

LANDSCAPE GENERAL NOTES

A. SCOPE OF WORK

1. THE WORK CONSISTS OF FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT AS SHOWN ON THE DRAWINGS, AS INCLUDED IN THE PLANT LIST, AND AS HEREN SPECIFIED.

2. WORK SHALL INCLUDE MAINTENANCE AND WATERING OF ALL PLANTING AREAS OF THIS CONTRACT UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER.

B. PROTECTION OF EXISTING STRUCTURES

1. ALL EXISTING BUILDINGS, WALKS, WALLS, PAVING, PIPING, AND OTHER ITEMS OF CONSTRUCTION AND PLANTING ALREADY COMPLETED OR ESTABLISHED SHALL BE PROTECTED FROM DAMAGE BY THIS CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM NEGLIGENCE SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER.

C. PROTECTION OF EXISTING PLANT MATERIALS OUTSIDE LIMIT OF WORK

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNAUTHORIZED CUTTING OR DAMAGE TO TREES AND SHRUBS, EXISTING OR OTHERWISE, CAUSED BY CARELESS OPERATION OF EQUIPMENT, STOCKPILING OF MATERIALS, ETC. THIS SHALL INCLUDE COMPACTION BY DRIVING OR PARKING INSIDE THE DRIP - LINE OR THE SPILLING OF OIL, GASOLINE, OR OTHER DELETERIOUS MATERIALS WITHIN THE TRIP - LINE.

2. NO MATERIALS SHALL BE BURNED WHERE THE HEAT WILL DAMAGE ANY PLANT, TREES KILLED OR DAMAGED SO THAT THEY ARE MISSHAPE AND/OR UNSUITLY SHALL BE REPLACED AT THE COST TO THE CONTRACTOR OF ONE HUNDRED DOLLARS (\$100 PER CALPER INCH ON AN ESCALATING SCALE WHICH AGGRED AN ADDITIONAL TWENTY PERCENT (20%) PER INCH UPON FOUR INCHES (4") CALPER AS FIXED AND AGGRED LIQUIDATED DAMAGES, OR AS MAY BE REQUIRED BY THE REGULATING GOVERNMENT AGENCY, WHICHEVER IS GREATER. CALPER SHALL BE MEASURED AT BREAST HEIGHT OR FOUR FEET (4') ABOVE SURROUNDING GROUND.

D. MATERIALS

1. SUBMITTALS: GENERAL SAMPLES OF PLANTING MATERIALS AS LISTED BELOW SHALL BE SUBMITTED FOR APPROVAL, ON THE SITE OR AS OTHERWISE DETERMINED BY THE OWNER. UPON APPROVAL OF SAMPLES, DELIVERY OF MATERIALS MAY BEGIN.

MATERIALS SAMPLE SUBMITTALS

MULCH ONE (1) CUBIC FOOT
TOPSOIL ONE (1) CUBIC FOOT
PLANT ONE (1) REPRESENTATIVE SAMPLE OF EACH VARIETY

2. PLANT MATERIALS

A) GENERAL PLANT SPECIES, SIZES, & QUANTITIES SHALL, AT A MINIMUM, CONFORM TO THOSE INDICATED ON THE DRAWINGS. NOMENCLATURE SHALL CONFORM TO STANDARDIZED PLANT NAMES, 1942 EDITION, ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH "GRADES AND STANDARDS FOR NURSERY PLANTS" PARTS I AND II, LATEST EDITION PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. ALL PLANTS SHALL BE FLORIDA NO. 1 AS AN ABSOLUTE MINIMUM UNLESS OTHERWISE SUPERSEDED BY A FLORIDA FANCY DESIGNATION, AS DETERMINED BY THE FLORIDA DEPARTMENT OF PLANT INDUSTRY. ALL PLANTS SHALL BE FRESHLY DUG, SOUND, HEALTHY, VIGOROUS, WELL - BRANCHED AND FREE OF DISEASE AND INSECTS, INSECT EGGS AND LARVAE, AND SHALL HAVE ADEQUATE ROOT SYSTEMS. TREES FOR PLANTING IN ROWS SHALL BE UNIFORM IN SIZE AND SHAPE. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE OWNER, WHERE ANY REQUIREMENTS ARE NOT LISTED, THE PLANTS FURNISHED SHALL BE NORMAL FOR THE VARIETY. PLANTS SHALL BE PRUNED PRIOR TO DELIVERY ONLY UPON THE APPROVAL OF THE OWNER.

B) MEASUREMENTS: THE HEIGHT AND/OR WIDTH OF TREES SHALL BE MEASURED FROM THE TOP OF ROOT BALL (TRUNK FLANGE) AND/OR ACROSS THE AVERAGE SPREAD OF BRANCHES WITH THE PLANTS IN THEIR NORMAL POSITION. THIS MEASURE SHALL NOT INCLUDE THE IMMEDIATE TERMINAL GROWTH. PLANTS LARGER IN SIZE THAN THOSE SPECIFIED IN THE PLANT LIST MAY BE USED IF APPROVED BY THE OWNER. IF THE USE OF LARGER PLANTS IS APPROVED, THE BALL OF EARTH OR SPREAD OF ROOTS SHALL BE INCREASED IN PROPORTION TO THE SIZE OF THE PLANT.

C) INSPECTION: PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, OR UPON DELIVERY TO THE SITE, AS DETERMINED BY THE OWNER, FOR QUALITY, SIZE, AND VARIETY; SUCH PRELIMINARY APPROVAL SHALL NOT SUPERSEDE THE RIGHT OF INSPECTION AND REJECTION AT THE SITE DURING PROGRESS OF THE WORK OR AFTER COMPLETION FOR SIZE AND CONDITION OF BALLS OR ROOTS, LATENT DEFECTS OR INJURIES, PRESENCE OF INSECTS, AND OTHER CONDITIONS THAT MAY HAVE OCCURRED SINCE THE NURSERY INSPECTION. REJECTED PLANTS SHALL BE REMOVED IMMEDIATELY FROM THE SITE. NOTICE REQUESTING INSPECTION SHALL BE SUBMITTED IN WRITING BY THE CONTRACTOR AT LEAST ONE (1) WEEK PRIOR TO ANTICIPATED DATE.

D) AMENDED PLANTING SOIL: PLANTING SOIL FOR USE IN BACK FILLING PLANTING HOLES SHALL BE FORTY PERCENT (40%) TOPSOIL AND SIXTY PERCENT (60%) SAND AND BE FERTILE, FRIABLE, AND OF A LOAMY CHARACTER, WITHOUT MIXTURE OF SUBSOL MATERIALS, AND OBTAINED FROM A WELL-DRAINED, ARABLE SITE. IT SHALL CONTAIN THREE (3) TO FIVE (5) PERCENT DECOMPOSED ORGANIC MATTER AND SHALL BE FREE FROM HEAVY CLAY, COARSE SAND, STONES, LIME, LUMPS, PLANTS, ROOTS OR OTHER FOREIGN MATERIALS, OR NOXIOUS WEEDS. IT SHALL NOT CONTAIN TOXIC SUBSTANCES WHICH MAY BE HARMFUL TO PLANT GROWTH. PH RANGE SHALL BE 5.0 TO 7.0 INCLUSIVE.

E) SAND SHALL BE CLEAN, WELL DRAINING NATIVE SAND. IF REQUESTED, CONTRACTOR SHALL AT ANY TIME AND AT NO COST TO OWNER, SUBMIT RESULTS OF SOIL TESTS FOR TOPSOIL AND SAND PROPOSED FOR USE UNDER THIS CONTRACT FOR APPROVAL BY OWNER.

F. WATER

1. WATER NECESSARY FOR PLANTING AND MAINTENANCE SHALL BE OF SATISFACTORY QUALITY TO SUSTAIN AN ADEQUATE GROWTH OF PLANTS AND SHALL NOT CONTAIN HARMFUL NATURAL OR MAN - MADE ELEMENTS DETRIMENTAL TO PLANTS. WATER MEETING THE ABOVE STANDARD SHALL BE OBTAINED ON THE SITE FROM THE OWNER, IF AVAILABLE, AND THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ARRANGEMENTS FOR ITS USE BY HIS TANKS, HOSES, SPRINKLERS, ETC. IF SUCH WATER IS NOT AVAILABLE AT THE SITE, THE CONTRACTOR SHALL PROVIDE SUCH SATISFACTORY WATER FROM SOURCES OFF THE SITE AT NO ADDITIONAL COST TO THE OWNER.

F. COMMERCIAL FERTILIZER

1. COMMERCIAL FERTILIZER SHALL BE A COMPLETE FORMULA; IT SHALL BE UNIFORM IN COMPOSITION, DRY AND FREE FLOWING. THIS FERTILIZER SHALL BE DELIVERED TO THE SITE IN THE ORIGINAL UNOPENED CONTAINERS, EACH BEARING THE MANUFACTURER'S GUARANTEED STATEMENT OF ANALYSIS. FIFTY PERCENT (50%) OF THE NITROGEN SHALL BE DELIVERED FROM NATURAL ORGANIC SOURCES. THE FOLLOWING FERTILIZERS SHALL BE USED AND APPLIED AT RATES AS SUGGESTED BY MANUFACTURER'S SPECIFICATIONS:

1. SHRUBS AND TREES - MORGANITE, OR APPROVED EQUAL
 2. ANNUALS AND GROUNDCOVERS - OSMOCOTE/SERRA BLEND 14 - 14 - 14
 3. SOD - 8 - 8 - 8
- IN ADDITION TO SURFACE APPLIED FERTILIZERS, ALL CONTAINER GROWN AND FIELD GROWN PLANT MATERIAL SHALL RECEIVE "AGRIFORM" PLANTING TABLETS 24 - 10 - 5 FORMULA, 21 GRAM OR EQUAL. THESE TABLETS SHALL BE PLACED AT THE RATE AND DEPTH SPECIFIED BY MANUFACTURER.

G. MULCH

1. MULCH SHALL BE FROM SHREDDED WOOD DERIVED FROM MELALEUCA OR OTHER INVASIVE TREE SPECIES AND SHALL BE STERILIZED TO EFFECTIVELY ELIMINATE ALL SEEDS, SPORES, ETC. AND RENDER THEM BARREN.

2. MULCH MATERIAL SHALL BE MOISTENED AT THE TIME OF APPLICATION TO PREVENT WIND DISPLACEMENT AND APPLIED AT A DEPTH OF THREE INCHES (3"). MULCH IS TO BE KEPT 2-3" FROM THE STEM OF ALL GROUNDCOVERS & 3-6" FROM THE TRUNK OF ALL TREES & PALMS.

3. MULCH SHALL BE GRADE "B" SHREDDED, AND SHALL BE APPLIED EVENLY AND SMOOTH TO PLANTED AREAS.

4. NO RED OR COLORED MULCH SHALL BE ACCEPTED UNLESS SPECIFIED ACCORDINGLY. NO CYPRESS MULCH OR PINE BARK SHALL BE USED.

H. DIGGING AND HANDLING

1. PROTECT ROOT SYSTEMS OR ROOT BALLS OF PLANTS AT ALL TIMES FROM SUN AND DRYING WINDS, WATER EROSION, AND OTHER HARMFUL CRITERIA AS NECESSARY UNTIL PLANTING. PLANT MATERIALS SHALL BE ADEQUATELY PACKED TO PREVENT BREAKING AND DRYING OUT DURING LOADING, TRANSIT, AND UNLOADING/PANTING. TREES TRANSPORTED MORE THAN TEN (10) MILES OR WHICH ARE NOT PLANTED WITHIN THREE (3) DAYS OF DELIVERY TO SITE SHALL BE SHIPPED WITH AN ANTITRANSPIRANT PRODUCT ("WILTTRIP" OR EQUAL) TO MINIMIZE TRANSPIRATIONAL WATER LOSS.

2. BALLED AND BURLAPPED PLANTS (B&B) SHALL BE DUG WITH FIRM, NATURAL BALLS OF SOIL SUFFICIENT SIZE TO ENCOMPASS THE FIBROUS AND FEEDING ROOTS OF THE PLANTS, AND IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS" FLORIDA PUBLICATION. NO PLANT WITH A ROOTBALL SHALL BE PLANTED IF THE BALL IS CRACKED OR BROKEN, PLANTS BALLED AND BURLAPPED OR CONTAINER GROWN SHALL NOT BE HANDLED BY STEMS.

3. PLANTS MARKED "BR" IN THE PLANT LIST SHALL BE DUG WITH BARE ROOTS. THE ROOTS SHALL NOT BE CUT WITHIN THE MINIMUM SPREAD SPECIFIED IN THE PLANT LIST. CARE SHALL BE EXERCISED THAT THE ROOTS DO NOT DRY OUT IN MOVING AND PRIOR TO PLANTING.

4. PROTECTION OF PALMS (IF APPLICABLE): ONLY A MINIMUM OF FRONDS SHALL BE REMOVED FROM THE CROWN OF THE PALM TREES TO FACILITATE MOVING AND HANDLING. CLEAR TRUNK (CT) SHALL BE AS BY

"GRADES AND STANDARDS FOR NURSERY PLANTS" FLORIDA PUBLICATION, PRUNING PRACTICED OTHER THAN MINIMAL PRUNING OF FRONDS, PRIMARILY TO REACH A "CLEAR TRUNK" SPECIFICATION, MAY CONSTITUTE REJECTION, OF ALL PALMS SUBJECTED TO SUCH A SPECIFICATION. LIKEWISE, EXCESSIVE PRUNING OR "SHAVING" OF ROOT BALLS TO MEET "CLEAR TRUNK" CRITERIA MAY CONSTITUTE REJECTION ONSITE. ALL PALMS SHALL BE BRACED PER PALM PLANTING DETAIL ON THE PLANTING DETAILS SHEET.

5. EXCAVATION OF PLANTING HOLES SHALL BE DONE USING EXTREME CARE TO AVOID DAMAGE TO SURFACE AND SUBSURFACE ELEMENTS SUCH AS UTILITIES OR HARDSCAPE ELEMENTS, FOOTERS, AND PREPARED SUB-BASES.

L. CONTAINER GROWN STOCK

1. ALL CONTAINER GROWN PLANT SHALL BE HEALTHY, VIGOROUS, WELL - ROOTED PLANTS AND ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD. THE PLANTS SHALL HAVE TOPS WHICH ARE OF GOOD QUALITY AND ARE IN A HEALTHY GROWING CONDITION, AND SHALL MEET MINIMUM SPECIFICATIONS IN THE PLANT LIST.

2. AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER. CONTAINER GROWN STOCK SHALL NOT BE HANDLED BY THEIR STEMS.

3. PLANT ROOTS BOUND IN CONTAINERS OR WITH CIRCLING ROOTS SHALL NOT BE ACCEPTABLE.

4. SUBSTITUTION OF NON-CONTAINER GROWN MATERIAL FOR MATERIAL EXPLICITLY SPECIFIED TO BE CONTAINER GROWN WILL NEED AUTHORIZATION FROM THE OWNER. LIKEWISE, SUBSTITUTION OF CONTAINER GROWN MATERIAL FOR MATERIAL EXPLICITLY SPECIFIED TO BE BALLED AND BURLAPPED/FIELD GROWN WILL NEED AUTHORIZATION FROM THE OWNER AND IA OF RECORD PRIOR TO THE ORDERING OF ANY MATERIALS.

5. ALL PLANT MATERIALS SHALL MEET THE MINIMUM SPECIFICATIONS LISTED IN THE PLANT SCHEDULE, SIZE (HEIGHT/SPREAD) SPECIFICATIONS, TREE PRECEDENCE OVER GALLON SIZES (IF GALLON SIZES ARE SPECIFIED).

L. COLLECTED STOCK

1. WHEN THE USE OF COLLECTED STOCK IS PERMITTED AS INDICATED ON THE PLANT LIST SCHEDULE, THE MINIMUM SIZES OF ROOT BALLS SHALL BE EQUAL TO THAT SPECIFIED FOR THE NEXT LARGER SIZE OF NURSERY GROWN STOCK OF THE SAME VARIETY.

K. NATIVE STOCK

1. PLANTS COLLECTED FROM WILD OR NATIVE STAND SHALL BE CONSIDERED GROWN WHEN THEY HAVE SUCCESSFULLY REESTABLISHED IN A NURSERY ROW AND GROWN UNDER REGULAR NURSERY CULTURAL PRACTICES FOR A MINIMUM OF TWO (2) GROWING SEASONS AND HAVE ATTAINED ADEQUATE ROOT AND TOP GROWTH TO INDICATE FULL RECOVERY FROM TRANSPLANTING INTO THE NURSERY ROW.

L. MATERIALS LIST

1. QUANTITIES NECESSARY TO COMPLETE THE WORK ON THE DRAWINGS SHALL BE FURNISHED. QUANTITY ESTIMATES HAVE BEEN MADE CAREFULLY, BUT THE LANDSCAPE ARCHITECT OR OWNER ASSUMES NO LIABILITY FOR OMISSIONS OR ERRORS. SHOULD A DISCREPANCY OCCUR BETWEEN A BIDDER'S TAKE OFF AND THE PLANT LIST QUANTITY, THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION PRIOR TO THE SUBMISSION OF BIDS. DRAWING SHALL TAKE PRECEDENCE. ALL DIMENSIONS AND/OR SIZES SPECIFIED SHALL BE THE MINIMUM ACCEPTABLE SIZE. WHERE NO GALLON SIZE IS SPECIFIED ON CONTAINERIZED SHRUBS OR GROUNDCOVERS, THE HEIGHT & SPREAD SPECIFICATIONS SHALL PREVAIL.

M. FINE GRADING

1. FINE GRADING UNDER THIS CONTRACT SHALL CONSIST OF FINAL FINESTRIPE GRADING OF LAWN AND PLANTING AREAS THAT HAVE BEEN ROUGH GRADED BY OTHERS. BERMING AS SHOWN ON THE DRAWINGS SHALL BE THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR, UNLESS OTHERWISE NOTED.

2. THE CONTRACTOR SHALL FINE GRADE THE LAWN AND PLANTING AREAS TO BRING THE ROUGH GRADE TO A FINAL FINISHED GRADE ALLOWING FOR THICKNESS OF SOO AND/OR MULCH DEPTH. THIS CONTRACTOR SHALL FINE GRADE BY HAND AND/OR WITH ALL EQUIPMENT NECESSARY INCLUDING A GRADING TRACTOR WITH FRONT-LOADER FOR TRANSPORTING SOIL WITHIN THE SITE.

3. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER. AREAS ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS.

N. PLANTING PROCEDURES

1. CLEANING UP BEFORE COMMENCING WORK: THE CONTRACTOR SHALL CLEAN UP WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBSTRUCTIONABLE MATTER, ALL MORTAR, CEMENT, AND TOXIC MATERIAL SHALL BE COMPLETELY REMOVED FROM THE SITE. THESE MATERIALS SHALL NOT BE MIXED WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS BENEATH THE SOIL, WHICH WILL IN ANY WAY AFFECT THE VIABILITY OF THE PLANTS TO BE INSTALLED, HE/SHE SHALL IMMEDIATELY CALL IT TO THE ATTENTION OF THE OWNER'S CONSTRUCTION MANAGER OR DESIGNEE.

2. DURING LAND ALTERATION AND CONSTRUCTION ACTIVITIES, IT SHALL BE PROHIBITED TO REMOVE VEGETATION BY GRUBBING OR TO PLACE SOIL DEPOSITS, DEBRIS, SOLVENTS, CONSTRUCTION MATERIAL, MACHINERY OR OTHER EQUIPMENT OF ANY KIND WITHIN THE DRIPLINE OF A TREE TO REMAIN ON THE SITE UNLESS OTHERWISE APPROVED BY THE JURISDICTIONAL MUNICIPALITY

3. VERIFY LOCATIONS OF ALL UTILITIES, CONDUITS, SUPPLY LINES AND CABLES. INCLUDING BUT NOT LIMITED TO: ELECTRIC, GAS (LINES AND TANKS), WATER, SANITARY SEWER, STORM WATER LINES, CABLE AND TELEPHONE. PROPERLY MAINTAIN AND PROTECT EXISTING UTILITIES.

4. SUBGRADE EXCAVATION: CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED LIMEROCK AND LIMEROCK SUB-BASE FROM ALL LANDSCAPE PLANTING AREAS TO MINIMUM DEPTH OF APPROXIMATELY 20% GREATER THAN THE RECOMMENDED PLANTING SOIL DEPTH - UNLESS OTHERWISE SPECIFIED BY JURISDICTIONAL CODE. CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE WITH CLEAN TOPSOIL FROM AN ONSITE SOURCE OR AN IMPORTED SOURCE. IF LIMEROCK CONDITIONS OCCUR IN PLANTED AREAS AFTER 36" DEEP EXCAVATION BY THE CONTRACTOR, AND POSITIVE DRAINAGE CAN NOT BE ACHIEVED, CONTRACTOR SHALL UTILIZE PLANTING DETAIL THAT ADDRESSES POOR DRAINAGE OR CONTACT OWNER'S CONSTRUCTION MANAGER OR DESIGNEE FOR RELOCATION.

CONTRACTOR IS TO ENSURE THAT ALL COMPACTED SOIL, ROAD ROCK, & EXCESS DEBRIS SHALL BE REMOVED & A 24" LAYER OF NON-LIMEROCK PLANTING SOIL FAVORABLE TO SHRUB GROWTH & SUSTAINABILITY EXISTS OVER ALL PLANTING AREAS. TREE PITS SHALL BE EXCAVATED & BACKFILLED WITH PLANTING SOIL TO A MINIMUM DEPTH OF 30".

5. RECOMMENDED PLANTING SOIL DEPTH IS GENERALLY AS FOLLOWS:

- ALL TREES AND TALL SHRUBS (INDICATED AS "SHRUBS" & "SHRUBS AREAS" ON THE PLANT SCHEDULE) SHALL BE PLANTED WITH A MINIMUM OF 12" TOPSOIL AROUND AND BENEATH THE ROOTBALL; MINIMUM TOPSOIL SHALL BE 6" FOR LOW SHRUBS/GROUNDCOVER AREAS AND 2" FOR SODDED GRASS AREAS.
- THE MINIMUM TOPSOIL DEPTHS ARE IN ADDITION TO A MINIMUM NON-LIMEROCK SOIL DEPTH OF 10"-18", CONSISTING OF EXISTING UNDISTURBED OR NATIVE SOIL THAT WAS STORED/STOCKPILED ON SITE AND REUSED, OR CLEAN IMPORTED PLANTING SOIL WITH A RANGE OF ORGANIC MATTER CONTAINING 3-5% CONTAINING NO STONES GREATER THAN AN INCH AND A HALF IN DIAMETER IN ANY DIRECTION. TOPSOIL DEPTHS PLUS PLANTING SOIL/EXISTING NATIVE SOIL MINIMUM DEPTHS ARE IN ADDITION TO ANY LIMESTONE/LIMEROCK SUBGRADE, & IN ADDITION TO EXCAVATION WIDTHS REQUIRED FOR TREE PITS AS SHOWN ON THE PLANTING DETAILS.

PURSUANT TO THE ABOVE, THE TOTAL MINIMUM DEPTH OF VIALBE NON-LIMEROCK PLANTING SOIL, INCLUDING EXISTING VIALBE UNDISTURBED/OR STOCKPILED SOIL (IF PRESENT), REQUIRED TO BE PROVIDED ABOVE ANY LIMESTONE/LIMEROCK SUBGRADE CONDITION SHALL BE 12" MINIMUM TOTAL NON-LIMEROCK SOIL DEPTH FOR SOD AREAS, 16" MINIMUM TOTAL NON-LIMEROCK SOIL DEPTH FOR GROUNDCOVERS, 24" MINIMUM TOTAL NON-LIMEROCK SOIL DEPTH FOR SHRUBS/SHRUB AREAS, AND 30" MINIMUM TOTAL NON-LIMEROCK SOIL DEPTH FOR TREE PITS. DESIGNATION OF "TREES," "SHRUBS"/"SHRUB AREAS," AND "GROUNDCOVERS" SHALL BE CONSISTENT WITH THE LABELING OF PLANT MATERIALS SHOWN ON THE LANDSCAPE PLANT'S PLANT SCHEDULE, WITH THE EXCEPTION OF COMMON TURFGRASSES WHICH MAY BE INDICATED AS "GROUNDCOVERS." NONE OF THE ABOVE MINIMUMS SHALL PRECLUDE THE CONTRACTOR FROM EXCAVATING & PROVIDING SOIL TO PLANTING AREAS IN ACCORDANCE WITH NOTE N-4 OR N-9. IMPORTED PLANTING SOIL SHALL BE IN ACCORDANCE WITH NOTE D.2.D.

IT IS THE CONTRACTORS RESPONSIBILITY TO VISIT THE SITE & TAKE REASONABLE MEASURES AS PART OF DUE DILIGENCE TO DETERMINE THE EXTENT OF EXCAVATION REQUIRED & TO DETERMINE THE AMOUNT OF PLANTING SOIL NECESSARY TO ENSURE LONG-TERM SUSTAINABILITY & SURVIVAL OF THE PLANT MATERIALS IN ACCORDANCE WITH THIS CONTRACT.

6. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL REQUIREMENTS AS HEREIN SPECIFIED AND REQUIRED. INSPECT AND SELECT PLANTS AND BEFORE PLANTS ARE DUG AT NURSERY OR GROWING SITE.

7. GENERAL: COMPLY WITH FEDERAL, STATE, COUNTY AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK. CONFORM TO ACCEPTED HORTICULTURAL PRACTICES AS USED IN THE TRADE. PLANTS SHALL BE PROTECTED UPON ARRIVAL AT THE SITE BY BEING THOROUGHLY WATERED AND PROPERLY MAINTAINED UNTIL PLANTED. PLANTS SHALL NOT REMAIN UNPROTECTED FOR A PERIOD EXCEEDING TWENTY-FOUR (24) HOURS. AT ALL TIMES WORKMANLIKE METHODS CUSTOMARY IN GOOD HORTICULTURAL PRACTICES SHALL BE EXERCISED.

8. THE WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS. COORDINATE THE PLANTING WITH THE IRRIGATION WORK TO ASSURE AVAILABILITY OF WATER AND PROPER LOCATION OF IRRIGATION ITEMS AND PLANTS.

9. ALL PLANTING HOLES SHALL BE EXCAVATED TO SIZE AND DEPTH IN ACCORDANCE WITH THE USA STANDARD TO NURSERY STOCK 280-1. UNLESS SHOWN OTHERWISE ON THE DRAWINGS, AND BACKFILLED WITH THE PREPARED PLANTING SOIL AS SPECIFIED HEREIN BEFORE (SEE MATERIALS, SECTION D). TEST ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. NO ALLOWANCE WILL BE MADE

FOR LOST PLANTS DUE TO IMPROPER DRAINAGE. IF POOR DRAINAGE EXISTS, UTILIZE PLANTING DETAIL THAT ADDRESSES THIS CONDITION. POOR DRAINAGE CONDITIONS TYPICALLY HAVE A PERCOLATION RATE OF 4" OR LESS PER HOUR, AS DETERMINED BY THE GEOTECHNICAL ENGINEER. TREES SHALL BE SET PLUMB AND HELD IN POSITION UNTIL THE PLANTING MIXTURE HAS BEEN FULSHED INTO PLACE WITH A SLOW, FULL HOSE STREAM. ALL PLANTING SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH PLANTING PROCEDURE AND UNDER THE SUPERVISION OF A QUALIFIED PLANTING FOREMAN. PROPER "JETING IN" SHALL BE ASSURED TO ELIMINATE AIR POCKETS AROUND THE ROOTS. "JET STICK" OR EQUAL, RECOMMENDED.

10. TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO BUILDINGS, CURBS, PAVING, AND OTHER HARDSCAPE MATERIALS WHILE INSTALLING TREES.

11. SOIL MIXTURE SHALL BE AS SPECIFIED IN SECTION D (MATERIALS) OF THESE SPECIFICATIONS. IN ADDITION, EACH PLANTING HOLE SHALL RECEIVE 21-GRAM "AGRIFORM" PLANTING TABLETS PER MANUFACTURER'S SPECIFICATIONS OR AS FOLLOWS:
 - TWO (2) TABLETS PER 1 GAL. PLANT
 - THREE (3) TABLETS PER 3 GAL. PLANT
 - FOUR (4) TABLETS PER 10 GAL. PLANTLARGER MATERIAL
 - TWO (2) TABLETS PER HALF INCH (1/2") OF TRUNK CALIPER

12. TREES AND SHRUBS SHALL BE SET STRAIGHT AND AT SUCH A LEVEL THAT AFTER SETTLEMENT, THE TOP OF THE ROOT SYSTEM (FOR SHRUBS AND GROUNDCOVER OR TRUNK FLARE (TREES AND PALMS) WILL STAND ONE (1) TO TWO (2) INCHES ABOVE FINAL GRADE. EACH PLANT SHALL BE SET IN THE CENTER OF THE PLANTING HOLE. PLANTING SOIL MIXTURE SHALL BE BACKFILLED AND THOROUGHLY TAMPED AROUND THE BALL AND SHALL BE SETTLED BY WATER AFTER TAMPING.

13. FILL HOLE WITH SOIL MIXTURE, MAKING CERTAIN ALL SOIL IS SATURATED. TO DO THIS, FILL HOLE WITH WATER AND ALLOW TO SOAK MINIMUM TWENTY (20) MINUTES, TURNING SOIL IF NECESSARY TO GET SOIL THOROUGHLY WET. PACK LIGHTLY WITH FEET OR OTHER TAMPING. ADD MORE WET SOIL MIXTURE. DO NOT COVER TOP OF BALL WITH SOIL MIXTURE, ONLY WITH MULCH. ALL BURLAP, ROPE, WIRES, ETC., SHALL BE PULLED FROM UNDERNEATH.

14. PRUNING: FOR DAMAGED OR BROKEN LIMBS, EACH TREE SHALL BE PRUNED TO PRESERVE THE NATURAL CHARACTER OF THE SPECIES. ALL SUCKER GROWTH SHALL BE COMPLETELY REMOVED PRIOR TO DIGGING.

15. SHRUBS AND GROUNDCOVER PLANTS SHALL BE EVENLY SPACED IN ACCORDANCE WITH THE DRAWINGS AND AS INDICATED IN THE PLANT LIST. CULTIVATE ALL PLANT PLANTING AREAS TO A MINIMUM DEPTH OF 6", REMOVE AND DISPOSE OF ALL DEBRIS, TILL 4" OF PLANTING SOIL MIX INTO THE NEWLY TILLED PLANTING BED FOR GENERAL NUTRIENT DISBURSEMENT. PLANTING BED IS NOW READY TO RECEIVE HOLES FOR NEW PLANTS. THOROUGHLY WATER ALL PLANTS AFTER INSTALLATION.

16. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE LANDSCAPE CONTRACTOR IN ACCORDANCE WITH THE PLANTS TO ENSURE STABILITY AND MAINTAIN TREES IN AN UPRIGHT POSITION. TREES SHALL USE ARBORITE AS PER DETAIL SHEET. PALMS SHALL USE WOOD BRACING PER DETAIL SHEET.

17. MULCHING: PROVIDE A THREE INCH (3") MINIMUM LAYER OF SPECIFIED MULCH OVER THE ENTIRE AREA OF EACH SHRUB BED, GROUNDCOVER AND VINE BED AND TREE PIT (FOR TREES AND PALMS, MIN. THREE INCH (3") FROM EDGE OF TRUNKS). - UNLESS OTHERWISE REQUIRED BY LOCAL CODES AND SPECIFIED AS SUCH.

18. SYSTEMIC HERBICIDE WEED CONTROL: ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK. IF DIRECTED BY THE OWNER OR THEIR DESIGNEE, A SYSTEMIC HERBICIDE SHALL BE APPLIED FOR WEED CONTROL BY QUALIFIED PERSONNEL TO ALL PLANTING AREAS IN SPOT APPLICATIONS PER MANUFACTURER'S PRECAUTIONS AND SPECIFICATIONS. AFTER MULCH HAS BEEN APPLIED TO PLANTING BEDS AND TREE RINGS, TREAT ALL MULCHED AREAS WITH AN APPROVED PRE-EMERGENT HERBICIDE AT AN APPLICATION RATE RECOMMENDED BY THE MANUFACTURER.

O. LAWN SODDING

STENOZYPHRUM SECUNDATUM, V. "FLORITAM" UNLESS OTHERWISE NOTED. (ST. AUGUSTINE SOLID SOD). THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL, PREPARATION, AND SODDING: COMPLETE IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND THE APPLICABLE DRAWINGS TO PRODUCE A GRASS LAWN ACCEPTABLE TO THE OWNER AND GOVERNING AGENCIES.

2. LAWN BED PREPARATION: ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND OTHER DEBRIS, AND THE SOIL BROUGHT TO AN EVEN PREPARED GRADE TO ALLOW FOR SOIL PREPARATION BELOW.

3. SOIL PREPARATION: PREPARE LOOSE BED FOUR INCHES (4") DEEP. APPLY FERTILIZER AT A RATE OF TWENTY (20) POUNDS PER ONE THOUSAND (1000) SQUARE FEET. APPLICATION SHALL BE UNIFORM, UTILIZING COMMERCIAL BROADCAST SPREADERS. MIX FERTILIZER THOROUGHLY WITH THE SOIL TO A DEPTH OF THREE INCHES (3"). HAND RAKE UNTIL ALL BUMPS AND DEPRESSIONS ARE REMOVED. WET PREPARED AREA THOROUGHLY TO PREPARE FOR SOD INSTALLATION.

4. SODDING: THE CONTRACTOR SHALL SOD ALL THE PERVIOUS AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT LIMITS TO CREATE A UNIFORM, NEW TURF BLANKET FOR THE SITE. ALL PERVIOUS AREAS TO REMAIN THAT ARE DISTURBED BY CONSTRUCTION & NOT SHOWN TO HAVE SHRUBS OR GROUNDCOVER ON THE LANDSCAPE PLAN SHALL BE SODDED BY CONTRACTOR. ALL SOD OFF-SITE OR IN THE RIGHT-OF-WAY (DEDICATED OR OTHERWISE) SHALL BE BAHIA 'ARGENTINE' SOLID SOD UNLESS OTHERWISE NOTED.

A) THE SOD SHALL BE CERTIFIED TO MEET FLORIDA STATE BOARD SPECIFICATIONS, ABSOLUTELY TRUE TO VARIETY TYPE, AND FREE FROM WEEDS, FUNGUS, INSECTS, AND DISEASE OF ANY KIND. SOD PANELS SHALL BE LAID TIGHTLY TOGETHER TO MAKE A SOLID, SODDED LAWN AREA.

B) SOD SHALL BE LAID IN ROWS WITH EVERY OTHER ROW STAGGERED HALFWAY BETWEEN THE NEXT TO INSURE NO CONTINUOUS STRAIGHT JOINTS. SEW JOINTS OF SOD TO INSURE A TIGHT FIT AT JOINTS, WITH GAPS NO GREATER THAN 1" BETWEEN SOD PANELS.

C) SOD SHALL BE LAID UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS, PAVED AND PLANTED AREAS. ADJACENT TO BUILDINGS, A FOUR INCH (4") MULCH STRIP SHALL BE PROVIDED. IMMEDIATELY FOLLOWING SOD LAYING, THE LAWN AREAS SHALL BE ROLLED WITH A LAWN ROLLER CUSTOMARILY USED FOR SUCH PURPOSES, AND THEN THOROUGHLY IRRIGATED TO THOROUGHLY MOISTEN THE SOIL BENEATH IF, IN THE OPINION OF THE OWNER, TOP DRESSING IS NECESSARY AFTER ROLLING TO FILL THE VOIDS BETWEEN THE SOD PANELS AND TO EVEN OUT INCONSISTENCIES IN THE SOD. CLEAN SAND AS APPROVED BY THE LANDSCAPE ARCHITECT OR OWNER SHALL BE UNIFORMLY SPREAD OVER THE ENTIRE SURFACE OF THE SOD AND THOROUGHLY WATERED IN.

5. DURING DELIVERY, PRIOR TO AND DURING THE PLANTING OF THE LAWN AREAS, THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF THE ROOTS TO THE SUN. ALL SOD SHALL BE INSTALLED DURING THE DAY OF ITS ARRIVAL.

6. LAWN MAINTENANCE:

A) WITHIN THE SITE, THE CONTRACTOR SHALL PRODUCE A DENSE, WELL ESTABLISHED LAWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RE-SODDING OF ALL ERODED, SUNKEN OR BARE SPOTS UNTIL CERTIFICATION OF ACCEPTABILITY BY OWNER OR AS IN THE ORIGINAL WORK ORDER AND PROCESS (INCLUDING REGARDING IF NECESSARY).

B) WATER EVERY DAY FOR FOURTEEN (14) SUCCESSIVE DAYS, THEN WATER THREE (3) TIMES PER WEEK (AT EVEN INTERVALS) UNTIL FULLY ESTABLISHED OR UNTIL AUTOMATIC IRRIGATION SYSTEM IS FULLY OPERATIONAL AND REQUIRED. INSPECT AND SELECT PLANTS AND BEFORE PLANTS ARE DUG AT NURSERY OR GROWING SITE.

P. CLEANUP

1. UPON COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. ALL PAVED AREAS SHALL BE BROOM CLEANED AND THE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS PAVED AREAS BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

Q. PLANT MATERIAL MAINTENANCE

1. ALL PLANTS AND PLANTING MATERIALS INCLUDED UNDER THIS CONTRACT SHALL BE MAINTAINED BY WATERING, CULTIVATING, SPRAYING, AND ALL OTHER OPERATIONS (SUCH AS RE-STAKING OR REPAIRING GUY SYSTEMS) NECESSARY TO INSURE A HEALTHY CONDITION BY THE CONTRACTOR UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER OR OWNER'S DESIGNEE. MAINTENANCE AFTER THE CERTIFICATION OF AN ACCEPTABILITY SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS IN THIS SECTION. CONTRACTORS ARE REQUESTED TO PROVIDE A BID ESTIMATE TO COVER LANDSCAPE AND IRRIGATION MAINTENANCE FOR A PERIOD OF NINETY (90) CALENDAR DAYS COMMENCING AFTER ACCEPTANCE (SEE NEXT SECTION).

R. MAINTENANCE (ALTERNATIVE BID ITEM)

1. CONTRACTORS ARE REQUESTED TO PROVIDE A BID ESTIMATE FOR LANDSCAPE AND IRRIGATION MAINTENANCE FOLLOWING THE INITIAL 90-DAY MAINTENANCE PERIOD ON A COST PER MONTH BASIS.

S. GUARANTEE

1. THE LIFE AND SATISFACTORY CONDITION OF ALL PLANT MATERIAL INSTALLED BY THE CONTRACTOR SHALL BE GUARANTEED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE OWNER OR OWNER'S DESIGNEE. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR CARE & MAINTENANCE OF THE PLANT MATERIAL UNTIL THE END OF ESTABLISHMENT OR 60 DAYS AFTER FINAL LANDSCAPE CERTIFICATION BY THE LANDSCAPE ARCHITECT, WHICHEVER IS LATER, & SHALL COORDINATE WITH THE IRRIGATION CONTRACTOR AS NEEDED TO ENSURE ADEQUATE WATER IS SUPPLIED TO THE PLANT MATERIALS DURING ESTABLISHMENT. AT THE END OF THE ESTABLISHMENT PERIOD, THE LANDSCAPE CONTRACTOR SHALL ENSURE THAT THE IRRIGATION TIME/CLOCK IS ADJUSTED TO A NORMAL WATERING CYCLE PER THE IRRIGATION WATERING SCHEDULE SHOWN ON THE IRRIGATION PLANS.

2. THE LIFE AND SATISFACTORY CONDITION OF ALL SOD INSTALLED BY THE CONTRACTOR SHALL BE GUARANTEED BY THE CONTRACTOR FOR A MINIMUM OF NINETY (90) CALENDAR DAYS, COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE OWNERS OR OWNER'S DESIGNEE.

3. REPLACEMENT: ANY PLANT NOT IN A HEALTHY, THRIVING GROWING CONDITION SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT. SHOULD THE OWNER EJECT, TREES AND PALMS MAY BE GIVEN A PERIOD OF NINETY (90) DAYS BEFORE REMOVAL TO ALLOW THE CONTRACTOR TO RESUBMIT THE TREE OR PALM IN QUESTION AND BRING IT TO A THRIVING, HEALTHY CONDITION. ALL REPLACEMENTS SHALL BE PLANTS OF LIKE KIND, CONDITION AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL BE FURNISHED, PLANTED, AND MULCHED AS SPECIFIED WITHIN THESE SPECIFICATIONS, AT NO ADDITIONAL COST TO THE OWNER. ANY REPAIRS FROM THIS REPLACEMENT MATERIAL SHALL BE SOLELY THE CONTRACTOR'S RESPONSIBILITY. REPLACEMENT MATERIAL SHALL BE GUARANTEED TO A ONE (1) YEAR PERIOD FROM THE DAY OF REPLACEMENT ACCEPTANCE BY THE OWNER. SHOULD REPLACEMENT MATERIAL FAIL WITHIN THE GUARANTEE PERIOD, OWNER MAY OPT FOR A CREDIT OF THE MONETARY AMOUNT FOR THE REPLACEMENT MATERIALS AT A RATE OF THE ORIGINAL CONTRACT BID RATE, IN LIEU OF AN ADDITIONAL REPLACEMENT.

4. IN THE EVENT THE OWNER EJECTS NOT TO CONTRACT WITH THE CONTRACTOR FOR LANDSCAPE (AND IRRIGATION) MAINTENANCE, THE CONTRACTOR IS ENCOURAGED TO VISIT THE PROJECT SITE PERIODICALLY DURING THE ONE (1) YEAR WARRANTY PERIOD TO EVALUATE MAINTENANCE PROCEDURES BEING PERFORMED BY THE OWNER OR THEIR DESIGNEE, AND SHALL NOTIFY THE OWNER IN WRITING OF MAINTENANCE PROCEDURES OR CONDITIONS WHICH THREATEN VIGOROUS AND HEALTHY PLANT GROWTH OF ITEMS UNDER REPLACEMENT WARRANTY. IT IS SUGGESTED SUCH SITE VISITS SHALL BE CONDUCTED A MINIMUM OF ONCE PER MONTH FOR A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF ACCEPTANCE.

T. FINAL INSPECTION AND ACCEPTANCE OF WORK

1. FINAL INSPECTION BY OWNER OR THEIR DESIGNEE AT THE END OF THE GUARANTEE PERIOD SHALL INCLUDE PLANTING, CONSTRUCTION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS CONTRACT. ANY PLANTS NOT MEETING THE CRITERIA OF HEALTHY, VIGOROUS, AND THRIVING AT THIS TIME, AND THAT HAVE NOT ALREADY BEEN REPLACED PREVIOUSLY UNDER SAID WARRANTY, SHALL BE SUBJECT TO THE SAME ONE (1) YEAR GUARANTEE SOR AS SPECIFIED BY THE OWNER IN WRITING) BEGINNING WITH THE TIME OF REPLACEMENT AND ENDING WITH THE SAME INSPECTION AND ACCEPTANCE HEREIN DESCRIBED.

U. GRADING AND DRAINAGE NOTES

1. PRIOR TO COMMENCING ANY EXCAVATION WORK, THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES IN ACCORDANCE WITH THE "DIG SAFE" NOTIFICATION PROCEDURES PROMOTED BY THE RESPECTIVE UTILITY COMPANIES IN FLORIDA, CAL FLORIDA SUNSHINE AT 811.

2. CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY INTO EXISTING, PROVIDING VERTICAL CURVES OR ROUNDINGS AT ALL TOP AND BOTTOM OF SLOPES.

3. PITCH EVENLY BETWEEN SPOT GRADES. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MINIMUM SLOPE OF ONE EIGHTH INCH (1/8") PER FOOT. ANY UNDERGROUND UTILITIES AND OTHER OBSTRUCTIONS AND COORDINATE WITH OWNER'S DESIGNEE. IN WRITING PRIOR TO INITIATING OPERATIONS.

4. WHERE NEW PAVING OR EARTHWORK MEETS EXISTING PAVING OR EARTHWORK, SMOOTHLY BLEND LINE AND GRADE OF EXISTING WITH NEW, WHERE VERIFICATION OF EXISTING VEGETATION IS TO REMAIN, MEET EXISTING GRADES; DO NOT FILL ABOVE BASAL FLARE OF EX