# ITEM 102.522 TREE AND PLANT PROTECTION FENCE - CHAIN LINK FOOT

*REV. 2024.07.27 (REV. DATE TO BE REMOVED BY MASSDOT CONTRACTS)*

The work under this Item shall conform to the relevant provisions of Sections 644 and 771 of the Standard Specifications and the following:

Work under this item shall consist of furnishing, installing, and maintaining vertical and stable chain link fence for tree and plant protection; removing and resetting fence(s) as may be required; and final removal of protection fence(s) at the completion of construction activities, or as otherwise required by the Engineer.

The purpose of the fencing is to signify a construction work-free zone and physical barrier, thereby preventing damage to tree roots, tree trunks, soil, and all other vegetation within this delineated Tree and Plant Protection Zone (TPPZ), as shown on the Drawings, as required by the Engineer, and as described herein.

Chain link fencing for tree and plant protection shall remain in place for the duration of the construction activities, unless otherwise required by the Engineer.

## MATERIALS

Chain link fence for tree and plant protection shall be six (6) foot tall metal chain link, set in metal frame panels on movable core drilled concrete blocks of sufficient size to hold the fence erect. Panels shall be such that they create a barrier to encompass the entire TPPZ or root zone area, to the extent possible.

Unless otherwise indicated, the following types of chain link fence are acceptable:

* New materials or previously used salvaged chain link fencing in good condition, subject to inspection and approval by the Engineer.
* Posts: Galvanized steel pipe of diameter to provide rigidity.
* Fabric: Woven galvanized steel wire mesh. Provide in continuous lengths to be wire tied to fence posts or prefabricated into modular pipe-framed fence panels.

## REFERENCES

If requested, the Contractor shall provide to the Engineer one copy of the American National Standards Institute (ANSI) A300 Standard Practices for Tree, Shrub, and Other Woody Plant Maintenance Part 1, Pruning and Part 5, Construction Management Standard. Provision of reference shall be incidental to this item.

## ESTABLISHMENT OF THE TPPZ

Fencing shall be used for construction areas, staging areas, and stockpile areas as shown on the plans, or as required by the Engineer, to establish the TPPZ.

Fencing shall be located as close to the work zone limit and as far from tree trunk(s) and plants as possible to maximize the area to be protected. Fence shall run parallel and adjacent to construction activity to create a barrier between the work zone and the root zone or designated limit of plants and soils to be protected.

When construction activities surround (or have the potential to surround) trees or plants to be protected, a circular enclosure shall be used. In these instances, the TPPZ limit shall be the Drip Line of each tree or as close as possible to the drip line, and as shown on the plans and details. The drip Line is defined as the limit of tree canopy.

The Contractor shall not engage in any construction activity within the TPPZ without the approval of the Engineer, including: operating, moving or storing equipment; storing supplies or materials; locating temporary facilities including trailers or portable toilets. Accessing or traversing the TPPZ shall not be permitted.

## ****METHOD OF WORK****

TPPZ fencing shall be installed prior to any construction work or staging activities. Fence(s) shall be repositioned where and as necessary for optimum tree and plant protection. Repositioning shall be incidental to this item. TPPZ fencing shall not be moved without prior approval by the Engineer.

The TPPZ shall be protected at all times from compaction of the soil; damage of any kind to trunks, bark, branches, leaves, and roots of all plants; and contamination of the soil with construction materials, debris, silt, fuels, oils, and any chemicals substance.

After construction activities are completed, or when required by the Engineer, fencing panels, posts, and anchoring materials, shall be removed and disposed off-site by the Contractor.

## ****REQUIRED WORK WITHIN THE TPPZ****

In the event that grading, trenching, utility work, or storage is unavoidable within the TPPZ, the Engineer shall be notified. Measures may be required for tree protection and preservations, including air spading, the use of six-inch depth of wood chips or approved matting for root protection, pruning of branches, and/or trunk protection. These protection measures will be paid under applicable items.

Landscaping work specified within the TPPZ shall be accomplished by hand tools. In the event that handwork is not feasible, work shall be conducted with the smallest mechanized equipment necessary to do the work, with permission of the Engineer.

## TREE AND PLANT DAMAGES OR LOSS

If the TPPZ is encroached by construction activity without approval, at the discretion of the Engineer the Contractor may be required to provide a more durable barrier (e.g., Jersey Barriers) to secure the area. Costs of furnishing and installing additional or more durable barrier(s) shall be borne by the Contractor.

In such cases of encroachment, soils shall be considered compacted and tree root damage will be assumed. Action shall be taken as specified below.

In the event that trees designated for protection under this item are damaged, including root damage from unapproved trespassing onto the root zone, the Contractor shall, at his own expense, secure the services of an Arborist, described under Item 102.55. The Arborist shall be approved by MassDOT.

In the event of spills, compaction or damage, the Contractor shall take corrective action immediately using methods approved by the Engineer, in coordination with the Arborist.

If, based on the recommendations of the Arborist, the Engineer determines that damages can be remedied by corrective measures, such as repairing trunk or limb injury, soil compaction remediation, pruning, and/or watering; the damage shall be repaired as soon as possible, within the appropriate season for such work, and according to industry standards.

If the recommendation determine that damages are irreparable, or that the damages are such that the tree is sufficiently compromised to pose a future safety hazard, the tree shall be removed. Tree removal shall include cleanup of all wood, grinding of the stump to a depth sufficient to plant a replacement tree or plant, removal of all chips from the stump site, and filling the resulting hole with topsoil. Such removal(s) and related activities shall be at the Contractor’s expense.

Tree removal from improper or inadequate protection of the TPPZ shall result in the Engineer assessing the Contractor monetary damages in the amount based upon industry standards per diameter inch at breast height (DBH) per tree.

Shrubs removals from improper or inadequate protection of the TPPZ shall be replaced with plants of similar species and equal size or the largest size plants reasonably available. The Engineer shall approve the size, quality, and quantity of the replacement plant(s). Each replacement shall include a minimum of one year of watering and establishment care, specified under Section 771.

## METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Item 102.522 Tree and Plant Protection Fence–Chain Link will be measured and paid for payment by the FOOT, complete in place.

This will include all labor, materials, equipment, maintenance, resetting, final removal/disposal of the protective fence(s), damage repair, and all incidental costs required to complete the work.

Payment for work under this item will be scheduled as follows:

* Forty (40) percent of the value payment will be made upon installation of TPPZ fencing.

* Sixty (60) percent of the value payment will be made when TPPZ fencing materials have been removed and disposed off-site.

No separate payment will be made for costs of remedial actions, including addition of more durable barriers, Arborist services, tree or plant removal, shrub replacement and establishment, but all costs in connection therewith shall be included in the Contract unit price bid.

Tree damages assessed, due to lack of or improper tree and plant protective measures being taken, shall be deducted from the contract price of the work.