

Nelson Meadows Subdivision Parkway Tree Follow-Up

The Village Council inquired about the tree preservation technique to be used in protecting the trees on private. Specifically, they questioned whether the preservation methods would be the same as the methods used for protecting public trees. The tree preservation methods for the protection of the private trees are identical to those used for protecting public trees. The following paragraphs explain the general tree preservation techniques and the specific preservation methods that will be used to protect the private trees south of the site and the public trees within the Brookbank ROW.

General Tree Preservation Techniques

The critical root zone for trees as listed in ANSI A300 (which is one of the standards in the forestry profession) is defined: “the critical root zone is the minimum volume of roots necessary for maintenance of tree health and stability”. In order for people to picture what this may be, a lot of other literature says to estimate the critical root zone size as a one-foot radius for every inch in stem diameter. This is a good starting point but not an absolute nor proven with scientific research. The ANSI Z60 for nursery stock states that rootballs for transplanted trees be 1 foot diameter for every inch of stem. These rootballs then only encompass half of the stated critical root zone, that is, a 2” diameter tree has a 24” inch diameter rootball and not a 48” rootball. However, from experience in Downers Grove and the Suburban Tree Consortium, tree survival has been excellent when 2” diameter trees have been transplanted with 24” rootballs.

Dr. Gary Watson of the Morton Arboretum has done many studies on roots and tree tolerance to root loss during transplanting and trenching. Several of his studies showed that transplanted trees lose up to 90% of their roots during the transplanting process, and yet roots are able to regenerate and trees survive. Another study which involved trenching trees right near their stems found that vigorous trees may be able to tolerate and recover from trenching a considerable part of the root zone. These studies point out there is some flexibility in the amount of roots a tree needs to survive.

Tree survival as a whole has been excellent in Downers Grove parkways. Many trees have their critical root zones (if measured as 1 foot radius for each inch in stem diameter) under driveways, sidewalks, and streets. In areas where these drives and sidewalks have been repaired or newly installed, tree mortality has not increased. Isolated problems have occurred when any construction activity has been right next to the stem causing a lack in stability or decay of the tree right at that point. If there was no flexibility in the size of the critical roots zone and tolerance of trees to some root loss, then there would be higher mortalities or no trees in the parkways.

For a construction project, the proper approach then is to survey the trees there, determine their health condition and start with a measurement of the critical root

zone, say 1 foot radius for every inch in stem diameter. A circle can be drawn around each tree and then the shape is changed in order to accommodate the environmental conditions and yet keep enough roots undisturbed to maintain tree health and stability. This may mean reshaping the circle into a rectangle, as in the parkways, or making an oval. Of course, the more the tree is in the middle of whatever shape, the better but nothing is ever perfect. If trees are either unhealthy or have structural problems, or too much root disturbance will occur especially close to the stem, or many roots cut on weaker trees, then removal may be a better option.

Tree Preservation for the Nelson Meadow Subdivision

Walnuts South of Site

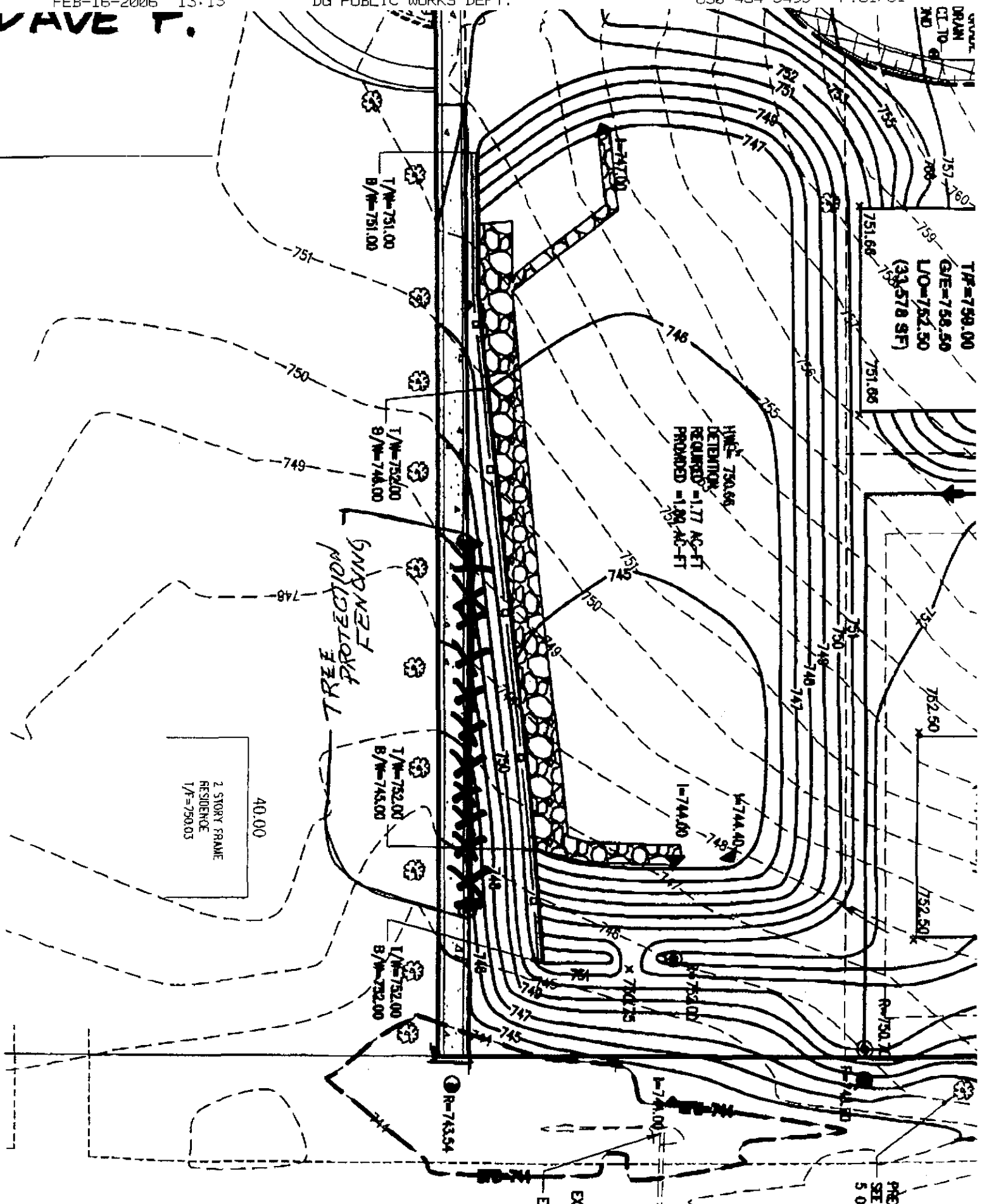
For the row of walnuts on private property along the southeast part of Nelson Meadows development, soil disturbance will be 5 or more feet to the north of the stems. This means a vast majority of the roots right adjacent to the stem as well as on the south side of each tree will be undisturbed and sufficient to support the trees and maintain health. To avoid trespass, a chain link fence should be installed. The attached sketch indicates the location of the chain link fence.

Trees in Brookbank ROW

For the trees on Brookbank, a vast majority are black locust. In previous investigations as well as a review in the field again today, many have dead branches and decay areas. Some of the ones in better condition are right in the path of the roadway so their removal cannot be avoided. For any that will end up west of the proposed curb, because of their proximity to the proposed curb and that some are not in the best condition to start with, I am not going to guarantee their survival. I would like to meet with the builder before any removals occur along Brookbank, and install a chain link fence there as well to delineate the exact street limits. While the plans themselves show trees spread out more, I am anticipating some may be right at the road edge where up to half their roots may be cut off. Should this occur, removals will be needed for public safety. I have mentioned this uncertainty in previous memos

The only evergreens I saw in the area are on private property. Chain link fence installed around the perimeter of the site should prevent trespass.

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NELSON MEADOW TREE FENCING