

## **Case #2**

**Subject:** Triumph Hybrid Elm

(*Ulmus* 'Morton Glossy')

**Location:** City of Falcon Heights

**Symptoms and Analysis:** This spring we received a call from an arborist in Falcon Heights, MN, who had observed a significant amount of crown dieback in Triumph elms growing in boulevards. These trees were planted several years ago and were well established and healthy prior to these symptoms.

The classic wilt symptoms of DED were not observed in these trees and upon closer examination we found multiple areas of sunken bark and active callus formation throughout the crown. There was no evidence of vascular staining or beetle feeding. Tissue samples were collected from symptomatic portions of the tree and cultured for fungal pathogens. Results show no evidence of infection by *Ophiostoma novo-ulmi* (Dutch elm disease), however other fungal species were recovered and further studies are required to determine the causal agent of the dieback.



*Triumph Elm Showing Crown Dieback*



*Vascular Discoloration is a Primary Indicator of DED Infection. Here Samples are Being Examined from Symptomatic Areas in the Crown.*



*An Example of Callus Formation in the Crown Where Dieback was Occurring*