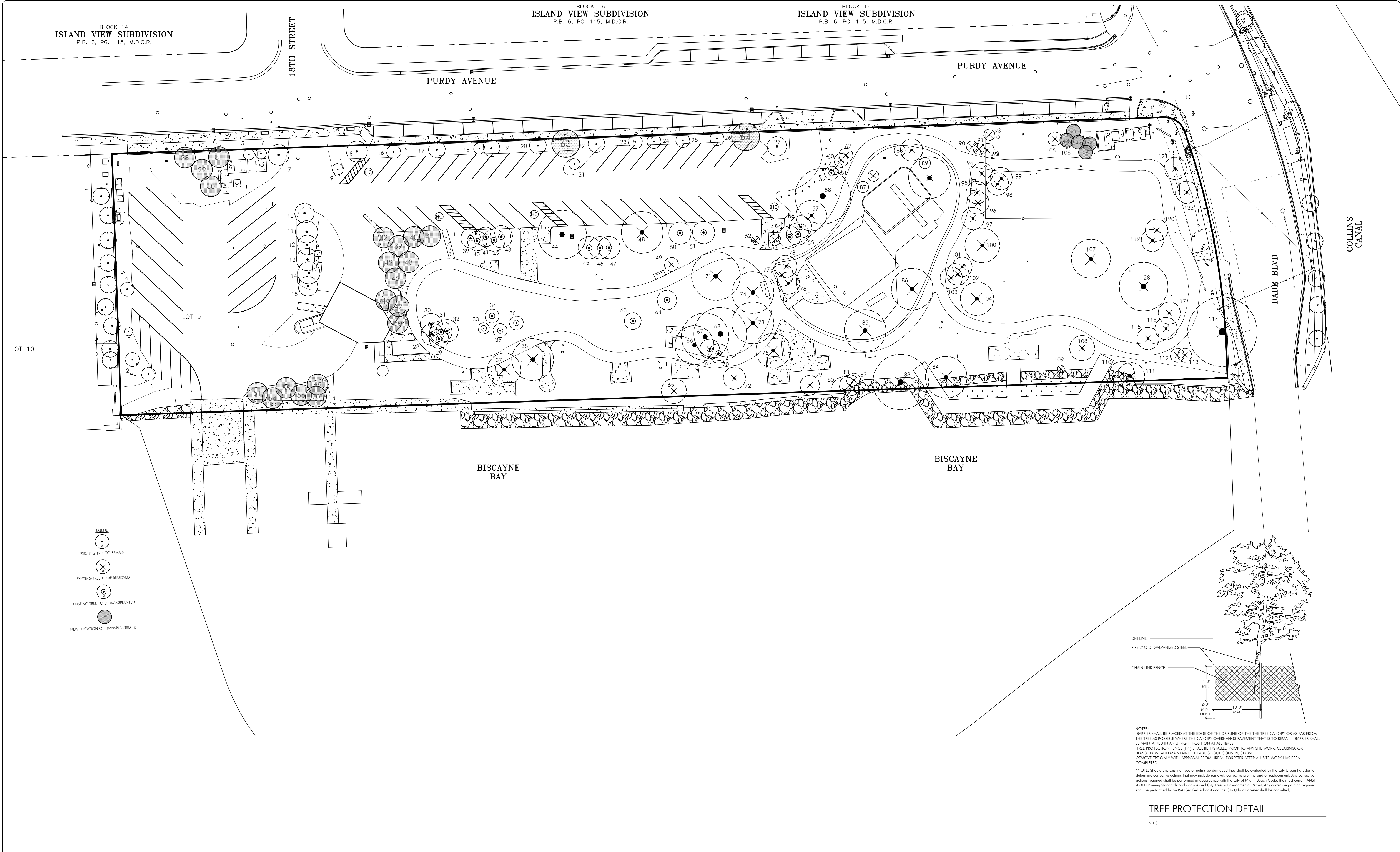




A EXISTING TREE DISPOSITION PLAN

SCALE: 1"=30'

MIAMI BEACH
OFFICE OF CAPITAL IMPROVEMENT PROJECTS
1701 MERIDIAN AVENUE, MIAMI BEACH, FL 33139

PROJECT: MAURICE GIBB MEMORIAL PARK

ADDRESS:

COASTAL SYSTEMS
COASTAL SYSTEMS INTERNATIONAL, INC.
404 South Dixie Highway, Coral Gables, Florida 33146
Tel: 305-961-3000 Fax: 305-961-1814 www.CoastalSystems.com
ISO 9001:2008 & LEED

DESIGN
KEN GARDNER + KEMLER
LANDSCAPE ARCHITECTURE
www.kengardner.com
11000 SW 10th Ave., Suite 214
Miami, FL 33155
Tel: 305-975-1010 Fax: 305-975-1015
www.kengardner.com

LA OF RECORD: KEG
DESIGN LA: KEG
DRAWN BY: HM
CHECKER: KEG
SCALE:

LANDSCAPE ARCHITECT OF RECORD:
Ken Gardner, ASLA
FL LA 1509

NO.	DATE	REVISION	APPD. BY
5			
4			
3			
2			
1			

Drawing Title:

EXISTING TREE DISPOSITION PLAN

Filename: GS LA - SHEETS.dwg
Date: 01.30.19 Sheet: of

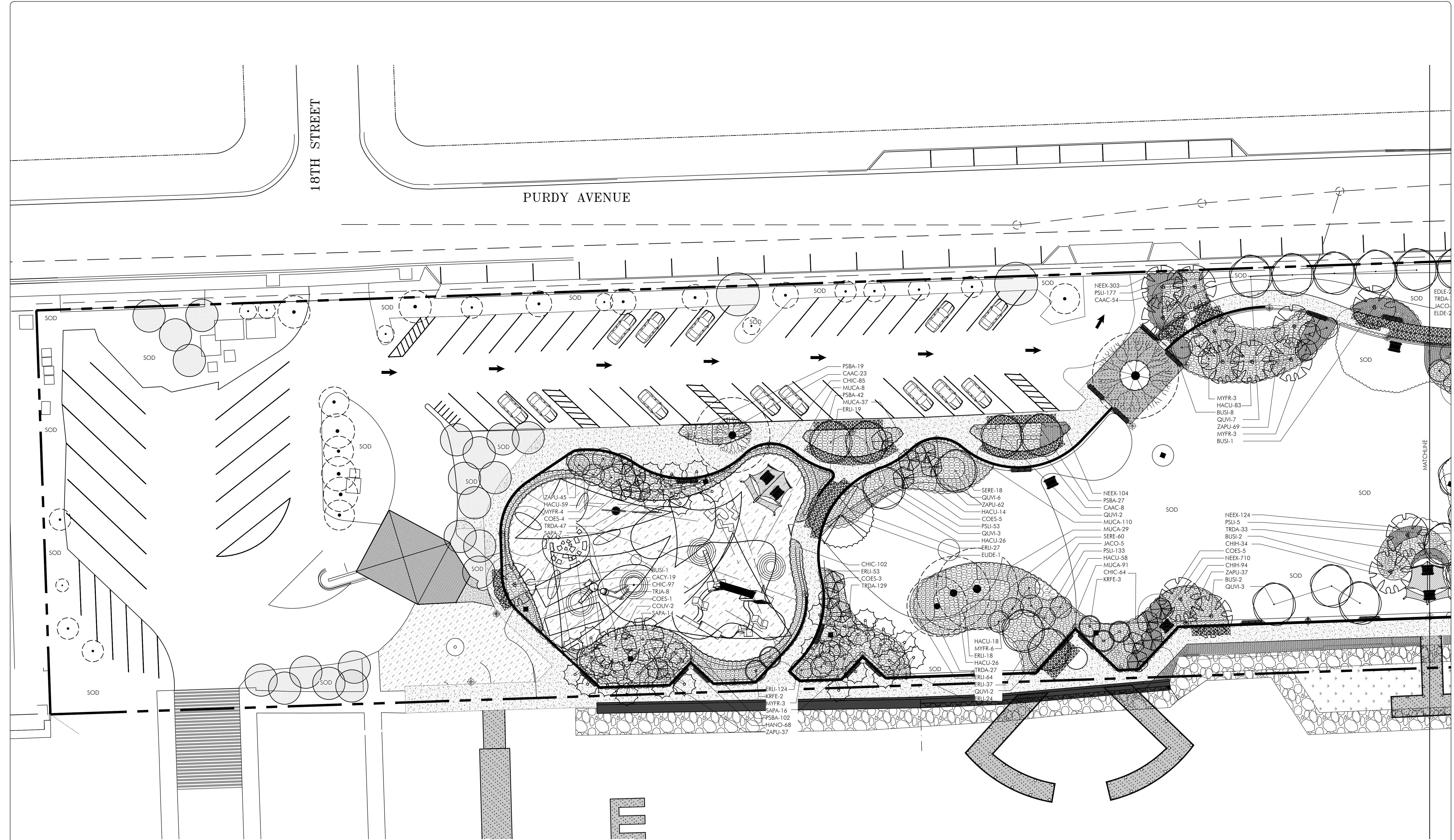
Drawing No.:

LA-001

EXISTING TREE DISPOSITION LIST									
No.	Common Name	Scientific Name	Diameter (in)	Height (ft)	Spread (ft)	Condition	Disposition	Comments	
1	Cabbage Palm	Sabal palmetto	10	25	10	Good	Keep		
2	Cabbage Palm	Sabal palmetto	9	25	10	Fair-Good	Keep	some trunk damage	
3	Cabbage Palm	Sabal palmetto	8.3	22	6	Fair-Poor	Keep	small crown; trunk damage	
4	Cabbage Palm	Sabal palmetto	7.6	25	10	Good	Keep		
5	Green Buttonwood	Conocarpus erectus	3	12	8	Good	Keep	new planting	
6	Green Buttonwood	Conocarpus erectus	3	10	8	Good	Keep	new planting	
7	Medjool Date Palm	Phoenix dactylifera 'Medjool'	13	22	12	Fair	Keep	little crown stunting; new planting	
8	Medjool Date Palm	Phoenix dactylifera 'Medjool'	13	22	12	Fair	Keep	little crown stunting; new planting	
9	Dwarf White Trumpet	Tabebuia bahamensis	1.5	12	8	Good	Keep	new planting	
10	Coconut Palm	Cocos nucifera	8.8	25	14	Fair-Good	Keep		
11	Coconut Palm	Cocos nucifera	12.3	35	16	Good	Keep		
12	Coconut Palm	Cocos nucifera	9.6	25	14	Good	Keep		
13	Coconut Palm	Cocos nucifera	12	35	16	Good	Keep		
14	Coconut Palm	Cocos nucifera	8	22	16	Fair-Good	Keep		
15	Coconut Palm	Cocos nucifera	9.6	25	14	Good	Keep		
16	Green Buttonwood	Conocarpus erectus	5	18	10	Good	Keep	new planting	
17	Green Buttonwood	Conocarpus erectus	5.5	16	12	Good	Keep	new planting	
18	Green Buttonwood	Conocarpus erectus	4.5	10	12	Poor	Keep	codominant leader split out	
19	Green Buttonwood	Conocarpus erectus	4.7	22	12	Poor	Keep	sig. stress - dieback, interior sprouting.	
20	Green Buttonwood	Conocarpus erectus	3.5	16	12	Good	Keep	Poss. Irrigation break/wash-out	
21	Dwarf White Trumpet	Tabebuia bahamensis	1.5	14	6	Good	Keep	new planting	
22	Green Buttonwood	Conocarpus erectus	3.5	8	8	Fair-Poor	Keep	top of leader broken off	
23	Green Buttonwood	Conocarpus erectus	3.5	12	14	Fair-Poor	Keep	top of leader broken off	
24	Green Buttonwood	Conocarpus erectus	3.5	14	14	Good	Keep		
25	Green Buttonwood	Conocarpus erectus	4	16	14	Good	Keep		
26	Green Buttonwood	Conocarpus erectus	4	16	14	Good	Keep		
27	Green Buttonwood	Conocarpus erectus	4.5	16	14	Good	Keep		
28	Coconut Palm	Cocos nucifera	12.7	35	16	Good	Transplant		
29	Coconut Palm	Cocos nucifera	11.8	35	14	Good	Transplant		
30	Coconut Palm	Cocos nucifera	10.2	35	16	Good	Transplant		
31	Coconut Palm	Cocos nucifera	12	40	16	Good	Transplant		
32	Coconut Palm	Cocos nucifera	11	38	16	Good	Transplant		
33	Cabbage Palm	Sabal palmetto	13	25	8	Good	Transplant		
34	Cabbage Palm	Sabal palmetto	14	22	10	Good	Transplant		
35	Cabbage Palm	Sabal palmetto	10	25	10	Fair-Good	Transplant	bent head	
36	Cabbage Palm	Sabal palmetto	13.7	23	10	Good	Transplant		
37	Silver Buttonwood	Conocarpus erectus-sericeus	13.5 + 14	20	24	Fair-Poor	Remove	2 trees close together; sig. decay columns in both trunks	
38	Royal Poinciana	Delonix regia	13.2	20	30	Fair	Remove	good structure but foliage appears unthrifty; poss remedially treat?	
39	Coconut Palm	Cocos nucifera	10.6	30	14	Fair-Good	Transplant		
40	Coconut Palm	Cocos nucifera	6.4	22	14	Fair-Good	Transplant		
41	Coconut Palm	Cocos nucifera	12	30	14	Good	Transplant		
42	Coconut Palm	Cocos nucifera	11.8	35	16	Good	Transplant		
43	Coconut Palm	Cocos nucifera	12	30	16	Good	Transplant		
44	West Indies Mahogany	Swietenia mahagoni	21	35	35	Good	Keep	in good condition but quite large to relocate	
45	Coconut Palm	Cocos nucifera	11.5	35	16	Good	Transplant		
46	Coconut Palm	Cocos nucifera	9.5	35	16	Good	Transplant		
47	Coconut Palm	Cocos nucifera	10.5	35	16	Good	Transplant		
48	West Indies Mahogany	Swietenia mahagoni	20.5	28	30	Poor	Remove	sig. hurricane damage; main leader broken above old decay cavity	
49	West Indies Mahogany	Swietenia mahagoni	stump			Dead	Remove		
50	Coconut Palm	Cocos nucifera	12.5	35	16	Good	Transplant		
51	Coconut Palm	Cocos nucifera	9.4	30	16	Good	Transplant		
52	Bridal Bouquet	Plumeria pudica	5	12	6	Fair	Remove	shrub, not a tree	
53	Bridal Bouquet	Plumeria pudica	multi	12	8	Fair	Remove	shrub, not a tree	
54	Coconut Palm	Cocos nucifera	11.6	30	16	Good	Transplant		
55	Coconut Palm	Cocos nucifera	11.3	32	16	Good	Transplant		
56	Coconut Palm	Cocos nucifera	9	28	16	Good	Transplant		
57	West Indies Mahogany	Swietenia mahagoni	8.8	18	22	Fair	Remove	crown flat under shade of #30	
58	West Indies Mahogany	Swietenia mahagoni	26.5	30	40	Fair-Good	Keep	old codominant stems with included bark; very large, wide-spreading for relocation	
59	Cabbage Palm	Sabal palmetto	8.3	20	10	Good	Transplant		
60	Cabbage Palm	Sabal palmetto	8.8	20	10	Fair-Good	Remove	trunk irregularities	
61	Cabbage Palm	Sabal palmetto	8.5	28	10	Fair-Poor	Remove	trunk damage	
62	Cabbage Palm	Sabal palmetto	8.5	25	10	Fair	Remove	trunk irregularities	
63	Live Oak	Quercus virginiana	7.3	18	12	Good	Transplant		
64	Live Oak	Quercus virginiana	5.2	20	14	Good	Transplant		
65	Silver Buttonwood	Conocarpus erectus-sericeus	10.5 + 7	24	20	Fair-Poor	Remove	low codominant leaders; decay columns in both leaders; sparse, dieback	
66	Live Oak	Quercus virginiana	12.8	22	28	Fair	Keep	circling roots, root suckers; flat & leaning to N due to shade; 68, 69, 70 a cluster	
67	Live Oak	Quercus virginiana	17	22	34	Good	Keep	leaning to NE due to shade; 68, 69, 70 a cluster	
68	Live Oak	Quercus virginiana	18.3	25	38	Good	Keep	leaning to ESE due to shade; 68, 69, 70 a cluster	
69	Coconut Palm	Cocos nucifera	12.8	30	14	Good	Transplant		
70	Coconut Palm	Cocos nucifera	12	35	14	Good	Transplant		

71	Royal Poinciana	Delonix regia	13	22	35	Poor	Remove	sig. decline, dieback, interior sprouting, prob. Due to hurricane or seawater	
72	Coconut Palm	Cocos nucifera	11.3	28	16	Fair-Poor	Remove	sig. trunk damage	
73	Green Buttonwood	Conocarpus erectus	16.8	28	30	Fair-Poor	Remove	storm damage, stress; dead & decayed limbs	
74	Green Buttonwood	Conocarpus erectus	16.1	25	30	Fair	Remove	storm damage will be OK, but not very attractive	
75	Silver Buttonwood	Conocarpus erectus-sericeus	12.5+7.2++	24	25	Fair-Poor	Remove	sig. decay cavities all 3 leaders; broken branches due to storm	
76	Coconut Palm	Cocos nucifera	10	25	16	Fair	Remove	decay cavity in trunk	
77	Coconut Palm	Cocos nucifera	9.3	28	16	Good	Remove		
78	Coconut Palm	Cocos nucifera	10	26	16	Good	Remove		
79	Seagrape	Coccoloba uvifera	4+3.3+3.5	14	14	Fair	Remove	all stems are suckers off old stump	
80	Seaside Mahoe	Thespesia populnea	6.5+6.5	16	20	Fair	Remove	prohibited species	
81	Seaside Mahoe	Thespesia populnea	6+4	16	15	Fair	Remove	prohibited species	
82	Seaside Mahoe	Thespesia populnea	stump	0	0	Poor	Remove	prohibited species	
84	Seagrape	Coccoloba uvifera	15 @ 4-8	20	40	Fair	Remove	large tree toppled over bank; could relocate if done soon w/o damaging bank	
85	West Indies Mahogany	Swietenia mahagoni	13.8	25	30	Good	Remove	retain if possible	
86	Live Oak	Quercus virginiana	14.5	25	30	Fair-Good	Remove	circling roots, root suckers; slightly sparse, little dieback. Remedially treat.	
87	Pink Trumpet	Tabebuia heterophylla	5.5	20	8	Fair	Remove	narrow crown; 1 limb broken off	
88	Coconut Palm	Cocos nucifera	12.2	28	16	Good	Remove		
89	Pink Trumpet	Tabebuia heterophylla	14	25	30	Fair	Remove	Broken, damaged leader due to hurricane	
90	Cabbage Palm	Sabal palmetto	7.6	24	8	Fair	Remove	fair health, poor trunk	
91	Cabbage Palm	Sabal palmetto	8	25	8	Fair	Remove	fair health, poor trunk	
92	Cabbage Palm	Sabal palmetto	10	22	10	Fair	Remove	fair health, poor trunk	
93	Cabbage Palm	Sabal palmetto	8	20	8	Poor	Remove	sig trunk irregularities & damage	
94	Coconut Palm	Cocos nucifera	14.3	28	16	Good	Remove		
95	Coconut Palm	Cocos nucifera	10.8	28	16	Good	Remove		
96	Coconut Palm	Cocos nucifera	11	32	16	Good	Remove		
97	Coconut Palm	Cocos nucifera	15	30	16	Good	Remove		
98	Coconut Palm	Cocos nucifera	10.4	30	16	Good	Remove		
99	Coconut Palm	Cocos nucifera	10	30	16	Good	Remove		
100	Gumbo Limbo	Bursera simaruba	15.6	25	25	Fair-Good	Remove		
101	Coconut Palm	Cocos nucifera	11	28	14	Good	Remove		
102	Coconut Palm	Cocos nucifera	11	32	16	Good	Remove		
103	Coconut Palm	Cocos nucifera	12	30	16	Good	Remove		
104	West Indies Mahogany	Swietenia mahagoni	14	30	24	Good	Remove	retain if possible	
105	Cabbage Palm	Sabal palmetto	10	16	10	Fair	Remove	trunk irregularities	
106	Cabbage Palm	Sabal palmetto	8.7	28	6	Poor	Remove	trunk damage and nutritional deficiencies	
107	Royal Poinciana	Delonix regia	10	16	28	Good	Remove	wash-outs under roots, possibly seawater	
108	Gumbo Limbo	Bursera simaruba	13	18	18	Good	Remove		
109	Silver Buttonwood	Conocarpus erectus-sericeus	3	14	5	Poor	Remove		
110	Seaside Mahoe	Thespesia populnea	4+5+6	18	18	Poor	Remove	prohibited species - uprooted leaning toward bay	
111	Seaside Mahoe	Thespesia populnea	9 @ 6-8	18	20	Fair	Remove	prohibited species - partially uprooted w/#120	
112	Cabbage Palm	Sabal palmetto	8	20	10	Fair-Poor	Remove	S-shaped trunk	
113	Cabbage Palm	Sabal palmetto	7.4	25	10	Fair	Remove	thin	
114	Weeping Fig	Ficus benamina	19 + 19 +	25	50	Poor	Remove	in decline - sparse, dieback - damage & decay	
115	Coconut Palm	Cocos nucifera	10	28	16	Good	Remove		
116	Coconut Palm	Cocos nucifera	14.3	38	16	Good	Remove		
117	Coconut Palm	Cocos nucifera	13.3	28	16	Good	Remove		
118	Royal Poinciana	Delonix regia	15.4	18	35	Fair-Good	Remove	a little sparse	
119	Coconut Palm	Cocos nucifera	12.4	38	16	Fair-Good	Remove	hole in upper trunk area	
120	Coconut Palm	Cocos nucifera	12.4	38	16	Good	Remove		
121	Royal Palm	Roystonea regia	15.5	35	16	Fair-Poor	Remove	nutritional deficiencies & trunk cracks, prob from seawater	
122	Royal Palm	Roystonea regia	15.3	33	16	Fair-Poor	Remove	nutritional deficiencies & trunk cracks, prob from seawater	

TRANSPLANTS							
No.	Common Name	Scientific Name	Diameter (in)	Height (ft)	Spread (ft)	Condition	Disposition
28	Coconut Palm	<i>Cocos nucifera</i>	12.7	35	16	Good	Transplant
29	Coconut Palm	<i>Cocos nucifera</i>	11.8	35	14	Good	Transplant
30	Coconut Palm	<i>Cocos nucifera</i>	10.2	35	16	Good	Transplant
31	Coconut Palm	<i>Cocos nucifera</i>	12	40	16	Good	Transplant
32	Coconut Palm	<i>Cocos nucifera</i>	11	38	16	Good	Transplant
39	Coconut Palm	<i>Cocos nucifera</i>	10.6	30	14	Fair-Good	Transplant
40	Coconut Palm	<i>Cocos nucifera</i>	6.4	22	14	Fair-Good	Transplant
41	Coconut Palm	<i>Cocos nucifera</i>	12	30	14	Good	Transplant
42	Coconut Palm	<i>Cocos nucifera</i>	11.8	35	16	Good	Transplant
43	Coconut Palm	<i>Cocos nucifera</i>	12	30	16	Good	Transplant
45	Coconut Palm	<i>Cocos nucifera</i>	11.5	35	16	Good	Transplant
46	Coconut Palm	<i>Cocos nucifera</i>	9.5	35	16	Good	Transplant
47	Coconut Palm	<i>Cocos nucifera</i>	10.5	35	16	Good	Transplant
50	Coconut Palm	<i>Cocos nucifera</i>	12.5	35	16	Good	Transplant
51	Coconut Palm	<i>Cocos nucifera</i>	9.4	30	16	Good	Transplant
54	Coconut Palm	<i>Cocos nucifera</i>	11.6	30	16	Good	Transplant
55	Coconut Palm	<i>Cocos nucifera</i>	11.3	32	16	Good	Transplant
56	Coconut Palm	<i>Cocos nucifera</i>	9	28	16	Good	Transplant
60	Coconut Palm	<i>Cocos nucifera</i>	12.8	30	14	Good	Transplant
79	Coconut Palm	<i>Cocos nucifera</i>	12	35	14	Good	Transplant
63	Live Oak	<i>Quercus virginiana</i>	7.3	18	12	Good	Transplant
64	Live Oak	<i>Quercus virginiana</i>	5.2	20	14	Good	Transplant
33	Cabbage Palm	<i>Sabal palmetto</i>	13	25	8	Good	Transplant
34	Cabbage Palm	<i>Sabal palmetto</i>	14	22	10	Good	Transplant
35	Cabbage Palm	<i>Sabal palmetto</i>	10	25	10	Fair-Good	Transplant
36	Cabbage Palm	<i>Sabal palmetto</i>	13.7	23	10	Good	Transplant
59	Cabbage Palm	<i>Sabal palmetto</i>	8.3	20	10	Good	Transplant



A

PLANTING PLAN

SCALE: 1"=20'

MIAMI BEACH
OFFICE OF CAPITAL IMPROVEMENT PROJECTS
1701 MERIDIAN AVENUE, MIAMI BEACH, FL 33139

PROJECT: MAURICE GIBB MEMORIAL PARK

ADDRESS:

COASTAL SYSTEMS
INTERNATIONAL, INC.
404 South Dixie Highway, Coral Gables, Florida 33146
Tel: 305-661-2000 Fax: 305-661-1814 www.CoastalSystems.com
SOD or SODS as per
Geospatial, Environmental, Civil Engineering and Management

GS
DESIGN
LANDSCAPE ARCHITECTURE
www.gsdesign.com
11000 SW 78th Ave., Suite 214
Miami, FL 33156
Tel: 305-491-1010 Fax: 305-491-1011
P: 305.491.1010 F: 305.491.1011
E: info@gsdesign.com W: www.gsdesign.com

LA OF RECORD
DESIGN LA:
DRAWN BY: HM
CHECKER: KEG
SCALE:

KEG

KEG

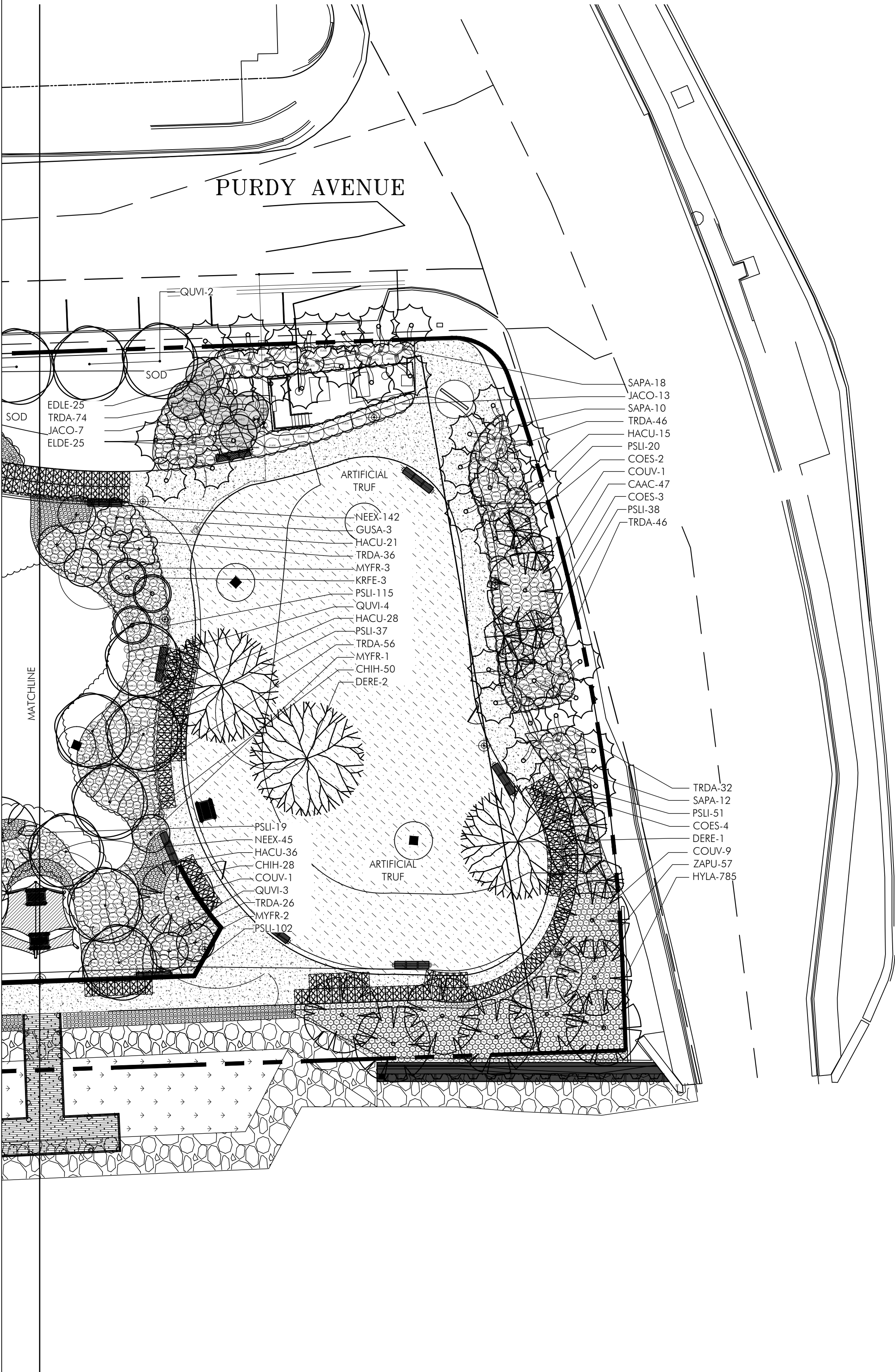
LANDSCAPE ARCHITECT
OF RECORD:

Ken Gardner, ASLA
FL LA 1509

NO.	DATE	REVISION	APPD. BY
5			
4			
3			
2			
1			

Drawing Title: **PLANTING PLAN**
Filename: GS LA - SHEETS.dwg
Date: 01.30.19 Sheet: of

Drawing No.: **LA-003**



PLANT LIST			
TREES			
KEY	PLANT NAME	QTY.	UT. SIZE
BUSI	Bursera simaruba ..Gumbo Limbo	14	eo. 14' tall x 6' spread, 3" DBH
COES	Conocarpus erectus 'Sericeus' ..Silver Buttonwood	27	eo. 8' tall x 4' spread, 3 trunks max., lifted to tree form
COUV	Coccoloba uvifera ..Seagrape	12	eo. 14' tall x 6' spread, 3" DBH
DERE	Delonix regia ..Royal Poinciana	3	eo. 14' tall x 6' spread, 3" DBH
EUDE	Eucalyptus degulpta ..Rainbow Eucalyptus	1	eo. 18' tall x 8' spread, 4" DBH
KRFE	Krugiodendron ferreum ..Black Ironwood	8	eo. 8' tall x 4' spread, 1 1/2" cal
GUSA	Guaiacum sanctum ..Lignum Vitae	3	eo. 8' tall x 4' spread, 1 1/2"-2" DBH
MYFR	Myrcianthes fragrans ..Simpson's Stopper	25	eo. 8' tall x 4' spread, 3 trunks max., lifted to tree form
QUVI	Quercus virginiana ..Live Oak	25	eo. 14' tall x 6' spread, 3" DBH
PALMS			
KEY	PLANT NAME	QTY.	UT. SIZE
SAPA	Sabal palmetto ..Sabal Palm	77	eo. 26 @ 16' tall OA; 26 @ 20' tall OA; 25 @ 24' tall OA; smooth trunk; hurricane cut, heavily leaning
SHRUBS AND GROUNDCOVERS			
KEY	PLANT NAME	QTY.	UT. SIZE
CAAC	Carpentaria acuminata ..Carpetaria Palm	132	eo. 18' tall overall, matched
CACY	Capparis cynophallophora ..Jamaican Caper	19	eo. 24" x 24", insall 36' o.c.
CHIC	Chrysobalanus icaco ..Cocoplum	353	eo. 24" x 24"
CHIH	Chrysobalanus icaco 'Horizontalis' ..Horizontal Cocoplum	206	eo. 12" spread
ELDE	Elaeocarpus decipiens ..Japanese Blueberry	25	eo. 6' tall x 3' spread, full to ground
ERLI	Ernodea littoralis ..Golden Creeper	366	eo. 12" spread
HACU	Hamelia cuprea ..Firebush	393	eo. 24" x 24"
HANO	Hamelia nodosa ..Dwarf Firebush	68	eo. 18"x18"
HYLA	Hymenocallis latifolia ..Spider Lily	780	eo. 18" tall x 18" spread, install 18" o.c.
JACO	Jatropha integrerrima 'Compacta' ..Peregrina	25	eo. 6' tall x 3' spread, lifted to tree form, 3 trunks max
MUCA	Muhlenbergia capillaris ..Muhly Grass	275	eo. 18" x 12"
NEEX	Nephrolepis exaltata 'Bostoniensis' ..Boston Fern	2356	eo. 8" x 8"
PSBA	Psychotria bahamensis ..Bahamas Coffee	190	eo. 24" x 24"
PSLI	Psychotria ligustrifolia ..Dwarf Coffee	749	eo. 18" x 18"
SERE	Serenoa repens ..Saw Palmetto	78	eo. 24" x 24"
TRDA	Tripsacum dactyloides ..Fakahatchee Grass	524	eo. 30" x 24"
ZAPU	Zamia pumila ..Coontie	307	eo. 18" tall x 18" spread, install 18" o.c.
VINES			
TRJA	Trachelospermum jasminoides ..Confederate Jasmine	8	eo. 3 Gallon cans, trellissed
MISCELLANEOUS			
sod	St. Augustine 'Floratan'	as req.	s.f. solid sod
	Planting Soil	as req.	c.y.
	70% Silica Sand		
	30% Everglades Muck		
	Amerigrow Pine Bark Brown Mulch	as req.	c.y. 2" layer in all shrub beds

CITY OF MIAMI BEACH

LANDSCAPE LEGEND

INFORMATION REQUIRED TO BE PERMANENTLY AFFIXED TO PLANS
Zoning District GU Lot Area 3.40 Acres 148,376

OPEN SPACE		REQUIRED/ ALLOWED	PROVIDED
A. Square feet of required Open Space as indicated on site plan: Lot Area = 148,376 s.f. x 20 % = 29,675 s.f.		29,675	69855
B. Square feet of parking lot open space required as indicated on site Number of parking spaces _ x 10 s.f. parking space =		390	390
C. Total square feet of landscaped open space required: A+B=		30,065	70,245
LAWN AREA CALCULATION			
A. Square feet of landscaped open space required		29,675	69,855
B. Maximum lawn area (sod) permitted= 50 % x _____ s.f.		74,188	26,114

TREES

A. Number of trees required per lot or net lot acre, less existing number of trees meeting minimum requirements = 22 trees / acre (22 x 3.406 acres = 75 trees - number of existing trees (20) = 55 new		55	118
B. % Natives required: Number of trees provided x 30% =		23	114
C. % Low maintenance / drought and salt tolerant required: Number of trees provided x 50%=		38	114
D. Street Trees (maximum average spacing of 20' o.c.) 950 linear feet along street divided by 20'= 48 trees		48	48
E. Street tree species allowed directly beneath power lines: (maximum average spacing of 20' o.c.): 0 linear feet along street divided by 20'= 0 trees		0	0

SHRUBS

A. Number of shrubs required: Sum of lot and street trees required x		1230	6,846
B. % Native shrubs required: Number of shrubs provided x 50%=		615	4,240

LARGE SHRUBS OR SMALL TREES

A. Number of large shrubs or small trees required: Number of required shrubs x 10%=		123	50
B. % Native large shrubs or small trees required: Number of large shrubs or small trees provided x 50%=		615	0

LANDSCAPE SPECIFICATIONS
PART 1 - GENERAL

1.1 SCOPE

A. Contractor shall provide all labor, materials, equipment, supervision, and related work necessary to complete the landscape work in accordance with the intent of the landscape plans, schedules and these specifications. The extent of work is shown on the drawings which are a part of this document.

1.2 CONTRACTOR QUALIFICATIONS

A. Landscape installation work to be performed by a Contractor Certified by the Florida Nurserymen, Growers and Landscape Association (FNGLA) as a Certified Landscape Contractor. Any pruning to be supervised by an Arborist, certified by the International Society of Arboriculture (ISA) and licensed in Miami-Dade County.

1.3 INVESTIGATION OF UTILITIES

A. Prior to beginning work, the Contractor shall be responsible to locate existing underground utilities. Check with all utility companies and Sunshine State, call (811).

1.4 SUBSTITUTIONS

A. Only materials specified will be accepted, unless approved in writing by the Landscape Architect in advance.

1.5 PLANT SIZES

A. All plant sizes shall equal or exceed the minimum sizes as specified in the plant list. When plant sizes are specified as a range of size, installed materials shall average the mean of the range specified. Plants shall be measured following pruning, with branches in normal position. All necessary pruning shall be done at the time of planting.

1.6 PLANT QUALITY

A. All plant material shall be equal to or better than Florida No. 1 as classified by "Grades and Standards for Nursery Plants" by the Division of Plant Industry, Florida Department of Agriculture. They shall have a growth habit that is normal for the species, healthy, vigorous, free from insects, disease and injury.

B. The Owner or Landscape Architect reserves the right to refuse any plant material which does not conform to the intent of the written specifications or design.

C. CIRCULING ROOTS REMOVAL ON CONTAINER-GROWN MATERIAL WILL NOT BE ACCEPTED UNLESS REMEDIAL ROOT PRUNING, APPROVED BY THE LANDSCAPE ARCHITECT IS DONE BEFORE PLANTING.

1.7 PLANT QUANTITY

A. The plant quantities shown on the plant list are to be used only as an aid to bidders. In the case of discrepancy between the plant list and the plan, the quantity on the plan shall override the plant list.

1.8 UNIT PRICES

A. The successful bidder shall furnish to the Owner and the Landscape Architect, a unit price breakdown for all materials. The Owner may, at his discretion, add to or delete from the materials utilizing the unit price breakdown submitted to and accepted by the Owner.

1.9 SUBMITTALS

A. Fertilizer: The Contractor shall submit to the Owner and Landscape Architect documentation that all the fertilizer used for the project is of the analysis specified and placed at the rates specified in section 2.2.2 FERTILIZER.

B. Planting soil: The Contractor shall submit a sample of the planting soil (approximately 1 cu. Ft.) for approval by the Landscape Architect prior to delivery to the site.

1.10 CLEAN-UP & MAINTENANCE OF TRAFFIC

A. Follow procedures in FDOT Index 600 for maintenance of traffic during construction.

B. At the end of each work day, the Contractor shall remove debris and shall barricade the unfilled holes in a manner appropriate in the plant of pedestrians and motorists.

C. Upon completion of the work or any major portion of the work or as directed by the Landscape Architect, all debris and surplus material from his work shall be removed from the job site.

1.11 MAINTENANCE PRIOR TO ACCEPTANCE

A. The Contractor is responsible to maintain the plantings until they are accepted under the provisions of 1.12 "ACCEPTANCE OF INSTALLATION".

1. Plants: Begin maintenance immediately following the final plant installation operation for each plant and continue until all plant installation is complete and accepted. Maintenance shall include watering all plants, weeding, mulching, pest and disease control, tightening and repairing of guys, repair of braces, removal of dead growth, resetting of plants to proper grade or up-right position, restoration of plant sources, litter pick-up in plant beds and other necessary operations to assure specified minimum grade of Florida No. 1.

2. Turf Areas: Begin maintenance of turf immediately following the placement of sod and continue until sod installation is complete and accepted. Maintenance shall include but not be limited to, watering, leveling, mowing, weed and pest control, fungus and disease control and other necessary operations as determined by the Landscape Architect and good nursery practice.

3. Re-setting or straightening trees and palms: The Contractor shall re-set and/or straighten trees and palms as required at no additional cost to the Owner unless caused by sustained winds of 75 mph or more. Then, the costs of the operations may be charged to the owner. Re-set trees within 48 hours.

1.12 ACCEPTANCE OF INSTALLATION

A. Inspection: Inspection of the work, to determine completion of contract work, exclusive of the possible replacement of plants and turf, will be made by the Landscape Architect at the conclusion of the maintenance period. Written notice requesting such an inspection and submitted by the Contractor at least ten (10) days prior to the anticipated date.

1.13 GUARANTEE

A. Guarantee all plants for a period of one year (CCD). Guarantee shall commence from the date of written acceptance. Plant material which is on the site and scheduled to be relocated is not covered by the guarantee except in the case of Contractor's negligence or work that has been done in an unconscionable manner. The Contractor is not responsible for loss due to acts of god, (e.g.) sustained winds of 75 mph or more, floods, frost, lightning, vandalism or theft.

1.14 REPLACEMENT

A. Replacement shall be made during the guarantee period as directed by the Landscape Architect within ten (10) days from time of notification. For all replacement plant material, the guarantee period shall extend for an additional forty-five (45) days beyond the original guarantee period. The Contractor shall be responsible to provide water to the replacement plants in sufficient quantity to aid in their establishment. At the end of the guarantee period, inspection will be made by the Landscape Architect, upon written notice requesting such inspection and submitted by the Contractor at least five (5) days before the anticipated date. Replacement plants must meet the requirements of Florida No. 1 at time of inspection. Remove from the site all plants that are dead or in a state of unsatisfactory growth, as determined by the Landscape Architect. Replace these and any plants missing due to the Contractor's negligence as soon as conditions permit.

1. Materials and Operations: All replacement plants shall be of the same kind and size as indicated on the plant list. The Contractor shall supply and plant the plants as specified under planting operations.

2. Cost of Replacements: A sum sufficient to cover the estimated cost of possible replacements, including material and labor will be retained by the Owner and paid to the Contractor after all replacements have been satisfactorily made and approved by the Landscape Architect.

PART 2 - MATERIALS

2.1 PLANTING SOIL

A. Planting soil for trees, shrubs and ground covers shall be of the composition noted on the plans, measured by volume.

B. Soil for Soddied Areas: Soil shall be coarse lawn sand.

2.2 FERTILIZER

A. Fertilizer for trees, palms, shrubs, and groundcovers shall be as follows: LESCO Palm Special 13-3-13 or equal, Sulfur coated with iron and other minor elements and maximum of 2% chlorine, or brand with equal analysis. The fertilizer shall be uniform in composition, dry and free flowing and shall be delivered to the site in the original unopened containers, bearing the manufacturer's guaranteed analysis. Fertilizer for sod and seeded areas shall be 8-6-8, 50% organically derived nitrogen, or equal.

2.3 WATER

A. The Contractor shall provide potable water on site, available from the start of planting. The Contractor is responsible to ascertain the location and accessibility of the water source. The Contractor is responsible to provide the means of distribution (i.e. water truck, hoses, etc.) for distribution of water to the planting areas.

2.4 MULCH

A. Mulch shall be shredded Melaleuca mulch (Florimulch) as manufactured by Forestry Resources, Inc., or equal.

2.5 ROOT BARRIER MATERIAL

A. Root barrier material shall be 24" deep polypropylene panels by DeepRoot or approved equal.

B. Install per details in the plans.

PART 3 - INSTALLATION PROCEDURES

3.1 LAYOUT

A. Verify location of all underground utilities and obstructions prior to excavation.

3.2 HERBICIDE TREATMENT

A. In all areas infected with weed and/or grass growth, a systemic herbicide, such as Roundup, shall be applied per manufacturer's rates. When it has been established where work will be done, the systemic herbicide shall be applied in accordance with manufacturer's labeling to kill all noxious growth. Contractor shall schedule his work to allow more than one application to obtain at least 95% kill of undesirable growth. If necessary, Contractor shall conduct a test to establish suitability of product and applicator to be used on the project, prior to execution of the full application.

3.3 PLANT PIT EXCAVATION AND BACKFILLING

A. Trees: See the Planting and Bracing Details and notes.

B. All planting holes shall be hand dug where machine dug holes may adversely affect utilities or improvements.

C. Shrubs and Groundcover: Shrubs and groundcover shall be planted in a soil bed as described in the notes and details. Space shrubs and provide setback from curbs and pavements as shown in the plans.

D. Watering of field-grown plants: Thoroughly puddle in water to remove any air pockets in the plant hole.

3.4 WATERING

A. The Contractor is responsible to provide the water for all new plants and transplants and means of distribution (i.e. hand watering or water truck) during the maintenance period and extending into the period after acceptance until the full schedule as listed below is complete. Water for trees and other large field grown plants shall be supplemented by hand or water truck in addition to the irrigation system, (if one is provided). Contractor can adjust watering schedule during heavy rain season upon approval of the Landscape Architect.

AMOUNT OF WATER PER APPLICATION

For trees up to 5 inch caliper - 5 gallons
From 5 to 8 inch caliper - 25 gallons
9 inch and up caliper - 50 gallons

FREQUENCY OF WATER

Daily for the first week
3 times per week for weeks 2 - 5
2 times per week for weeks 6 - 8
1 time per week for weeks 9 - 12

B. Water in plants by thoroughly soaking of the entire root ball immediately after planting. For large trees and shrubs, add water while backfilling hole to eliminate any air pockets in the soil around the root ball.

C. Water shrubs, sod and groundcover a minimum of once daily for a week or until an irrigation system is fully operational. If no irrigation system is to be installed, the Contractor shall be responsible for watering the shrubs, sod, and groundcover for the time specified above, after installation of each section of the planting installed.

3.5 FERTILIZING

A. Add fertilizer on top of the surface of shrubs beds and tree and palms root balls two (2) months after installation. Fertilize sod within two (2) days after installing after planting of each segment of the job. Fertilizer shall be applied after soil has been well moistened. Fertilizer shall be washed off of plant leaves and stems immediately after application. Apply at the following rates:

1. Trees and Large Shrubs: One (1) pound per inch of trunk diameter, spread evenly over the root ball area.

2. Shrubs: One half (1/2) handful per shrub, spread evenly over the root ball area.

3. Groundcover: Twelve (12) pounds per 100 sq. ft. of bed area.

4. Sod: Twelve (12) pounds per 1,000 sq. ft. Wash fertilizer off blades immediately after spreading.

3.6 MULCHING

A. Spread mulch two (2) inches thick uniformly over the entire surface of shrubs and groundcover beds, depth measured after settling, unless otherwise specified in the plans. Provide 36" diameter bed of mulch, measured from outer edge of the trunk, for all trees and palms planted in soil areas. Keep mulch away from contact with the trunk. Create a 6" high ring of mulch at the outer edge of tree and palm holes.

3.7 GUYING AND BRACING

A. See the details bound herewith or made part of the plans.

3.8 SODDING

A. Provide a blanket of lawn sand as described in the notes in these plans. Prior to planting, remove stones, sticks, etc. from the sub-soil surface. Excavate existing non-conforming soil as required so that the finish grade of sod is flush with adjacent pavement or top of curb as well as adjacent soil in the case of soil patching.

B. Place sod on moistened soil, with edges tightly butted, in staggered rows at right angles to slopes. The sod shall be rolled with a 500 pound hand roller immediately after placing.

C. Keep edge of sod bed a minimum of 18" away from groundcover beds and 24" away from edge of shrub beds and 36" from trees, measured from the edge of plant or tree trunk.

D. Sod shall be watered immediately after installation to uniformly wet the soil to at least two inches below the bottom of sod strips.

E. Apply fertilizer to the sod as specified in Section 3.5.

F. Excavate and remove excess soil so top of sod is flush w/top of curb or adjacent pavement, or adjacent existing sod.

PLANT BED PREPARATION NOTES

1. In all areas where new sod and shrub and groundcover masses are to be planted, kill all existing weeds by treating with Round-up prior to beginning soil preparation.

2. In all shrub and groundcover beds, prepare soil as described for either condition, over the entire area to be planted.

Condition A:

If any compacted road base or asphalt or rocky soil is encountered, remove compacted material entirely to allow an 18" depth of planting soil. Backfill the entire area of the shrub and groundcover beds with 16" planting soil (as specified in Plans) to within 2 inches of the adjacent pavement or top of curb. Remove all debris and rocks and pebbles larger than 2 inches in size and level the grade before planting.

Condition B:

Where no compacted soil is encountered, thoroughly mix 6 inches of planting soil into the existing soil to a depth of 18 inches. If required, excavate and remove the existing soil to lower the grade, so that the prepared mix is finished to a minimum of 2 inches below top of curb or adjacent walkway. Remove all debris and rocks and pebbles larger than 2 inches in size and level the grade before planting.

For all sod areas, spread a 2" deep layer of lawn sand prior to sodding. Remove all debris and rocks and pebbles larger than 2 inches in size and level the grade before sodding. Remove, if required, existing soil so that top of sod is flush with and adjacent top of curb or pavement.

For Trees and shrubs larger than 7 gallon, Add Diehard® transplant inoculant supplied by Horticultural Alliance, Inc. (800-628-6370) or equal. Mix into top 8-10 inches of planting hole, making sure it is contact with the root ball. Add at a rate specified by manufacturer (typically 4oz. per 1 inches of trunk caliper or 7 gallon can).

SPACING OF PLANTS (SEE PLANT SPACING DETAIL.)

1. Plants shall be planted sufficiently away from edges of pavements or curbs to allow for growth toward the edges of the bed.

PROTECTION OF PLANTS

1. The Contractor shall be responsible to protect existing trees and shrubs in and adjacent to the area of work. Erect barriers as necessary to keep equipment and materials, any toxic material, away from the canopy drip line of trees and shrubs. DO NOT PILE SOIL OR DEBRIS AGAINST TREE TRUNKS OR DEPOSIT NOXIOUS BUILDING SUPPLIES OR CHEMICALS WITHIN THE DRIP LINE.

DETAIL A

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE FOUR 2X4 PINE STAKES
12" APART (EVEN STAKES IF
NECESSARY TO SUPPORT LEAN)
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS 2" ABOVE SURROUNDING GRADE

INSTALL 2" OF MULCH OVER
3" DIAMETER CIRCLE AROUND
THE TRUNK. DO NOT PLACE
MULCH WITHIN 3" OF THE
TRUNK

REMOVE ANY PORTION OF WIRE
BASKETS ABOVE THE TOP HALF OF
THE ROOTBALL. REMOVE
BURLAP COVERINGS BELOW THE
TOP HALF OF THE ROOTBALL.
COMPLETELY REMOVE ALL SYNTHETIC
ROOTBALL COVERING MATERIALS.

6" HIGH TEMPORARY RETENTION RING OF SOIL TO ASSIST IN
IRRIGATION OF THE TREE. REMOVE RING 3 MONTHS
AFTER INSTALLATION.

FINISHED GRADE

HOLES TO ACCOMMODATE PLANTS SHALL BE A MINIMUM
OF THREE TIMES THE SIZE OF THE PLANT ROOTBALL.

ALL BACKFILL FOR TREES SHALL BE EXISTING SOIL WITH ALL
ROCKS 2" OR LARGER REMOVED.

FERTILIZER SHALL BE INSTALLED AS PER THE
WRITTEN SPECIFICATIONS.

PLANTING & BRACING DETAIL
FOR LEANING/CROOKED PALMS

3 TIMES ROOT BALL DIAMETER

DETAIL B

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE FOUR 2X4 PINE STAKES
12" APART
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS 2" ABOVE SURROUNDING GRADE

INSTALL 2" OF MULCH OVER
3" DIAMETER CIRCLE AROUND
THE TRUNK. DO NOT PLACE
MULCH WITHIN 3" OF THE
TRUNK

REMOVE ANY PORTION OF WIRE
BASKETS ABOVE THE TOP HALF OF
THE ROOTBALL. REMOVE
BURLAP COVERINGS BELOW THE
TOP HALF OF THE ROOTBALL.
COMPLETELY REMOVE ALL SYNTHETIC
ROOTBALL COVERING MATERIALS.

6" HIGH TEMPORARY RETENTION RING OF SOIL TO ASSIST IN
IRRIGATION OF THE TREE. REMOVE RING 3 MONTHS
AFTER INSTALLATION.

FINISHED GRADE

HOLES TO ACCOMMODATE PLANTS SHALL BE A MINIMUM
OF THREE TIMES THE SIZE OF THE PLANT ROOTBALL.

ALL BACKFILL FOR TREES SHALL BE EXISTING SOIL WITH ALL
ROCKS 2" OR LARGER REMOVED.

FERTILIZER SHALL BE INSTALLED AS PER THE
WRITTEN SPECIFICATIONS.

PLANTING & BRACING DETAIL
FOR LEANING/CROOKED PALMS

3 TIMES ROOT BALL DIAMETER

DETAIL A

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE THREE 2X4 PINE STAKES
12" APART
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS 2" ABOVE SURROUNDING GRADE

INSTALL 2" OF MULCH OVER
3" DIAMETER CIRCLE AROUND
THE TRUNK. DO NOT PLACE
MULCH WITHIN 3" OF THE
TRUNK

REMOVE ANY PORTION OF WIRE
BASKETS ABOVE THE TOP HALF OF
THE ROOTBALL. REMOVE
BURLAP COVERINGS BELOW THE
TOP HALF OF THE ROOTBALL.
COMPLETELY REMOVE ALL SYNTHETIC
ROOTBALL COVERING MATERIALS.

6" HIGH TEMPORARY RETENTION RING OF SOIL TO ASSIST IN
IRRIGATION OF THE TREE. REMOVE RING 3 MONTHS
AFTER INSTALLATION.

FINISHED GRADE

HOLES TO ACCOMMODATE PLANTS SHALL BE A MINIMUM
OF THREE TIMES THE SIZE OF THE PLANT ROOTBALL.

ALL BACKFILL FOR TREES SHALL BE EXISTING SOIL WITH ALL
ROCKS 2" OR LARGER REMOVED.

FERTILIZER SHALL BE INSTALLED AS PER THE
WRITTEN SPECIFICATIONS.

PLANTING & BRACING DETAIL
OVER 3 1/2" CALIPER

3 TIMES ROOT BALL DIAMETER

DETAIL B

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE THREE 2X4 PINE STAKES
12" APART
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS 2" ABOVE SURROUNDING GRADE

INSTALL 2" OF MULCH OVER
3" DIAMETER CIRCLE AROUND
THE TRUNK. DO NOT PLACE
MULCH WITHIN 3" OF THE
TRUNK

REMOVE ANY PORTION OF WIRE
BASKETS ABOVE THE TOP HALF OF
THE ROOTBALL. REMOVE
BURLAP COVERINGS BELOW THE
TOP HALF OF THE ROOTBALL.
COMPLETELY REMOVE ALL SYNTHETIC
ROOTBALL COVERING MATERIALS.

6" HIGH TEMPORARY RETENTION RING OF SOIL TO ASSIST IN
IRRIGATION OF THE TREE. REMOVE RING 3 MONTHS
AFTER INSTALLATION.

FINISHED GRADE

HOLES TO ACCOMMODATE PLANTS SHALL BE A MINIMUM
OF THREE TIMES THE SIZE OF THE PLANT ROOTBALL.

ALL BACKFILL FOR TREES SHALL BE EXISTING SOIL WITH ALL
ROCKS 2" OR LARGER REMOVED.

FERTILIZER SHALL BE INSTALLED AS PER THE
WRITTEN SPECIFICATIONS.

PLANTING & BRACING DETAIL
OVER 3 1/2" CALIPER

3 TIMES ROOT BALL DIAMETER

DETAIL A

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE THREE 2X4 PINE STAKES
12" APART
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS 2" ABOVE SURROUNDING GRADE

INSTALL 2" OF MULCH OVER
3" DIAMETER CIRCLE AROUND
THE TRUNK. DO NOT PLACE
MULCH WITHIN 3" OF THE
TRUNK

REMOVE ANY PORTION OF WIRE
BASKETS ABOVE THE TOP HALF OF
THE ROOTBALL. REMOVE
BURLAP COVERINGS BELOW THE
TOP HALF OF THE ROOTBALL.
COMPLETELY REMOVE ALL SYNTHETIC
ROOTBALL COVERING MATERIALS.

6" HIGH TEMPORARY RETENTION RING OF SOIL TO ASSIST IN
IRRIGATION OF THE TREE. REMOVE RING 3 MONTHS
AFTER INSTALLATION.

FINISHED GRADE

HOLES TO ACCOMMODATE PLANTS SHALL BE A MINIMUM
OF THREE TIMES THE SIZE OF THE PLANT ROOTBALL.

ALL BACKFILL FOR TREES SHALL BE EXISTING SOIL WITH ALL
ROCKS 2" OR LARGER REMOVED.

FERTILIZER SHALL BE INSTALLED AS PER THE
WRITTEN SPECIFICATIONS.

PLANTING & BRACING DETAIL
OVER 3 1/2" CALIPER

3 TIMES ROOT BALL DIAMETER

DETAIL B

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE THREE 2X4 PINE STAKES
12" APART
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS 2" ABOVE SURROUNDING GRADE

INSTALL 2" OF MULCH OVER
3" DIAMETER CIRCLE AROUND
THE TRUNK. DO NOT PLACE
MULCH WITHIN 3" OF THE
TRUNK

REMOVE ANY PORTION OF WIRE
BASKETS ABOVE THE TOP HALF OF
THE ROOTBALL. REMOVE
BURLAP COVERINGS BELOW THE
TOP HALF OF THE ROOTBALL.
COMPLETELY REMOVE ALL SYNTHETIC
ROOTBALL COVERING MATERIALS.

6" HIGH TEMPORARY RETENTION RING OF SOIL TO ASSIST IN
IRRIGATION OF THE TREE. REMOVE RING 3 MONTHS
AFTER INSTALLATION.

FINISHED GRADE

HOLES TO ACCOMMODATE PLANTS SHALL BE A MINIMUM
OF THREE TIMES THE SIZE OF THE PLANT ROOTBALL.

ALL BACKFILL FOR TREES SHALL BE EXISTING SOIL WITH ALL
ROCKS 2" OR LARGER REMOVED.

FERTILIZER SHALL BE INSTALLED AS PER THE
WRITTEN SPECIFICATIONS.

PLANTING & BRACING DETAIL
OVER 3 1/2" CALIPER

3 TIMES ROOT BALL DIAMETER

DETAIL A

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE THREE 2X4 PINE STAKES
12" APART
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS 2" ABOVE SURROUNDING GRADE

INSTALL 2" OF MULCH OVER
3" DIAMETER CIRCLE AROUND
THE TRUNK. DO NOT PLACE
MULCH WITHIN 3" OF THE
TRUNK

REMOVE ANY PORTION OF WIRE
BASKETS ABOVE THE TOP HALF OF
THE ROOTBALL. REMOVE
BURLAP COVERINGS BELOW THE
TOP HALF OF THE ROOTBALL.
COMPLETELY REMOVE ALL SYNTHETIC
ROOTBALL COVERING MATERIALS.

6" HIGH TEMPORARY RETENTION RING OF SOIL TO ASSIST IN
IRRIGATION OF THE TREE. REMOVE RING 3 MONTHS
AFTER INSTALLATION.

FINISHED GRADE

HOLES TO ACCOMMODATE PLANTS SHALL BE A MINIMUM
OF THREE TIMES THE SIZE OF THE PLANT ROOTBALL.

ALL BACKFILL FOR TREES SHALL BE EXISTING SOIL WITH ALL
ROCKS 2" OR LARGER REMOVED.

FERTILIZER SHALL BE INSTALLED AS PER THE
WRITTEN SPECIFICATIONS.

PLANTING & BRACING DETAIL
OVER 3 1/2" CALIPER

3 TIMES ROOT BALL DIAMETER

DETAIL B

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE THREE 2X4 PINE STAKES
12" APART
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS 2" ABOVE SURROUNDING GRADE

INSTALL 2" OF MULCH OVER
3" DIAMETER CIRCLE AROUND
THE TRUNK. DO NOT PLACE
MULCH WITHIN 3" OF THE
TRUNK

REMOVE ANY PORTION OF WIRE
BASKETS ABOVE THE TOP HALF OF
THE ROOTBALL. REMOVE
BURLAP COVERINGS BELOW THE
TOP HALF OF THE ROOTBALL.
COMPLETELY REMOVE ALL SYNTHETIC
ROOTBALL COVERING MATERIALS.

6" HIGH TEMPORARY RETENTION RING OF SOIL TO ASSIST IN
IRRIGATION OF THE TREE. REMOVE RING 3 MONTHS
AFTER INSTALLATION.

FINISHED GRADE

HOLES TO ACCOMMODATE PLANTS SHALL BE A MINIMUM
OF THREE TIMES THE SIZE OF THE PLANT ROOTBALL.

ALL BACKFILL FOR TREES SHALL BE EXISTING SOIL WITH ALL
ROCKS 2" OR LARGER REMOVED.

FERTILIZER SHALL BE INSTALLED AS PER THE
WRITTEN SPECIFICATIONS.

PLANTING & BRACING DETAIL
OVER 3 1/2" CALIPER

3 TIMES ROOT BALL DIAMETER

DETAIL A

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE THREE 2X4 PINE STAKES
12" APART
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS 2" ABOVE SURROUNDING GRADE

INSTALL 2" OF MULCH OVER
3" DIAMETER CIRCLE AROUND
THE TRUNK. DO NOT PLACE
MULCH WITHIN 3" OF THE
TRUNK

REMOVE ANY PORTION OF WIRE
BASKETS ABOVE THE TOP HALF OF
THE ROOTBALL. REMOVE
BURLAP COVERINGS BELOW THE
TOP HALF OF THE ROOTBALL.
COMPLETELY REMOVE ALL SYNTHETIC
ROOTBALL COVERING MATERIALS.

6" HIGH TEMPORARY RETENTION RING OF SOIL TO ASSIST IN
IRRIGATION OF THE TREE. REMOVE RING 3 MONTHS
AFTER INSTALLATION.

FINISHED GRADE

HOLES TO ACCOMMODATE PLANTS SHALL BE A MINIMUM
OF THREE TIMES THE SIZE OF THE PLANT ROOTBALL.

ALL BACKFILL FOR TREES SHALL BE EXISTING SOIL WITH ALL
ROCKS 2" OR LARGER REMOVED.

FERTILIZER SHALL BE INSTALLED AS PER THE
WRITTEN SPECIFICATIONS.

PLANTING & BRACING DETAIL
OVER 3 1/2" CALIPER

3 TIMES ROOT BALL DIAMETER

DETAIL B

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE THREE 2X4 PINE STAKES
12" APART
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS 2" ABOVE SURROUNDING GRADE

INSTALL 2" OF MULCH OVER
3" DIAMETER CIRCLE AROUND
THE TRUNK. DO NOT PLACE
MULCH WITHIN 3" OF THE
TRUNK

REMOVE ANY PORTION OF WIRE
BASKETS ABOVE THE TOP HALF OF
THE ROOTBALL. REMOVE
BURLAP COVERINGS BELOW THE
TOP HALF OF THE ROOTBALL.
COMPLETELY REMOVE ALL SYNTHETIC
ROOTBALL COVERING MATERIALS.

6" HIGH TEMPORARY RETENTION RING OF SOIL TO ASSIST IN
IRRIGATION OF THE TREE. REMOVE RING 3 MONTHS
AFTER INSTALLATION.

FINISHED GRADE

HOLES TO ACCOMMODATE PLANTS SHALL BE A MINIMUM
OF THREE TIMES THE SIZE OF THE PLANT ROOTBALL.

ALL BACKFILL FOR TREES SHALL BE EXISTING SOIL WITH ALL
ROCKS 2" OR LARGER REMOVED.

FERTILIZER SHALL BE INSTALLED AS PER THE
WRITTEN SPECIFICATIONS.

PLANTING & BRACING DETAIL
OVER 3 1/2" CALIPER

3 TIMES ROOT BALL DIAMETER

DETAIL A

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE THREE 2X4 PINE STAKES
12" APART
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS 2" ABOVE SURROUNDING GRADE

INSTALL 2" OF MULCH OVER
3" DIAMETER CIRCLE AROUND
THE TRUNK. DO NOT PLACE
MULCH WITHIN 3" OF THE
TRUNK

REMOVE ANY PORTION OF WIRE
BASKETS ABOVE THE TOP HALF OF
THE ROOTBALL. REMOVE
BURLAP COVERINGS BELOW THE
TOP HALF OF THE ROOTBALL.
COMPLETELY REMOVE ALL SYNTHETIC
ROOTBALL COVERING MATERIALS.

6" HIGH TEMPORARY RETENTION RING OF SOIL TO ASSIST IN
IRRIGATION OF THE TREE. REMOVE RING 3 MONTHS
AFTER INSTALLATION.

FINISHED GRADE

HOLES TO ACCOMMODATE PLANTS SHALL BE A MINIMUM
OF THREE TIMES THE SIZE OF THE PLANT ROOTBALL.

ALL BACKFILL FOR TREES SHALL BE EXISTING SOIL WITH ALL
ROCKS 2" OR LARGER REMOVED.

FERTILIZER SHALL BE INSTALLED AS PER THE
WRITTEN SPECIFICATIONS.

PLANTING & BRACING DETAIL
OVER 3 1/2" CALIPER

3 TIMES ROOT BALL DIAMETER

DETAIL B

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE THREE 2X4 PINE STAKES
12" APART
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS 2" ABOVE SURROUNDING GRADE

INSTALL 2" OF MULCH OVER
3" DIAMETER CIRCLE AROUND
THE TRUNK. DO NOT PLACE
MULCH WITHIN 3" OF THE
TRUNK

REMOVE ANY PORTION OF WIRE
BASKETS ABOVE THE TOP HALF OF
THE ROOTBALL. REMOVE
BURLAP COVERINGS BELOW THE
TOP HALF OF THE ROOTBALL.
COMPLETELY REMOVE ALL SYNTHETIC
ROOTBALL COVERING MATERIALS.

6" HIGH TEMPORARY RETENTION RING OF SOIL TO ASSIST IN
IRRIGATION OF THE TREE. REMOVE RING 3 MONTHS
AFTER INSTALLATION.

FINISHED GRADE

HOLES TO ACCOMMODATE PLANTS SHALL BE A MINIMUM
OF THREE TIMES THE SIZE OF THE PLANT ROOTBALL.

ALL BACKFILL FOR TREES SHALL BE EXISTING SOIL WITH ALL
ROCKS 2" OR LARGER REMOVED.

FERTILIZER SHALL BE INSTALLED AS PER THE
WRITTEN SPECIFICATIONS.

PLANTING & BRACING DETAIL
OVER 3 1/2" CALIPER

3 TIMES ROOT BALL DIAMETER

DETAIL A

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE THREE 2X4 PINE STAKES
12" APART
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS 2" ABOVE SURROUNDING GRADE

INSTALL 2" OF MULCH OVER
3" DIAMETER CIRCLE AROUND
THE TRUNK. DO NOT PLACE
MULCH WITHIN 3" OF THE
TRUNK

REMOVE ANY PORTION OF WIRE
BASKETS ABOVE THE TOP HALF OF
THE ROOTBALL. REMOVE
BURLAP COVERINGS BELOW THE
TOP HALF OF THE ROOTBALL.
COMPLETELY REMOVE ALL SYNTHETIC
ROOTBALL COVERING MATERIALS.

6" HIGH TEMPORARY RETENTION RING OF SOIL TO ASSIST IN
IRRIGATION OF THE TREE. REMOVE RING 3 MONTHS
AFTER INSTALLATION.

FINISHED GRADE

HOLES TO ACCOMMODATE PLANTS SHALL BE A MINIMUM
OF THREE TIMES THE SIZE OF THE PLANT ROOTBALL.

ALL BACKFILL FOR TREES SHALL BE EXISTING SOIL WITH ALL
ROCKS 2" OR LARGER REMOVED.

FERTILIZER SHALL BE INSTALLED AS PER THE
WRITTEN SPECIFICATIONS.

PLANTING & BRACING DETAIL
OVER 3 1/2" CALIPER

3 TIMES ROOT BALL DIAMETER

DETAIL B

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE THREE 2X4 PINE STAKES
12" APART
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS 2" ABOVE SURROUNDING GRADE

INSTALL 2" OF MULCH OVER
3" DIAMETER CIRCLE AROUND
THE TRUNK. DO NOT PLACE
MULCH WITHIN 3" OF THE
TRUNK

REMOVE ANY PORTION OF WIRE
BASKETS ABOVE THE TOP HALF OF
THE ROOTBALL. REMOVE
BURLAP COVERINGS BELOW THE
TOP HALF OF THE ROOTBALL.
COMPLETELY REMOVE ALL SYNTHETIC
ROOTBALL COVERING MATERIALS.

6" HIGH TEMPORARY RETENTION RING OF SOIL TO ASSIST IN
IRRIGATION OF THE TREE. REMOVE RING 3 MONTHS
AFTER INSTALLATION.

FINISHED GRADE

HOLES TO ACCOMMODATE PLANTS SHALL BE A MINIMUM
OF THREE TIMES THE SIZE OF THE PLANT ROOTBALL.

ALL BACKFILL FOR TREES SHALL BE EXISTING SOIL WITH ALL
ROCKS 2" OR LARGER REMOVED.

FERTILIZER SHALL BE INSTALLED AS PER THE
WRITTEN SPECIFICATIONS.

PLANTING & BRACING DETAIL
OVER 3 1/2" CALIPER

3 TIMES ROOT BALL DIAMETER

DETAIL A

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE THREE 2X4 PINE STAKES
12" APART
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS 2" ABOVE SURROUNDING GRADE

INSTALL 2" OF MULCH OVER
3" DIAMETER CIRCLE AROUND
THE TRUNK. DO NOT PLACE
MULCH WITHIN 3" OF THE
TRUNK

REMOVE ANY PORTION OF WIRE
BASKETS ABOVE THE TOP HALF OF
THE ROOTBALL. REMOVE
BURLAP COVERINGS BELOW THE
TOP HALF OF THE ROOTBALL.
COMPLETELY REMOVE ALL SYNTHETIC
ROOTBALL COVERING MATERIALS.

6" HIGH TEMPORARY RETENTION RING OF SOIL TO ASSIST IN
IRRIGATION OF THE TREE. REMOVE RING 3 MONTHS
AFTER INSTALLATION.

FINISHED GRADE

HOLES TO ACCOMMODATE PLANTS SHALL BE A MINIMUM
OF THREE TIMES THE SIZE OF THE PLANT ROOTBALL.

ALL BACKFILL FOR TREES SHALL BE EXISTING SOIL WITH ALL
ROCKS 2" OR LARGER REMOVED.

FERTILIZER SHALL BE INSTALLED AS PER THE
WRITTEN SPECIFICATIONS.

PLANTING & BRACING DETAIL
OVER 3 1/2" CALIPER

3 TIMES ROOT BALL DIAMETER

DETAIL B

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE THREE 2X4 PINE STAKES
12" APART
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS 2" ABOVE SURROUNDING GRADE

INSTALL 2" OF MULCH OVER
3" DIAMETER CIRCLE AROUND
THE TRUNK. DO NOT PLACE
MULCH WITHIN 3" OF THE
TRUNK

REMOVE ANY PORTION OF WIRE
BASKETS ABOVE THE TOP HALF OF
THE ROOTBALL. REMOVE
BURLAP COVERINGS BELOW THE
TOP HALF OF THE ROOTBALL.
COMPLETELY REMOVE ALL SYNTHETIC
ROOTBALL COVERING MATERIALS.

6" HIGH TEMPORARY RETENTION RING OF SOIL TO ASSIST IN
IRRIGATION OF THE TREE. REMOVE RING 3 MONTHS
AFTER INSTALLATION.

FINISHED GRADE

HOLES TO ACCOMMODATE PLANTS SHALL BE A MINIMUM
OF THREE TIMES THE SIZE OF THE PLANT ROOTBALL.

ALL BACKFILL FOR TREES SHALL BE EXISTING SOIL WITH ALL
ROCKS 2" OR LARGER REMOVED.

FERTILIZER SHALL BE INSTALLED AS PER THE
WRITTEN SPECIFICATIONS.

PLANTING & BRACING DETAIL
OVER 3 1/2" CALIPER

3 TIMES ROOT BALL DIAMETER

DETAIL A

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE THREE 2X4 PINE STAKES
12" APART
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS 2" ABOVE SURROUNDING GRADE

INSTALL 2" OF MULCH OVER
3" DIAMETER CIRCLE AROUND
THE TRUNK. DO NOT PLACE
MULCH WITHIN 3" OF THE
TRUNK

REMOVE ANY PORTION OF WIRE
BASKETS ABOVE THE TOP HALF OF
THE ROOTBALL. REMOVE
BURLAP COVERINGS BELOW THE
TOP HALF OF THE ROOTBALL.
COMPLETELY REMOVE ALL SYNTHETIC
ROOTBALL COVERING MATERIALS.

6" HIGH TEMPORARY RETENTION RING OF SOIL TO ASSIST IN
IRRIGATION OF THE TREE. REMOVE RING 3 MONTHS
AFTER INSTALLATION.

FINISHED GRADE

HOLES TO ACCOMMODATE PLANTS SHALL BE A MINIMUM
OF THREE TIMES THE SIZE OF THE PLANT ROOTBALL.

ALL BACKFILL FOR TREES SHALL BE EXISTING SOIL WITH ALL
ROCKS 2" OR LARGER REMOVED.

FERTILIZER SHALL BE INSTALLED AS PER THE
WRITTEN SPECIFICATIONS.

PLANTING & BRACING DETAIL
OVER 3 1/2" CALIPER

3 TIMES ROOT BALL DIAMETER

DETAIL B

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE THREE 2X4 PINE STAKES
12" APART
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS 2" ABOVE SURROUNDING GRADE

INSTALL 2" OF MULCH OVER
3" DIAMETER CIRCLE AROUND
THE TRUNK. DO NOT PLACE
MULCH WITHIN 3" OF THE
TRUNK

REMOVE ANY PORTION OF WIRE
BASKETS ABOVE THE TOP HALF OF
THE ROOTBALL. REMOVE
BURLAP COVERINGS BELOW THE
TOP HALF OF THE ROOTBALL.
COMPLETELY REMOVE ALL SYNTHETIC
ROOTBALL COVERING MATERIALS.

6" HIGH TEMPORARY RETENTION RING OF SOIL TO ASSIST IN
IRRIGATION OF THE TREE. REMOVE RING 3 MONTHS
AFTER INSTALLATION.

FINISHED GRADE

HOLES TO ACCOMMODATE PLANTS SHALL BE A MINIMUM
OF THREE TIMES THE SIZE OF THE PLANT ROOTBALL.

ALL BACKFILL FOR TREES SHALL BE EXISTING SOIL WITH ALL
ROCKS 2" OR LARGER REMOVED.

FERTILIZER SHALL BE INSTALLED AS PER THE
WRITTEN SPECIFICATIONS.

PLANTING & BRACING DETAIL
OVER 3 1/2" CALIPER

3 TIMES ROOT BALL DIAMETER

DETAIL A

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE THREE 2X4 PINE STAKES
12" APART
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS 2" ABOVE SURROUNDING GRADE

INSTALL 2" OF MULCH OVER
3" DIAMETER CIRCLE AROUND
THE TRUNK. DO NOT PLACE
MULCH WITHIN 3" OF THE
TRUNK

REMOVE ANY PORTION OF WIRE
BASKETS ABOVE THE TOP HALF OF
THE ROOTBALL. REMOVE
BURLAP COVERINGS BELOW THE
TOP HALF OF THE ROOTBALL.
COMPLETELY REMOVE ALL SYNTHETIC
ROOTBALL COVERING MATERIALS.

6" HIGH TEMPORARY RETENTION RING OF SOIL TO ASSIST IN
IRRIGATION OF THE TREE. REMOVE RING 3 MONTHS
AFTER INSTALLATION.

FINISHED GRADE

HOLES TO ACCOMMODATE PLANTS SHALL BE A MINIMUM
OF THREE TIMES THE SIZE OF THE PLANT ROOTBALL.

ALL BACKFILL FOR TREES SHALL BE EXISTING SOIL WITH ALL
ROCKS 2" OR LARGER REMOVED.

FERTILIZER SHALL BE INSTALLED AS PER THE
WRITTEN SPECIFICATIONS.

PLANTING & BRACING DETAIL
OVER 3 1/2" CALIPER

3 TIMES ROOT BALL DIAMETER

DETAIL B

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE THREE 2X4 PINE STAKES
12" APART
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS 2" ABOVE SURROUNDING GRADE

INSTALL 2" OF MULCH OVER
3" DIAMETER CIRCLE AROUND
THE TRUNK. DO NOT PLACE
MULCH WITHIN 3" OF THE
TRUNK

REMOVE ANY PORTION OF WIRE
BASKETS ABOVE THE TOP HALF OF
THE ROOTBALL. REMOVE
BURLAP COVERINGS BELOW THE
TOP HALF OF THE ROOTBALL.
COMPLETELY REMOVE ALL SYNTHETIC
ROOTBALL COVERING MATERIALS.

6" HIGH TEMPORARY RETENTION RING OF SOIL TO ASSIST IN
IRRIGATION OF THE TREE. REMOVE RING 3 MONTHS
AFTER INSTALLATION.

FINISHED GRADE

HOLES TO ACCOMMODATE PLANTS SHALL BE A MINIMUM
OF THREE TIMES THE SIZE OF THE PLANT ROOTBALL.

ALL BACKFILL FOR TREES SHALL BE EXISTING SOIL WITH ALL
ROCKS 2" OR LARGER REMOVED.

FERTILIZER SHALL BE INSTALLED AS PER THE
WRITTEN SPECIFICATIONS.

PLANTING & BRACING DETAIL
OVER 3 1/2" CALIPER

3 TIMES ROOT BALL DIAMETER

DETAIL A

NOTE: USE 4" X 4" STAKES
PALS OVER 12" CALIPER

PROVIDE THREE 2X4 PINE STAKES
12" APART
ATTACH WINNALS TO BATTENS
NO NAILS IN TREE

SET ROOTBALL SO
TRUNK FLARE OR TOP ROOT
IS



A

IRRIGATION PLAN

SCALE: 1"=20'

MIAMI BEACH

OFFICE OF CAPITAL IMPROVEMENT PROJECTS

1701 MERIDIAN AVENUE, MIAMI BEACH, FL 33139

PROJECT: MAURICE GIBB MEMORIAL PARK

ADDRESS:

COASTAL SYSTEMS INTERNATIONAL, INC.

484 South Dixie Highway, Coral Gables, Florida 33146

Tel: 305-961-2000 Fax: 305-961-1814 www.CoastalSystems.com

Circle of Commerce 8700

Geospatial, Environmental, Civil Engineering and Management

SUB-CONSULTANT

ES&G

DESIGN

LANDSCAPE ARCHITECTURE

www.gslandscape.com

LA OF RECORD

DESIGN LA:

DRAWN BY: HM

CHECKER: KEG

SCALE:

KEG

KEG

LANDSCAPE ARCHITECT OF RECORD:

Ken Gardner, ASLA

FL LA 1509

5					
4					
3					
2					
1					
NO.	DATE	REVISION	APPD. BY	DATE	SHEET

Drawing Title:

IRRIGATION PLAN

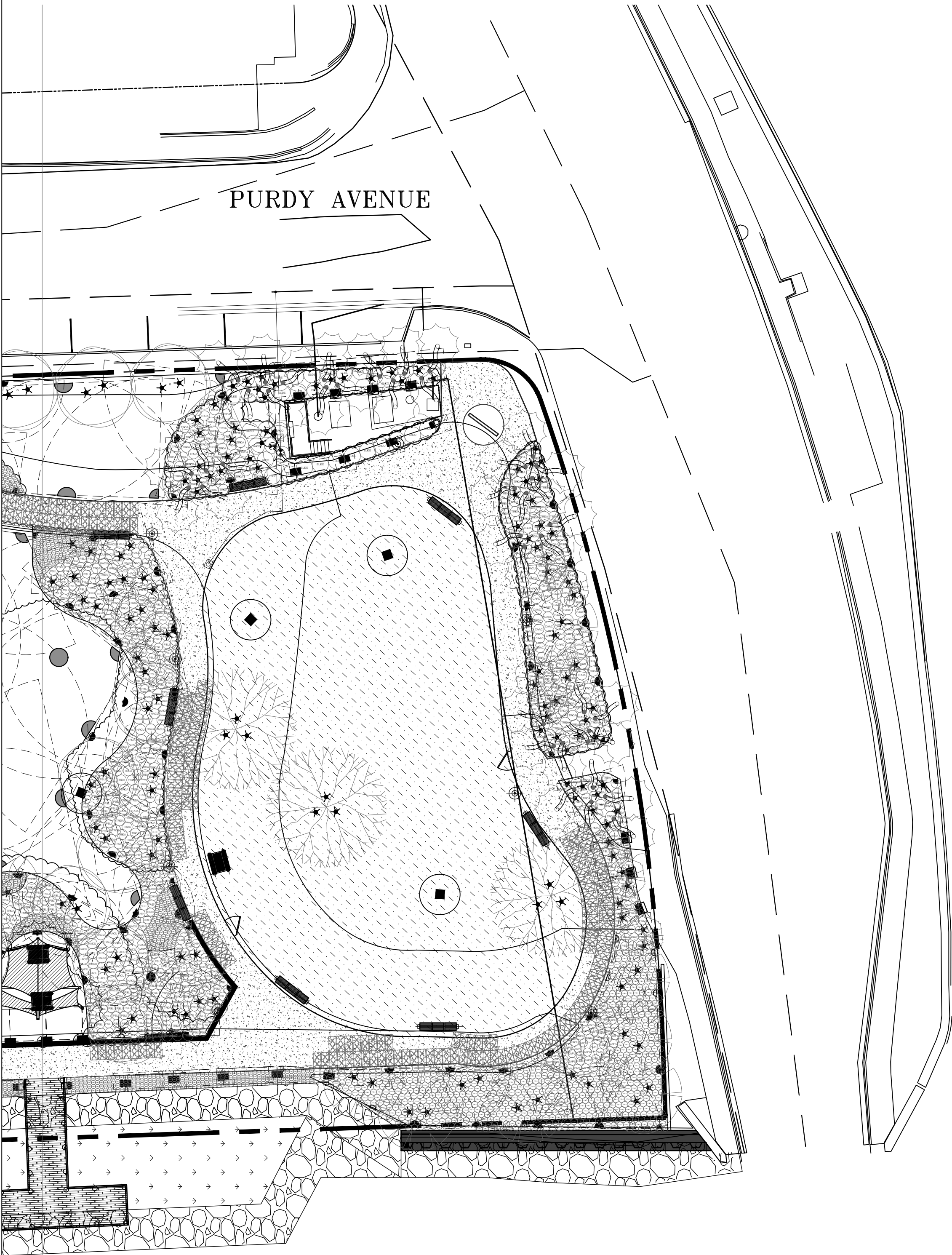
Filename: GSLA - SHEETS.dwg

Date: 01.30.19

Sheet: of

Drawing No.:

LA-006



A

IRRIGATION PLAN

SCALE: 1"=20'

MIAMI BEACH

OFFICE OF CAPITAL IMPROVEMENT PROJECTS

1701 MERIDIAN AVENUE, MIAMI BEACH, FL 33139

PROJECT: MAURICE GIBB MEMORIAL PARK

ADDRESS:

COASTAL SYSTEMS INTERNATIONAL, INC.

404 South Dixie Highway, Coral Gables, Florida 33146

Tel: 305-961-2000 Fax: 305-961-1814 www.CoastalSystems.com

Circle 40 on plan is 4" dia

Geotech, Environmental, Civil Engineering and Management

SUB-CONSULTANT

DAYDNER + SEMLER

LANDSCAPE ARCHITECTURE

WWW.GSLADESIGN.COM

11000 SW 76th Ave., Suite 214

MIAMI, FL 33155

P: 305.393.1010 F: 305.393.1019

C: 305.393.1019

LA OF RECORD: KEG

DESIGN LA: KEG

DRAWN BY: HM

CHECKER: KEG

SCALE:

LANDSCAPE ARCHITECT OF RECORD:

Ken Gardner, ASLA

FL LA 1509

5									
4									
3									
2									
1									
NO.	DATE	REVISION	APP'D. BY	DATE	01.30.19	SHEET	of		

Drawing Title: IRRIGATION PLAN

Filename: GSLA - SHEETS.dwg

Date: 01.30.19

Sheet: of

Drawing No.: LA-007

GENERAL NOTES:
1. SCOPE OF WORK: The Contractor shall furnish all labor, machinery, tools, supplies, and equipment as necessary to construct and provide an operating system, as indicated in the Plans. The work shall include, but not be limited to, furnishing materials (pipe, valves, sprinkler heads, fittings, controllers, electrical, wire and fittings, primer, glue, etc.), layout, protection to the public, excavation, assembly, installation, backfilling, compaction, repair of road or pavement surfaces, controller and low voltage feed to the valves, clean-up, maintenance and guarantee, and as-built plans.

2. Contractor shall coordinate with General Contractor or other pertinent Contractors on the job to insure that sleeves are provided and installed under hard surfaces to allow access to all areas to be irrigated. All sleeves shall be constructed of Schedule 40 PVC. Bury all sleeves a minimum of 24" below the surface. Sleeve to be 2 times the size of the pipe running through it. Sleeve shall extend 24" past the edge of pavement into the area to be irrigated.

3. GUARANTEE: The irrigation system shall be guaranteed for a minimum of one calendar year from the time of final acceptance.

4. REPAIR UTILITIES: The Contractor shall be responsible to verify the location of all utilities by hand excavation or other appropriate measures before performing any work that may result in damage to utilities structures, or property. The Contractor shall take immediate steps to repair, replace, or restore all services to any utilities which are disrupted due to his operations. All costs involved in disruption of service and repairs due to negligence on part of the Contractor shall be his responsibility.

5. AS-BUILT DRAWINGS: Prints of the plans will be supplied to the Contractor for recording "as-built" information. Immediately upon installation of any work which deviates from what is shown on the Plans, the Contractor shall clearly indicate such changes in red pencil on the prints. Such changes shall include, but not be limited to, changes in (1) materials; (2) sizes of material; (3) location; and (4) quantities.

6. The entire installation shall fully comply with all applicable local and state codes and ordinances. The Contractor shall take out all required plumbing and electrical applications and permits, arrange for all necessary inspections and shall pay all fees and expenses in connection with same as part of work under the contract.

7. UNIT PRICES: The successful bidder shall furnish, to the Owner, a unit price breakdown for all materials. The Owner may at his own discretion, add to or delete from the materials, using the unit price breakdown submitted to and accepted by the Owner.

8. MAINTENANCE PERIOD: The irrigation system shall be maintained for a period of 90 days after final acceptance of installation. Maintenance shall include checking of the system 2 times per week. Contractor shall be responsible to replace/repair any broken or malfunctioning parts of the system including those damaged by accidents or vandalism. Repairs shall be made immediately at the time of inspection or when notified by the Landscape Architect.

9. The irrigation system shall provide 100% coverage with a minimum of 90% overlap of water spray.

10. The system is design to provide sprinkler precipitation rates that are nearly equal in each zone. Mixing of sprinklers with widely varying precipitation rates in a zone will not be accepted.

11. All pipe shall be made of Schedule 40 PVC, except flexible PVC (or Toro funny pipe) for flexible swing joint and Schedule 80 galvanized steel pipe for all above ground fittings. Pipe locations shall be adjusted in the field. When laying out mains and laterals, locate pipe near edges of pavement or against buildings wherever possible, to allow space for plant rootballs. Coordinate pipe locations with plantings. Bury all mains 18" below surface and laterals 12". Depth shall be measured to top of pipe.

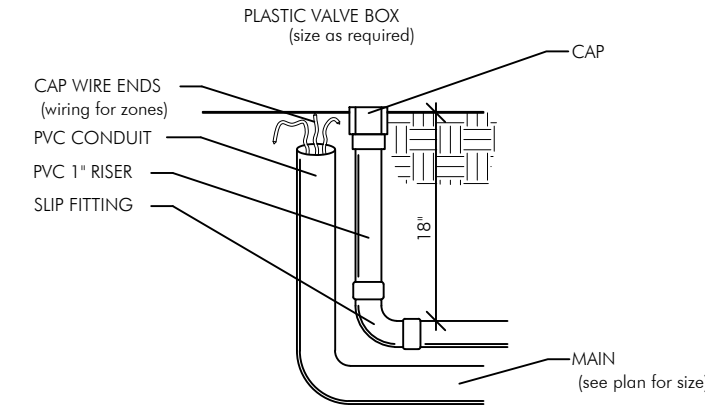
12. Keep pop-up sprinkler heads a minimum of 8" from edges of pavement and curbing, and heads on risers a minimum of 18", or as indicated in the plans.

13. All heads located in shrub or groundcover beds shall be installed on a riser as per details in the plans. All other heads shall be installed on a swing joint as per details in the plans.

14. Place irrigation control wire in conduit in the same trench as mains and under the main. ASI wire shall be #14 or larger solid copper U.L. approved underground direct burial cable and shall be continuous with no splices from controller to solenoid valve.

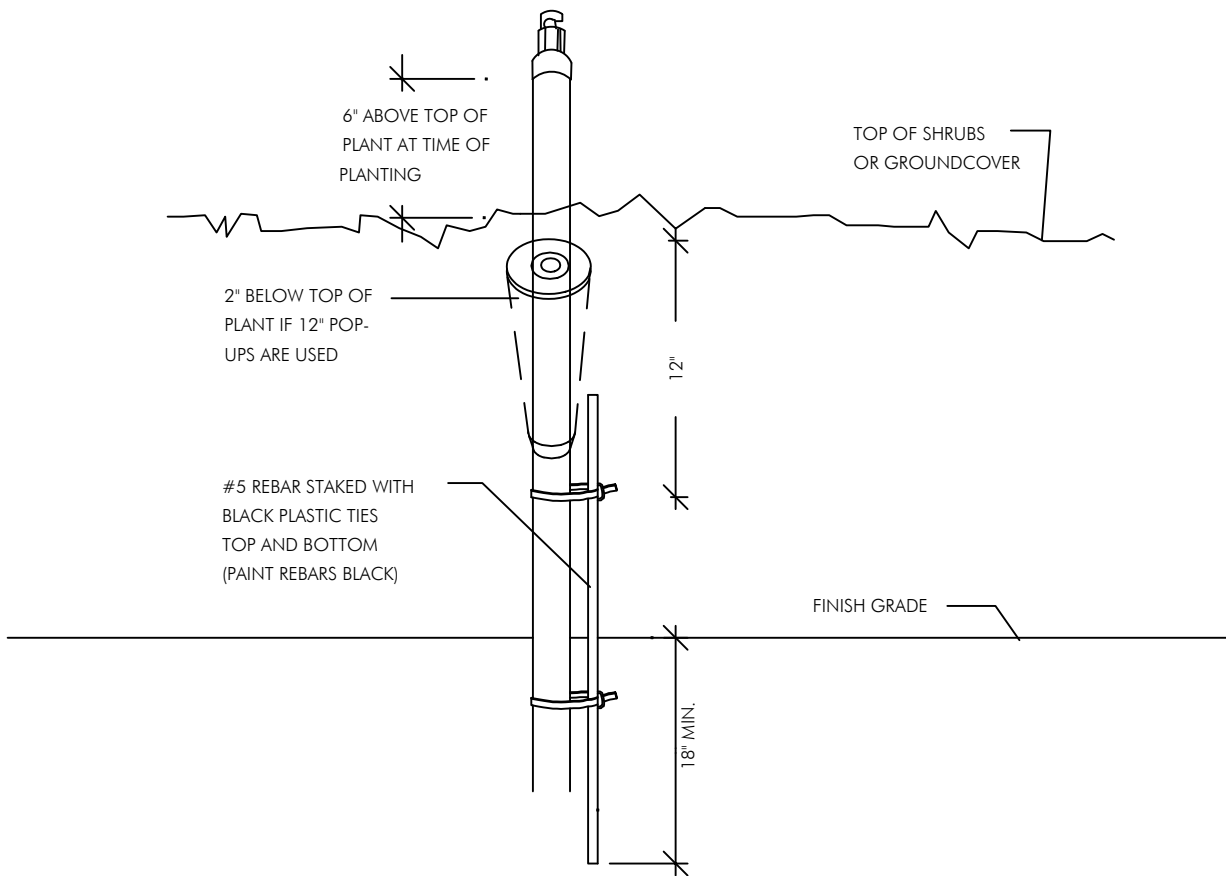
15. Valve locations are schematic and shall be adjusted in the field. Each valve shall be in a separate valve box (10' x 16" min.). When grouping valve boxes in grass or groundcover areas, set boxes a minimum of 12' apart to allow grass or groundcover to grow between them. When possible, hide valve boxes in shrub beds, a minimum of 12" from edge of beds. Set all valve boxes, concrete or plastic, in ground with cover flush with finish grade, and level, with a minimum of 6" of pea gravel at the bottom of the box, with at least 2" of clearance from the bottom of the valve to the top of the gravel.

16. TESTING: Notify the Landscape Architect in writing when testing will be conducted. Conduct test in the presence of the Landscape Architect. After all PVC assembly is completed the lines shall be flushed to insure that no rocks, sand, or other foreign debris remains in the lines. The mains shall be filled with water and all outlets shall be capped and plugged. The main shall be pressurized to 100 PSI for a minimum of one hour. No section of the main will be approved if the pressure drops more than 5 PSI at the end of the one hour period. Leaks shall be repaired immediately and the system shall be re-tested until found satisfactory by the Landscape Architect.



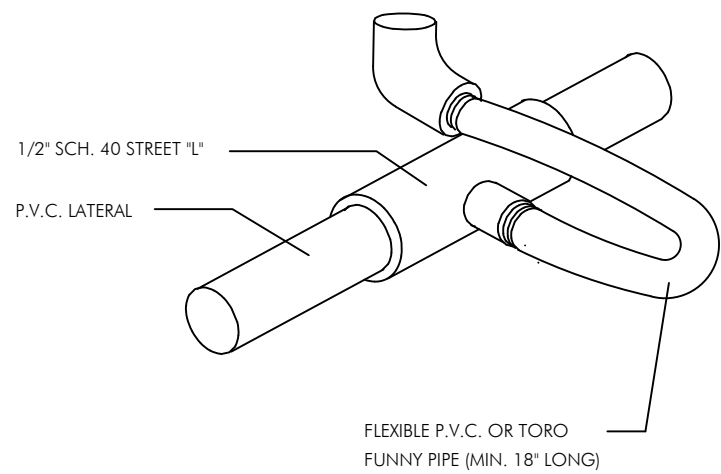
DETAIL OF STUB-OUT FOR FUTURE USE

N.T.S.



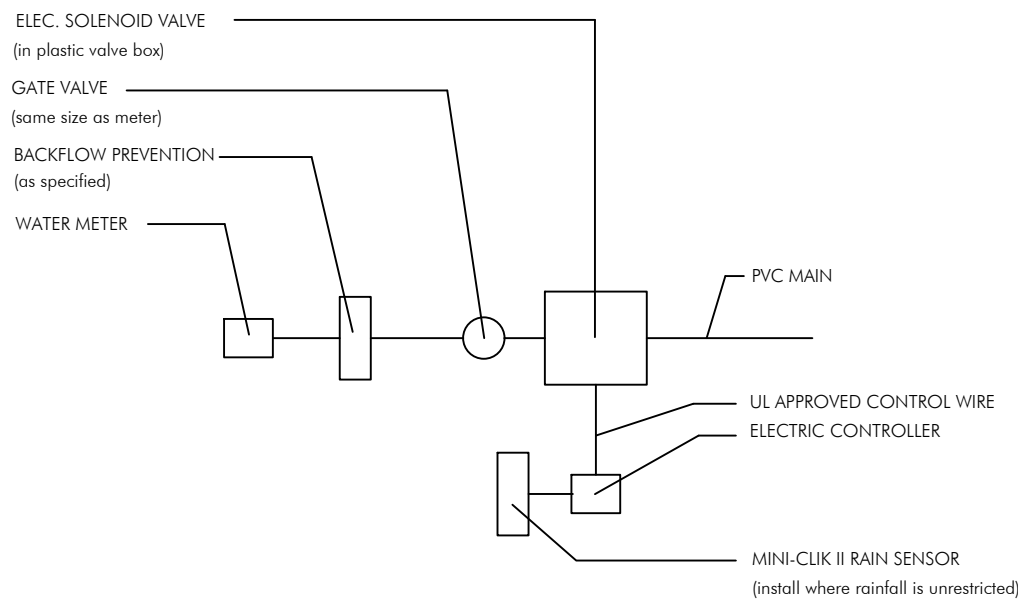
SPRINKLER ON RISER DETAIL FOR SHRUB AREAS

N.T.S.



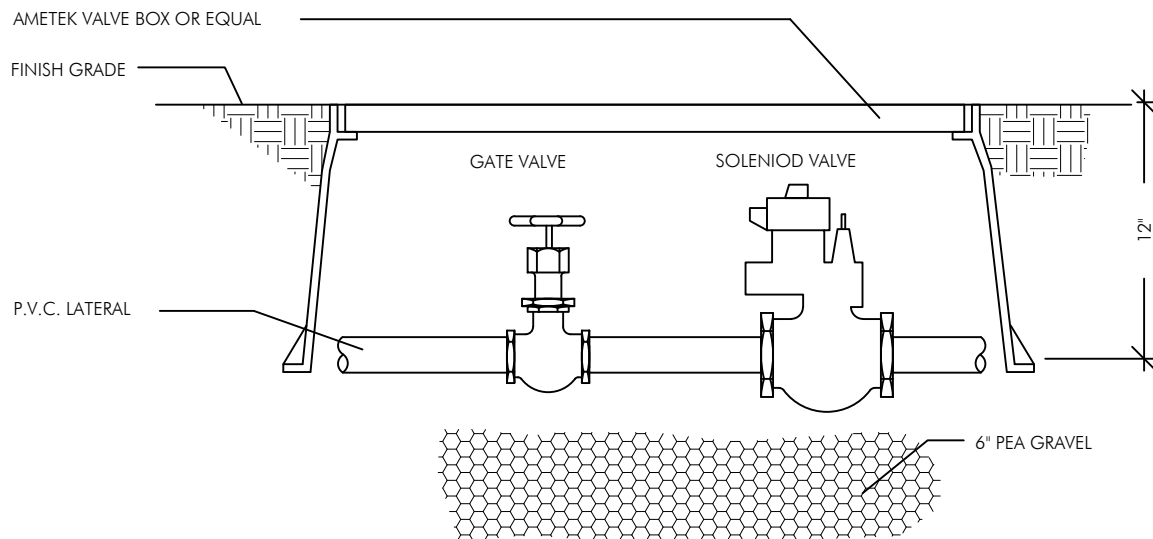
FLEXIBLE SWING JOINT DETAIL

N.T.S.



CONNECTION TO METER DETAIL

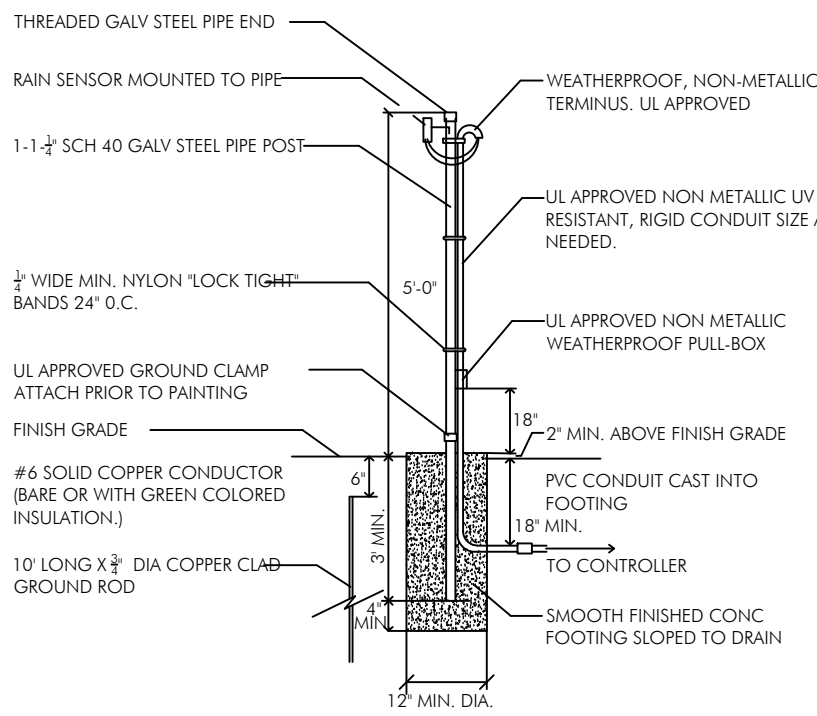
N.T.S.



TYPICAL SOLENOID VALVE ASSEMBLY

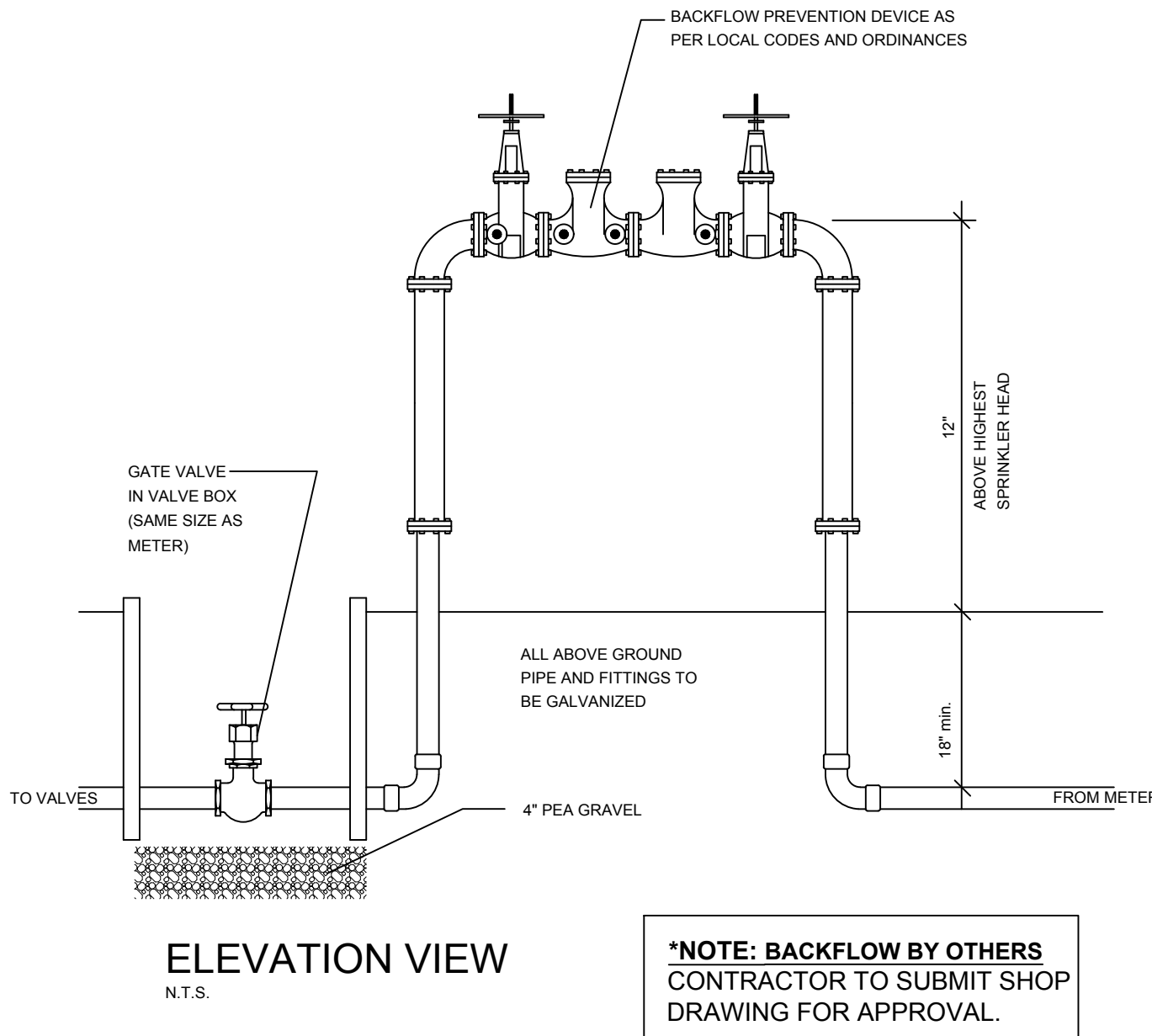
N.T.S.

NOTE:
ALL WIRE CONNECTIONS SHALL BE APPROVED WATERTIGHT CONNECTIONS.
FINISH ENTIRE ASSEMBLY, EXCEPT FOR EQUIPMENT, WITH FLAT BLACK ACRYLIC ENAMEL PAINT.
PRIME METALLIC SURFACES WITH ZINC CHROMATE PRIOR TO FINISHING.



RAIN SENSOR DETAIL

N.T.S.



2" RPZ BACKFLOW PREVENTION ASSEMBLY DETAIL IRRIGATION SYSTEM ONLY

N.T.S.

IRRIGATION MATERIALS LIST

KEY	ITEM	QTY.
—	PVC laterals & mains shall be schedule 40 PVC (sized as shown on plans)	as required
—	MAIN	as required
==	PVC sleeves shall be Schedule 40 PVC (sized 2 sizes larger than the pipe running through it)	as required
—	Flexible PVC or Polypipe (for swing joints)	as required
WM	2" WATER METER (See Civil Plans)	1
EC	Electric Controller RAINBIRD ____ Series Controller	1
▲	MINI-Click II Rain Sensor (locate in area of free rainfall)	1
●	RAINBIRD 200-PESB 2" Electromechanical Solenoid Control Valve	#
—	Irrigation Control Wire	as required
—	RAINBIRD Spray Heads 1800 @ 30 PSI Series w/MPR nozzles	as required
—	6" pop-up in grass areas	
—	12" pop-up on risers in shrub beds	
—	15-F (3.7 gpm)	
—	15-TQ (2.78 gpm)	
—	15-H (1.85 gpm)	
—	15-T (1.23 gpm)	
—	15-Q (1.92 gpm)	
—	15-sst (1.21 gpm)	
—	15-cst (1.21 gpm)	
—	15-est (1.61 gpm)	
—	9-sst (1.73 gpm)	
—	10-F (1.58 gpm)	
—	10-TQ (1.18 gpm)	
—	10-H (.79 gpm)	
—	10-T (.53 gpm)	
—	10-Q (.39 gpm)	
—	5-F (.41 gpm)	
—	5-TQ (.33 gpm)	
—	5-H (.20 gpm)	
—	5-T (.13 gpm)	
—	5-Q (.10 gpm)	
★	RAINBIRD 1300A-F Adjustable Flood Bubbler 1300A-F (1.5 gpm)	as required
—	RAINBIRD Rotary Spray Heads 20' radius	as required
—	17-24 Series @ 30 PSI	
—	12" pop-up in grass areas	
—	12" pop-up on risers in shrub beds	
—	17-24-F (2.35 gpm)	
—	17-24-TQ (1.80 gpm)	
—	17-24-H (1.20 gpm)	
—	17-24-T (1.0 gpm)	
—	17-24-Q (.60 gpm)	
—	17-24-HQ (.0.3 gpm)	
—	5000 Series MPR-30 (Green) Heads @ 45 PSI	
—	30' RADIUS	
—	Full (5.78 gpm)	
—	Half (2.96 gpm)	
—	Third (1.85 gpm)	
—	Quarter (1.40 gpm)	