

TREE PROTECTION SPECIFICATIONS

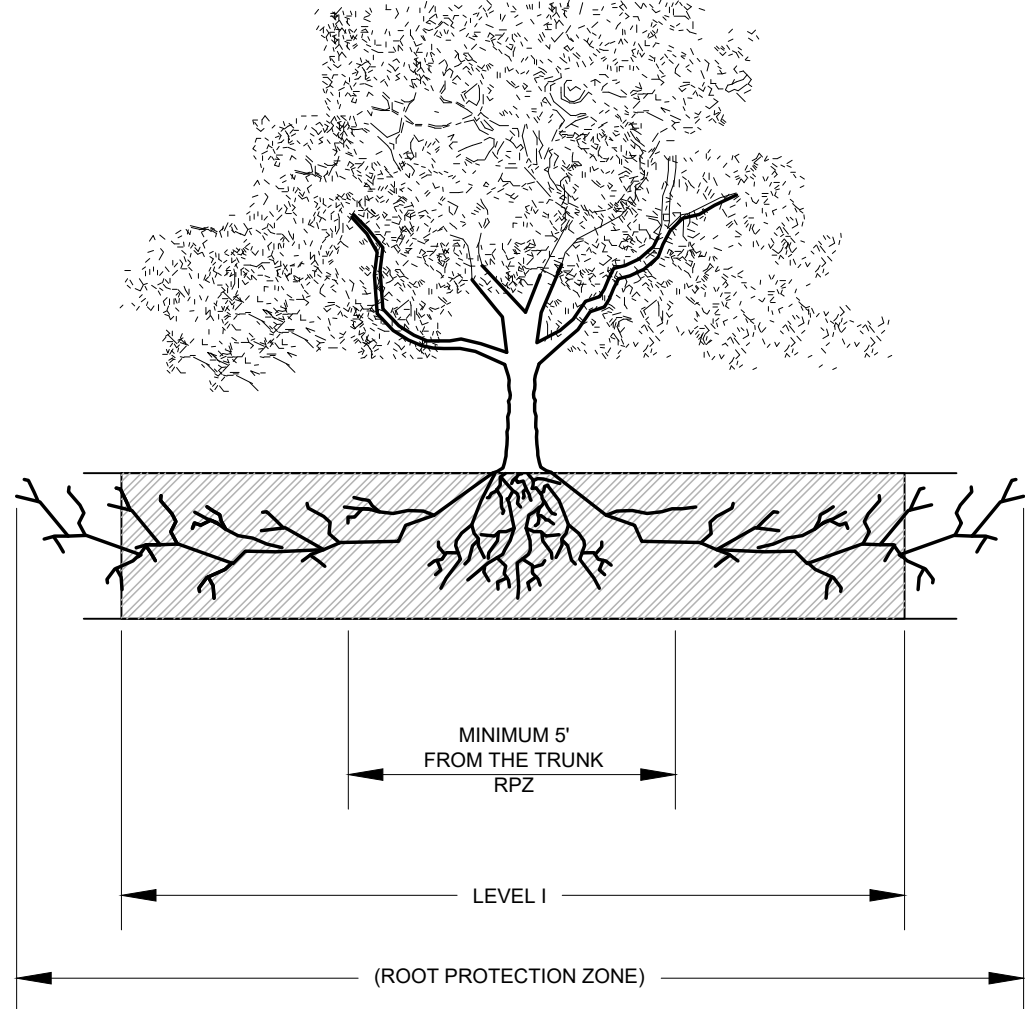
MATERIALS

1. FABRIC: 4 FOOT HIGH ORANGE PLASTIC FENCING AS SHOWN ON THE PLANS AND SHALL BE WOVEN WITH 2 INCH MESH OPENINGS SUCH THAT IN A VERTICAL DIMENSION OF 23 INCHES ALONG THE DIAGONALS OF THE OPENINGS THERE SHALL BE AT LEAST 7 MESHES.
2. POSTS: POSTS SHALL BE A MINIMUM OF 72 INCHES LONG AND STEEL "T" SHAPED WITH A MINIMUM WEIGHT OF 1.3 POUNDS PER LINEAR FOOT.
3. TIE WIRE: WIRE FOR ATTACHING THE FABRIC TO THE T-POSTS SHALL BE NOT LESS THAN NO. 12 GAUGE GALVANIZED WIRE.
4. USED MATERIALS: PREVIOUSLY-USED MATERIALS, MEETING THE ABOVE REQUIREMENTS AND WHEN APPROVED BY THE OWNER, MAY BE USED.

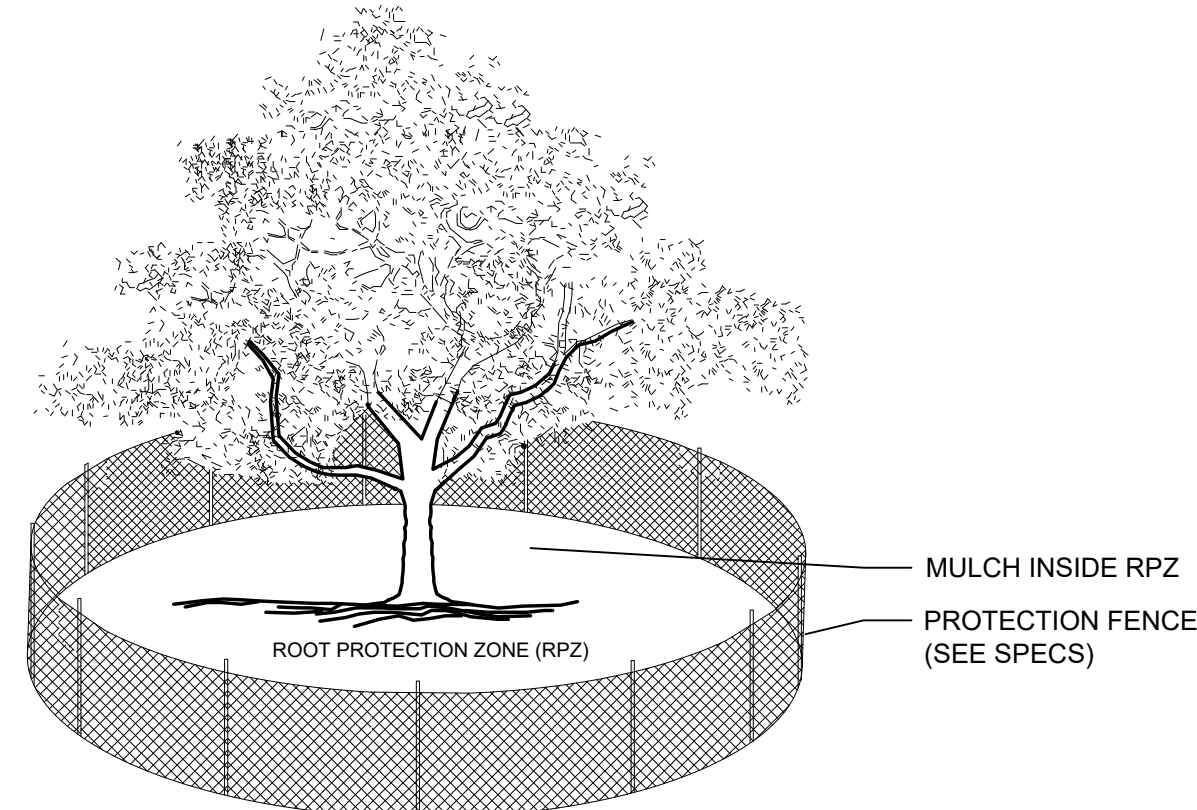
CONSTRUCTION METHODS

1. ALL TREES AND SHRUBS SHOWN TO REMAIN WITHIN THE PROXIMITY OF THE CONSTRUCTION SITE SHALL BE PROTECTED PRIOR TO BEGINNING ANY DEVELOPMENT ACTIVITY.
2. EMPLOY THE SERVICES OF AN ISA (INTERNATIONAL SOCIETY OF ARBORICULTURE) CERTIFIED ARBORIST AND OBTAIN ALL REQUIRED PERMITS TO PRUNE THE EXISTING TREES FOR CLEANING, RAISING AND THINNING, AS MAY BE REQUIRED.
3. PROTECTIVE FENCING SHALL BE ERECTED OUTSIDE THE CRITICAL ROOT ZONE (CRZ, EQUAL TO 1" FROM THE TRUNK FOR EVERY 1" OF DBH) AT LOCATIONS SHOWN IN THE PLANS OR AS DIRECTED BY THE LANDSCAPE CONSULTANT AND/OR CITY ARBORIST, AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS. FENCING SHALL BE MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION. TREES IN CLOSE PROXIMITY SHALL BE FENCED TOGETHER, RATHER THAN INDIVIDUALLY.
4. PROTECTIVE FENCE LOCATIONS IN CLOSE PROXIMITY TO STREET INTERSECTIONS OR DRIVES SHALL ADHERE TO THE APPLICABLE JURISDICTION'S SIGHT DISTANCE CRITERIA.
5. THE PROTECTIVE FENCING SHALL BE ERECTED BEFORE SITE WORK COMMENCES AND SHALL REMAIN IN PLACE DURING THE ENTIRE CONSTRUCTION PHASE.
6. THE INSTALLATION POSTS SHALL BE PLACED EVERY 6 FEET ON CENTER AND EMBEDDED TO 18 INCHES DEEP. MESH FABRIC SHALL BE ATTACHED TO THE INSTALLATION POSTS BY THE USE OF SUFFICIENT WIRE TIES TO SECURELY FASTEN THE FABRIC TO THE T-POSTS TO HOLD THE FABRIC IN A STABLE AND UPRIGHT POSITION.
7. WITHIN THE CRZ:
 - a. DO NOT CLEAR, FILL OR GRADE IN THE CRZ OF ANY TREE.
 - b. DO NOT STORE, STOCKPILE OR DUMP ANY JOB MATERIAL, SOIL OR RUBBISH UNDER THE SPREAD OF THE TREE BRANCHES.
 - c. DO NOT PARK OR STORE ANY EQUIPMENT OR SUPPLIES UNDER THE TREE CANOPY.
 - d. DO NOT SET UP ANY CONSTRUCTION OPERATIONS UNDER THE TREE CANOPY (SUCH AS PIPE CUTTING AND THREADING, MORTAR MIXING, PAINTING OR LUMBER CUTTING).
 - e. DO NOT NAIL OR ATTACH TEMPORARY SIGNS METERS, SWITCHES, WIRES, BRACING OR ANY OTHER ITEM TO THE TREES.
 - f. DO NOT PERMIT RUNOFF FROM WASTE MATERIALS INCLUDING SOLVENTS, CONCRETE WASHOUTS, ASPHALT TACK COATS (MC-30 OIL), ETC. TO ENTER THE CRZ. BARRIERS ARE TO BE PROVIDED TO PREVENT SUCH RUNOFF SUBSTANCES FROM ENTERING THE CRZ WHENEVER POSSIBLE, INCLUDING IN AN AREA WHERE RAIN OR SURFACE WATER COULD CARRY SUCH MATERIALS TO THE ROOT SYSTEM OF THE TREE.
8. ROUTE UNDERGROUND UTILITIES TO AVOID THE CRZ. IF DIGGING IS UNAVOIDABLE, BORE UNDER THE ROOTS, OR HAND DIG TO AVOID SEVERING THEM.

9. WHERE EXCAVATION IN THE VICINITY OF TREES MUST OCCUR, SUCH AS FOR IRRIGATION INSTALLATION, PROCEED WITH CAUTION, AND USING HAND TOOLS ONLY.
10. THE CONTRACTOR SHALL NOT CUT ROOTS LARGER THAN ONE INCH IN DIAMETER WHEN EXCAVATION OCCURS NEAR EXISTING TREES. ALL ROOTS LARGER THAN ONE INCH IN DIAMETER ARE TO BE CUT CLEANLY. FOR OAKS ONLY, ALL WOUNDS SHALL BE PAINTED WITH WOUND SEALER WITHIN 30 MINUTES
11. REMOVE ALL TREES, SHRUBS OR BUSHES TO BE CLEARED FROM PROTECTED ROOT ZONE AREAS BY HAND.
12. TREES DAMAGED OR KILLED DUE TO CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED AT THE CONTRACTOR'S EXPENSE AND TO THE PROJECT OWNER'S AND LOCAL JURISDICTION'S SATISFACTION.
13. ANY TREE REMOVAL SHALL BE APPROVED BY THE OWNER AND LOCAL JURISDICTION PRIOR TO ITS REMOVAL, AND THE CONTRACTOR SHALL HAVE ALL REQUIRED PERMITS FOR SUCH ACTIVITIES.
14. COVER EXPOSED ROOTS AT THE END OF EACH DAY WITH SOIL, MULCH OR WET BURLAP.
15. IN CRITICAL ROOT ZONE AREAS THAT CANNOT BE PROTECTED DURING CONSTRUCTION AND WHERE HEAVY TRAFFIC IS ANTICIPATED, COVER THE SOIL WITH EIGHT INCHES OF ORGANIC MULCH TO MINIMIZE SOIL COMPACTION. THIS EIGHT INCH DEPTH OF MULCH SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
16. WATER ALL TREES IMPACTED BY CONSTRUCTION ACTIVITIES, DEEPLY ONCE A WEEK DURING PERIODS OF HOT DRY WEATHER. SPRAY TREE CROWNS WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
17. WHEN INSTALLING CONCRETE ADJACENT TO THE ROOT ZONE OF A TREE, USE A PLASTIC VAPOR BARRIER BEHIND THE CONCRETE TO PROHIBIT LEACHING OF LIME INTO THE SOIL.
18. CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL TREE PROTECTION FENCING WHEN ALL THREATS TO THE EXISTING TREES FROM CONSTRUCTION-RELATED ACTIVITIES HAVE BEEN REMOVED.

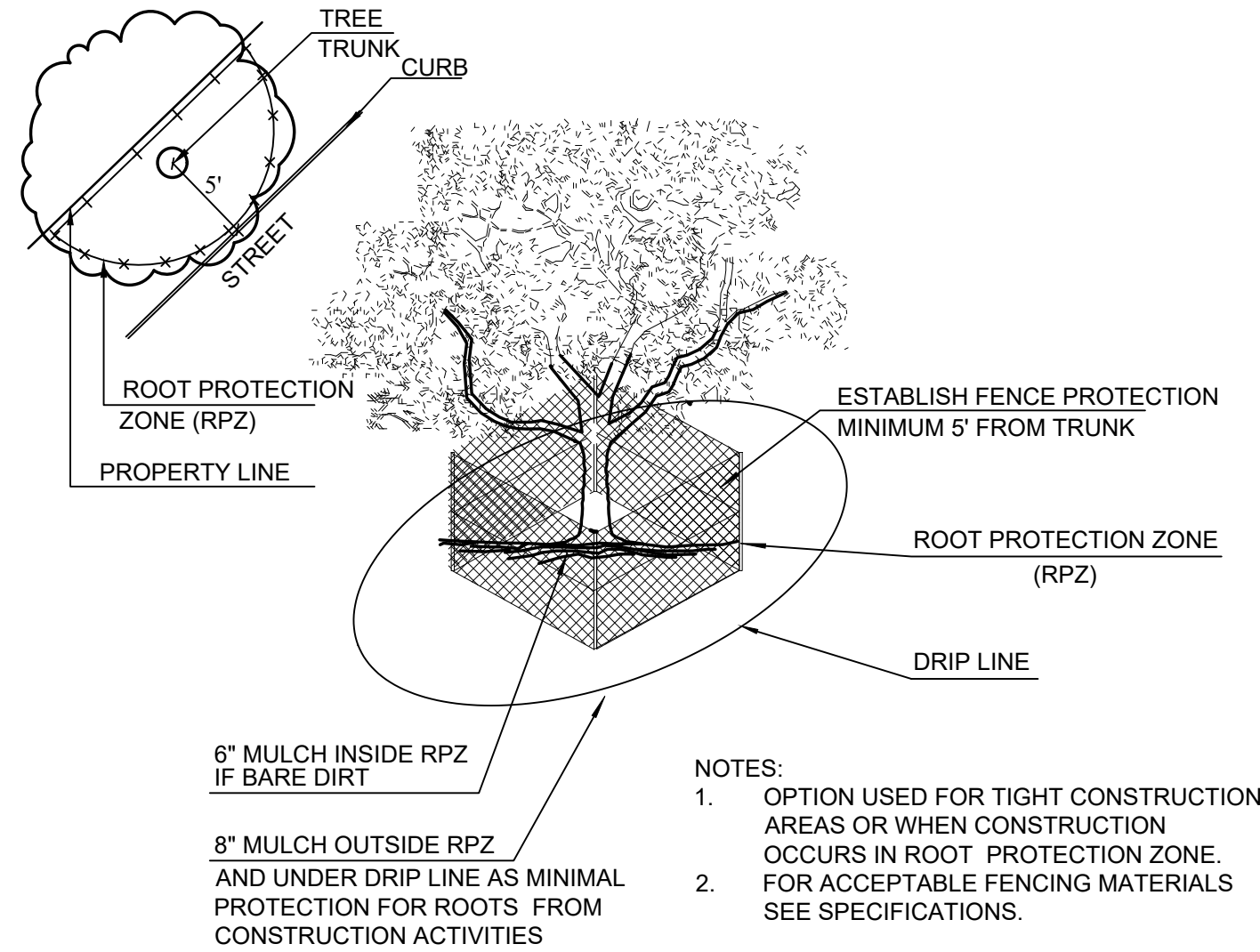


A TREE PROTECTION FENCE - ELEVATION
SCALE: NOT TO SCALE



- NOTES:
1. THE FENCING LOCATION SHOWN ABOVE IS DIAGRAMATIC ONLY AND WILL CONFORM TO THE DRIP LINE AND BE LIMITED TO PROJECT BOUNDARY. WHERE MULTIPLE ADJACENT TREES WILL BE ENCLOSED BY FENCING, THE FENCING SHALL BE CONTINUOUS AROUND ALL TREES.
 2. FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.

B TREE PROTECTION FENCE
SCALE: NOT TO SCALE

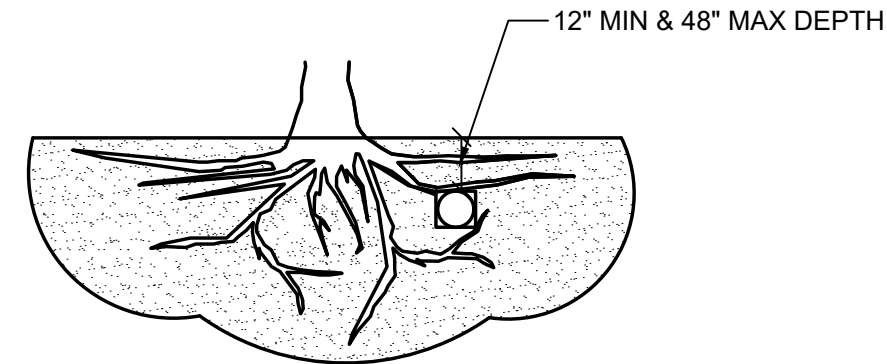


- NOTES:
1. OPTION USED FOR TIGHT CONSTRUCTION AREAS OR WHEN CONSTRUCTION OCCURS IN ROOT PROTECTION ZONE.
 2. FOR ACCEPTABLE FENCING MATERIALS SEE SPECIFICATIONS.

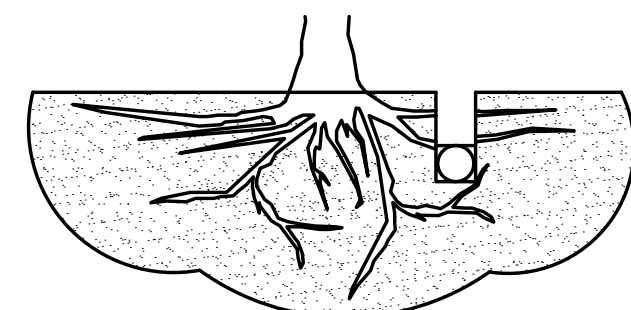
C TREE PROTECTION FENCE - LEVEL 2
SCALE: NOT TO SCALE

TREES THAT ARE MARKED TO BE PRESERVED ON A SITE PLAN AND FOR WHICH UTILITIES MUST PASS THROUGH THEIR ROOT PROTECTION ZONES MAY REQUIRE TUNNELING AS OPPOSED TO OPEN TRENCHES. THE DECISION TO TUNNEL WILL BE DETERMINED ON A CASE BY CASE BASIS BY THE ENGINEER.

TUNNELS SHALL BE DUG THROUGH THE ROOT PROTECTION ZONE IN ORDER TO MINIMIZE ROOT DAMAGE.



TUNNEL TO MINIMIZE ROOT DAMAGE (TOP) AS OPPOSED TO SURFACE-DUG TRENCHES IN ROOT PROTECTION ZONE WHEN THE 5' MINIMUM DISTANCE FROM TRUNK CAN NOT BE ACHIEVED.



OPEN TRENCHING MAY BE USED IF EXPOSED TREE ROOTS DO NOT EXCEED 3" OR ROOTS CAN BE BENT BACK.

D BORING THROUGH ROOT PROTECTION ZONE
SCALE: NOT TO SCALE

TREE PROTECTION GENERAL NOTES

- (A) PRIOR TO THE LAND CLEARING STAGE OF DEVELOPMENT, THE CONTRACTOR SHALL CLEARLY MARK ALL PROTECTED TREES FOR WHICH A TREE REMOVAL PERMIT HAS NOT BEEN ISSUED AND SHALL ERECT BARRIERS FOR THE PROTECTION OF THE TREES ACCORDING TO THE FOLLOWING:
- (1) AROUND AN AREA AT OR GREATER THAN A SIX-FOOT RADIUS OF ALL SPECIES OF MANGROVES AND PROTECTED CABBAGE PALMS;
 - (2) AROUND AN AREA AT OR GREATER THAN THE FULL DRIPLINE OF ALL PROTECTED NATIVE PINES;
 - (3) AROUND AN AREA AT OR GREATER THAN TWO-THIRDS OF THE DRIPLINE OF ALL OTHER PROTECTED SPECIES.
- (B) NO PERSON SHALL ATTACH ANY SIGN, NOTICE OR OTHER OBJECT TO ANY PROTECTED TREE OR FASTEN ANY WIRES, CABLES, NAILS OR SCREWS TO ANY PROTECTED TREE IN ANY MANNER THAT COULD PROVE HARMFUL TO THE PROTECTED TREE, EXCEPT AS NECESSARY IN CONJUNCTION WITH ACTIVITIES IN THE PUBLIC INTEREST.
- (C) DURING THE CONSTRUCTION STAGE OF DEVELOPMENT, THE CONTRACTOR SHALL NOT CAUSE OR PERMIT THE CLEANING OF EQUIPMENT OR MATERIAL WITHIN THE OUTSIDE PERIMETER OF THE CROWN (DRIPLINE) OR ON THE NEARBY GROUND OF ANY TREE OR GROUP OF TREES WHICH IS TO BE PRESERVED. WITHIN THE OUTSIDE PERIMETER OF THE CROWN (DRIPLINE) OF ANY TREE OR ON NEARBY GROUND, THE CONTRACTOR SHALL NOT CAUSE OR PERMIT STORAGE OF BUILDING MATERIAL AND/OR EQUIPMENT, OR DISPOSAL OF WASTE MATERIAL SUCH AS PAINTS, OIL, SOLVENTS, ASPHALT, CONCRETE, MORTAR OR ANY OTHER MATERIAL HARMFUL TO THE LIFE OF THE TREE.
- (D) NO PERSON SHALL PERMIT ANY UNNECESSARY FIRE OR BURNING WITHIN 30 FEET OF THE DRIPLINE OF A PROTECTED TREE.
- (E) ANY LANDSCAPING ACTIVITIES WITHIN THE BARRIER AREA SHALL BE ACCOMPLISHED WITH HAND LABOR.
- (F) PRIOR TO ISSUING A CERTIFICATE OF OCCUPANCY OR COMPLIANCE FOR ANY DEVELOPMENT, BUILDING OR STRUCTURE, ALL TREES DESIGNATED TO BE PRESERVED THAT WERE DESTROYED DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR WITH TREES OF EQUIVALENT DIAMETER AT BREAST HEIGHT TREE CALIPER AND OF THE SAME SPECIES AS SPECIFIED BY THE CITY STAFF, BEFORE OCCUPANCY OR USE, UNLESS APPROVAL FOR THEIR REMOVAL HAS BEEN GRANTED UNDER PERMIT.
- (G) THE CITY STAFF MAY CONDUCT PERIODIC INSPECTIONS OF THE SITE DURING LAND CLEARANCE AND CONSTRUCTION.
- (H) IF, IN THE OPINION OF THE CITY STAFF, DEVELOPMENT ACTIVITIES WILL SO SEVERELY STRESS SLASH PINES OR ANY OTHER PROTECTED TREE SUCH THAT THEY ARE MADE SUSCEPTIBLE TO INSECT ATTACK, PREVENTATIVE SPRAYING OF THESE TREES BY THE CONTRACTOR MAY BE REQUIRED.