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Lessons Learnt *the landscaping of windsor rd*

by Todd Layt

The Windsor Road development has seen major and massive landscape work, of a scale rarely seen in Australia. The project has been let in stages, which seems to have worked well. For those who are unfamiliar, Windsor Road is a main road located in Western Sydney, and is in the process of a major upgrade. In general, the RTA should be highly commended for such a well thought out landscaping project, but even from a successful landscape such as this, there are plenty of lessons to be learnt.

On this site, soil preparation was kept to a minimum, which helped keep the costs down. In general, this was made possible for one simple reason; the use of plants that do well in such poor soils. Some plants coped better than others. These plants did very well; *Lomandra longifolia* Tanika, *Dianella caerulea* Breeze, *Lomandra longifolia* Katrinus and common *Dianella caerulea* (although the common form looked untidy compared to Breeze). Plants such as *Dianella longifolia*, common *Lomandra longifolia* & common *Poa labillardieri* all had problems with the soil. The general soil specification was to spray weeds with roundup, rip to 200mm in depth and back blade.

After this a jute weed matt was laid and 75mm of coarse hard wood chip was added. The jute did help stop weeds a little, but one major problem arose from using the jute under the mulch. Many of the weaker plants developed major disease problems, particularly the common *Lomandra longifolia*. *Lomandra longifolia* Katrinus and Tanika appeared to be quite resistant to the *Phytophthora* etc, and the *Dianella caerulea* Breeze and a trial of *Dianella Little Jess*, appeared to be immune. After discussing this with the RTA, they are now investigating the use of jute weedmat in some situations and only be using hardwood chip, believing that whatever benefit if any the jute under the mulch may provide, is far outweighed by the increased risk of plant disease.

Colin Bell from Barrowar Landscapes, who undertook 2 stages of Windsor Road landscape, commented that "the minimal soil preparation seems to be ok, because the RTA in general has selected plants that can cope with it." He believes with the turf areas more preparation for the turf is needed. Where the soil preparation for the turf was more thorough, it has done better. In general the Palmetto turf has performed well, although both the landscaper and the RTA expressed interest in turf suppliers supplying turf with more soil. On roadsides it's hard to water turf, so it would be good if



the turf came with enough soil that it could be watered every 2 or 3 days for the first 2 or 3 weeks. Colin Bell said "that over the drought of the last 2 years, the Palmetto has proven that it can handle it." Remember all these areas are not irrigated.. The Palmetto has only required mowing a few times a year in this dry environment. The less frequent mowing, Palmetto's ability to out compete weeds, and its drought tolerance is what makes Palmetto such an attractive turf variety in these circumstances. Many other forms of buffalo would simply have required too much mowing and would have not coped with the low nutrient environment. Palmetto worked well on the relatively flat sites, keeping good winter colour in full sun and shade, but on the batters and slopes it did not work. On these sloping environments, the water simply ran off. In these poor soils on slopes the Palmetto struggled. On steep batters, another turf variety may be the answer. Empire Zoysia, an extremely drought hardy tough turf type, that lifts drought survival one step higher. Empire has now been available for a couple of years, so when much of the early design work was done, this grass simply was not available. It was, however, used on the last section to be completed, and has so far performed very well. Empire Zoysia, like Palmetto generally out competes weeds, requires even less mowing, and is even more drought tolerant. Empire has extremely abundant and deep rhizomes, and as a result of the high starch levels in the turf, it can handle very long periods of drought and still keep a dense mat. Empire also seems to be able to grow in poorer soils, so as a roadside turf it is brilliant.



This picture shows Little Jess grown in the Instant Border system. It is Great for planting on the edge of median strips, or for use in erosion control.



See how the compact Dianella Little Jess sends rhizomes across the ground, which makes it the ideal native erosion control plant.

The mulch type used on Windsor Road has generally performed really well. On every section except the last, only coarse grade hardwood chip with NO FINES has been used. This mulch seems to keep weeds from establishing very efficiently. On the last stage there was a trial comparing the Hardwood chip to a recycled mulch product. Unfortunately the recycle mulch produced a weed control nightmare. Collin Bell the contractor, said 'we had a lot of

problems keeping weed out of the recycled mulch, probably due to possible weed seeds in the mulch, or the fact that it had lots of fines in it, which basically then acted as propagation mix for the weed seeds. The Hardwood chip did a much better job.' As a point of interest, I find that hardwood chip with NO FINES helps keep disease away. Mulches with fine grade material often provide a good breeding ground for disease especially crown rot.

Roadside drainage has proved to be very important on Windsor Road. The contractors have placed river pebbles around drains in both the roadsides and median strips. Generally they have put a 1 metre buffer of rock around the drain, and this seems to help stop the mulch washing in. Collin Bell believes 2 or 3 metre wide buffers of rock would do an even better job. I believe by planting these rock areas with Dianella Little Jess, not only a great looking landscape could be achieved, but the Little Jess and its' dense rhizomes and foliage would more efficiently protect the drain from mulch. Another drainage issue was depressed medians, which is where the road runs straight into a median that is lower than the road. Sometimes the road has to be designed this way. After discussions with the RTA, I am convinced these should be either turfed, or planted with plants that have extreme erosion control. Probably the best plant for this is Dianella Little Jess, or Dianella Breeze, which have frequent rhizomes, and cover the ground to form a dense mat. These plants are also extremely resistant to disease, so being wet for a while, even in hot summers will not hurt them.

A new product about to hit the market, will help solve median strip erosion. If turf is used I would suggest the low maintenance Empire Zoysia, which also seems to be able to handle wet feet for a while, and is probably the best erosion control turf as well. Raised medians give the designer a much wider choice for planting, and are much less of an erosion control problem.

On this project, the RTA must be commended for their design philosophy, which is basically to provide a functional landscape, with very little long term maintenance requirements. Notice we said 'LITTLE' and not 'NO', as there is no such thing as a no maintenance landscape. To achieve their objective, it is of course necessary to use almost no, or very low maintenance plants. Some types have performed better than others. To see how each plant type has performed, see page 10. One aspect that can be quickly seen from driving along Windsor Rd is that some types of plants look tidier and much nicer than others. The tidy ones seem to be the cultivar more uniform types like Lomandra Tanika, and Dianella Breeze, whilst the common forms of Lomandra and Dianella seem to be very variable, of many different heights and far less appealing. There is something to be said for knowing the characteristics of a plant, before it is planted. It's also nice to get uniformity from plant types, which cultivars will give you, but commons will not. Along with using tough low maintenance plants, the RTA has planted for weed control. Planting at high densities, usually at 6 to 10 plants per square metre, the plants when mature leave very little room for weeds to establish. This coupled with a good choice of mulch type, and some maintenance in the beginning, has generally ensured a low rate of weed invasion for most areas.

The contractors have had a few problems on site with vandals and people stealing plants out of the ground. It also gets very annoying for both the RTA and the contractors when utility companies arrive and start digging up large areas of the Landscape. But in general the landscapers and the RTA should be very happy with the results from this landscape. A little fine



Breeze makes as tidy planting, as unlike other Dianella caeruleas, it does not have long untidy canes.

tuning of some practices, the increased use of plant varieties that work, and a reduction of those varieties that don't will see an even better landscape in the next stages. Being one that regularly drives along Windsor Road, let me congratulate the RTA of NSW, and the site landscape contractors for a job well done.

Little Jess in instant border (best native erosion control plant)

Seeing the erosion problems of Windsor Road has prompted me to suggest a new product that is now available for pre-order, (Stock available early 2006) as a solution to these situations.

Little Jess is a compact tight low growing Dianella caerulea ground cover. In tough non irrigated roadside conditions it generally only grows to about 30cm. For erosion control this is the ideal plant, with its spreading dense rhizomes, it really binds the soil together. Best of all it is probably one of the toughest lowest maintenance evergreen plants of all time. Unlike common Dianella caerulea, Little Jess has short compact canes, rather than long ones. As a result Little Jess will not fall over and become untidy, where as the common form will. Once established natural rainfall is all it needs in most areas.

These Little Jess plants are grown in Instant Border strips, and then can be planted out with erosion control in mind. Planted across slopes or near drains, or even along the edge of median strips, these Instant Border strips are an effective tool against erosion. Planting instant Border strips is not new, in fact it has been used successfully on many erosion control projects, but Little Jess is the first and only plant available that is so tough, yet so functional for this situation.



A three year old planting of Lomandra longifolia Katrinus, mixed with the successful Poa labillardieri Eskdale.

The main plants used on Windsor Road, and their performance

TANIKA *Lomandra longifolia* LM300

This has probably been the success story of Windsor Road. I can't count the times people have told me how wonderful the Tanika look on Windsor Road. It's colour, height, spread, drought tolerance, beauty, and it's ability to out compete weeds has been outstanding. This plant has so far out performed the common *Lomandra*, the contest is not even close. Very few Tanika have died, compared to the huge number of Common *Lomandra longifolia* that have died. The Landscapers on the project have told the RTA that they love using Tanika, as it is just so tough.

Common *Lomandra longifolia*

This plant has basically been a failure. One reason for this is that the soils are very clay like and heavy on Windsor Road. I have noticed a lot of common *Lomandra* on the roadside look like they are similar to ones that grow on sand dunes. Basically lots of the common ones would be OK on sand, but not on clay soils. For this reason people should avoid common *Lomandra longifolia*, as you will never know what soil they like. The common plants on Windsor Road were very prone to Phytothera, and Fusarium, whilst the Tanika and *Katrinus* appear to be very resistant to these diseases.

Lomandra longifolia *Katrinus*

This plant has been very successful on Windsor Road, not showing any signs of the disease that plagued the common form. This is a slightly shorter, weeping form of *Lomandra longifolia*. It has a broader leaf than Tanika, but finer than the common form. It does well in heavy clay soils.

Common *Dianella caerulea*

In general this plant has done well. Almost all plants have survived, and have formed a good ground cover. The only criticism is that the plants in some places look untidy. This is because they grow at all different heights and are somewhat variable. The other problem is that most of the plants



The common *Lomandra longifolia* (Front) suffered from disease on Windsor Road, whilst the *Lomandra longifolia* Tanika which is the fine leaf form pictured in the background was extremely resistant to disease.

have long canes, and some are now starting to lean over. After a couple of more years I expect a lot of these common variety plants to be falling over, due to their long canes. Common *Dianella caerulea* looks good for a few years, and then becomes untidy. The good news is there are now new varieties that solve this problem. (See Below)

Breeze *Dianella caerulea* DCNCO

This plant solves the problem of *Dianella caerulea* falling over, and becoming untidy. Breeze grows at a uniform height, and does not have canes. The fact that it does not have canes is what makes Breeze so good. This plant is very tough, extremely drought tolerant, and evergreen. Breeze will generally never need trimming, but even if it does, it can easily be cut back, as the underground rhizomes will shoot back. Another impressive characteristic of Breeze is its abundant superior flower display, compared to the common form.

Dianella longifolia

This was only used on one of the earlier sections. It has now been in for a few years, and unfortunately there are not a lot left alive. This plant is not suited for this type of work. It easily gets overtaken by weeds, and is not long enough lived.

Poa labillardieri

There were two types used. The common form was used on one site, and it basically failed. Most have died. On another site the Eskdale variety was used, and after 3 years it is still doing well. Eskdale does have an advantage, as it was bred from plants that originated on the hot and dry Cumberland plain of Sydney. Without exception, the improved plant varieties did much better than the common forms.

The Turf Varieties

Palmetto

This grass has performed well. It has required very little maintenance, yet it is coping well with the drought, and generally out-competing weeds. The landscapers did have a little trouble keeping the water up to the turf in the establishment phase, but once established it has done well. It did not perform well on steep slopes, as it did not get enough water to establish on these areas.

Empire

Empire *Zoysia* was used in the last section, and has easily established itself. It appears to be out-competing weeds, and after 5 months still has not had its first mow. Without fertiliser this turf does not need a lot of mowing. It is easily coping with the drought. The only thing that could improve this turf, is more dirt on the turf when it is delivered, as this will make the landscapers job of establishment watering easier.

The Mulch

The coarse grade hardwood chip with no fines has worked very well, generally doing its job keeping weeds at bay. There was a trial on recycled mulch, of which the landscaper was not impressed. Its abundance of fines acted as a potting mix, germinating many weeds.