4350 Nautilus Dr., Miami Beach, FL 33140

TREAGE LLC
Tree and Garden Experts

September 3, 2022

Dear Ben,

Enclosed please find the Certified Arborist Report for the property located at 4350 Nautilus Dr. in Miami Beach, FL conducted on September 2, 2022.

Please do not hesitate to contact me if you have any further questions or needs.

Thank you,

Alison Walker, ISA FL-9317A, ISA TRAQ
Owner, Treage LLC ~ Tree and Garden Experts

ARBORIST REPORT
4350 Nautilus Dr.
Miami Beach, FL 33140

Report prepared by:

Treage LLC ~ Tree and Garden Experts
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Assignment/Overview

Treage LLC was contacted by Ben Noyes of Habitat LLC to provide a Certified Arborist Report in advance of renovations/construction at 4350 Nautilus Dr., Miami Beach, FL.

The site consists of a single-family home. There are 13 trees located onsite, all of which will remain. There are 3 specimen sized trees (including one that is more of a multi-trunked shrub than a tree) and 2 trees proposed for relocation that are included below.

Site Visit

A site visit was conducted on August 2, 2022. A Level 2 visual inspection of all trees was conducted and documented with photographs. Measurements of DBH, height, and canopy were taken and recorded, and the condition of each tree was noted. Tree measurements were taken as follows: DBH, height and canopy were estimated from the ground; and overall condition was done by visual inspection. Critical Root Zone (CRZ) and Tree Protection Zone (TPZ) were determined based on ANSI A-300 Standards for the *Management of Trees and Shrubs During Site Planning, Site Development and Site Construction*.

Disposition Table

4350 Nautilus Dr., Miami Beach, FL									
	BOTANICAL NAME	COMMON NAME	DBH (inch)	HEIGHT (ft)	SPREAD (ft)	Condition	TPZ (ft)	Disposition	Notes
1	*Quercus virginiana*	Live Oak	17.2	30	30	Good	14	Remain	
2	*Ptychosperma elegans*	Solitaire Palm	5	25	6	Good	3	Remain	
3	*Phoenix roebellini*	Pygmy Date Palm	5+5	12	10	Fair	3	Remain	
4	*Ptychosperma elegans*	Solitaire Palm	5	30	6	Good	3	Remain	
5	*Handroanthus chyrsanthus*	Golden Trumpet Tree	15.3	28	25	Good	12*	RELOCATE	*Min. rootball size 4-6'
6	*Ptychosperma elegans*	Solitaire Palm	4+4	25	8	Fair-Good	3	RELOCATE	
7	*Adonidia merrillii*	Christmas Palm	5	25	8	Good	3	Remain	
8	*Ptychosperma elegans*	Solitaire Palm	4	25	6	Good	3	Remain	
9	*Loropetalum chinense*	Chinese Fringe Tree	28	18	15	Fair	5	Remain	Multi-trunked shrub
10	*Guaiacum sanctum*	Lignum Vitae	4	16	8	Fair	4	Remain	
11	*Sabal palmetto*	Sabal Palm	13.4	25	8	Fair-Good	3	Remain	
12	*Adonidia merrillii*	Christmas Palm	6+6+6+5	25	15	Good	3	Remain	
13	*Syagrus romanzoffiana*	Queen Palm	8.5	30	15	Fair	3	Remain	

Observations

Tree #1 – *Quercus virginiana,* Live Oak – this tree is located in the right of way on the east side of the property. It is a specimen sized tree in fair to good condition. There are extensive surface roots present, some with minor mower/vehicular damage, and there is evidence of recent sidewalk repair, presumably due to the roots of this tree. There is moderate resprouting along the lower trunk of the tree as well as in the canopy. This tree will remain. It is well outside of any work area but will require protection per measures below if any staging or access activities take place within its TPZ.



Tree #2 – *Ptychosperma elegans*, Solitaire Palm

Tree #3 – *Phoenix roebellini*, Pygmy Date Palm

Tree #4 – *Ptychosperma elegans*, Solitaire Palm

Trees #2-4 will remain with protection per measures below.


Tree #5 – *Handroanthus chrysotrichus,* Yellow Trumpet Tree – this tree is located in the open courtyard area in front of the main entrance to the house. It has very minor deadwood present, as well as small cuts and tears with resprouting, but overall is in good condition with no significant defects. This is a specimen sized tree. It is proposed for relocation onsite. This tree will require root pruning prior to relocation. See Root Pruning and Relocation standards below.



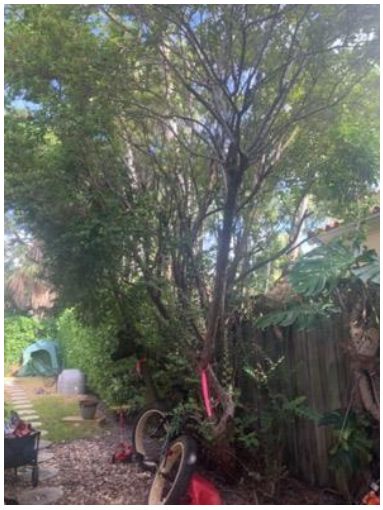
Tree #6 – *Ptychosperma elegans*, Solitaire Palm – this double palm is located directly west of Tree #5. It is crowded by the canopy of Tree #5 but otherwise is in good condition. This palm is proposed for relocation onsite; see relocation standards below. No root pruning will be necessary for this palm.


Tree #7 – *Adonidia merrillii*, Christmas Palm – will remain with protection during construction per measures below.

Tree #8 – *Ptychosperma elegans*, Solitaire Palm – will remain with protection with protection during construction per measures below.

Trees #7-8

Tree #9 – *Loropetalum chinense*, Chinese Fringe Flower – this plant is located on the north side of the property next to the fence. It is noted as a specimen tree on the existing plans due to the number of trunks, but it is more of a multi-trunked shrub than a tree. It consists of many sprouts originating at/near ground level, some of which have moderate deadwood present. It is somewhat crowded and overgrown but overall is in fair condition. It will remain with protection during construction.



Tree #10 – *Guaiacum sanctum*, Lignum Vitae – will remain with protection during construction per measures below.

Tree #10 (with Tree #9 in the background)

Tree #11 – *Sabal palmetto*, Sabal Palm – will remain with protection during construction per measures below.

Tree #12 – *Adonidia merrillii*, Christmas Palm – this palm cluster is noted as a specimen on the existing plans; however, it consists of 4 individual trunks that are each 6" DBH or less. It is in good condition and will remain with protection during construction per measures below.

Tree #13 – *Syagrus romanzoffiana*, Queen Palm – will remain with protection per measures below.

Tree #12 and Tree #13 visible behind Tree #12

Tree #13

Summary

There are 13 trees located on this property, 9 of which are palms. All trees will remain onsite during the proposed construction.

Due to their compact root zones, none of the palms onsite are expected to be impacted by construction. One of the remaining trees (Tree #1) is in the ROW and should not be impacted if protection measures are followed during all staging/access activities. Two of the trees are located along the path on the north side of the property (one of these is actually more of a shrub than a tree). Both of these trees are outside of the work area but could be in proximity of the access route. With protection measures below closely adhered to, these trees should not be impacted either.

There are 2 trees proposed for relocation onsite. One of these, Tree #5, is a specimen tree; the other is a palm (Tree #6). Relocation standards are included below. Once these 2 trees are relocated, they will require protection per measures below for the remainder of construction.

There are no trees located on neighboring properties that should be impacted by the proposed work on this property.

Tree Protection During Construction

Any trees remaining onsite in proximity of the proposed work area must be protected during all phases of construction per ANSI A-300 (Part 5): Standard Practices (Management of Trees and Shrubs During Site Planning, Site Development, and Construction).

Protection measures include, but are not necessarily limited to: 1) establishing Tree Protection Zones (TPZ) with proper fencing and signage, 2) protecting the Critical Root Zone (CRZ) with a temporary application of a minimum of 6" of mulch to disperse heavy loads in access routes, thereby reducing soil compaction and mechanical root damage, 3) ensuring that no grade changes occur in the Tree Protection Zone, and no storage or disposal of harmful substances occurs in Tree Protection Zone, 4) careful hand or air excavation within the TPZ of any trees near the work to identify and avoid major structural roots and 5) clean pruning cuts and avoiding cutting any roots greater than 2" or within 24" of the root initiation zone on palms. If any larger roots must be cut, cuts should be clean, as far toward the edge of the TPZ as possible, and proper cultural methods should be utilized to reduce shock and aid root regeneration (ie irrigation, soil aeration, mulching).

If the TPZ of any tree must be altered, one or more of the following additional measures may be taken to reduce any impacts to the tree: 1) increase the remaining TPZ wherever possible to compensate for the reduction of TPZ in one area; 2) temporarily reduce the TPZ while work is done in the immediate area and then re-establish the original size of the TPZ as soon as possible; 3) install trunk protective materials such as wood planks and foam pads to protect from mechanical injury to bark or vascular tissues; 4) utilize geotextile fabric or plywood on top of mulch layer per ANSI standards, 5) proper root pruning techniques per ANSI standards if necessary, and 6) supervision and/or monitoring by a Certified Arborist.

Additional details on protection during construction can be found in the ANSI A-300 standards referenced above, or by further consultation and oversight of construction activities by a certified arborist. See Tree Protection Detail below.

Root Pruning Specifications

Any trees proposed for relocation, in this case Tree #5, should be root pruned a minimum of 45 days in advance.

Irrigation must be present and applied effectively for two to four weeks prior to root pruning. Roots should be exposed using the least injurious excavation method, i.e., air or water excavation, prior to pruning.

Root cuts shall be made, at minimum, a distance from the trunk equivalent to three times the tree's trunk diameter at four and one-half feet above ground unless unavoidable because of sidewalks, pavement, or other infrastructure. Root cuts

must be made at a distance from the trunk equivalent to five times the tree's DBH or greater in all other circumstances. The preferred minimum distance from the trunk to the closest root cut is 5 to 6 times the DBH. The cutting of roots with a diameter of two inches or larger is prohibited, unless there is no feasible alternative, as determined by the urban forester. No more than 30% of the roots should be removed.

Roots may not be torn off with power equipment, and cut roots shall not be left with ripped, ragged or shredded ends. Roots must be cleanly severed with sharp hand tools or power root saws. The final root cuts should result in a flat surface with adjacent bark firmly attached. Once exposed, roots must be covered within 8 hours. If roots will be left exposed for longer than 8 hours, they must be kept moist and covered with burlap or similar material.

After root pruning, the area must be filled with quality topsoil and watered until thoroughly soaked. Irrigation must be applied after root pruning 2-3 times weekly (pending rainfall). Tree health should be monitored frequently following root pruning.

Relocation Specifications (Trees)

Rootball size must follow guidelines provided by the Certified Arborist in accordance with ANSI standards.

The root system of the tree to be relocated shall be well-watered before the tree is dug and lifted to ensure that the tree is properly hydrated and to improve cohesiveness of the root ball. Trees should only be lifted by the rootball, not by the trunk. Trees that are not to be planted immediately should have their rootballs moistened regularly to prevent drying out.

The planting hole should be 1.5-2.5 times the diameter of the trunk but at the same depth as the root ball. The bottom of the trunk flare should be at or above, not below, the finished grade. Backfill should consist of loosened original soil from the site. Relocated trees shall be braced in such a fashion as to not scar penetrate perforate or otherwise inflict damage to the tree. Trunk protective materials such as foam pads may be utilized to protect the tree from mechanical injury to bark or vascular tissues.

After relocation, tree(s) shall be watered a minimum of twice weekly until the tree(s) are established. A depth of 2-4” of mulch should be applied to reduce soil moisture loss and promote root growth. Mulch should not contact the flare or trunk. There should be minimal to no canopy pruning before or after root pruning. Only dead, diseased or damaged branches shall be pruned at this time. Fertilization may be implemented once new growth is observed.

Relocation Specifications (Palms)

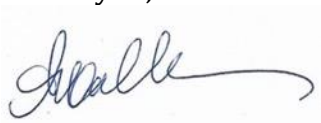
The minimum rootball size for a palm should be 6 inches, with a larger rootball size preferred. Any leaves remaining on the palm should be tied together to prevent leaf damage and to facilitate handling. Leaves should be untied as soon as the palm is installed.

Palms with slender trunks should have splints attached to the trunks and leaf bundles to prevent the palms from snapping during handling. Palms growing in sandy soils will need to have their rootballs wrapped in burlap after digging. Palms should be lifted only by means of nylon slings wrapped around the trunk. If palms must be held before they can be planted, they should be stored in an upright position and the rootballs must be kept adequately moist. Planting holes should be roughly twice the diameter of the rootball but not deeper than the rootball. Palms should be provided with supports to prevent toppling over and to provide a stable rootball-soil interface; support timbers must not be nailed directly into the trunk. Supports should be left in place for 1 year and then must be removed. A shallow berm should be constructed around the perimeter of the rootball of the newly transplanted palm to retain water in the rootball area during irrigation. Palms should be irrigated 2-3 times weekly for minimum 2 months, and then weekly for at least 1 more month (pending rainfall). Transplanted palms may benefit from light fertilization with an 8-2-12- 4Mg controlled-release fertilizer at planting; regular maintenance fertilization can begin as soon as new shoot growth is observed.

See Tree Protection and Relocation Standards on the following pages.

Please do not hesitate to contact me if you have any further questions.

Thank you,



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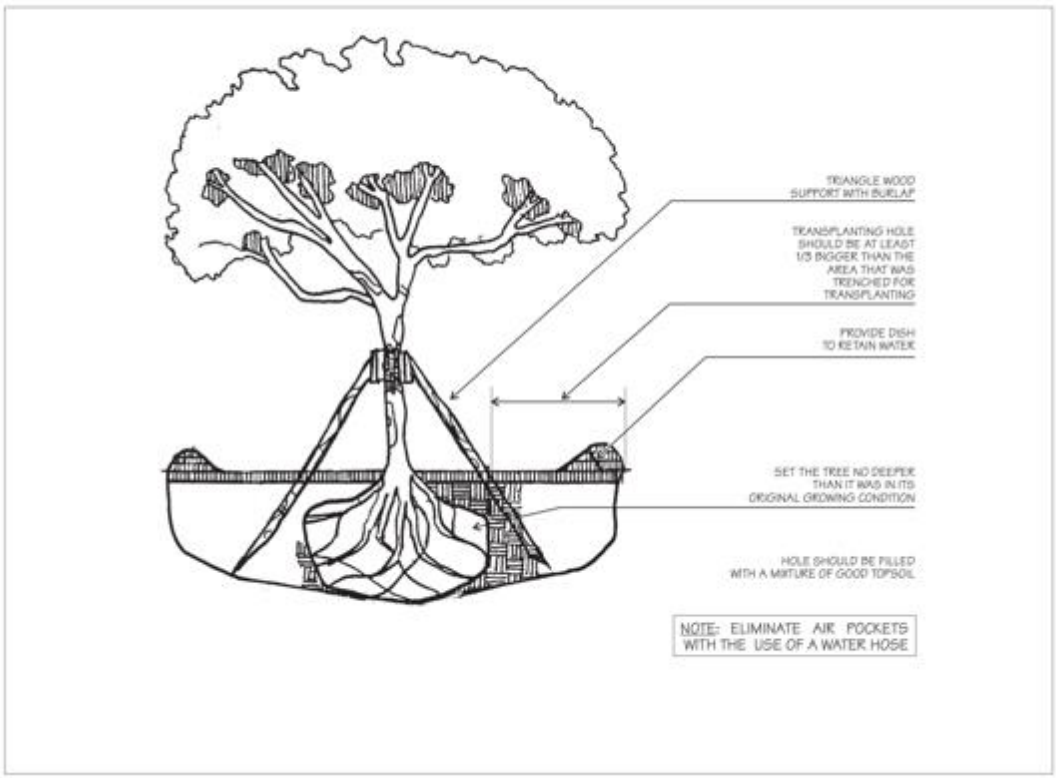
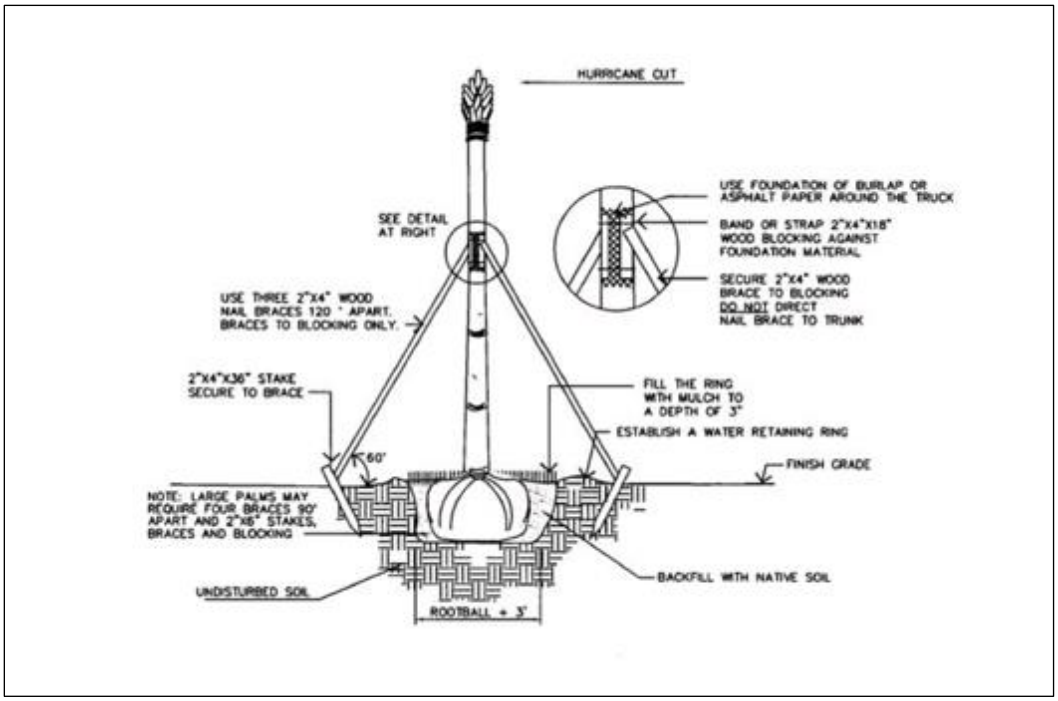
TREE TRANSPLANTING

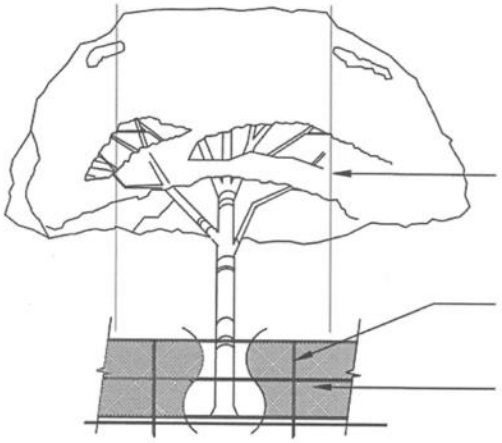


PALM TRANSPLANTING



TREE / PALM PROTECTION FENCES SHALL BE CONSTRUCTED PRIOR TO ANY CONSTRUCTION ACTIVITY INCLUDING GRUBBING FOR ALL TREES / PALMS THAT ARE 'TO REMAIN, BE PROTECTED, or BE RELOCATED'

NO ACTIVITY OR DISTURBANCE SHOULD OCCUR WITHIN THE FENCED AREAS, INCLUDING VEHICLE USE, STORAGE OF MATERIALS, DUMPING OF LIQUIDS OR MATERIALS, GRADE CHANGES, GRUBBING, AND MECHANICAL TRENCHING FOR IRRIGATION, ELECTRICAL, LIGHTING, ETC.



In no case shall the fence be installed less than ten feet from the trunk

Tree + Palm protection barriers to extend beyond the 'dripline' or to the 'critical root zone area' of all trees/palms to be protected. Extend where necessary to protect tree canopy roots

Barriers shall be a minimum of four feet high, and shall be constructed of continuous chain link fence with metal posts at eight-foot spacing, or of two-by-four-inch posts with three equally spaced two-by-four-inch rails. Posts may be shifted to avoid roots.

PROTECTION DETAIL NOTE

CONTRACTOR TO INSTALL 'TREE / PALM PROTECTION FENCE BARRIERS' AROUND ALL EXISTING TREES OR PALMS AT THE START OF THE PROJECT. BARRIERS TO REMAIN IN PLACE THROUGHOUT THE DURATION OF THE PROJECT AND SHOULD NOT BE REMOVED OR DROPPED FOR ANY REASON WITHOUT AUTHORIZATION FROM THE CITY OF MIAMI BEACH URBAN FORESTER + PLANNING + ZONING DEPARTMENT

C.M.B. TREE / PALM PROTEC. DETAIL