

TREE PROTECTION DURING CONSTRUCTION

A. DEFINITION OF CRITICAL ROOT ZONE

TREE PRESERVATION AREAS SHALL BE IDENTIFIED ON THE SITE PLAN OR CONSTRUCTION PLANS AND PROFILES. "CRITICAL ROOT ZONE" (CRZ) SHALL BE CLEARLY DELINEATED ON THE PLANS AND MARKED AND PROTECTED IN THE FIELD PRIOR TO ANY LAND DISTURBANCE ACTIVITIES. CRZ SHALL BE DETERMINED AS FOLLOWS:

1. FOR INDIVIDUAL TREES, CRZ SHALL BE REPRESENTED BY A CONCENTRIC CIRCLE CENTERED ON THE TRUNK THAT REPRESENTS THE CANOPY DRIPLINE.
2. FOR GROUPS OF TREES, CRZ SHALL FOLLOW THE CONTINUOUS DRIPLINE AROUND THE ENTIRE MASS WITHOUT INTERRUPTION.

B. GENERAL REQUIREMENTS

1. NO TREES SHALL BE REMOVED WITHOUT SPECIFIC PERMISSION FROM THE COMMISSIONER OF PUBLIC WORKS, PARKS AND STREETS OR DESIGNEE.
2. PRIOR TO ANY LAND DISTURBANCE, SUITABLE PROTECTIVE BARRIERS, SUCH AS SAFETY FENCING, SILT FENCING, SHALL BE ERECTED OUTSIDE OF THE CRZ OF ANY TREE OR STAND OF TREES TO BE PRESERVED. TRUNK PROTECTION IS REQUIRED WHEN WORKING ADJACENT TO STREET TREES INSIDE TREE PITS OR SMALLER SNOW STORAGE AREAS WHERE PROTECTIVE FENCING MAY NOT BE APPROPRIATE. THESE PROTECTIVE BARRIERS SHALL REMAIN ERECTED THROUGHOUT ALL PHASES OF CONSTRUCTION. CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR THE REPLACEMENT OR RESTORATION OF DAMAGED TREES.
3. NO GRADE CHANGES, STORAGE OF EQUIPMENT, MATERIALS, DEBRIS, FILL OR DISPOSAL OF LIQUIDS SHALL BE ALLOWED WITHIN THE CRZ.
4. CONSTRUCTION TRAFFIC AND PARKING OF VEHICLES SHALL BE PROHIBITED WITHIN THE CRZ, UNLESS ON PRE-EXISTING SURFACES SUCH AS A ROADWAY, PATH, DRIVEWAY APRON OR SIDEWALK AS SPECIFIED IN PLAN.
5. NO ROOTS SHALL BE CUT WITHIN THE CRZ WITHOUT 'SPECIAL PROTECTION MEASURES' AS DESCRIBED BELOW.
6. ROOTS CUT OUTSIDE OF THE CRZ MUST BE SEVERED CLEANLY WITH NO JAGGED EDGES, BY A TRENCHER OR SIMILAR EQUIPMENT, ALIGNED RADIAL TO THE TREE. THIS METHOD REDUCES THE LATERAL MOVEMENT OF ROOTS AND SUBSTANTIALLY REDUCES SEVERING OF ROOTS BY OTHER MEANS DURING EXCAVATION. THIS IS PARTICULARLY EFFECTIVE WHERE MULTIPLE TREES HAVE INTERTWINING ROOTS. THIS EFFORT SHALL TAKE PLACE PRIOR TO ANY LAND DISTURBANCE ACTIVITY. NO ROOTS OVER 2 INCHES IN DIAMETER MAY BE CUT WITHOUT SPECIFIC PERMISSION FROM COMMISSIONER OF PUBLIC WORKS, PARKS, AND STREETS OR DESIGNEE.
7. WITHIN FOUR HOURS OF SEVERANCE, ALL TREES ROOTS THAT HAVE BEEN EXPOSED AND/OR DAMAGED SHALL BE TRIMMED CLEANLY AND COVERED TEMPORARILY WITH MOIST PEAT MOSS, BURLAP, OR OTHER BIO-DEGRADABLE MATERIAL TO PREVENT DESICCATION BEFORE PERMANENT COVER CAN BE INSTALLED.
8. NO TOXIC MATERIALS, INCLUDING PETROLEUM PRODUCTS, HERBICIDES, ETC. SHALL BE STORED WITHIN 100' OF THE CRZ.

9. SEDIMENT, RETENTION, AND DETENTION BASINS SHALL NOT BE LOCATED WITHIN THE CRZ ZONE. THESE BASINS SHALL NOT DISCHARGE DIRECTLY INTO CRZ ZONES, UNLESS TRANSITIONED BACK INTO SHEET FLOW PRIOR TO ENTERING SAID ZONES OR ADEQUATE NATURAL CHANNEL.
10. PRUNING OF LOW BRANCHES OVER ROADWAYS, PATHS, DRIVEWAY APRONS OR SIDEWALKS MUST BE PERFORMED PRIOR TO CONSTRUCTION AND APPROVED BY THE COMMISSIONER OF PUBLIC WORKS, PARKS AND STREETS OR DESIGNEE. ALL FINAL CUTS SHALL BE MADE SUFFICIENTLY CLOSE TO THE TRUNK OR PARENT LIMB BUT WITHOUT CUTTING INTO THE BRANCH COLLAR OR LEAVING A PROTRUDING STUB, ACCORDING TO ANSI A300 STANDARDS. ALL NECESSARY PRUNING CUTS MUST BE MADE TO PREVENT BARK FROM BEING TORN FROM THE TREE AND TO FACILITATE RAPID HEALING. FLUSH CUTS ARE UNACCEPTABLE.

C. SPECIAL PROTECTION MEASURES

1. SPECIAL PROTECTION MEASURES MUST BE CLEARLY DOCUMENTED ON CONSTRUCTION PLAN. INCLUDING EXCAVATION PROPOSED FOR SIDEWALK AND CURB REPLACEMENT, UTILITY INSTALLATION, NEW SIGNAGE AND LIGHTING WITHIN CRZ.
2. EXCAVATION WITHIN THE CRZ MUST BE DONE BY HAND OR WITH PNEUMATIC TOOLS, UNLESS OTHERWISE SPECIFIED, IN ORDER TO EXPOSE ROOTS INTACT.
3. ONCE EXPOSED, ROOTS MUST BE INSPECTED BY PROJECT ARBORIST, TO DETERMINE WHICH, IF ANY, REQUIRE REMOVAL. ROOT PRUNING PROCEDURE TO FOLLOW DESCRIPTION INCLUDED WITHIN 'GENERAL REQUIREMENTS'.
4. WHEN PERMITTED OPERATION OF VEHICLES OR EQUIPMENT MUST OCCUR WITHIN THE CRZ, A 6" LAYER OF WOOD BARK MULCH SHALL BE LAID DIRECTLY ON FINISHED GRADE. A 1/2" THICK TREE PROTECTION MAT SHALL BE PLACED ON TOP OF THE MULCH TO PREVENT RUTTING AND SUBSEQUENT COMPACTION.

D. GREEN INFRASTRUCTURE REQUIREMENTS

1. CRZ MUST BE CLEARLY SHOWN ON EXCAVATION PLAN DRAWINGS AND MUST BE CONSIDERED DURING CONSTRUCTION.
2. NO PERFORATED PIPE UNDERDRAINAGE SHALL BE INSTALLED WITHIN THE CRZ OF EXISTING TREES OR IMMEDIATELY ADJACENT TO NEW PLANTER AREAS WHERE TREES ARE PROPOSED TO BE PLANTED TO AVOID ROOT/INFRASTRUCTURE CONFLICTS AS THE TREES GROW.
3. IF UNDERDRAINAGE IS REQUIRED BY CITY ENGINEER AND MUST BE INSTALLED INSIDE PROPOSED PLANTER AREAS, NATIVE SHRUBS OR GRASSES SHALL BE PLANTED ONLY (NO TREES).
4. NO PERMEABLE COURSE AGGREGATE SHALL BE INSTALLED WITHIN CRZ OF EXISTING TREES, EXISTING SUB SOIL BASE WITH CRITICAL ROOTS SHALL BE PROTECTED THROUGHOUT CONSTRUCTION.
5. NO UTILITIES SUCH AS ELECTRICAL CONDUIT, OUTLETS OR IRRIGATION LINES ARE TO BE INSTALLED IN TREE PLANTERS
6. ANY RAISED CURBING AROUND TREE PLANTERS REQUIRE INLETS TO ALLOW STORM WATER RUNOFF TO INFILTRATE.