

LANDSCAPING SPECIFICATIONS

PART I - GENERAL

1.1 SCOPE

A. Contractor shall provide all labor, materials, equipment, watering, 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 SUBSTITUTIONS

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

1.3 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 sizes, 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.

1.4 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.

1.5 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.

1.6 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.

1.7 INSPECTION CERTIFICATES

A. Fertilizer: The Contractor shall submit to the Owner and Landscape Architect documentation that all the fertilizer used for the project is the analysis specified and placed at the rates specified in section 2.2 FERTILIZER.

1.8 CLEAN-UP

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

1.09 MAINTENANCE

A. The Contractor is responsible to maintain the plantings until they are accepted under the provisions of 1.10-C "ACCEPTANCE".

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 saucers and other necessary operations as determined by the Landscape Architect and good nursery practice.

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. Watering of field-grown plants: The following water schedule and amount of water per application shall be followed during the maintenance period. If climatic or soil conditions warrant a variation of this schedule, the Contractor shall be responsible to notify the Landscape Architect and receive his approval.

SIZE OF PLANT MATERIAL	AMOUNT OF WATER
- up to 4 inch trunk caliper for trees and large shrubs	10 gallons
- from 5 to 8 inch caliper	25 gallons
- 9 inch and up caliper	50 gallons

Water shall be applied daily for the first week; 3 times per week for the next 3 weeks; 2 times per week for the next 4 weeks; and 1 time per week for the next 4 weeks (12 weeks total).

4. Water in plants by thorough 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.

5. 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 shrub, sod, and groundcover for a period of one month after installation of each section of the planting installed.

6. 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.

1.10 OPERATIONS FOR ACCEPTANCE

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.

1.11 GUARANTEE

A. Guarantee all shrubs for ninety (90) consecutive calendar days (CCD) from the date of acceptance. Guarantee Trees and Palms 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 the Contractor's negligence or work that has been done in an unworkman-like manner. The Contractor is not responsible for loss due to acts of god, (i.e.) sustained winds of 75 mph or more, floods, frost, lightning, vandalism or theft.

1.12 REPLACEMENT

A. Replacements shall be made during the guarantee period as directed by the Landscape Architect. 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. 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 shall be of the compositions noted in the plans measured by volume.

2.2 FERTILIZER

A. Fertilizer for trees, palms, shrubs, and groundcovers shall be as follows: LESCO Palm Special 13-31-13 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, as required by the Contractor. 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 as specified in the plant list, uniformly shredded and free from large pieces of bark and foreign matter.

3.0 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 infested with weed and/or grass growth, a systemic herbicide, such as roundup, shall be applied per manufacturer's directions. 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. Contractor shall exercise extreme care to prevent damage to desirable existing growth. If necessary, Contractor shall conduct a test to establish suitability of product and applicator to be used on this project, prior to execution of the full application.

3.3 PLANT PIT EXCAVATION & BACKFILLING

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

B. Shrubs and Groundcover: Shrubs and groundcover shall be planted in a soil bed as described in the notes and details.

3.4 WATERING-IN

A. The Contractor is responsible to provide the water and means of distribution (i.e. hand watering or water truck). 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) as specified in 1.09 (A3).

3.5 FERTILIZING

A. Add fertilizer on top of the surface three (3) weeks after planting of each segment of the job. Fertilizer shall be applied after soil has been well moistened. Fertilizer shall be washed off plant leaves and stems immediately after application. Apply as the following rate:

- 1) Trees & 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 1000 sq. ft. of bed area.
- 4) Sod: 12 pounds per 1000 sq. ft. Fertilize within 2 days from date of installation. 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 setting. Provide 36" diameter bed of mulch, measured from outer edge of the trunk, for all trees and palms planted in sod areas, 3' deep. Keep mulch away from contact with the trunk.

3.7 GUYING & BRACING

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

3.8 SODDING

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

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.
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 center of plant.

D. Completed sod shall immediately be watered sufficiently 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.

SOIL PREPARATION AND PLANTING SOIL

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 is encountered, remove compacted material entirely to a depth of 18" measured from adjacent top of curb or pavement (whichever is deeper). Backfill the entire area of the shrub and groundcover beds with a mixture of 70% Silica Sand and 30% Everglades Muck to within 2 inches of the adjacent pavement or top of curb.

Condition B) Where no compacted soil is encountered, thoroughly mix 4 inches of Everglades Muck into the existing soil to a depth of 12 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 to walkway.

For all sod areas, mix a 3 inch deep layer of silica sand into the existing soil to a depth of 6 inches. Remove all debris and rocks and pebbles larger than 1 inch in size and level the grade before sodding. Top of sod shall be flush with and adjacent top of curb or pavement.

MULCHING

1) Spread 2" of shredded Melaleuca mulch (Formulmud) as manufactured by Forestry Resources, Inc. or equal, (measured after setting), over the entire area of shrub beds with a minimum of 1" from the tips of the foliage of all shrubs & ground covers to adjacent grass areas. Also, spread a 3" diameter circle of mulch around trees and palms in sod areas 3' deep. Add mulch within 48 hours from time of planting of each bed or tree. DO NOT PILE MULCH AGAINST TRUNKS OR STEMS.

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.

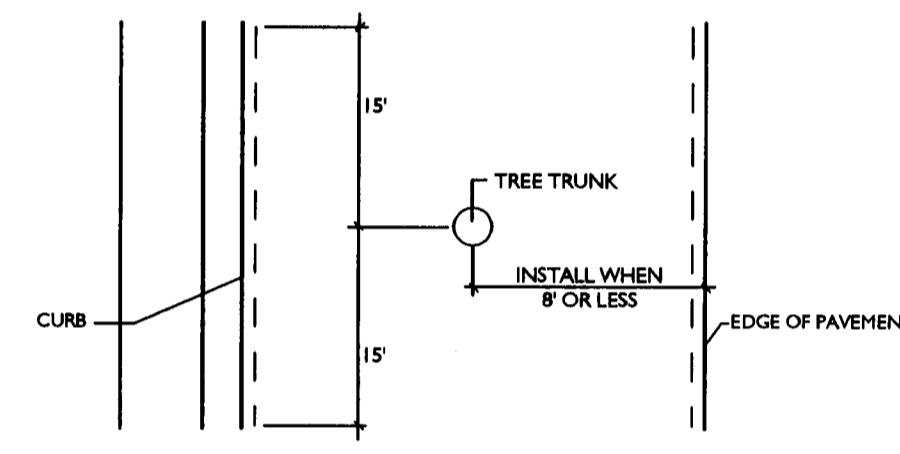
PROTECTION OF PLANTS

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.

2) Where tree roots are encountered during excavation for utilities, etc., cut edges with a sharp saw so that no root edges are frayed.

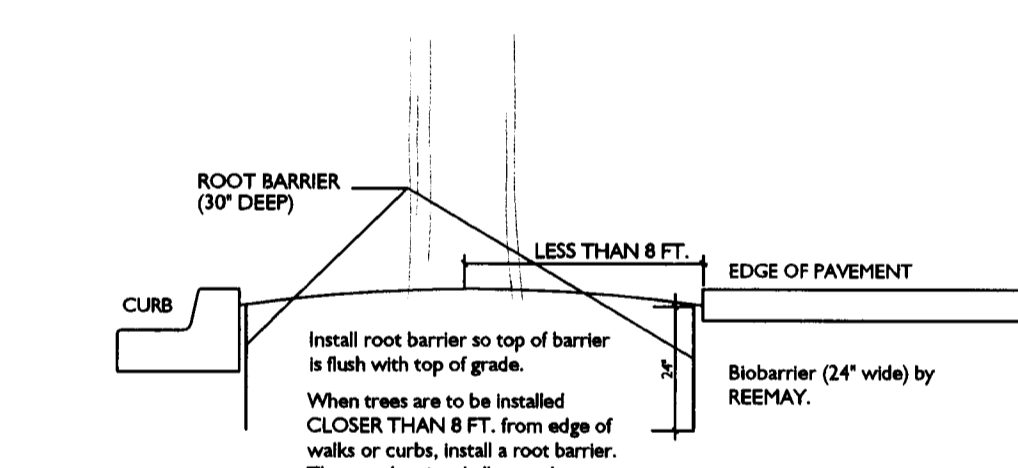
IRRIGATION

1) All landscape areas shall be irrigated with an automatic irrigation system to provide 100% coverage with a minimum of 75% overlap of spray. This system shall be equipped with an automatic rain shut-off device.



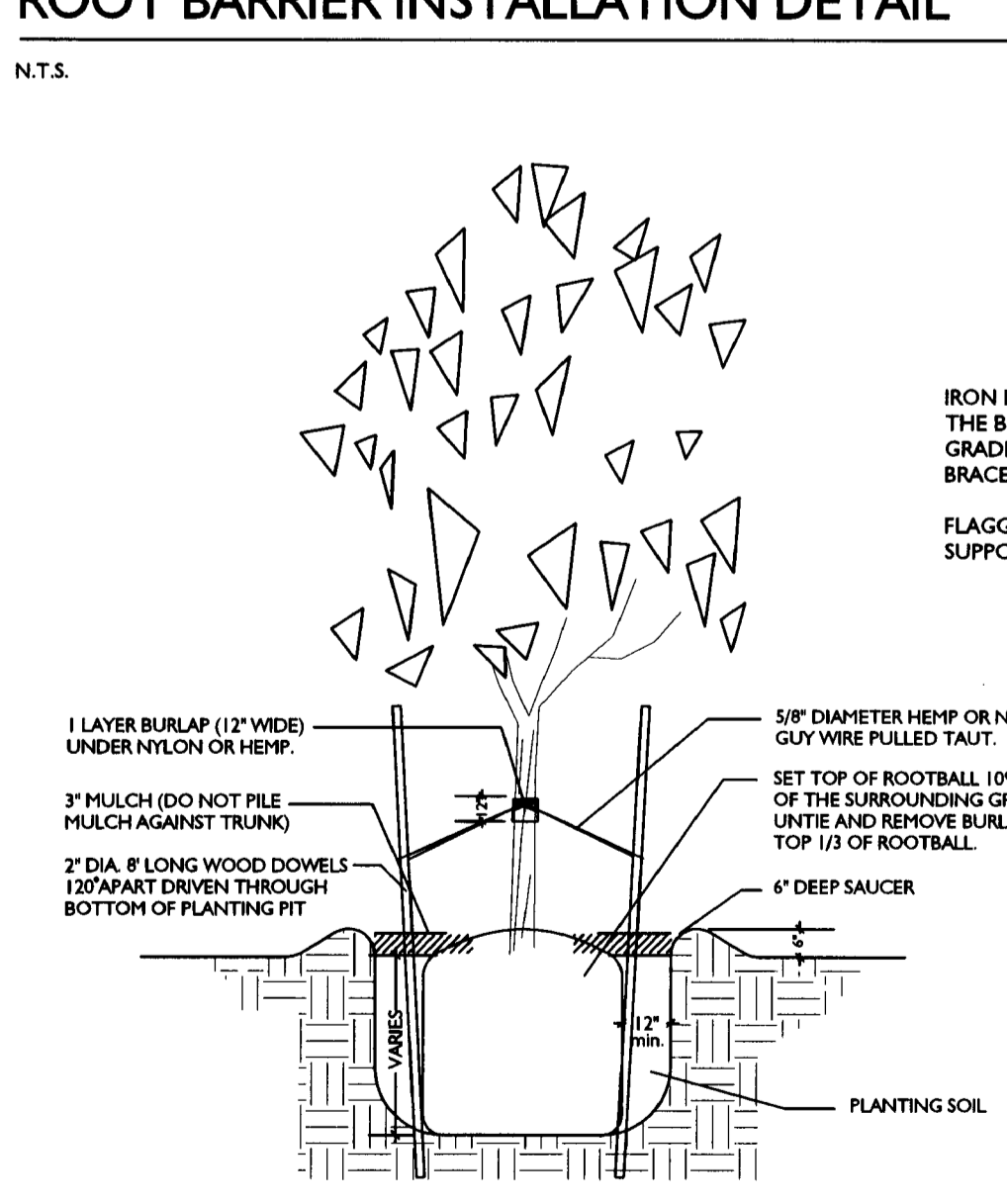
PLAN VIEW

N.T.S.



ROOT BARRIER INSTALLATION DETAIL

N.T.S.



PLANTING & BRACING DETAIL UNDER 3" CALIPER

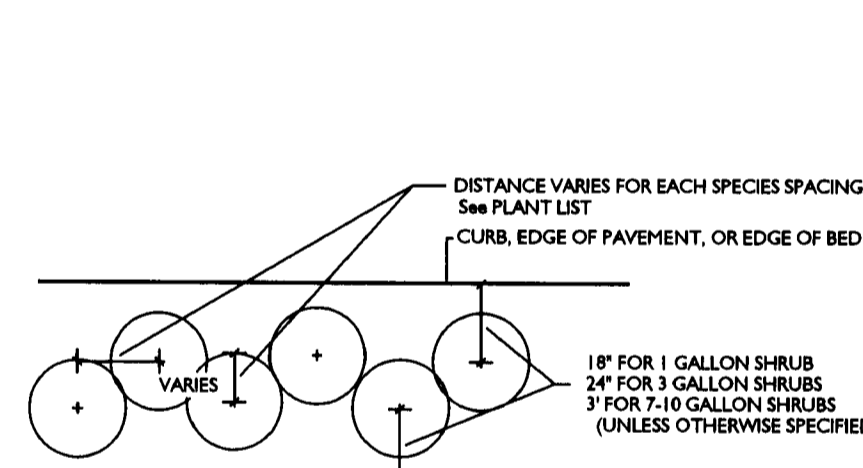
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City of Coconut Creek Standard Landscape Notes

1. All landscape and specifications shall meet or exceed the minimum requirements as provided in the City of Coconut Creek Land Development Code. Plans are incomplete without written notes and specifications.
2. All planting material shall meet or exceed Florida Grade #1 as specified in Grades and Standards for Nursery Plants, current edition. Trees shall not be tipped, topped, or shaped prior to installation.
3. Landscape shall be placed edge of abutting streets, canals, lakes or other lands.
4. All mechanical equipment, air conditioning, irrigation pump stations and equipment, P.F.U. transformers, pool pumps, etc., must be screened on three (3) sides by landscape shrubs.

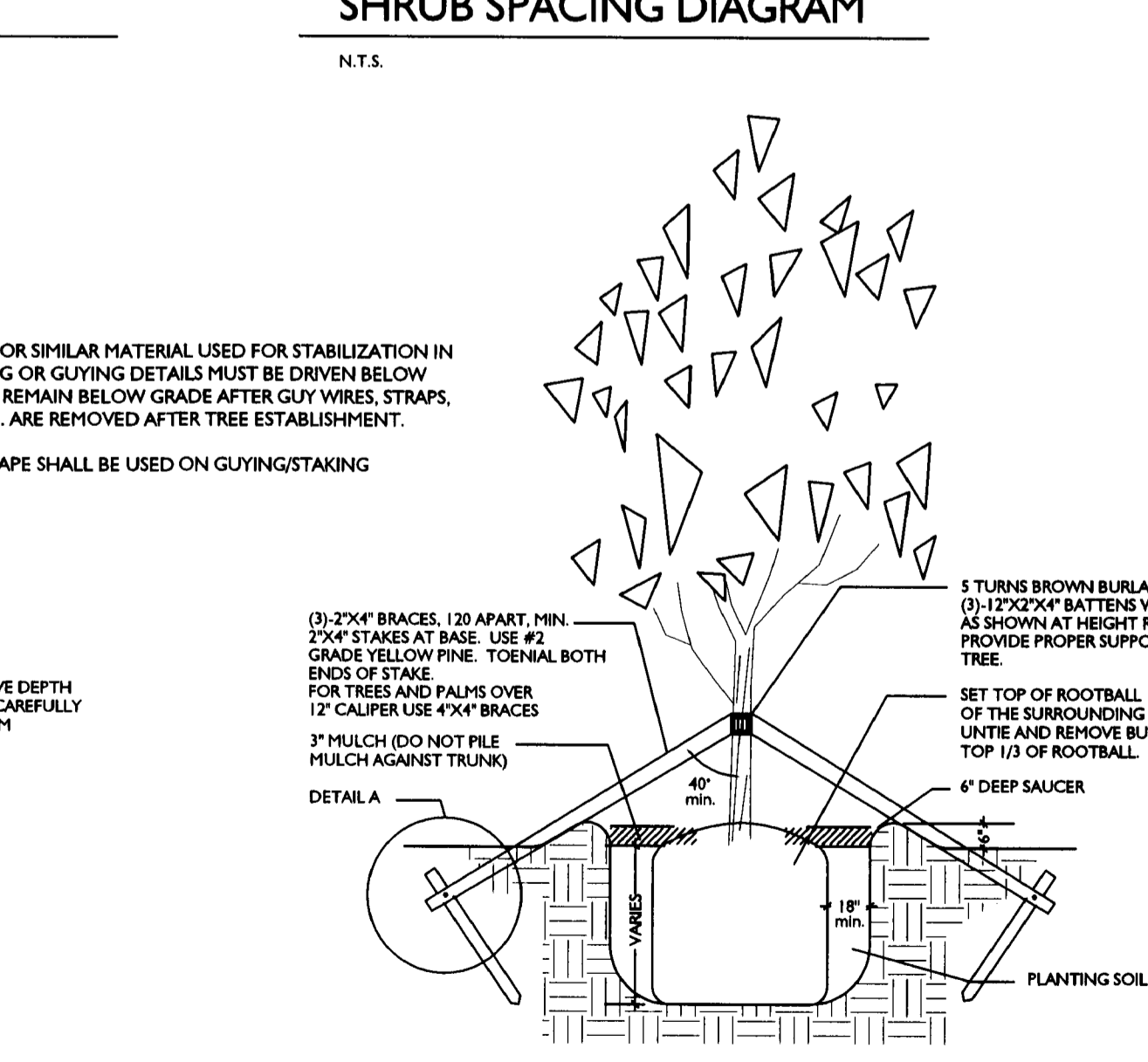
NOTE: The quantity of screening shrubs in addition to the required number of shrubs as provided in the code calculation table. All screening shrubs shall be planted for proper operation of equipment being screened and/or per the requirements of the utility as necessary. All hedge material required for screening purposes shall be planted with branches touching. Adjust on-center spacing as necessary and/or provide additional plants to provide an adequate screen.

5. Sight distance concerns must be maintained for clear sight visibility from thirty (30) inches to seventy-two inches, tree trunks excluded. Measurement shall be made from top of root ball planted at proper elevation.
6. Guying/staking practices shall not permit nails, screws, wires, etc., to penetrate outer surfaces of trees, palms or other plant material. Trees, palms and plant material rejected due to this practice shall be replaced with the inspector on site.
7. Burlap material, wire cages, plastic/canvas straps, etc., must be cut and removed for the top one-half (1/2) depth of the root ball. Trees and shrubs grown in grow bags or grow bag type material must have such material REMOVED ENTIRELY prior to planting the tree or shrub.
8. All plant material shall be free of pests, insects, diseases, weeds, etc.
9. All required landscape material shall be installed using a planting soil mix comprised of a type appropriate to the individual proposed plant material and the native soil found on the site.
10. All plant material shall be planted at the proper depth, as originally grown and/or so the top of the root ball is flush or slightly above finished grade immediately after planting. All trees should provide trunk taper when properly planted at the correct planting depth.
11. All plant material shall be watered in at time of planting to eliminate air pockets in the root zone area.
12. Color-treated or dyed mulch will not be accepted.
13. Upon completion of work, the site shall be cleared of all debris, superfluous materials, and equipment caused by this permit to the satisfaction of the inspector.
14. Refer to Coconut Creek Fire Equipment Clear Zone diagram to maintain a safe zone fronting fire hydrants.
15. Do not plant trees, shrubs or groundcover within Electric Meter Clear Zone. Provide a safe zone as described by the Electrical Inspector.
16. All landscaped areas shall be provided with an underground fully automatic irrigation system using pop-up sprinklers. System shall provide 100% coverage with a 50% overlap (minimum) using turf free water, except preserved areas remaining in natural state. A rain sensor device or switch shall be installed that will override the irrigation system when adequate rainfall has occurred. Water shall not be directed and/or provided onto impervious surfaces and/or be designed or installed to throw water over an impervious surface such as a sidewalk, etc. Hours of operation for all irrigation systems shall be limited to 5:00 p.m. to 8:00 a.m. only or as may be further restricted by South Florida Water Management District or other jurisdictional agency.
17. Irrigation permits and plans shall be submitted for approval at time of building permits.
18. All non-single family or duplex irrigation systems other than City water systems shall require a South Florida Water Management District water use permit prior to issuance of an irrigation permit and installation of the irrigation system as required.
19. All site amenities to include site street lights, landscape common open space, irrigation common open space, buffers, berms, landscape entry features, etc. leading up to and including the model center and/or first certificate of occupancy must be completed and functional prior to issuance of the first requested certificate of occupancy.
20. The height of all required, designed and installed berms shall be from the highest adjacent point whether it is the sidewalk, parking area, vehicular use area, surrounding ground, etc. Where a berm abuts a sidewalk, there shall be a one (1) foot level sod area adjacent to the sidewalk prior to the start of incline for the berm.



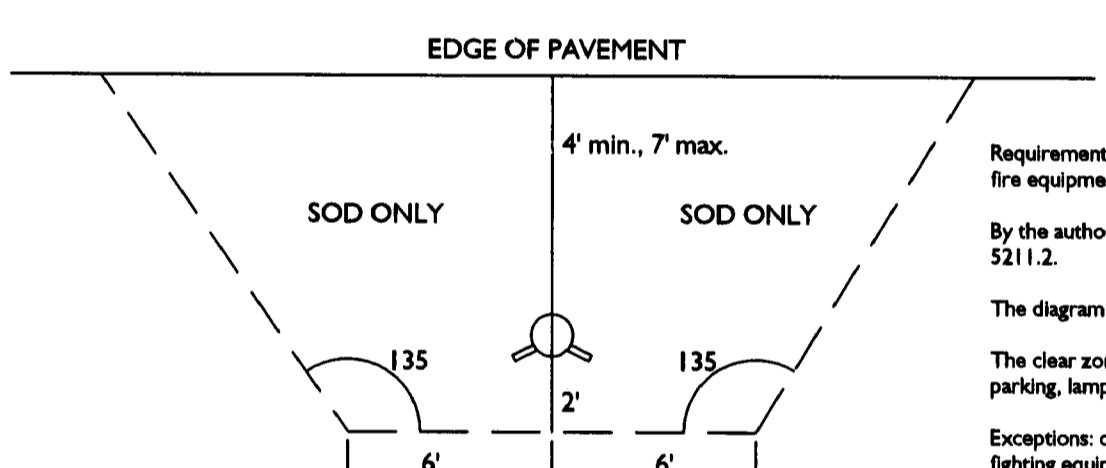
SHRUB SPACING DIAGRAM

N.T.S.



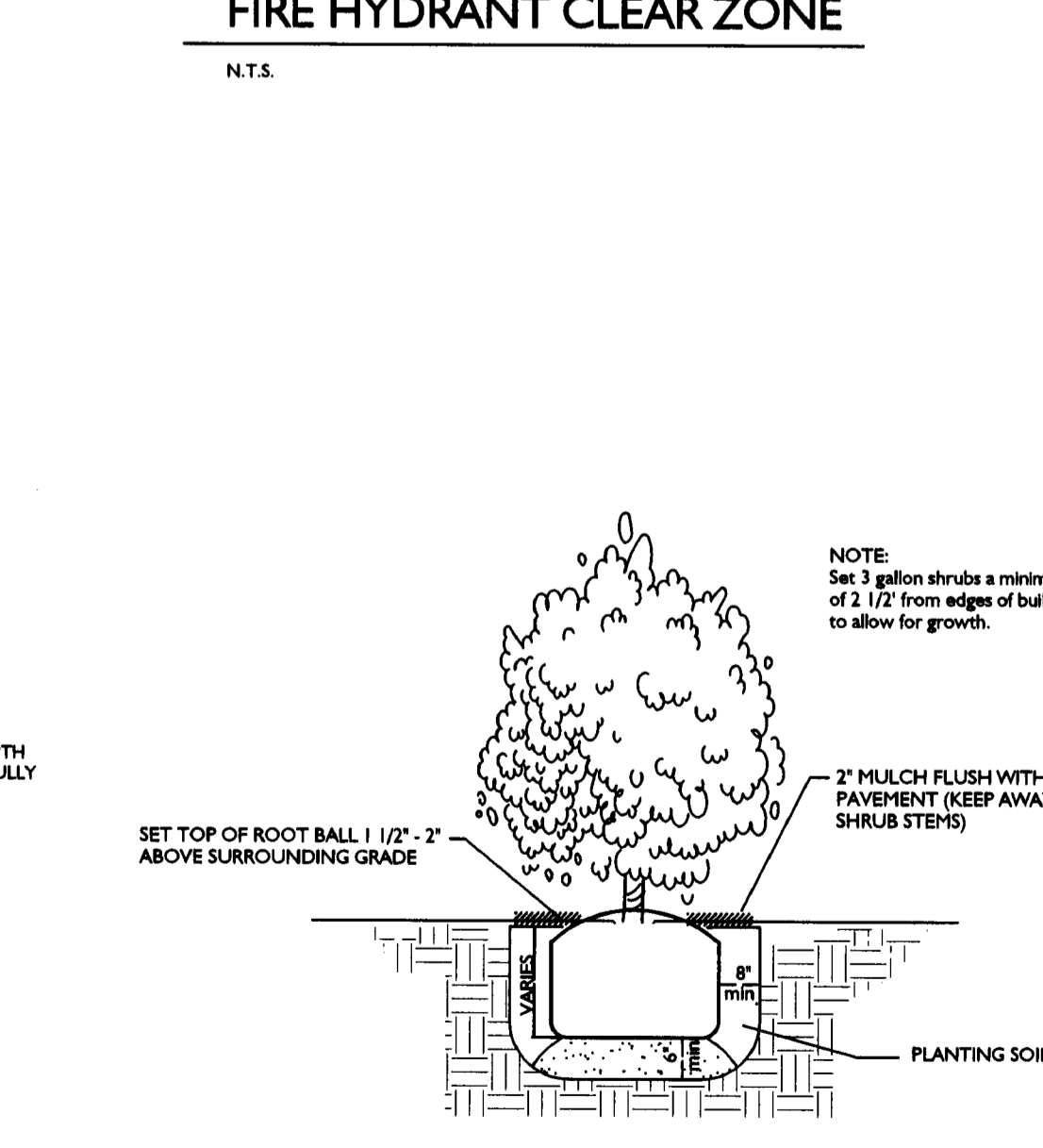
PLANTING & BRACING DETAIL OVER 3" CALIPER

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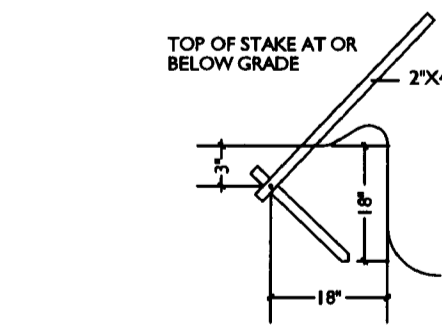
FIRE HYDRANT CLEAR ZONE

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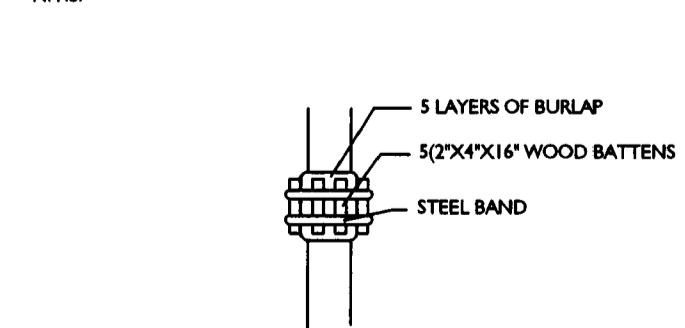
SHRUB INSTALLATION DETAIL

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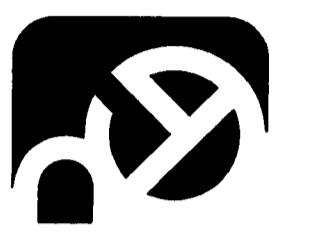
DETAIL A

N.T.S.



BATTEN DETAIL

N.T.S.



Bill Rosenberg FL LA #143
Ken Gardner FL LA #1569

DATE 2/25/05

REVISIONS 3/24/05

SCALE N.T.S.

SHEET LA-2

WPR 3/24/05