

ITEM 657 TREE PROTECTION

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657.01 Description. This work consists of furnishing and placing riprap for protecting selected trees or shrubs from construction by installing tree wells and retaining walls. All work shall comply with ANSI Standard A300-*Tree, Shrub, and Other Woody Plant Maintenance-Standard Practices, Part 5-Management of Trees and Shrubs during Site Planning, Site Development, and Construction*; and its companion publication Best Management Practices: Managing Trees during Construction.

657.02 Materials. Furnish stone consisting of sandstone, limestone, or other natural rock with a maximum 30 percent single slab loss and a maximum 20 percent cumulative loss after testing to ASTM D 5240. Use an 8-inch slab test sample. The City may waive testing when the stone source has a known durability history. Furnish embankment according to Item 203. Unless otherwise specified, use 4-inch (100 mm) pipe conforming to 603 Type E conduits.

657.03 Tree Wells in Fill. Where a fill around a tree or shrub not marked for removal will be required within the tree or shrubs critical root zone (CRZ), construct a dry hand-laid stone riprap retaining wall. Construct a wall, of the same height as the fill, circling the tree or shrub at the greatest distance from the trunk represented by a measurement of five times the diameter of the trunk of the plant or to the drip line. Construct the wall so that the top of the wall follows the contour on the finished grade in a neat line.

657.04 Tree Wells in Cut. Where the City requires a cut around a tree or shrub not marked for removal within the tree or shrubs critical root zone (CRZ), construct a dry hand-laid stone riprap retaining wall. Construct a wall of the same depth of the cut, circling the tree or shrub at the greatest distance from the trunk represented by a measurement of five times the diameter of the trunk of the plant or to the dripline. Construct the wall so that the top of the wall conforms with the original grade.

657.05 Hand-Laid Stone Riprap. Construct the earth bed on which riprap is to be placed to a slope of 1 foot (300 mm) vertical to 2 inches (50 mm) horizontal. Dress the earth bed to a true plane. Where riprap is to rest against a fill, tamp the embankment against the back of the stone.

Construct riprap for walls or wells according to the arrangements and dimensions shown on the plans. Lay each course with the long dimensions of each stone perpendicular to the slope or batter.

Use individual stones that are roughly rectangular in cross-section and are a minimum of 3 inches (75 mm) in the vertical depth with a horizontal dimension of not less than 15

inches (0.4 m). Place the individual stones by hand, one upon the other so that they break joints with the stone in the course below. Where it is necessary to use more than one stone to provide the specified thickness or depth of the wall, thereby resulting in joints parallel to the face of the wall, place such stones to break joints with the adjacent stones.

Fill the space between the larger stones with spalls rammed into place. Ensure that the surface of the finished riprap does not vary more than 3 inches (75 mm) from that shown on the plans, and that it presents an even, tight surface, pleasing in appearance.

657.06 Earthwork. Perform excavation and embankment, as necessary, according to Item 203.

657.08 Method of Measurement. The City will measure Riprap for Tree Protection by the number of square yards (square meters) in place, completed and accepted. The City will measure parallel to the face of the wells or walls.

657.09 Basis of Payment. The City will pay for embankment and excavation under Item 203 and the pipe for drains under Item 603.

The City will pay for accepted quantities at the contract price for as follows:

Item	Unit	Description
657	Square Yard (Square Meter)	Riprap for Tree Protection