the path in front of Lindsay to the entrance path for Lawson
Section 5	Common area gardens/lawns for Golden Grove and Alexander
Section 6	Common area gardens/lawns for Macquarie including the area extending down from the path leading to Hunter (see Section 3) to the pond at the bottom below Elizabeth near the road way
Section 7	Common area gardens/lawns for Elizabeth (excluding that part included in Section 6) and Lindsay including the shrubs and grass in the area behind the car wash bay
Section 8	Common area gardens/lawns in front of Wentworth, Chisholm, Barrington and Scarborough including the passage ways between those buildings leading to the security gates
Section 9	Common area gardens/lawns along the seawall precinct in behind Wentworth, Chisholm, Barrington and Scarborough

For additional clarity the section boundaries explained here can be compared to the aerial picture of Phillips Landing (courtesy of Google Map) showing the marked section boundaries.

Section 1 Page 1

Part B Workload measurement and quantified labour hours

The on going garden and lawn maintenance workload including pathways for this section has been dimensioned against the following indicators

Lawns	420 m2
Hedges	100 m2
Pathways	220 m2
Trees/shrubs	not applicable

Maintenance frequency:

Lawns mowed	2 times per month
Hedges trimmed	once per month
Pathways cleared	2 times per month
Shrubs and trees trimmed	once per month where needed

Note: some estimated hours of work will be saved because not all small trees and shrubs will need to be trimmed every month

Labour hours per month:

Lawns	2.4 hours
Hedges	1.5 hours
Pathways	0.8 hours
Trees and shrubs	nil hours
Application of mulch, fertiliser and water	0.4 hours
Total labour hours	**5.1 hours to maintain Section 1 to an acceptable standard**

The on going garden and lawn maintenance workload including pathways for this section has been dimensioned against the following indicators

Lawns	250 m2
Hedges	366 m2
Pathways	155 m2
Trees/shrubs	40 specimens needing attention which are not part of the hedges

Maintenance frequency:

Lawns mowed	2 times per month
Hedges trimmed	once per month
Pathways cleared	2 times per month
Shrubs and trees trimmed	once per month where needed

Labour hours per month:

Lawns	1.4 hours
Hedges	6.0 hours
Pathways	0.6 hours
Trees and shrubs	4.0 hours
Application of mulch, fertiliser and water	1.0 hours
Total labour hours	**13.0 hours to maintain Section 2 to an acceptable standard**

The on going garden and lawn maintenance workload including pathways for this section has been dimensioned against the following indicators

Lawns	574 m2
Hedges	594 m2
Pathways	220 m2
Trees/shrubs	40 specimens needing attention which are not part of the hedges

Maintenance frequency:

Lawns mowed	2 times per month
Hedges trimmed	once per month
Pathways cleared	2 times per month
Shrubs and trees trimmed	once per month where needed

Labour hours per month:

Lawns	3.2 hours
Hedges	9.9 hours
Pathways	0.8 hours
Trees and shrubs	6.0 hours
Application of mulch, fertiliser and water	1.5 hours
Total labour hours	**21.4 hours to maintain Section 3 to an acceptable standard**

The on going garden and lawn maintenance workload including pathways for this section has been dimensioned against the following indicators

Lawns	902 m2
Hedges	283 m2
Pathways	130 m2
Trees/shrubs	65 specimens needing attention which are not part the hedges

Maintenance frequency:

Lawns mowed	2 times per month
Hedges trimmed	once per month
Pathways cleared	2 times per month
Shrubs and trees trimmed	once per month where needed

Labour hours per month:

Lawns	5.5 hours
Hedges	5.0 hours
Pathways	0.4 hours
Trees and shrubs	6.5 hours
Application of mulch, fertiliser and water	1.5 hours
Total labour hours	**18.9 hours to maintain Section 4 to an acceptable standard**

The on going garden and lawn maintenance workload including pathways for this section has been dimensioned against the following indicators

Lawns	570 m2
Hedges	394 m2
Pathways	240 m2
Trees/shrubs	65 specimens needing attention which are not part of the hedges

Maintenance frequency:

Lawns mowed	2 times per month
Hedges trimmed	once per month
Pathways cleared	2 times per month
Shrubs and trees trimmed	once per month where needed

Labour hours per month:

Lawns	3.0 hours
Hedges	6.5 hours
Pathways	0.8 hours
Trees and shrubs	5.5 hours
Application of mulch, fertiliser and water	1.5 hours
Total labour hours	**17.3 hours to maintain Section 5 to an acceptable standard**

The on going garden and lawn maintenance workload including pathways for this section has been dimensioned against the following indicators

Lawns	567 m2
Hedges	218 m2
Pathways	83 m2
Trees/shrubs	60 specimens needing attention which are not part of the hedges and 120 Lomandras

Maintenance frequency:

Lawns mowed	2 times per month
Hedges trimmed	once per month
Pathways cleared	2 times per month
Shrubs and trees trimmed	once per month where needed

Labour hours per month:

Lawns	3.2 hours
Hedges	3.6 hours
Pathways	0.4 hours
Trees and shrubs	7.5 hours
Application of mulch, fertiliser and water	1.5 hours
Total labour hours	**16.2 hours to maintain Section 6 to an acceptable standard**

The on going garden and lawn maintenance workload including pathways for this section has been dimensioned against the following indicators

Lawns	946 m2
Hedges	373 m2
Pathways	170 m2
Trees/shrubs	60 specimens needing attention which are not part of the hedges

Maintenance frequency:

Lawns mowed	2 times per month
Hedges trimmed	once per month
Pathways cleared	2 times per month
Shrubs and trees trimmed	once per month where needed

Labour hours per month:

Lawns	5.4 hours
Hedges	6.2 hours
Pathways	0.6 hours
Trees and shrubs	6.0 hours
Application of mulch, fertiliser and water	1.5 hours
Total labour hours	**19.7 hours to maintain Section 7 to an acceptable standard**

Section 8 Page 8

The on going garden and lawn maintenance workload including pathways for this section has been dimensioned against the following indicators

Lawns	330 m2
Hedges	469 m2
Pathways	60 m2
Trees/shrubs	20 specimens needing attention which are not part of the hedges

Maintenance frequency:

Lawns mowed	2 times per month
Hedges trimmed	once per month
Pathways cleared	2 times per month
Shrubs and trees trimmed	once per month where needed

Labour hours per month:

Lawns	1.8 hours
Hedges	7.8 hours
Pathways	0.2 hours
Trees and shrubs	2.0 hours
Application of mulch, fertiliser and water	1.0 hours
Total labour hours	**12.8 hours to maintain Section 8 to an acceptable standard**

The on going garden and lawn maintenance workload including pathways for this section has been dimensioned against the following indicators

Lawns	72 m2
Hedges	447 m2
Pathways	240 m2
Trees/shrubs	50 specimens needing attention which are not part of the hedges and 288 Lomandras

Maintenance frequency:

Lawns mowed	2 times per month
Hedges trimmed	once per month
Pathways cleared	2 times per month
Shrubs and trees trimmed	once per month where needed

Labour hours per month:

Lawns	0.4 hours
Hedges	7.9 hours
Pathways	0.8 hours
Trees and shrubs	13.2 hours
Application of mulch, fertiliser and water	1.5 hours
Total labour hours	**23.8 hours to maintain Section 8 to an acceptable standard**

Appendix 3

Schedule for the application soil and plant improvement additives

Pages 1 to 3

Schedule for the application soil and plant improvement additives:

Fertiliser	Slow release NPK fertiliser for exotics	every 6 months
	Slow release native plant fertiliser for native plants	every 6 months
	The fertilisers would be applied in spring and late summer	
Mulch	Cedar wood chips	every 2 years
	Wood chip mulch can be applied at any time during the year	
	Adequate mulch cover is fundamental to minimising soil moisture losses	
Watering	Use sprinkler system for the lawns:	
	October to March	deep water once per week for 30 mins
	April to September	deep water once per month for 30 mins
	Use hand watering for plants:	
	Year round	every 2 days for new plants until established. Water mature plants (shrubs) once per week in hot months where necessary
	Fortunately, the vast majority of plants are mature so the watering regime does not need to be overly time consuming	

Expenditure estimates

The costs of fertilisers and mulch for a site the size of Phillips Landing can be prohibitive.

Fertilisers:

Fertilisers need to be used cautiously where the gardens are extensive as is the case with this site.

Given that the vast majority of plants are mature, limited application of slow release fertilisers would be adequate but not in all garden beds at any one time.

I think an annual budget for slow release fertilisers should be set at $400 for the whole site. This expenditure can be reviewed at a later time to assess the effectiveness of the proposed budget.

Mulch: Page 2

A good cover of mulch is critical to limit water loss in the garden soils. Many garden beds are well catered for with naturally occurring mulch materials such leaves, grass cuttings, hedge trimmings etc

I think an annual budget for mulch, such as cedar wood chips, should be set at $500 for the whole site. This will buy 9 cubic metres of wood chips including delivery. Those chips could be used on assisting rejuvenated garden areas and those areas needing immediate attention where mulch is underdone or non existent.

Water:

Many plants close to the residential buildings benefit from a reasonable amount of shade each day. Other plants are much more exposed to the sun where they are located at some distance from the buildings.

Many plants are more drought resistant than other specimens.

So the general watering of all plants throughout the year is not needed.

Watering should be made on the basis of observation in many cases. Where plants are showing signs of stress due to lack of water in hot weather, it would be appropriate to apply water once per week. The exception here is lawn watering which should follow the watering schedule shown above.

All new plants should be watered very regularly until they are settled. Then the frequency can be gradually reduced.

Recent recorded rainfall at the Sydney Olympic Park, Homebush weather station indicates rainfall in this part of the metropolitan area in 2009 was certainly well down on the levels recorded in 2007 and 2008, however the rainfall for 2010 looks like improving a little on the 2009 result.

Bureau of Meteorology annual rainfall recordings at SOP, Homebush back to 2004 are shown below:

2004	758.4mm
2005	706.4mm
2006	741.6mm
2007	1322.4mm
2008	926.0mm
2009	745.8mm
2010	950.0mm expected

Given that annual rainfall recordings into the near future are likely to continue at below the average level of approximately 1200mm per year for Sydney, it is important to continue using our water judiciously.

However, some watering must carried out to protect moisture levels from becoming severely depleted in the garden beds and lawn areas.

If the soils become too depleted of moisture, the soil texture becomes very fine and powdery and this in turn inhibits water from penetrating the soil.

Once again the additional protection provided by adequate mulch is fundamental in helping to maintain soil moisture levels. This will be essential for all gardens having a northerly aspect with little shade and those gardens along the seawall and Frenchman's Walk.

Appendix 4

Phillips Landing

Commonly occurring plants on the site

Pages 1 and 2

Appendix 4 Page 1

Phillips Landing Most commonly occurring plants on the site

	Common name	Botanical name
Hedges	Plumbago	*Plumbago auriculata*
	Murraya	*Murraya paniculata*
	Duranta	*Duarata repens* 'Sheenas Gold'
	Nandina (tall form)	*Nandina domestica*
	Nandina (dwarf form)	*Nandina domestica* 'Nana'
	Joy weed (reddish/purple foliage)	*Alternanthera dentata*
	Japanese Box	*Buxus microphylla*
	Star Jasmine	*Trachelospermum jasminoides*
	Bottlebrush tree	*Callistemon spp.*
	Fijian Fire-Plant	*Acalypha wilkesiana*
	Azalea	*Rhododendron indica* and *kurume*
	Native Rosemary	Westringia fruticosa
Trees	Eucalypts	*Eucalypt spp*. (see note1)
	Pencil Pines	*Cupresses sempervirens* 'Stricta'
	Bangolow Palms	*Archontopheonix cunninghamiana*
	Chinese Elm (Section 1)	*Ulmus parvifolia*
	Tupelo (Section 1)	*Nyssa sylvatica*
	Lilly Pilly	*Acmena smithii* and *Syzygium spp*
	Blueberry Ash	*Eleaocarpus reticulata*
	Magnolia	*Magnolia x soulangiana*
	Jacaranda	*Jacaranda mimosafolia*
	WA Gum (Section 9)	*Corymbia ficifolia*
	Port Jackson Fig	*Ficus rubiginosa*
	She Oak	*Casuarina glauca*
	Paperbark tree	*Melalueca quinquenervia*
	Claret Ash (Section 5)	*Fraxinus excelsior* 'Raywood'
	Bull Bay Magnolia (Section 5)	*Magnolia grandiflora*
	European Olive (Section 8)	*Olea europaea*
	Liquidambar (Section 3)	*Liquidambar orientalis*

Shrubs (not include in the Hedges category)

Lomandra	*Lomandra longifolia*
Hibiscus	*Hibiscus rosa-sinensis*
Grevillea	*Gevillea spp.*
Agapanthus	*Agapanthus orientalis*
Camellia	*Camellia japonica/sasanqua* species
Conifer (ground cover)	*Juniperus conferta* and *J. sabina*
Bird of Paradise	*Strelitzia reginae*
Gymea Lily	*Doryanthes excelsa*
Wild Iris	*Dietes spp*
Banksia	*Banksia spp*
Trailing Lantana (tennis court fence)	*Lantana montevidensis*
NZ Flax	*Phormium tenax*
Gardenia	*Gardenia augusta* 'Florida'
Clivea	*Clivea miniata*
Diosma	*Coleonema pulchrum*
Oyster plant	*Acanthus mollis*

Note 1 **spp.** refers to multiple species. Many plants, such as Eucalypts, Callistemons, Grevilleas etc have numerous species and it is often very difficult to determine exactly which specie can be matched to the genus of the observed specimen.

Where this is the case the abbreviation spp. is used.