Scott L. Hochstrasser

IPA, Inc

E-Mail slh1ipa@aol.com
42 Glen Drive, Suite B * Fairfax, CA 94930 USA * Tele (415)459-6224 * Fax 459-5810

December 21, 2005

Mr. Scott Anderson, Community Development Director
Tiburon Community Development Department
1505 Tiburon Blvd.
Tiburon, CA 94920

RE: Off –Site Tree Mitigation Plan – Tiburon Glen Estates

Dear Scott,

Attached please find the applicants off-site tree mitigation plan for the Tiburon Glen Estates project. The plan consists of a written text with project details and a single graphic sheet with the site and detailed notes provided by the project landscape architect, Donald L. Blayney Associates. As you know this plan is being submitted to demonstrate feasibility and a plan for off-site mitigation of the following project impacts noted in the Tiburon Glen FEIR Second Addendum as follows: Impact 5.3-4 (Loss of Mixed Coast Live Oak-Bay Woodland) would be reduced to a less-than-significant level. This in turn would also reduce the Impact 5.1-3 (Secondary Effects of Grading for Landslide Repair) and Impact 5.3-10 (Cumulative Biological Impacts).

The off-site tree mitigation plan has been developed in compliance with the performance standards specified for development of a program to address impacts resulting from the three lot project as specified in the FEIR Second Addendum (see page 5.0-9 – Mitigation Measure 5.3-4(c). The plan complies as follows with the bullet points listed:

Broom Eradication and Habitat Restoration – the proposed plan has been designed and would be administered by a licensed landscape architect in consultation with qualified arborist, ecologist.

The off-site restoration location has been located in consultation with Town of Tiburon staff and biological consultants retained by the Town to assist with the environmental peer review. The site is located off of Gilmartin Drive in Tiburon. (See plan sheet for Vicinity Map) The subject site is not subject to future development because it is retained by the Town as public open space.

Habitat restoration shall entail removal of invasive plant species and replacement with appropriate native tree stock. The plan includes the planting of 189 coast live oak trees to restore woodland habitat being lost at the Tiburon Glen Estates property.

EXHIBIT NO. 3

Although the FEIR bullet point number 4 notes that depending on the percent cover of broom on the candidate site and the number of trees or shrubs to be planted once broom is removed, a habitat restoration credit shall be applied to the applicants tree mitigation requirement. Although a credit may be warranted in this case no credit is claimed with the proposed plan.

A Mitigation Monitoring Plan (MMP) has not yet been prepared but the techniques for broom removal have been explained in the attached Off-Site Tree Mitigation Plan text and as noted on the project plan sheet prepared by DLBlayney Associates.

Summary

I think the attached written plan and plan sheet with notes demonstrates that there is an off-site location and plan for tree mitigation that meets the Mitigation Measure 5.3-4(c) performance standards. The plan is feasible in the opinion of our project landscape architect, arborist and consulting ecologist. Our team of experts think that implementation of the broom eradication and habitat restoration program is feasible and provides for a 3:1 tree mitigation, even without credit for broom eradication, and would reduce the project's impact to a less-than-significant level. As I understand it the Town's EIR consultants have agreed that the selected site is appropriate for a mitigation plan, and that an off-site tree mitigation program is feasible providing it meets specific performance criteria. An analysis of the plan per the performance criteria is provided above. Accordingly, we look forward to "peer" review and comments and the opportunity to present this plan to the Planning Commission at their January 11, 2006 meeting. To facilitate quick review of the attached materials, per Bob Berman's request, I have also sent, by Federal Express, copies to Nichols –Berman and to Live Oak Associates

Finally, I want to thank you and your consultants for continued assistance and cooperation regarding this matter. Without your continued assistance and willingness to explore creative solutions to the project issues this process may have been further continued well beyond what is fair and reasonable.

All the best to you and yours for a wonderful, peaceful and joyful holiday season.

Sincerely,

Scott L. Hochstrasser, President

Off-Site Tree Mitigation Plan Project Description and Details

The proposed plan includes the removal of existing invasive plant species, namely broom, from a site that is currently Town of Tiburon open space land. The site is located along Gilmartin Drive in the Town of Tiburon Once the broom is removed the site will be prepared for and planted with coast live oaks – a total of 189 new one year old trees will be planted.

Positive Impact:
Removal of the broom stands on the subject property will remove an existing fire hazard that results from the "ladder" of woody material that can carry fire into trees. Broom provides poor forage for native wildlife and the seeds are toxic. Removal of the broom should enhance the opportunity for native plants to reseed serving the needs of wildlife. Planting coast live oak trees and the resulting acorns will also provide feeding opportunity for wildlife. Tree replacement in broom infested areas will reduce fire hazards in the open space and enhance the visual character of the land.

Broom Treatment Options
The plan is to use one of the following treatment options:
Pull shrubs by hand or with a Weed Wrench, or dig with a Pulaski, pick or shovel between January and May when the ground is moist. Repeated pulling of successive generations is currently thought to be the single most effective method of removing broom and continued removal until the plants energy resources are depleted.

Follow-up
Once the broom is initially removed the new tree planting of 189 one year old coat live oaks will be done in the locations, number, and size shown on the Off-Site Tree Mitigation Plan prepared by DLBlayney Associates. Because once broom plants are removed emerging seedlings will reoccur, the plan is to removed the seedlings at the site at least for the following 5 years. In the first year after removal of mature plants, the next generation will be too small to pull, but this dense flush of seedlings is effectively controlled by "flaming" with a propane torch. A single controlled pass with the torch will wilt and kill seedlings. Controlling broom plants when they are seedlings can save a great deal of work in later years. However, if it is determined by the fire department that controlled torching is not appropriate the second year and subsequent years for a total of five (5) years the seedlings will be pulled by hand or with a Week Wrench. Following the five year period re-sprouting shoots will be cut or weed –whipped in late spring or in the dry season to control until the plant energy resources are depleted and the coat live oaks provide shade that makes the site a poor location for broom reproduction. Finally, the plan is to follow the Week Workers Handbook, published by the California Invasive Plant Council, pp 64-66. (A copy of the noted pages is attached herewith)

Alternative Restoration Areas

The subject site is much larger than is needed for off-site mitigation for the Tiburon Glen Estates project. Several alternative locations for additional site restoration have been identified on the project plan. The alternative sites were selected because they are areas where broom currently exists and where the greatest benefit for restoration exists. Some of the areas shown have not been selected for this plan because of the potential for impact on views from nearby residences. However, the areas identified could support planting of up to another 200 -300 additional trees. This leaves portions of the site open for future off-site mitigation if needed by future projects assuming that the program is successful for the Town.

Tree Planting Plan

The project plan includes the planting of 189 new trees that will be one year old, grown by a contract grower from acorns collected on the mitigation site or a neighboring site. New trees will be planted at a spacing of no less than 20' on center in the yellow areas indicated on the Off-Site Tree Mitigation Plan prepared by DLBlayney Associates.

Avoid Soil Erosion
Site preparation will avoid soil erosion by compliance with erosion control and winterization standards and procedures specified in the NPDES construction standards adopted by the County of Marin and the Town. (See Notes on the DLB plan sheet for details)

Avoid View Impacts
The plan areas selected were carefully considered during field visits and selected to avoid potential visual impacts on surrounding neighboring residential areas. Existing homes enjoy downhill views over the open space property. The slope and site elevations where new tree planting is proposed is 20 feet or more below the existing finish floors of the existing residences in the immediate area. Planting areas were selected where no potential view blockage would occur even with the full height of the mature trees because the top of the tree canopy is not expected to reach above 20' maximum and would be below the living floor area elevations of the homes surrounding the open space.

Avoid "Tree Farm Appearance"
The plan also includes a linear design and clustering of trees in areas along the street to emulate a more native array of tree locations. The plan objective is to provide organic polygons or tree clusters with various density and shape on the landscape to avoid the appearance of a "tree farm".

Ongoing Care and Maintenance
Finally, the project sponsor understands that an ongoing care and maintenance and tree replacement plan and financial resources in form of a bond or letter of credit will be required as a condition of project approval. The applicant proposes this condition to ensure that the off-site tree mitigation plan is fully implemented and monitored to a period of success, expected to be a total of five years. The need for tree replacement, where initial plantings have failed will, be checked annually and new trees will be planted and monitored for the period specified in the final monitoring plan. This plan assumes that after 5 years of plant growth that the new coast live oak forest would not need further intensive maintenance, watering and management.

Plant Watering – Irrigation

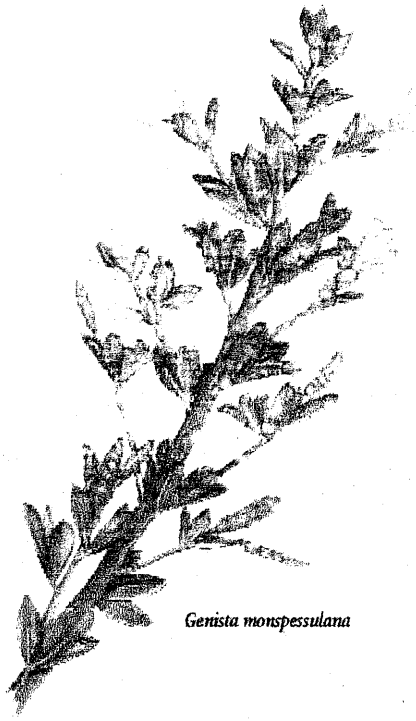
The plan includes installation of a temporary drip irrigation system to be used for watering all of the new trees until such time as it is determined that new trees have become established. This is planned to be a period of five years from planting. The site selected has available a public water line located in the Glimartin Drive roadway. The project sponsor would pay for a temporary water meter or access to fire hydrant water with metering for water use.

Project Staging

A project staging area has been selected that would avoid on street parking of equipment and vehicles and storage of the project materials on Gilmartin Drive. The staging area will be served by an existing fire access road near the entry to the open space site (See Staging Area on the DLB plans). The staging would include use of the road and placement of all equipment, vehicles and materials out of the emergency vehicle travel way during all hours of the planting and monitoring. The staging area would be maintained and managed by the on-site contractors and would be subject to permits and bonding as required by the Town. The vehicles and equipment used would be licensed and meet all vehicle and equipment standards. Storage of plant materials, tools, and equipment would only be on-site for the duration of the project planting which is not expected to exceed 30 days. All maintenance work will be performed by landscape contractors using maintenance vehicles and tools that are brought to the site for periodic maintenance.

BROOM SPECIES

French broom ***(Genista monspessulana)***
Scotch broom ***(Cytisus scoparius)***
Spanish broom ***(Spartium junceum)***
Legume or Pea Family (Fabaceae)



Genista monspessulana

DESCRIPTION

These three broom species are invasive shrubs that grow in grasslands, scrub, and woodland habitats. Once introduced, they can quickly colonize disturbed areas, trailsides, and streambanks, and sometimes spread into wildlands along roads. Broom species are somewhat shade tolerant, though in general Scotch broom is found in drier, sunnier locations. Individual shrubs have been known to live up to 17 years.

French broom usually grows 6 to 10 feet tall, but can grow as tall as 15 feet. Mature plants are evergreen, especially along the coast. Leaves grow in groups of three. Each leaf is about a half-inch long, or larger in shadier woodlands.

Scotch broom also grows 6 to 10 feet tall. Young plants are easily distinguished from French broom by the flowers (see below) and by the ridges on their dark green stems. Scotch broom leaves are smaller and fewer than French broom, giving the plant a wiry look.

Spanish broom is distinguished from the other types of broom by its smooth, round stems, single leaves, and large flowers. Leaves are shed during summer drought, giving a very stick-like appearance. Its taproot can reach depths of 6 feet, making Spanish broom the hardest of the three brooms to remove.

REPRODUCTION

French broom flowers start to appear in March (earlier in sunny locations) and continue to bloom through May or even July. They are yellow, less than a half-inch in size, and have the familiar pea flower shape with banner, wing, and keel petals. The flowers grow from the main stem in bunches of 4 to 10. In June and July, inch-long fuzzy green seed pods appear, turning dry and brown in late summer. Each pod bears several to many shiny black seeds.

Scotch broom flowers are similar to those of French broom, but they are larger and deeper yellow. Seed pods are similar, too, except that they have hairs only on their seams, instead of being fuzzy all over.

Broom seed pods, when ripe, burst open explosively and propel seeds up to 12 feet from the plant. Starting in the second year of growth, seed production is prodigious; in a single square-meter plot, researchers have counted more than 6,700 seeds! Furthermore, the seeds persist, remaining viable for at least 5 years and potentially for decades. Broom seeds often germinate with early winter rains, establishing a flush of new seedlings from December through July.

Impact

Dense stands of broom change the structure of the invaded plant community, often increasing fire hazards by creating a "ladder" of woody material that can carry fire into trees. Brooms provide poor forage for native wildlife. The leaves and seeds are toxic. As nitrogen-fixing legumes, they can enrich soil nitrogen, which in turn can promote the growth of other weedy plant species once the broom has been removed.

Key Factors

- Prodigious seed production.
- Seeds remain viable for many years, potentially decades.
- Resprouts from stumps and root crown when cut.

Treatment Options

- Pull shrubs by hand or with a Weed Wrench, or dig with a Pulaski, pick, or shovel between January and May, when the moist ground makes it easier to remove the roots, and before another generation of seeds has developed. Repeated pulling of successive generations is currently thought to be the single most effective method of removing broom.
- Cut shrubs to just above ground level using a pruning saw, loppers, or brushcutter, ideally during the dry season so that the stumps become more stressed. Cutting, rather than pulling, has the advantage of minimizing soil disturbance. Untreated cut stumps *will* resprout and must be cut repeatedly (see Follow-Up, below.) Alternatively, cut the stems about 2 inches above ground level, then girdle the stump by peeling the bark off the stems—like peeling a banana—down to ground level. This reduces resprouting and works best on medium to large French broom plants.
- Cut stems, using loppers, to about 2 inches above ground, and grub out the roots.
- Cut and treat the stumps with herbicide.
- Girdle the trunk of large broom plants with a small hand tool such as a paint scraper. (Warning: while girdling minimizes soil disturbance, standing dead broom will increase, not reduce, fire hazards. Also, broom left standing will be in the way when you return for follow-up.)
- Scrape seedlings with a hula hoe.
- Flame seedlings in monoculture with a propane torch (weed blancher). This is most effective and efficient when the seedlings have only their two seed-leaves, but can also work on seedlings with true leaves, up to a few inches tall. (See Follow-Up for more on flaming.)

Follow-Up

Wherever mature plants are removed, emerging seedlings will also have to be removed for *at least* the next 5–8 years and probably longer. In the first year after removing mature plants, the next generation will be too small to pull, but this dense flush of seedlings is effectively controlled by flaming with a propane torch. A single pass with the torch will wilt and kill seedlings. Controlling broom plants when they are seedlings will spare you a great deal of work in pulling plants the second year after removing mature broom.

Broom is not eradicated from your site until the seedbank is exhausted, so be vigilant to prevent subsequent generations from producing seed. Broom is easiest to spot when the bright yellow flowers are present, but be sure to remove it before the seed pods mature.

Broom resprouts from the base when cut: all except seedlings and old, senescent plants can resprout after cutting if not treated with herbicide. Resprouting stump shoots can be cut or weed-whipped the following year, either in late spring or in the dry season. Repeat this treatment annually until the plants' energy resources are depleted.

Disposal

Pulled plants that have not produced seed can be piled on-site to decompose. Alternatively, they can be hauled off-site and chipped or recycled as green waste. One innovative use of broom waste has been to bundle the pulled plants to create 8- to 12-inch wattles that can be secured to slopes to prevent erosion.

Plants that have gone to seed should be piled on tarps or bagged to reduce the number of seeds falling to the ground and germinating. Putting broom-with-seed piles in deep shade will also help inhibit germination. Tarps should be visited annually, and eventually removed when materials have decomposed.

Interesting Facts

French broom originates in the Mediterranean and was reportedly introduced to the Bay Area as an ornamental in the mid- to late 1800s. Scotch broom is native to much of Europe and the foothills of North Africa.

Notes