TO: BOARD OF DIRECTORS

FROM: BRUCE BUEL BB

DATE: NOVEMBER 23, 2007

AGENDA ITEM
E-3
NOV. 28, 2007

DISCUSS ARBORIST RECOMMENDATIONS FOR OFFICE LANDSCAPE

ITEM

Acceptance of *Site Assessment* by Arborist Dave Ragan (International Society of Arboriculture Certified #WC-0345A) and discussion of recommendations [RECOMMEND ADOPTION].

BACKGROUND

Attached is the *Site Assessment* of the District Wilson Street facility's trees prepared by Dave Ragan, Certified Arborist, performed at the request of Celeste Whitlow, District Conservation and Public Outreach Specialist. The purpose of the assessment was to evaluate the health of the trees, and to assess for safety issues related to the trees. The assessment's report lists several recommendations for tree/shrub removal for safety reasons, threat to facility structural integrity, and inappropriate placement in a planned drought-tolerant landscape.

In addition, attached is the *Staff Recommendations for Arborist's Work on District Office Trees*, in which Ms. Whitlow offers recommendations and prioritizes the work to be done.

Celeste Whitlow is schedule to present her recommendations and to answer questions at the Board Meeting.

RECOMMENDATION

Staff recommends that your Honorable Board discuss the recommendations set forth in the *Staff Recommendations* attachment and authorize staff to secure quotes for work identified for presentation at a subsequent Board Meeting.

ATTACHMENTS

- *Site Assessment* by Dave Ragan, Certified Arborist.
- *Staff Recommendations* by Celeste Whitlow

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Site Assessment

FOR
Nipomo Community Services District
148 S Wilson St., Nipomo, CA 93444

July 25, 2007

BY

DAVE RAGAN, ISA CERTIFIED ARBORIST # WC-0345A

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Summary

The landscape around the Nipomo Community Service District office could be used as a display garden using plants adapted to our dry summers and wet winters. The current landscape has many plants that are high water users. Several of the trees will eventually damage hardscape such as curbs, sidewalks and the parking lot.

The plant palate could be improved. There is a wide variety of aesthetically pleasing drought tolerant plant material that could be incorporated into this landscape

Several of the existing trees and shrubs will need to be removed and replaced if the Board decides this is a viable option.

Introduction

Dave's Tree Service was hired by Celeste Whitlow representing the Nipomo Community Service District.

The Community Services District is working on ways to conserve water. A drought tolerant landscape is one of the options. Celeste is concerned some of the landscape material around the District building could be better adapted to our Mediterranean climate.

We walked the site on Monday, June 25.

Assignment

The condition of the existing trees at 148 South Wilson in Nipomo will be evaluated. Current and potential problems will be assessed along with drought tolerance. A written report will be provided.

This report can be used to determine which plants should be left and those which can or should be replaced.

Observations

Directions for the report are: north – toward Tefft, south – toward West Dana, east – toward Wilson and west – toward 101.

There are 37 large shrubs and trees on this site.

East side of building. There trees on the east side of the building are: 2 Birch, *Betula pendula*, planted on the on either side of the sidewalk to the main entry, and 5 *Arbutus* 'Marina', 1 to the south of the main entry and 4 to the north.

North side of building. The trees planted on the north side of the building are all planted in a bed that runs along the northern edge of the property. They are: an Ornamental Pear, *Pyrus kawakami*, planted at the entry to the parking lot off Wilson; the next tree is a

sweet gum, *Liquidambar styraciflua*, followed by 6 Dodonaea bushes, *Dodonaea viscosa*, and 6 Myoporum, *Myoporum laetum*. There is a Blue Gum Eucalyptus, *Eucalyptus globulus*, in the northwest corner.

West side of building. The trees planted on the west side of the building are: 3 Alders, *Alnus rhombifolia*, and one *Arbutus* 'Marina', planted on the east side of the parking lot entry off West Dana. The trees planted along the western edge of the parking lot, from north to south are: a small Red Iron Bark Eucalyptus, *Eucalyptus sideroxylon*, Alders, another larger Red Iron Bark Eucalyptus, a Cassia, *Cassia spp.*, a Birch (located in a parking island), 3 *Dodonaea*, an alder, a *Dodonaea* and a Sycamore, *Platanus racemosa*.

There are no trees planted on the south side of the building.

There is no irrigation for the 5 *Arbutus* along Wilson. It does not appear that the drip irrigation along the north side of the building is functioning.

Alnus rhombifolia Moisture-loving deciduous tree growing along streams; 50' – 90' in height with a 40' spread. Surface roots can be a problem. Susceptible to aphids.

***Arbutus* 'Marina"** Fairly drought-tolerant evergreen once established; up to 40' in height with an equal spread. Susceptible to aphids.

Betula pendula Deciduous tree requiring ample water and nutrients; 30' – 40' in height with a spread of 15' – 20'+. Very susceptible to aphids.

Cassia spp. This tree is too small to determine the species.

Dodonaea viscosa Drought tolerant-shrub. 10' – 15' in height + It seems to die back in our area at a young age (perhaps due to lack of supplemental irrigation).

Eucalyptus globulus Drought-tolerant evergreen, 45'- 165' with a spread of 30' -75' very messy, subject to summer branch drop. Asian longhorn borers can be a problem with stressed trees

Eucalyptus sideroxylon. Drought-tolerant evergreen; *sideoxylon;* 30' – 90'with a spread of 30' – 60'. Nectar can be a sticky mess for items beneath the canopy, limbs are extremely brittle.

Liquidambar styraciflua Deciduous tree requiring regular supply of moisture; to 60' + in height with a spread of 40' -50'; extremely surface rooted, can shed limbs.

Golf ball sized fruit can be a problem

Myoporum laetum Fast-growing large shrub/small tree requiring some supplemental irrigation, to 25' – 30' with a spread of 20'. Small fruit are messy. Temperatures below 24*F can cause severe damage. Thrips have been observed deforming the new growth (this is a new problem in our area)

Platanus racemosa Deciduous tree requiring regular irrigation; 30' – 80' with a spread of 20' -50'. Susceptible to anthracnose ((will defoliate the tree in wet springs).

Pyrus kawakami Semi-deciduous tree requiring supplemental irrigation; to 30' with an equal spread. Very susceptible to Fireblight (kills the branch tips and eventually whole branches). Very susceptible to Entomosporium Leaf Spot (will defoliate the tree in wet springs)

Discussion

The **Alders** are in good condition. They require a moist environment and are not a suitable tree for a drought tolerant landscape. There is a high probability that the roots will damage hardscape on all 4 trees. They are planted adjacent to a retaining wall, slab, curb, and/or irrigation boxes. The southern tree has a circular cement water valve cover. It is possible a water line runs beneath this tree. Roots will grow in the direction of least resistance such as an area trenched for utilities. The middle **Alder** has small roots and a dripline which could girdle the larger roots.

The ***Arbutus*** **'Marina'** are all in good condition. The back one should be pruned. The 5 trees planted in front of the building do not have any irrigation and the cut outs in the sidewalk are too small. The soil level in these cut outs is to the top of the sidewalk on several of the trees. All the trees along Wilson still have the stake from the nursery container against the trunk.

The **Birch** trees are in good condition, except for sooty mold, a problem with this species in this area . They are not a tree that is suitable for a drought-tolerant landscape. The 2 front trees have ivy (***Hedera helix***, invasive plant in Calif.)as a groundcover. Both trees have multiple trunks. The roots from the **Birch** located in the parking island on the west side of the building may eventually damage the curb and asphalt.

The **Cassia** looks like ***Cassia leptophylla*** but is too small for identification. ***Cassia leptophylla*** is a nearly evergreen that is fairly drought tolerant. It can grow to20'-25' in height with a spread of 30'.

The **Dodonaea** are in fair condition. Three have died along the northern property line and the shrub closest to Wilson is dying.

The **Blue Gum Eucalyptus** is in good condition. It is planted in the wrong location for a tree with such a large size at maturity. The roots can damage the neighbor's building and the leaves will need to be constantly cleaned from the flat roof.

The **Red Iron Bark Eucalyptus** are in fair condition. They have both lost several limbs. These trees are brittle and will continue to loose limbs.

The **Liquidambar** is in fair condition. It is not growing vigorously. I believe this is due to lack of water. There is included bark between the 2 primary leaders. It is planted in the wrong location. The roots will eventually damage the asphalt if and when it starts to grow.

The **Myoporum** are in fair condition. They are a little dry. **Myoporum** is a small tree or a large shrub. The *Myoporum* do a good job of screening the neighboring building. Three of the **Myoporum** are within 1' of the curb and one is within 3' of the curb. The tree closest to Wilson is overhanging the parking lot.

The **Sycamore** is in fair condition. It has several problems. They are a riparian plant but will take some drought once established. It is planted beneath the power lines. It will never grow into a specimen tree because it must be continually topped to clear these lines. It is currently too wide. **Sycamores** are very susceptible to anthracnose. This fungus nearly defoliated the sycamore this year. Anthracnose is generally not fatal and the trees usually push their second flush of growth in June/July.

The **Ornamental Pear** is in fair condition. It is within 1'-3' of the curb, an irrigation box and 1" waterline. The skirt is too low over the entry. ***Entomosporium* leaf spot** is evident on the majority of leaves. This fungus is similar to anthracnose because it is usually not fatal, is spread by splashing water, affects the new leaves and will defoliate the tree during wet springs.

Recommendations

The **Alders** will need to be removed if the goal is to establish a drought tolerant garden. At the least they will require root pruning. Depending on the extent required to save some of the hardscape, the stability of the tree may be jeopardized.

The ***Arbutus* 'Marina'** in front of the building will require regular irrigation. They are currently being hand watered. This is probably the best option because the sidewalk would probably need to be cut to install irrigation lines. Soil should be removed to a depth of 1"-2" below the top of the sidewalk. This basin can be filled twice when these trees are watered. The cut outs in the sidewalk will eventually need to be enlarged. The area around the trunks can be covered with grates to protect pedestrian traffic. The middle stakes on these 5 trees need to be removed.

The **Birch** trees will need to be removed if the goal is to establish a drought-tolerant garden. The **ivy** should be cleared away from the base of these trees by 4'-5'. There is a failure potential with the multiple trunks. These 2 trees will require regular pruning and

cabling if they are kept in the landscape. The smaller trunk on the southern birch and the birch in the parking lot should be removed.

The potential root problem with the **Birch** in the parking island on the west side of the building should be addressed if these trees are kept. Deep root panels should be installed around this Birch.

The **Dodonea** stumps and dying **Dodonea** (leave the small volunteer) along the northern property line should be removed. A suitable replacement should be considered since three of these have already died. Supplemental irrigation may help.

The **Blue Gum Eucalyptus** should be removed. It will damage the neighboring building.

The **Red Iron Bark Eucalyptus** should be removed. They are a hazard due to limb failure. The wounds created by the failed limbs may eventually weaken the trunks.

The **Liquidambar** will probably require eventual removal due to its size at maturity and large surface roots. It is not drought tolerant. Deep root panels can be installed to lengthen it life in this location. The back limb should eventually be removed or reduced.

The **Myoporum** are planted too close to the parking lot. Deep root panels should be installed to reduce the chances of damage to the asphalt. The front side of the bush closest to Wilson should be hedged back inside the planted bed. The height can be increased to completely screen the neighboring building.

The **Sycamore** could be replaced with a tree that will not grow into the power lines. However it is a fairly significant member of the landscape. Therefore it could be side trimmed on a regular basis to keep the sides in scale with the height. PG&E will keep the lines cleared. Spraying for anthracnose is not an economically viable option. The tree would require applications every 1-2 weeks during the spring from leaf out until the rains stop.

The **Ornamental Pear** is not drought tolerant. It should be removed and replaced with a small shrub that will not block the view of traffic for cars exiting the parking lot onto Wilson. Should the tree be left it must be monitored to prevent damage from the roots. The skirt should be raised for vehicle clearance. Spraying for *Entomosporium* leaf spot for is not an economically viable option. The tree would require applications every 1-2 weeks during the spring from leaf out until the rains stop.

There are no trees planted on the south side of the building. Some deciduous trees could be planted. They would provide shade during the summer and allow sunlight to hit the building during the winter.

The irrigation for the planter bed along the north side of the building should be repaired.

Literature Cited

Brenzel, KA. 2001. Sunset Western Garden Book, 179-180,197,223,318-319,339-341,437,474-475,531-532,558.

Pierce, L. and A McCain. 1983. Entomosporium Leaf Spot. University of California Cooperative Extension. Leaflet 21369.

Dave Ragan
ISA Certified Arborist #WC 0345

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STAFF RECOMMENDATIONS FOR ARBORIST WORK ON DISTRICT OFFICE TREES

Review of Mr. Ragan's *Site Assessment* was performed, and further clarification sought and received. Additional research has been accomplished. The following recommendations, prioritizing the work to be done, are made.

There are two groups of projects:

Group I: Tree work that should be done soon (usually for safety and potential-damage reasons).

Group II: Tree work that will need to be done before the landscape refurbishment begins, but which may be chosen to be performed sooner.

GROUP I:

1. Extending existing irrigation underneath the front sidewalk to provide water to the *Arbutus* 'Marina' street trees. Providing regular, consistent irrigation will greatly benefit these trees.

2. Enlargement of the sidewalk openings around the *Arubtus* trees and placement of grates. Enlarging the sidewalk openings will provide for better health of the trees due to the increased surface area for soil air exchange. Placing metal grates over the openings will eliminate a current safety hazard (sidewalk pedestrians stepping into sidewalk openings and suffering injury).

3. Removal of alders (*Alnus rhombifolis*) and replacement. The three large alders next to the back of the District office building pose a threat of structural damage to the building and surrounding hardscape. Alders will reach a diameter of 2', and they form very large, aggressive roots near the surface. In addition to potential damage to the District's office building, the roots will buckle the sidewalk, creating a safety hazard. The only way the trees could remain would be if root guards were placed. However, very large prop roots would have to be severed to place the root guards, which would destabilize the tree(s), putting them at great risk for falling over. The trees are also not drought-tolerant.

   The middle and right alders can be replaced with Golden Rain Trees (*Koelreuteria paniculata*)., and root guards placed at the time of installation of the trees. These trees line the road leading to the Arboretum at CalPoly, and have done very well with limited supplemental water and attention. They are deciduous trees which will provide shade in the summer, but allow sun to warm the building in the winter. They produce beautiful 8"-14" clusters of yellow flowers in early to mid-summer. The alder next to the Board Room patio should not be replaced with another tree because the space is not sufficient for a tree without risking damage to the patio as the tree grows larger.

4. Removal of the Ornamental Pear (*Pyrus kawakamii*). The Ornamental Pear at the front driveway entrance blocks view of the driveway from traffic traveling down S. Wilson towards Dana, and is too

large for the space. It is also located near the meter box and valve, which provides a seductive draw to the aggressive, water-seeking roots of this tree. It is in close proximity to the driveway which risks damage to the driveway surface. The narrowness of the bed makes that area unsuitable for most trees.

The Ornamental Pear should not be replaced, pending the landscape re-design, thus allowing the landscape designer to make an appropriate selection that will fit with the rest of the proposed landscape design.

5. Removal of the Liquidambar (*Liquidambar styraciflua*). The Liquidambar bordering the front of the entrance driveway represents problems similar to the Ornamental Pear. The bed space is too narrow to accommodate a tree, and roots can cause damage to both meter box/valve and driveway surface.

   Like the Ornamental Pear, replacement of the Liquidambar is not recommended at this time, pending the recommendations of the landscape designer who will provide the design for the District's landscape refurbishment.

6. Removal of the Birch in the island of the back parking lot. Again, the birch presents problems due to a small space for what will be a very large tree, and the propensity for aggressive, water-seeking roots damaging surrounding driveway structures. Birches in California also serve as disease vectors (sooty mold) and insect vector (aphids), providing ample opportunity for these problems to be spread in the landscape. Birches heavily infested with aphids and sooty molds, once they reach the size where they will hang over parked vehicles, provide a very sticky, sooty cascade on the vehicles parked underneath them.

   Like the other trees, replacement of the Birch is not recommended at this time, to allow the landscape designer to incorporate this into the proposed landscape design.

7. Removal of the Blue Gum Eucalyptus (*Eucalyptus globulus*) tree. This eucalyptus is extremely large and placed perilously close to a neighboring building. The roots may already be causing unseen problems to the foundation of the building, and certainly are a threat for future problems. The dropping of leaves and litter onto the neighboring building's roof can lead to leaking problems if not kept clear. Eucalyptus trees are notorious for falling, without warning, in high winds, producing a safety and building hazard for both the neighboring building and the District's driveway and parked cars. Finally, eucalyptus trees are not water efficient.

   This tree should not be replaced.

8. Removal of Red Ironbark Eucalyptus (*Eucalytus sideroxylon*) trees. This species of eucalyptus is beautiful but not water efficient. They also are capable of toppling over in winds, putting the District's driveway and parked vehicles at risk for damage. The limbs are very brittle and easily break and fall, with and without wind. They also exude a sticky substance which falls onto whatever is underneath.

   Like the other trees, replacement of this tree is not recommended at this time, to allow the landscape designer to incorporate this area into the proposed landscape design.

9. Removal of the *Cassia* spp. tree. This small tree is placed in an inappropriate location. This tree will grow to 30' wide/20-25' tall, and will be crowded by, and cause crowding to, the neighboring large *Dodonea*. The *Cassia* tree should be removed soon before it grows larger.

10. Pruning and shaping of Sycamore (*Platanus racemosa*) tree.

GROUP II:

The removal and replacement of the Dodonea, Myoporum, birch trees in front, and smaller Alders on the back side of the parking lot are all projects that need to be done soon, but could wait until before the landscape refurbishment project is started. The Myoporum should be considered a priority in this second group because it is considered a moderately invasive plant in California.

Thank you for the opportunity of participating in this project.

Celeste Whitlow, Conservation Specialist