



The Town of Leesburg in Virginia

DESIGN AND CONSTRUCTION STANDARD

Article # X-XXX.X

PART 1 - BACKGROUND

The purpose of Directional Root Pinning (DRP) is to provide an alternative to root pruning during excavation & grading operations. The exact location and depth along the LOD or edge of excavation will be determined during the Urban Forester's layout. The DRP procedure utilizes non-invasive Supersonic Air Tool (SSAT) Excavation followed by Hand moving or roots. Directional Root Pinning shall be performed by an ISA Certified Arborist with proven experience in Tree Preservation Projects which focus primarily on the below ground portion of the trees rather than their canopies.

Directional Root Pinning shall follow the following procedures: Superintendent to review all locations with project forester prior to layout to determine issues of access, overhead clearance, stockpile of spoils, need for special equipment, special arboricultural measures, and timing of layout to allow special preservation and arboricultural measures. Superintendent shall notify project forester of layout for final review. Discrepancies between plans and site conditions will be noted. Project forester shall review layout of proposed DRP.

PART 2 - TOOLS AND MATERIALS

Directional Root Pinning utilizes a standard trailer mounted 185 CFM air compressor with Supersonic Air Tool. Barriers should be erected to prevent damage to surrounding vehicles, buildings, windows and pedestrians.

PART 3 - SAFETY

Establish a safety zone for each area to be air excavated to protect pedestrians, vehicles, and structures. Initiate the following precautions within each safety zone: safety cones, flagman for pedestrians or vehicles, Root Protection Matting on the ground within 15 feet of the excavation area, a drop-cloth tarp attached to temporary 6-foot chain link fence panels to block airborne debris, and safety cones for hoses crossing pedestrian walkways. Pedestrians or vehicles entering the safety zone with no intervening protection shall result in temporary cessation of airflow by the supersonic air tool operator. Compressed air hose connections shall have safety clips or whip-checks installed to prevent unwanted hose disconnection. The supersonic air tool operator will wear personal safety protection while performing air tool operations including hardhat, ear plugs, safety glasses, face shield or goggles, long sleeve shirt and pants or Tyvek suit, gloves, chain saw chaps and safety toe work boots. Supersonic air tool operations will be performed by or supervised by an ISA Certified Arborist with bonified experience in air excavation around tree roots. The ISA Certified Arborist is required to have completed three prior projects within the past two years during which time they performed supersonic air tool operations. The use of the SSAT will be scheduled and approved by TOL to minimize public disruptions prior to its use on the site.

PART 4 - EXECUTION

The Supersonic Air Tool is used to blow away and expose tree roots in the area where construction, structure or building is proposed. Once the roots are exposed to their terminus, they are carefully bent back to the edge of excavation and secured to the existing soil with sod staples and often covered with non-woven needle punched geotextile fabric. Roots too woody to be moved can be carefully pruned with wood cutting implements.

Not To Scale

REVI-				SSAT DIRECTIONAL ROOT PINNING (SSAT-DRP) SPECIFICATION	DRAWING
NO.	DATE:				XX-1
					PAGE
					XXX