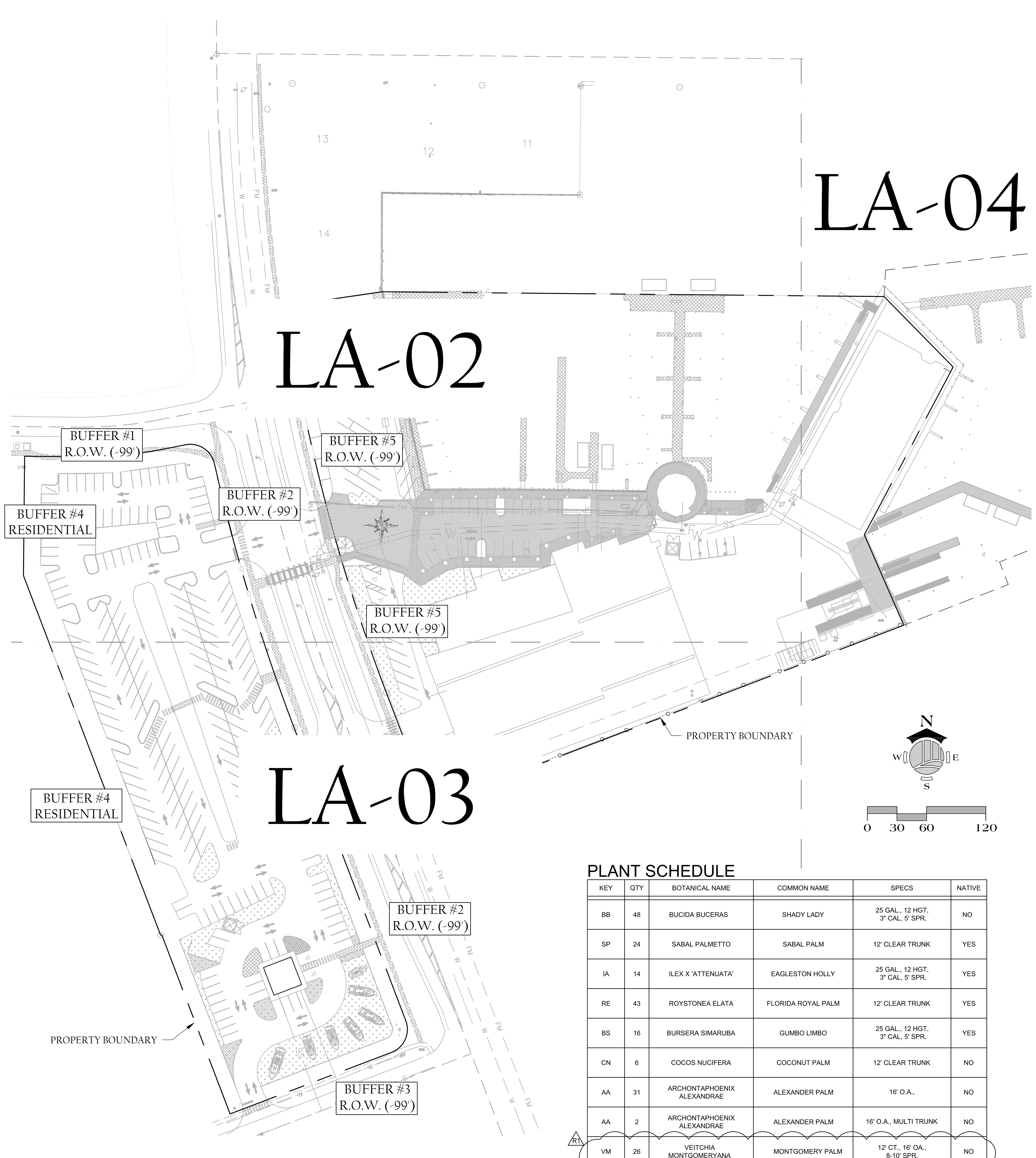

PLANT SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SPECS	NATIVE
BB	48	BUCIDA BUCERAS	SHADY LADY	25 GAL., 12 HGT. 3" CAL, 5' SPR.	NO
SP	24	SABAL PALMETTO	SABAL PALM	12' CLEAR TRUNK	YES
IA	14	ILEX X 'ATTENUATA'	EAGLESTON HOLLY	25 GAL., 12 HGT. 3" CAL, 5' SPR.	YES
RE	43	ROYSTONEA ELATA	FLORIDA ROYAL PALM	12' CLEAR TRUNK	YES
BS	16	BURSERA SIMARUBA	GUMBO LIMBO	25 GAL., 12 HGT. 3" CAL, 5' SPR.	YES
CN	6	COCOS NUCIFERA	COCONUT PALM	12' CLEAR TRUNK	NO
AA	31	ARCHONTAPHOENIX ALEXANDRAE	ALEXANDER PALM	16' O.A.,	NO
AA	2	ARCHONTAPHOENIX ALEXANDRAE	ALEXANDER PALM	16' O.A., MULTI TRUNK	NO
VM	26	VEITCHIA MONTGOMERYANA	MONTGOMERY PALM	12' CT., 16' OA., 8-10' SPR.	NO
		SHRUBS			
CHR	627	CHRYSOBALANUS ICACO 'RED TIP'	RED TIP COCO PLUM	3 GAL., 36" SPR., 36" HT., 36" O.C.	YES

City of Marco Island
Landscaping Calculations:

1. BUFFER REQUIREMENTS: PER LDC SECTION 30-441

	Adjacent Use / zoning	Buffer req'd
Buffer #1	R.O.W. (-99')	ALT. C
Buffer #2	R.O.W. (-99')	ALT. C
Buffer #3	R.O.W. (-99')	ALT. C
Buffer #4	RESIDENTIAL	Type B
Buffer #5	R.O.W. (-99')	ALT. C

Buffer landscaping required: Buffer #1 (±155 linear feet)
10' in width required.
1 trees per 30 l.f. = 6 x 1 = 6 Trees required
double hedge row = 52 x 2 = 104 Shrubs required
5 TREES PROVIDED
1 TREE EXISTING
104 SHRUBS PROVIDED

Buffer landscaping required: Buffer #2 (±582 linear feet)
10' in width required.
1 trees per 30 l.f. = 20 x 1 = 20 Trees required
double hedge row = 194 x 2 = 388 Shrubs required
8 TREES PROVIDED
12 TREES EXISTING
126 SHRUBS PROVIDED
262 SHRUBS EXISTING

Buffer landscaping required: Buffer #3 (±168 linear feet)
10' in width required.
1 trees per 30 l.f. = 6 x 1 = 6 Trees required
double hedge row = 56 x 2 = 112 Shrubs required
5 TREES PROVIDED
1 TREE EXISTING
112 SHRUBS PROVIDED

Buffer landscaping required: Buffer #4 (±706 linear feet)
15' in width required.
4 trees per 100 l.f. = 7 x 4 = 28 Trees required
double hedge row = 233 x 2 = 466 Shrubs required
22 TREES PROVIDED
6 TREES EXISTING
121 SHRUBS PROVIDED
345 SHRUBS EXISTING

Buffer landscaping required: Buffer #5 (±446 linear feet)
10' in width required.
1 trees per 30 l.f. = 15 x 1 = 15 Trees required
double hedge row = 141 x 2 = 283 Shrubs required
13 TREES PROVIDED
2 TREES EXISTING
164 SHRUBS PROVIDED
119 SHRUBS EXISTING

Landscaping Calculations (Cont.):

2. MINIMUM LANDSCAPING REQUIREMENTS: PER LDC SECTION 30-440

R1

General landscaping required:
Pervious Area: 42,225 s.f. (.97 AC)
1 Tree per 3,000 sq. ft. of total pervious area = 14 Trees required
75 TREES PROVIDED

3. VEHICULAR USE AREA (CANOPY) REQUIRED: PER LDC SECTION 30-439

1 tree per 250 sq. ft. of required internal landscaping area. Site impervious surface area times 10% equals internal landscaping area required.

Internal landscaping (canopy) required:
Total Pavement Area: ± 154,553 sq. ft. x 10% = 15,456 sq. ft. of landscaping required.
1 Tree per 250 sq. ft. of required landscaping area = 62 Canopy trees required.
15,456 S.F. LANDSCAPING PROVIDED
62 CANOPY TREES PROVIDED

4. BUILDING PERIMETER LANDSCAPING REQUIREMENTS: PER LDC SECTION 30-440

R1

Ten (10) percent of the proposed building gross ground floor area must be designated as landscaped areas.

Building Perimeter landscaping required:
100 s.f. Landscaping required per 1,000 Total Gross ground floor sq. ft.:

*Building #1 44,394 sq. ft. x 10% = 4,439 sq. ft. of landscaping required.

*Building #2 14,813 sq. ft. x 10% = 1,481 sq. ft. of landscaping required.

Building #3 1,600 sq. ft. x 10% = 160 sq. ft. of landscaping required.

*Existing building surrounded by hardscape do not have adequate space for building perimeter plantings. proposed building will provide building perimeter plantings to the maximum extent possible

5. TOTAL LANDSCAPING REQUIREMENTS:

Site landscaping totals required:	
Trees	129 Trees (50% native required = 66)
Shrubs	1,353 Shrubs (50% native required = 677)
Internal Landscaping	15,456 sq. ft.
Building Perimeter Landscaping	6,080 sq. ft.

Site landscaping totals provided:	
Trees	188 Trees (90 native provided) 24 Trees Existing
Shrubs	627 Shrubs (627 native provided) 726 Shrubs Existing
Internal Landscaping	15,456 sq. ft.
Building Perimeter Landscaping	6,080 sq. ft.

*Upon completion of an existing tree inventory, tree preservation credits my be applied.

R1

MATERIAL	REQUIRED	PROPOSED	EXISTING	TOTAL
SHRUBS	1,353	627	726	1,353
TREES / PALMS	129	188	24	212

City of Marco Island
General Landscape Notes:

1. Quality requirements - Plant materials used to meet the requirements of the LDC must meet the standards of Florida No. #1 or better as set out in Grades and Standards for Nursery Plants, Parts I and II, Department of Agriculture, State of Florida (as amended).
2. Native Varieties - At least 75 percent of the trees and 50 percent of the shrubs used to fulfill the LDC landscape requirements must be native Florida species.
3. Trees and Palms - For code required trees, 100 percent of the trees at the time of installation must be a minimum of 10 feet in height, have a two-inch caliper (at 12 inches above the ground) and a four-foot spread. Palms must have a minimum of ten feet of clear trunk at planting.
4. Shrubs and Hedges - Shrubs must be a minimum of 24 inches (48 inches for type F buffers) in height, above the on-site adjacent pavement surface required to be buffered and/or screened, when measured at the time of planting. They must be a minimum three-gallon container size and be spaced 18 to 36 inches on center. They must be at least 36 inches (60 inches on type F buffers) in height within 12 months of the time of planting and maintained in perpetuity at a height of no less than 36 inches (60 inches for type F buffers) above the adjacent pavement required to be buffered and/or screeened, except for visibility at intersections and where pedestrian access is provided. Required hedges must be planted in double staggered rows and maintained so as to form a continuous, unbroken, solid visual screen within a minimum of one year after time of planting.
5. Mulch requirements - A three-inch minimum layer, after watering-in, of mulch or other recycled materials must be placed and maintained around all newly installed trees, shrubs and groundcover plantings. Each tree must have a ring of mulch no less than 24 inches beyond its trunk in all directions. The use of cypress mulch is strongly discouraged.
6. Guying and Staking - Where trees are larger than eight (8) feet, guys and stays are to be provided and installed as shown in the attached tree staking details.
7. Landscape in Easements - Any trees and palms planted will not be counted towards landscape requirements of the LDC.
8. Overhead and. Underground Utilities - All landscape material conflicts with overhead and/or underground utilities will be resolved prior to the issuance of a certificate of compliance.

General Irrigation Notes:

1. Set drain and check valves as appropriate per manufacturer's recommendations.
2. Group (when practical) and locate valves boxes and controllers in an unobtrusive / accessible locations approved by Landscape Architect.
3. Head spacing, working pressure, and pipe sizes shall be in accordance with manufacturer's recommendations.
4. Use bubblers, drip, rotors, and spray heads when appropriate. Heads shall be installed to provide 100% head-to-head coverage to all landscaped areas. A moisture or rain sensor shall be installed per manufacturer's recommendations.
5. Heads shall be installed to minimize overspray to all impervious areas including: Sidewalks, roads, drives and other vehicle use areas. No overspray on walls, columns or other vertical architectural features shall be allowed.
6. All littoral planting areas, if irrigated, shall have independent zones to ensure the flexibility of reducing irrigation applications during extended periods of rainfall. Customization of the watering scheduling shall include daily, weekly, and monthly options.

General Irrigation Notes Cont.:

7. Turfgrass areas and planting beds shall have separate zones and run independently from one another when practical.
8. Shop drawings of irrigation system must be submitted to the landscape architect of record for approval prior to installation.
9. 'As Built' drawings of irrigation system must be provided to the landscape architect of record upon complete installation.
10. Irrigation connection - Master Irrigation System within development.

Exotic Vegetation Removal Plan:

The following exotic species of plants as listed in the Florida exotic pest plant council's most current invasive plant list shall be removed and maintained from open spaces in perpetuity.

1. Melaleuca spp. (Punk, Cajeput, Paperback tree) 2. Casuarina spp. (Australian Pine) 3. Schinus spp. (Brazilian Pepper, Florida Holly) 4. Acacia Auriculiformis (Earleaf Acacia) 5. Rhodmyrtus Tomentosus (Downy Rose Myrtle) 6. Solanum viarum (Tropical Soda Apple) 7. Albizia lebbeck (Woman's togue) 8. Bischofia javanica (Bishopwood) 9. Cupianopsis anacardioides (Carrotwood) 10. Dalbergia sissoco (Rosewood) 11. Dioscorea alata (Air Potato) 12. Eucalyptus camaldulensis (Murray Red Gum) 13. Ficus spp. (Weeping fig, Cuban Laurel Fig) 14. Lygodium (Japanese Climbing Fern, Old World Climbing Fern) 15. Sapium sebiferum (Chinese Tallow) 16. Syzygium (Java Plum, Rose Apple) 17. Thespesia opulnea (Cork Tree) 18. Wedelia trilobata (Wedelia) 19. Abrus precatorius (Rosary Pea) 20. Ardisia spp. (Coral Ardisia, Shoebutton Ardisia) 21. Asparagus aethiopicus (Asparagus Fern) 22. Bauhinia variegata (Orchid Tree) 23. Calophyllum antillanum (Santa Maria) 24. Cinnamonmum camphora (Camphor Tree) 25. Colocasia esculenta (Wild Taro) 26. Colubrina asiatica (Leather Leaf) 27. Dioscorea alata (Winged Yam) 28. Eichhornia crassipes (Water-hyacinth) 29. Eugenia uniflora (Surinam Cherry) 30. Hydrilla verticillata (Hydrilla) 31. Hygrophila polysperma (Green Hygro) 32. Hymenachne amplexicaulis (West Indian Marsh Grass) 33. Imperata cylindrica (Cogon Grass) 34. Jasminum dichotomum (Gold Coast Jasmine) 35. Jasminum fluminense (Brazilian Jasmine) 36. Lantana camara (Lantana) 37. Ligustrum sinense (Chinese Privet) 38. Ludwigia peruviana (Peruvian primrosewillow) 39. Macfadyena unguis-cati (Cat's Claw Vine) 40.Manilkara zapota (Sapodilla) 41. Mimosa pigra (Catclaw Mimosa) 42. Nephrolepis cordifolia (Sword Fern) 43. Nephrolepis multifolia (ASian Sword Fern) 44. Neyraudia reynaudiana (Cane Grass) 45. Paederia cruddasiana (Onion Vine) 46. Paederia foetida (Skunk Vine) 47. Panicum repens (Torpedo Grass) 48. Pennisetum pupurem (Napier Grass) 49. Pistia stratiotes (Water Lettuce) 50. Psidium cattleianum (Strawberry Guava) 51. Psidium guajava (Guava) 52. Pueraria montana var. lobata (Kudzu) 53. Rhyncheltrum repens (Natal grass) 54. Ruellia tweediana (Mexican Petunia) 55. Scaevola taccada (Beach Naupaka) 56. Schefflera actinophylla (Queensland Umbrella Tree) 57. Senna pendula var. glabrata (Climbing Cassia, Christmas Cassia) 58. Solanum tampicense (Wetland Nightshade) 59. Syngonium podophyllum (Arrowhead Vine) 60. Tectaria incisa (Incised Halberd Fern) 61. Urochloa Mutica (Para Grass)

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EB-26544 CA-LC26000374

HAGAN ENGINEERING

ROSE MARINA
MARCO ISLAND, FL

JONATHAN L. ROMINE
RLA NO. LA-666881

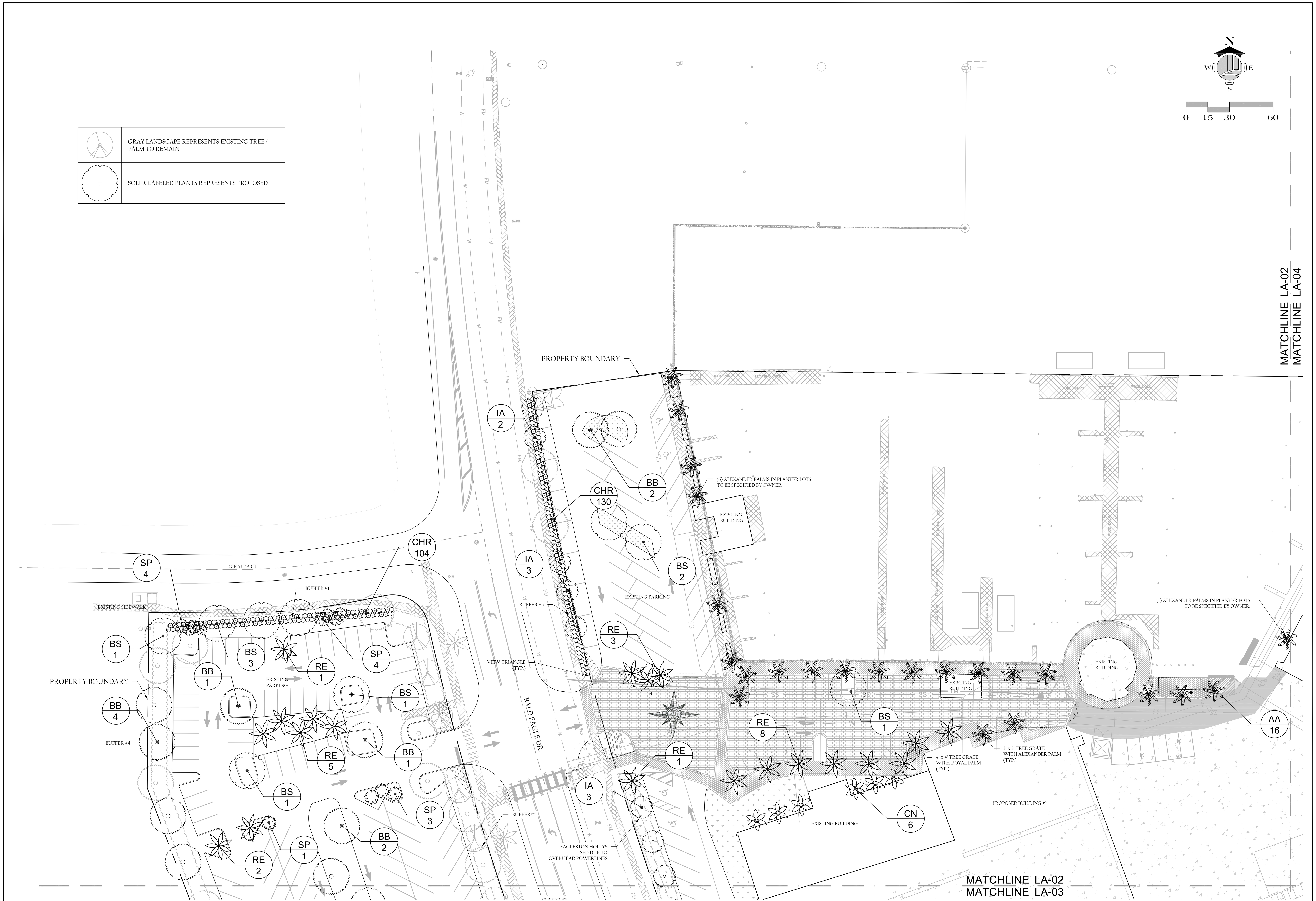
REVISIONS

NO.	DESCRIPTION	DATE
R1	REVISIONS PER COUNTY COMMENTS	6-9-14
R2		
R3		
R4		
R5		
R6		

DATE:	1-13-14
PROJECT NO.	1179-05
FILE NO.	1179-05-LS.dwg
SCALE:	AS SHOWN

KEY MAP

LA-01


GRAY LANDSCAPE REPRESENTS EXISTING TREE / PALM TO REMAIN
SOLID, LABELED PLANTS REPRESENTS PROPOSED
N
S
W
E
0 15 30 60
MATCHLINE LA-02
MATCHLINE LA-04
PROPERTY BOUNDARY
IA 2
IA 3
BB 2
CHR 130
CHR 104
BS 2
RE 3
SP 4
GIRALDA CT.
BUFFER #1
EXISTING SIDEWALK
BS 1
BS 3
SP 4
RE 1
EXISTING PARKING
BB 1
BS 1
BB 4
BUFFER #4
RE 5
BB 1
BS 1
SP 3
BB 2
SP 1
RE 2
BUFFER #2
BUFFER #3
VIEW TRIANGLE (TYP.)
BALD EAGLE DR.
EXISTING PARKING
(6) ALEXANDER PALMS IN PLANTER POTS TO BE SPECIFIED BY OWNER.
EXISTING BUILDING
(1) ALEXANDER PALMS IN PLANTER POTS TO BE SPECIFIED BY OWNER.
EXISTING BUILDING
EXISTING BUILDING
BS 1
AA 16
RE 8
RE 1
IA 3
4' x 4' TREE GRATE WITH ROYAL PALM (TYP.)
3' x 3' TREE GRATE WITH ALEXANDER PALM (TYP.)
CN 6
EXISTING BUILDING
PROPOSED BUILDING #1
EAGLESTON HOLLYS USED DUE TO OVERHEAD POWERLINES
MATCHLINE LA-02
MATCHLINE LA-03

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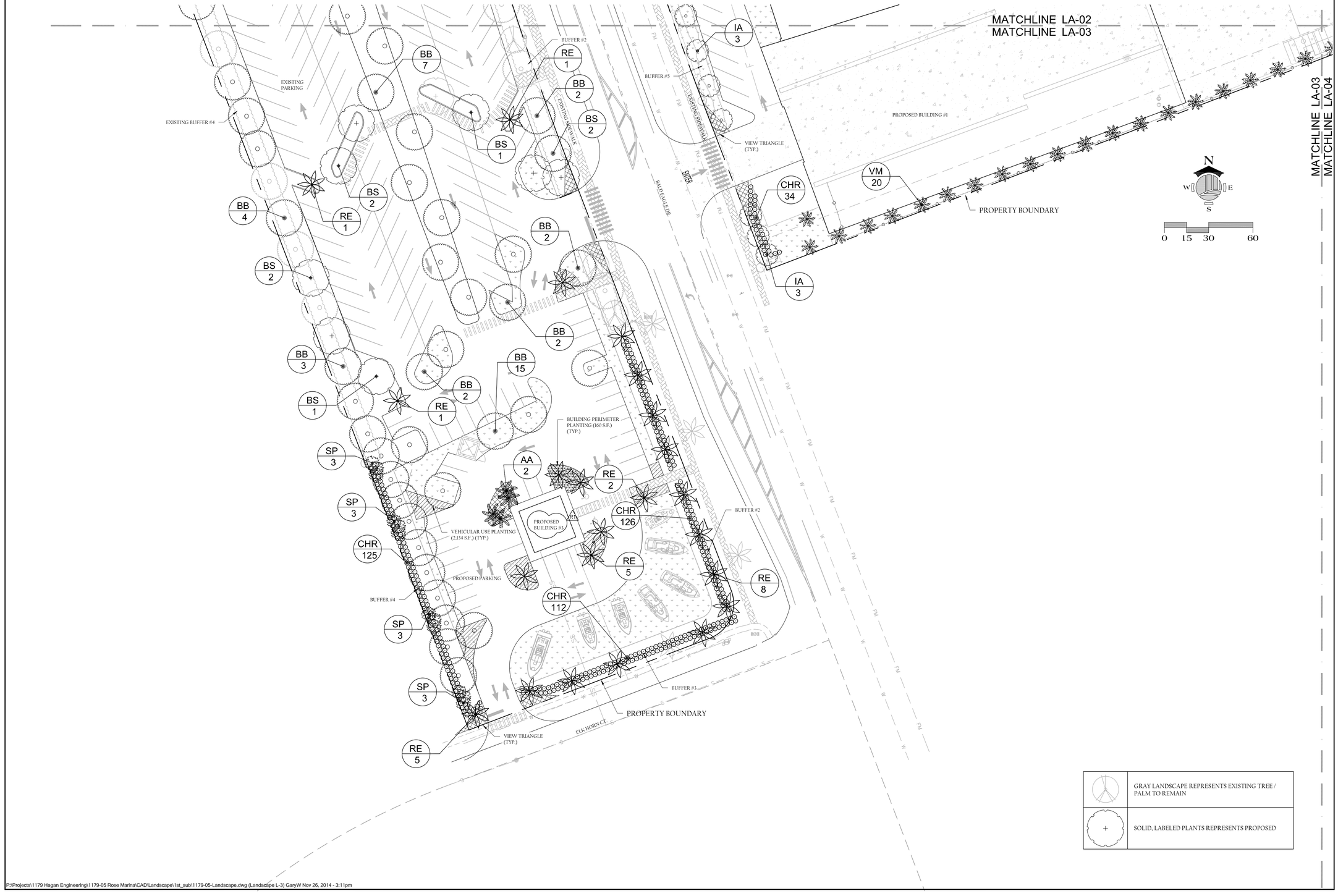
FILE NO.	1179-05-LS.dwg
SCALE:	AS SHOWN

LANDSCAPE PLAN

LA-02



GRAY LANDSCAPE REPRESENTS EXISTING TREE / PALM TO REMAIN

SOLID, LABELED PLANTS REPRESENTS PROPOSED

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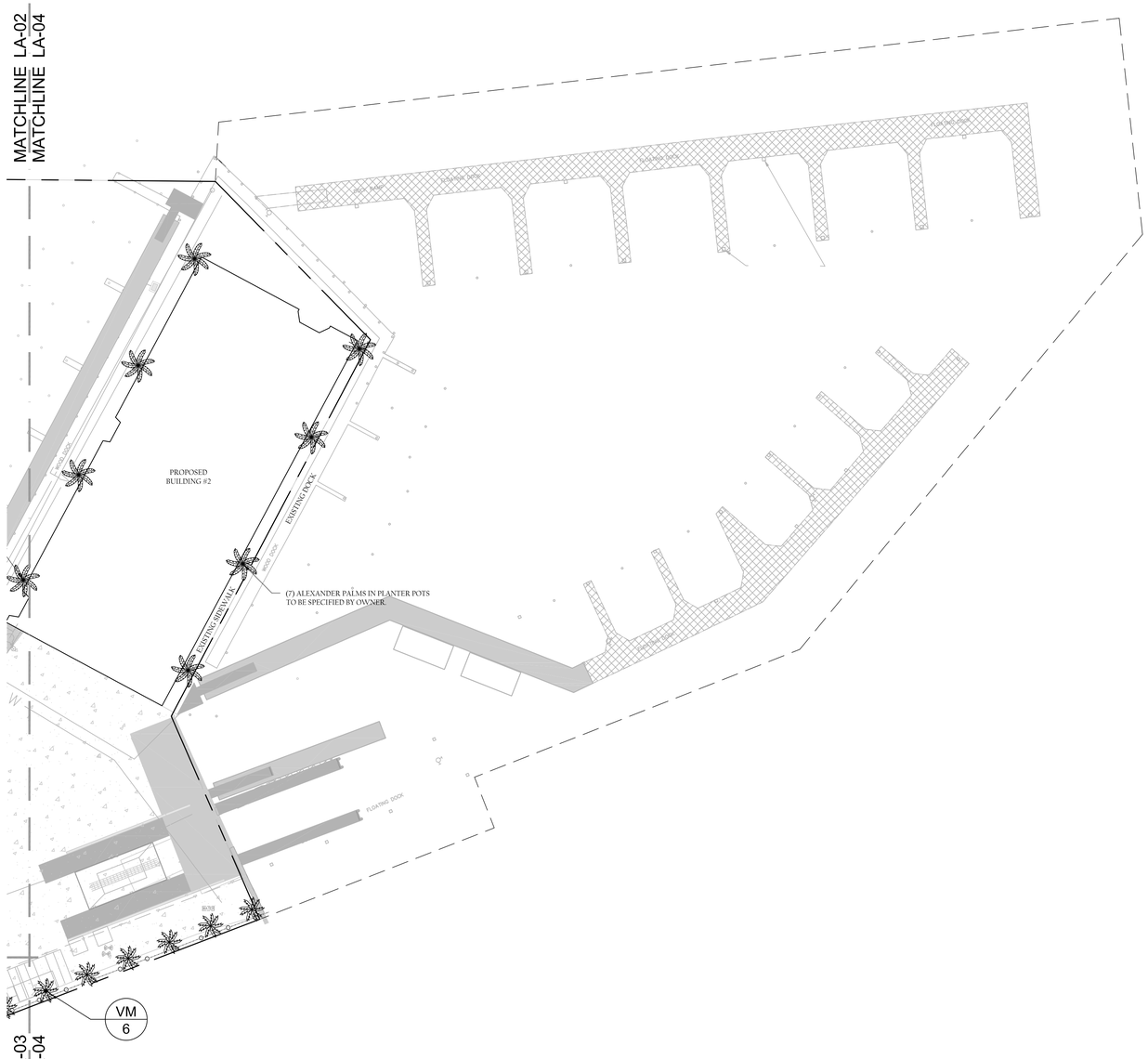
REVISIONS

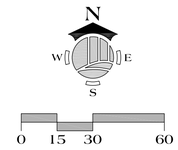
NO.	DESCRIPTION	DATE
R1	REVISIONS PER COUNTY COMMENTS	6-9-14
R2		
R3		
R4		
R5		
R6		

DATE:	1-13-14
PROJECT NO.	1179-05
FILE NO.	1179-05-LS.dwg
SCALE:	AS SHOWN

LANDSCAPE PLAN

LA-03





GRAY LANDSCAPE REPRESENTS EXISTING TREE / PALM TO REMAIN

SOLID, LABELED PLANTS REPRESENTS PROPOSED

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HAGAN ENGINEERING

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MARCO ISLAND, FL

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FLA. REG. LA 6666581

REVISIONS

NO.	DESCRIPTION	DATE
R1	REVISIONS PER COUNTY COMMENTS	6-9-14
R2		
R3		
R4		
R5		
R6		

DATE:	1-13-14
PROJECT NO.	1179-05
FILE NO.	1179-05-LS.dwg
SCALE:	AS SHOWN

LANDSCAPE PLAN

LA-04

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LANDSCAPE SPECIFICATIONS

PART I - GENERAL

1.01 WORK INCLUDED

A. The work included in this Section consists of furnishing, planting, watering, fertilizing and mulching all plants and lawn areas of species, size and quality in the locations indicated on the drawings or as directed by the Landscape Architect.

1.02 DELIVERY, STORAGE AND HANDLING

A. Transportation and Inspection: Plant transportation shall comply with all federal and state

1.03 GUARANTEE

A. The contractor shall guarantee all planting work and irrigation equipment for a period of 12 months and all sod for 6 months after the date of final acceptance. During this period, the Contractor shall continue the observation of plants and guaranteed work. The Contractor shall submit monthly observation reports to the Owner with a copy to the Landscape Architect during the guarantee period. The purpose of these reports is to state any maintenance deficiencies observed. It is the Contractor's responsibility to report these to protect his guarantee. Failure to submit reports eliminates any claims that the guarantee is not valid due to improper maintenance by the Owner.

B. Replacement of Defective Plants: Any dead plants or plants showing indication of probable non-survival or lack of health and vigor, or which do not exhibit the characteristics to meet specifications, shall be replaced within two weeks of notice from Owner or Landscape Architect. The replacement plants shall be furnished/installed at no additional cost to the Owner and shall be guaranteed for 12 months. All replacements shall meet original specifications.

C. The Contractor shall notify the Owner and Landscape Architect ten days prior to the end of the guarantee period and such guarantee shall be extended until notification is received.

D. At the end of the guarantee period, all plants that are dead or in unsatisfactory growth shall be replaced within two weeks.

1.04 JOB CONDITIONS

A. Protection: The Contractor shall protect all materials and work against injury from any causes and shall provide and maintain any necessary safeguards for the protection of the public. Contractor shall be held responsible for any damage or injury to person or property which may occur as a result of his negligence in the prosecution of the work.

B. Existing Conditions:
1. The Contractor shall exercise care in digging and other work so as not to damage existing work including underground pipes and cables, and the pipes and hydrants of watering systems. Should such overhead or underground obstructions be encountered and interfere with planting, the Landscape Architect shall be consulted to recommend adjustment to the plant locations to clear such obstruction. The Contractor shall be responsible for the immediate repair of any damage caused by his work. (See Section 3.01)

2. Should any objectionable materials such as old concrete, bricks or other debris be encountered during planting operations, they shall be removed from the site and disposed of by the Contractor.

1.05 QUALITY CONTROL

A. The Landscape Architect shall have the right, at any stage of the operations, to reject any and all work and materials which, in his/her opinion, do not meet the requirements of these specifications.

B. All planting shall be performed by personnel familiar with planting procedure and under the supervision of a qualified planting foreman.

C. All work shall comply with aPElicable codes and regulations.

D. The work shall be coordinated with other trades to prevent conflicts.

1.06 QUANTITIES

In the event of a conflict between quantities shown on the plant list and plans, the plans shall control.

PART 2 - PRODUCTS

2.01 MATERIALS

1. Nomenclature: All trees, shrubs and plants shall be true to name as established by the American Joint Committee on Horticultural Nomenclature publication "Standard Plant Names".

2. Grade Standards and Quality: All plants shall be nursery grown and shall comply with all required inspections, grading standards and plant regulations as set forth in the Florida Department of Agriculture "Grades and Standards for Nursery Plants", Parts 1 and 2 including revisions.

a. The minimum grade for all trees and shrubs shall be Florida No. 1 unless otherwise indicated and all plants shall be sound, healthy and vigorous, well branched and densely foliated when in leaf. They shall have healthy, well-developed root systems and shall be free of disease and insect pests, eggs

3. Measurements: The minimum acceptable size of all plants, measured after pruning, with branches in normal positions, shall conform to the specified sizes as shown on the plans. Sizes specified are minimum standards. Plants shall be equal to or larger than all categories (height, spread, caliper) of size specification. Substantial deviations from these measurements must be aPEroved by the Landscape Architect. Caliper of tree trunks shall be measured above finish grade.

4. Plant Protection: Plants shall be protected upon arrival to the site by being thoroughly watered, kept moist and properly maintained until planted.

B. Plant Materials: With reference to method of cultivation, root system status, etc., plants for landscaping shall be classified under the following designations:

1. Balled and BurlaPEd: Plants so classified shall be dug with firm natural root balls of earth, of sufficient diameter and depth to include most of the fibrous roots. The root ball of these plants shall be properly wraPEed with burlap sack material and remain protected and wet until they are planted. The plant shall be handled only by the earth ball and not by the plant itself. All balled and burlaPEd plants with cannot be planted immediately upon delivery shall be set on the ground and shall be well protected with soil, wet moss, or other acceptable material. The plants shall be set with the burlap cover intact and with the burlap showing, until inspection. At final inspection the burlap may be cut away to ground level and then completely covered with soil.

2. Container Grown Plants:

a. Container grown plants shall have been grown in a container large enough and for sufficient time for the root system to have developed well to hold its soil together firm and whole. No plants shall be loose in the container. Plants, which have become pot bound or for which the top system is too large for the size of the container will not be acceptable.

b. All containers shall be cut and opened fully in a manner such as will not damage the root system. Container grown plants shall not be removed from the container until immediately before planting, when all due care shall be taken to prevent damage to the root system.

3. Bare Root Plants: No bare root plants shall be used.

B. Planting Materials:

1. Topsoil:
a. Topsoil shall be a friable loam, typical of cultivated topsoils locally, containing at least 5 percent of decayed organic matter (humus). It shall be taken from a well drained, arable site. It shall be reasonably free from weeds, subsoil, stones, clods, sticks, roots or other objectionable extraneous matter or debris. It shall not contain toxic materials and shall have an acidity range of pH 6.0 to 7.0. Topsoil from nut grass infested areas will not be acceptable.

b. Any required soil testing shall be the Contractor's responsibility.

c. Soil Preparation: Prior to placing mix and backfill, or commencing with planting, rototill any or all areas that have been previously compacted over 90 percent for other construction purposes.

2. Fertilizer: Fertilizer shall be a complete fertilizer, of which part of the elements shall be derived from organic sources. It shall contain the following minimum percentages by weight:

a. Nitrogen N - 6 percent
b. Phosphorous P - 6 percent
c. Potassium K - 6 percent
d. (Or other analysis as may be aPEroved by the Landscape Architect).
e. In addition, the recommended micronutrients must be present in the guaranteed analysis.

3. Planting Mixture: Planting mixture shall consist of aPEroximately four parts of acceptable natural topsoil and one part pulverized peat or sterilized manure, and to each cubic yard shall be added and incorporated by thoroughly mixing, four pounds of commercial fertilizer having an analysis of 6 - 6 - 6.

a. Acceptable artificially prepared planting compost material, aPEroved by the Landscape Architect, will be permitted in lieu of the pulverized peat or sterilized manure, in the prepared topsoil mixture for use as backfill material.

4. Mulch: Mulch shall be shredded, clean, bright and free of weeds, moss, sticks and other debris. The use of cypress mulch is strongly discouraged. Pine straw mulch shall be used in all native revegetated areas.

5. Water: Suitable water for the irrigation of the new plantings during the progress of construction shall be provided and paid for by the Contractor, who shall also furnish adequate watering equipment.

6. Stakes and Ties: Stakes and tree ties shall be provided in accordance with the requirements of Paragraph 3.02 B hereinafter.

END OF SECTION 2

PART 3 -- EXECUTION

3.01 PREPARATION

A. Underground Obstructions

1. Upon request from the Contractor, the Owner shall provide plans showing locations of underground utilities and/or will assist the Contractor in securing underground locations from other public utility companies, such as telephone, electricity, etc.
2. In the event that rock, underground construction work, utility lines or obstructions out of the ordinary are encountered in any plant pit excavation; alternative locations shall be selected by the Landscape Architect. Where locations cannot be changed and the obstructions may be removed, the obstructions shall be removed to a depth of not less than 3 feet below grade and no less than 6 inches below bottom of balls or roots when plant is properly set at the required grade.

B. Excavation of Planting Beds and/or Plant Holes:

1. Where excavation encounters materials which are unsuitable for plant growth, all of said unsuitable material shall be removed and replaced with topsoil, meeting the requirements of paragraph 2.01 - C herein.

2. Where excavation encounters materials, which are unsuitable for plant growth, the plant hole excavations shall be roughly cylindrical in shape, with the sides aPEroximately vertical. Plants shall be centered in the hole, with the trunk location as shown in the Drawings. Bottoms of the holes shall be loosened at least 6 inches deeper than the required depth of excavation.

C. Protections of Existing Trees: The Contractor shall protect existing trees from damage. Where damage does occur, the Contractor shall remove the damaged tree and replace it in kind and size in accordance with the instructions of the Landscape Architect and the aPEropriate specifications, all at no additional cost to the Owner.

D. Grades: It shall be the responsibility of the Contractor to finish (fine) grade all landscape areas eliminating all surface irregularities, depressions, sticks, stones and other debris to the satisfaction of Owner or his designee. After the grade has been established and compacted to the required depth, no sod shall be laid until the grade has been aPEroved.

3.02 PLANTING

A. Setting of Plants

1. When lowered into the hole, the plant shall rest on a prepared hole bottom such that the roots are level with or slightly above, the level of their previous growth and so oriented such as to present the best aPEearance. The Contractor, when setting plants in holes, shall make allowances for any anticipated settling of the plants.

2. The backfill shall be made with prepared topsoil as specified hereinebfore and shall be firmly rodded and watered in, so that no air pockets remain. The quantity of waster aPElied immediately upon planting shall be sufficient to thoroughly moisten all of the backfilled earth. Plants shall be kept in a moistened condition for the duration of the planting period.

B. Staking and Guying: It is the responsibility of the Contractor to maintain all plants in a plumb, upright position until the end of the guarantee period. Staking shall be the option of the Contractor, although all damaged plants resulting from the lack of proper staking and guying shall be replaced by the Contractor at no expense to the Owner. All tree guy wires shall be flagged with yellow safety ribbon.

C. Pruning:

1. All broken or damaged roots shall be cut off smoothly and the tops of all trees shall be pruned in a manner complying with standard horticultural practice. At the time pruning is completed, all remaining wood shall be alive. Fine pruning for tree shape and aPEearance shall be done only under the direction of the Landscape Architect or Certified Arborist.

2. At the end of the guarantee period at least 80 percent of the wood remaining shall be alive.

D. Mulching: Within one week after the planting, mulch material shall be uniformly aPElied to a minimum loose thickness of three (3) inches over the entire area of the backfilled hole or bed. The mulch shall be maintained continuously in place until the time of final inspection.

E. Watering: The Contractor shall continue watering for as long as is necessary to properly establish the new plantings. Care shall be taken to prevent staining of new construction where temporary well water is used.

F. Pest Control: Prior to Final Acceptance, occurrence of scales, borers, foliage feeders, aphids, mites, leaf-spot and dieback, nematodes and canker-producing fungi, etc., shall be treated with aPEropriate pesticide.

G. All plants shall receive fertilizer during the planting period.

3.03 BERMING

A. Fill dirt shall be locally obtained material from naturally drained sources, free from dry organic debris, stones larger than one inch diameter and other materials harmful to successful drainage and plant growth. Soil shall be well mixed and contain no more than 25 percent muck.

B. Grade areas indicated with uniform levels or slopes with no more than 4:1 maximum slope. Berms shall be gently rolling and parabolic and shall be smoothed with a box blade tractor prior to planting.

C. Contractor shall repair and re-establish grades in settled, eroded, rutted or otherwise damaged areas.

3.04 SODDING/SEEDING

A. The sod shall be of firm, tough texture having a compact growth of grass with good root development. It shall contain no Bermuda grass, weeds or any other objectionable vegetation. The soil embedded in the sod shall be good clean earth, free from stones and debris. The sod shall be free from fungus, vermin and other diseases. Final turf shall have no area greater than 12 square inches of un-sodded area.

B. Solid sod shall be laid with closely abutting joints with a tamped or rolled even surface. It shall be the responsibility of the Contractor to bring the sod edge in a neat, clean manner to the edge of all paving and shrub areas. After the sod is laid, a top dressing of clean sand will be evenly aPElied over the entire surface and thoroughly washed in, if determined necessary. Peg sod on slopes as required to prevent sliPEage. Fertilize all sod with one pound nitrogen per 1,000 square feet.

C. Areas to be seeded shall be seeded with a blend of Argentine Bahia and Japanese Millet or Rye Grass Seed and then covered with straw. Hydro-mulched areas shall have all slopes swales and a two (2) foot strip along the pavement edges sodded.

3.05 FIELD QUALITY CONTROL

A. Maintenance Prior to Final Acceptance:

1. Maintenance shall begin immediately after each plant is planted and shall continue until Final Acceptance. Plants shall be watered, mulched, weeded, pruned, sprayed, fertilized, cultivated and otherwise maintained and protected for the period of time stated above. Sod shall be mowed as required.

2. Settled plants shall be reset to proper grade position, planting saucer restored and dead material removed. Guys shall be tightened and repaired.

3. Defective work shall be corrected as soon as possible after it becomes aPEarent and weather and season permit. Upon completion of planting, the Contractor shall remove from the site excess soil and debris, and repair any damage to structures, etc., resulting from planting operations.

4. Contractor is responsible for protection against mechanical damage; that includes providing protection from vehicles, including the posting of aPEroved warning signs and barricades, as might be necessary. He shall repair, restore or replace any plants or planting areas that might become damaged as a result of any negligence by him in complying with these requirements. As a specific requirement of these conditions, the Contractor shall be responsible for assuring that all plants at the time of final inspection exhibit the characteristics and qualifications required for the grade of plant as originally specified.

5. Contractor shall be responsible for any additional watering required if irrigation proves to be inadequate for freshly planted material.

6. Except as otherwise specified, the Contractor's work shall conform to accepted horticultural practices as used in the trade.

B. Final Acceptance:

1. Upon completion of all Work, including maintenance, the Contractor shall arrange for a final inspection. The landscape work may be reviewed for acceptance in parts, provided the work comprises one full unit or area of substantial size.

2. Date of Final Acceptance shall mark the beginning of the Guarantee Period.

C. Guarantee Inspection: At the end of the guarantee period, inspection of plants will be made by the Owner or his designee upon written notice requesting such inspection, submitted by the contractor at least ten (10) days before the anticipated inspection. All defects discovered shall be repaired or replaced by the Contractor.

3.06 ADJUSTMENT AND CLEANING

A. Cleaning up the Site: Upon completion of any landscape project the Contractor must thoroughly clean up the project site. In addition to removing all equipment, unused materials, deleterious material, and surplus excavated material, the Contractor shall fine grade all disturbed areas and the areas adjacent to the new plantings to provide a neat and uniform site. All damaged or altered existing structures, as a result of the landscape work, shall be corrected.

END OF SECTION 3

PART 4 -- TREE PROTECTION SPECIFICATIONS

1. Groups of trees and individual trees selected for retention shall be accurately located from the plan and designated with colored flagging tape as "tree(s) to be saved." Individual specimens that are not part of a tree group shall also be flagged for preservation.

2. Marking: Prior to construction and before the pre-construction conference, individual trees and strands of trees to be retained within the limits of clearing shall be visibly marked with a bright colored surveyor's ribbon aPElied in a band circling the tree at a height visible to equipment operators. Color flagging is to be consistent on all trees to be preserved.

3. Pre-Construction Conference: During the pre-construction conferenee, tree preservation and protection measures should be reviewed with the contractor as they aPEly to the specific project. The contractor will be responsible for familiarizing himself/herself with all local tree properties and removal ordinance prior to this meeting. Copies of the ordinance are available from the aPElicable local government.

4. Equipment Operation and Storage: Heavy equipment, vehicular traffic or stockpiles of any construction material, including topsoil shall not be permitted within the drip line of any tree to be retained. Trees being removed shall not be felled, pushed or pulled into trees being retained. Equipment operators shall not clean any part of their equipment by slamming it against the trunks of trees to be retained.

5. Fires: Fires shall not be permitted within 100 feet from the drip line of any trees to be retained. Fires shall be limited in size to prevent adverse effects on trees, and kept under surveillance.

6. Storage and Disposal of Toxic Materials: No toxic materials shall be stored closer than 100 feet to the drip line of any trees to be retained. Paint, acid, nails, gypsum board, wire, chemicals, fuels, and lubricants shall not be disposed of in such a way as to injure vegetation.

7. Fencing: The use of new or used chainlink fence (minimum 5' height) may be used which will effectively protect the roots, trunk and tops of trees retained on the site at the dripline. However, trees to be retained within 100 feet of a proposed building or excavation shall be protected by fencing. Personnel must be instructed to honor protective devices. The devices described are minimum requirements only (and are not intended to exclude the use of other devices which may be aPEroved by the aPElicable local government) and will protect the trees to be retained.

a. Field Fence -- Standard 48-inch high field fence shall be placed at the drip line of the preserved tree on standard steel posts set 6 feet apart.

b. Board Fence -- Board fencing consisting of 4 inch square posts set securely in the ground and protruding at least 4 feet above the ground shall be placed a maximum of 10 feet at the limits of the drip line with a minimum of two horizontal boards between posts.

c. Additional Trees -- Additional trees may be left standing as protection between the trunks of the trees to be retained and the limits of clearing. However, in order for this alternative to be used, the trunks of the trees in the buffer must be no more than 6 feet apart to prevent passage of equipment and material through the buffer or around the tree to be preserved. These additional trees shall be reexamined prior to the completion of construction and either given sufficient treatment to ensure survival or removed.

d. Trunk Armoring -- When fine grading is required around tree trunks, a tree trunk should be armored with burlap wraPEing and 2 inch studs wired vertically no more than 2 inches apart to a height of 5 feet encircling the trunk. If this alternative is used, the root zone within the drip line will still require protection. Nothing is to ever be nailed to the preserved trees.

Fencing and armoring devices shall be in place before any excavation or grading is begun, shall be kept in good repair for the duration of construction activities, and shall be the last items removed during the final cleanup after the completion of the project. It is the responsibility of the l contractor to schedule the required tree preservation armoring inspections with the aPEropriate governmental agency prior to, during and after, clearing operations and final clean up.

END OF SECTION 4

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MARCO ISLAND, FL

REVISIONS

NO.	DESCRIPTION	DATE
R1	REVISIONS PER COUNTY COMMENTS	6-9-14
R2		
R3		
R4		
R5		
R6		

DATE:	1-13-14
PROJECT NO.	1179-05
FILE NO.	1179-05-LS.dwg
SCALE:	AS SHOWN

NOTES

LA-05