

Attachment G

Martin Slough Enhancement Project  
Planting Plan

Table 1. Tidal and Brackish Marsh Plant Association for Martin Slough						
Vegetation Type	Common Name	Scientific Name	% Cover Goal	On-Center Spacing (ft.)	Planting Location	Propagule Type/Size
<b>Salt Marsh</b>						
Obligate Wetland/Low Marsh (40 %)	Pickleweed	<i>Salicornia virginica</i>	50	in stands of 10-15 plants at 1-2 ft apart	Lowest portions of excavated benches from upstream of tidegate (Station 0+00) to Complex C (Station 32+00 tributary), and in lower portions of tidal Ponds D and E between Elev 3 (MLLW) and Elev.6	Cuttings rooted in Tree Bands (TB)
Facultative Wetland/Middle Marsh (30%)	Saltgrass	<i>Distichlis spicata</i>	25	in bands of plants at 1 foot apart	Middle portions of excavated benches from upstream of tidegate (Station 0+00) to Complex C (Station 32+00 tributary) and in mid emergent portions of Ponds D and E between Elev 5 and Elev.7 (MHHW)	transplant plant plugs or clumps
Wetland Transition/High Marsh (30%)	Coastal tufted hairgrass	<i>Deschampsia caespitosa</i>	20	groupings 5-10 plants at 2 feet apart	In wide band on upper portions of interior benches and upper margins of tidal ponds Elevation 6-8	transplant whole plant or plant divisions
	Gumplant	<i>Jaumea carnosa</i>	5	groupings of 5 to 7 plants at 3-4 foot spacing	same as above	Rooted cuttings in D-pots to 1-gallon

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<b>Brackish Marsh</b>						
Obligate Wetland (40%)	pale spikerush	<i>Eleocharis macrostachya</i>	5	in stands of 15-25 at 1 foot apart	Intergrading with salt marsh terraces, Complex C wetland, and Tidal Ponds C and D from Senestraro property to Fairway Dr then dominant upstream of salinity break at North Fork Tributary channel (Station 73+00). between Elev 5 and Elev.8	transplant divisions or plant plugs
	Slender arrowgrass	<i>Triglochin concinna</i>	5	same as above	same as above	same as above
	Alkali bulrush	<i>Scirpus maritimus</i>	5	same as above	same as above	Transplant rhizome divisions
Facultative Wetland (30%)	Lyngbye's sedge	<i>Carex lyngbyei,</i>	30	same as above	same as above	same as above
	Slough sedge	<i>Carex obnupta</i>	30	same as above	same as above	transplant divisions or plant plugs
	water parsley	<i>Oenanthe sarmentosa</i>	10	groupings 3-7 at 2 feet apart	same as above	transplant rhizomes

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Wetland Transition (30%)	Soft rush	<i>Juncus effuses</i>	5	in stands of 15-25 at 1 foot apart	same as above except extending to elevation 10 where applicable.	transplant divisions or plant plugs
	Spreading rush	<i>Juncus patens</i>	5	same as above	same as above	

Table 2. Raised Ground Herbaceous Plant Association						
Vegetation Type	Common Name	Scientific Name	% Cover Goal	Lbs. live seed per acre	Planting Location	Propagule Type (# needed)
<b>Fairway and Rough Fill Areas</b>						
Sod and mat-forming grasses	Seed mix to be selected by golf course landscape architect	<i>TBD</i>	100	TBD	Fill areas in both "fairway" and "rough" sections of golf course where elevation is raised to 7.0-7.5 NAVD88	Direct seed for drill seeder, hydroseeder, or other per landscape architect

Table 3. Martin Slough Freshwater Emergent Wetland Plant Association						
Vegetation Type	Common Name	Scientific Name	% Cover Goal	On-Center Spacing (ft.)	Planting Location	Propagule Type (# needed)
<b>Fresh Emergent Wetlands</b>						
Obligate Wetland (40 %)	American bulrush	<i>Scirpus americanus</i> ,	10	in stands of 7-15 at 4-6 feet apart	At emergent zone fringe of tidal Ponds D, E, and F upstream of weir structures and in and freshwater Pond G in seasonally deepest waters and in sunniest areas further away from existing trees	transplant rhizomes
	Hardstem bulrush	<i>Scirpus acutus</i>	10	same as above	same as above	same as above
	Alkali bulrush	<i>Scirpus microcarpus</i>	10	same as above	same as above	same as above
	pale spikerush	<i>Eleocharis macrostachya</i>	10	in stands 15-25 at 2-3 feet apart	Same as above but in seasonally inundated areas from 6 to 12 inches in depth	transplant divisions
Facultative Wetland (30%)	sedge	<i>Carex obnupta</i>	10	in groupings of 7-15 at 4-6 feet apart	Same as above in wide band at inner margin of pond in seasonally shallower waters less than 6 inches in depth	transplant whole or plant plugs
	willow-leaf dock	<i>Rumex salicifolius</i>	10	in groupings of 7-15 at 3-4 feet apart	same as above	seed or plant plugs

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	water parsley	<i>Oenanthe sarmentosa</i>	10	in groupings of 7-15 at 4-6 feet apart	same as above	Transplant rhizomes or whole plants
Wetland/Riparian Transition (30%)	rush	<i>Juncus balticus, J. effuses, J. patens</i>	15	in stands 15-25 at 1-2 feet apart	In narrow band at outer margin of ponds and channel in seasonally saturated soils	Transplant divisions or plant plugs
	False nutsedge	<i>Cyperus strigosus</i>	15	in stands 7-15 at 2-3 feet apart	same as above	seed or plant plugs

Table 4. Martin Slough Riparian Plant Association						
Vegetation Type	Common Name	Scientific Name	% Cover Goal	On-Center Spacing (ft.)	Planting Location	Propagule Type
<b>Trees (35% cover)</b>						
Upper Riparian (Elevation 8 to 10)	Redwood	<i>Sequoia sempervirens</i>	2.5	30 feet apart groupings of 2-3	Northern tributary upstream end of channel bench 8+00 to 10+00 above elevation 8	15-gallon: 6-8 feet tall

Table 4. Martin Slough Riparian Plant Association						
Vegetation Type	Common Name	Scientific Name	% Cover Goal	On-Center Spacing (ft.)	Planting Location	Propagule Type
	Sitka spruce	<i>Picea sitchensis</i>	10	25 feet apart groupings of 2-3	Intermittent groupings throughout upper riparian zone from stations 60+00 to 80+00 and at north side of ponds E and F above elev. 8	15-gallon: 6-8 feet tall
	Shore pine	<i>Pinus contorta</i> var. <i>contorta</i>	5	20 feet apart groupings of 2-3	Intermittent groupings throughout upper riparian zone from stations 45+00 to 58+00 and at north side of ponds D and E above elev. 8.	15-gallon: 6-8 feet tall
	Pacific wax myrtle	<i>Myrica californica</i>	2.5	16 feet apart in groupings of 3-5	Intermittent thickets from stations 00+00 to 42+00 above top of bank within fence and at outer edges of Complex C wetland on Senestraro parcel; also in intermittent thickets from 45+00 to 60+00 and along interior perimeter of pond D and complex C between elev. 6-8.	5-gallon: 2-4 feet tall with plant protection in Senestraro
Lower Riparian (Elevation 6 – 8)	Red alder	<i>Alnus rubra</i>	5	same as above	Intermittent groupings throughout lower riparian zone from stations 32+00 to 80+00 and at far perimeter of ponds D, E and F above elev. 7 (MHHW)	15-gallon: 6-8 feet tall

Table 4. Martin Slough Riparian Plant Association						
Vegetation Type	Common Name	Scientific Name	% Cover Goal	On-Center Spacing (ft.)	Planting Location	Propagule Type
	Red twig dogwood	<i>Cornus sericea</i>	5	12 feet apart in groupings of 5-7	same as above	5-gallon: 2-4 feet tall
	Red willow	<i>Salix laevigata</i>	2.5	same as above	Intermittent thickets throughout lower riparian zone from stations 60+00 to 80+00 and along interior perimeter of ponds E and F above elev. 7	5-gallon: 2-4 feet tall in golf course or live stakes on Senestraro parcel
	Coastal willow	<i>Salix hookeriana</i>	2.5	same as above	Intermittent thickets at upstream & downstream edges of marsh benches from stations 00+00 to 35+00 within fence and at outer edges of Complex C wetland; also from 45+00 to 60+00 and along interior perimeter of pond D and complex C between elev. 6-8	same as above
<b>Shrubs (30% cover)</b>						
	Mexican elderberry	<i>Sambucus mexicana</i>	2.5	Singly or 10 feet apart in pairs	Intermittently in riparian thickets understory from stations 00+00 to 80+00 and above wetted perimeter of all ponds above elev. 8	5-gallon on golf course, tree-pot or D-pot on Senestraro parcel



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Vegetation Type	Common Name	Scientific Name	% Cover Goal	On-Center Spacing (ft.)	Planting Location	Propagule Type
	Blue blossom ceanothus	<i>Ceanothus thyrsiflorus</i>	2.5	10 feet apart in groupings of 2-3	same as above but between stations 33+00 and 80+00	same as above
	Coffeeberry	<i>Rhamnus californica</i>	2.5	same as above	Intermittently in riparian understory from stations 00+00 to 80+00 and along above wetted perimeter of all ponds above elev. 8	same as above
	Pacific rhododendron	<i>Rhododendron macrophyllum</i>	2.5	same as above	In stands at outside edge of riparian zones and in small shrub islands on holes 1, 6, and 17.	5-gallon, burlap-wrapped bare root wad
	Western azalea	<i>Rhododendron occidentale</i>	2.5	same as above	In stands at outside edge of riparian zones and in small shrub islands on holes 1, 6, and 17.	5-gallon
	Twinberry	<i>Lonicera involucrata</i>	2.5	10 feet apart in groupings of 2-3	Intermittently in riparian understory from stations 00+00 to 80+00 and along above wetted perimeter of all ponds above elev. 8	5-gallon on golf course, tree-pot or D-pot on Senestraro parcel
	Red flowering currant	<i>Ribes sanguineum</i>	2.5	same as above	same as above	same as above
	Evergreen huckleberry	<i>Vaccinium ovatum</i>	2.5	same as above	same as above	same as above

Table 4. Martin Slough Riparian Plant Association						
Vegetation Type	Common Name	Scientific Name	% Cover Goal	On-Center Spacing (ft.)	Planting Location	Propagule Type
	Spirea	<i>Spirea densiflora</i>	2.5	6 feet apart in groupings of 5-7	Between salt marsh and uplands throughout lower riparian zone from stations 00+00 to 35+00 within fence and at outer edges of Complex C wetland; also from 45+00 to 60+00 and along interior perimeter of pond D and complex C between elev. 7-8	same as above
	California rose	<i>Rosa californica</i>	2.5	same as above	Between intermittent tree stands throughout lower riparian zone from stations 00+00 to 35+00 within fence and in stands at outer edges of Complex C wetland;	same as above
	Salmonberry	<i>Rubus spectabilis</i>	2.5	same as above	same as above	same as above
	Thimbleberry	<i>Rubus parviflorus</i>	2.5	same as above	same as above	same as above

Table 5. Short Grass Planting						
Vegetation Type	Common Name	Scientific Name	% Cover Goal	Lbs. live seed per acre	Planting Location	Propagule Type (# needed)
<b>Fairway and Rough Fill Areas</b>						
Low-growing sod and mat-forming grasses	Seed mix to be selected by golf course landscape architect	<i>TBD</i>	100	TBD	Raised short grass areas adjacent to fairway on Holes 2, 4, and 6, as well as the Pond E island on Hole 18	Direct seed for drill seeder, hydroseeder, or other

Table 6. Dike/Levee Plant Association for Martin Slough						
Vegetation Type	Common Name	Scientific Name	% Cover Goal	On-Center Spacing (ft.)	Planting Location	Propagule Type (# needed)
<b>Fresh Meadow Grasses (50 lbs p/ac)</b>						
Perennial grass  pH up to 7.5	CA coastal brome	<i>Bromus carinatus</i> <i>var. maritimus</i>	50	N/A	Outboard side (field side) of Swain Slough levee spoils disposal area from top to bottom of levee	Broadcast seed, rake, hand straw mulch or hydroseed (25 lbs p/ac)
pH up to 7.0	Meadow barley	<i>Hordeum brachyantherum</i>	30		same as above	same as above (15 lbs p/ac)
pH up to 7.0	Red fescue	<i>Festuca rubra</i>	20		same as above	same as above (10 lbs p/ac)
<b>Salt-tolerant Grasses (50 lbs p/ac)</b>						

Table 6. Dike/Levee Plant Association for Martin Slough						
Vegetation Type	Common Name	Scientific Name	% Cover Goal	On-Center Spacing (ft.)	Planting Location	Propagule Type (# needed)
Perennial pH up to 9.0	Salt grass	<i>Distichlis spicata</i>	40		Inboard side (slough side) of Swain Slough levee (spoils disposal area) down to MHHW	same as above (20 lbs p/ac)
pH up to 8.5	Coastal tufted hairgrass	<i>Deschampsia caespitosa</i>	40		same as above	(20 lbs p/ac)
pH up to 8.0	Blue wild rye	<i>Elymus glaucus</i>	20		same as above	(10 lbs p/ac)

Table 7. Disturbed Ag Lands Plant Association for Martin Slough						
Vegetation Type	Common Name	Scientific Name	% Cover Goal	On-Center Spacing (ft.)	Planting Location	Propagule Type (# needed)
<b>Fresh Meadow Grasses (40 lbs p/ac)</b>						
Perennial pasture grass	CA coastal brome	<i>Bromus carinatus</i> var. <i>maritimus</i>	20	N/A	Disturbed areas above MHHW throughout Senestraro project reach stations 00+00 to 35+00 and adjacent to wetland complex C above elev. 8	Broadcast seed, rake, hand straw mulch or hydroseed (10 lbs p/ac)
	Meadow barley	<i>Hordeum brachyantherum</i>	20	N/A	same as above	same as above (10 lbs p/ac)
	Red fescue	<i>Festuca rubra</i>	20	N/A	same as above	same as above (10 lbs p/ac)

<b>Table 7. Disturbed Ag Lands Plant Association for Martin Slough</b>						
<b>Vegetation Type</b>	<b>Common Name</b>	<b>Scientific Name</b>	<b>% Cover Goal</b>	<b>On-Center Spacing (ft.)</b>	<b>Planting Location</b>	<b>Propagule Type (# needed)</b>
	Blue wild rye	<i>Elymus glaucus</i>	20	N/A	same as above	(10 lbs p/ac)
<b>Forbs (10 lbs p/ac)</b>						
Perennial and annual forbs	Blue-eyed grass	<i>Sisyrinchium bellum</i>	5	N/A	same as above	2.5 lbs p/ac
	Aster	<i>Aster chilensis</i>	5	N/A	same as above	2.5 lbs p/ac
	Yarrow	<i>Achillea millefolium</i>	5	N/A	same as above	2.5 lbs p/ac
	Wire rush	<i>Juncus balticus</i>	5	N/A	same as above	2.5 lbs p/ac

<b>Table 8. Golf Rough Grass Planting (Revegetated Golf Course Lands within Limits of Disturbance)</b>						
<b>Vegetation Type</b>	<b>Common Name</b>	<b>Scientific Name</b>	<b>% Cover Goal</b>	<b>Lbs. live seed per acre</b>	<b>Planting Location</b>	<b>Propagule Type (# needed)</b>
<b>Fairway Rough and Rough Fill Areas</b>						
Low-Medium growing sod and mat-forming grasses	Seed mix to be selected by golf course landscape architect	<i>TBD</i>	100	TBD	Rough grass areas in areas of disturbance throughout golf course project reach 35+00 to 80+00 and adjacent to ponds D, E, and F	Direct seed, drill seed, or hydroseed