Sustainability Fee Project Grant Report

Date: 1AUG17
Name(s): John B. Dryden, Ryan Macy
Unit/Department(s): Civil Engineering and Construction Management, GSU
Facilities E-mail address: jdryden@georgiasouthern.edu
Phone: 912-515-5813
Project title: "DUTCH ELM DISEASE RESISTANT CULTIVARS FOR CAMPUS ENVIRONMENTAL SUSTAINABILITY"
Amount granted: $3,135
Amount spent: $1,762

I. Project Outcomes/Value

Project Timeline – This project was completed as April 5th 2017, with last delivery of 30 Valley Forge Elm Cultivars. A total of 55 cultivars were purchased/donated, and an additional 90 cultivars were donated (75 to be delivered in 2018)

Project Outcomes –
The proposed project goals/objectives were to:

- Create a bank of DED-resistant elm tree genetics, to return the mighty elm tree back to the GSU campus.
- Grow DED-resistant elm seedlings into "whips" (6'–7' saplings) for planting around campus by student groups, individual students, and Facilities Landscape Services.
- Propagate cuttings from "whips" and established planted trees for further campus planting.
- Contribute data relating to the success of planted trees to the National Elm Trial.

The proposed objectives were met for this project. This grant was leveraged into donations from industry (described in other sections of this report). There was a shortage of DED-resistant elm trees available for purchase across the United States, so not all cultivars were available for purchase. This stymied my best intentions (e.g., have cultivars available for Arbor Day plantings, establish research blocks), but additional cultivar variety donations have been pledged for 2018.

Sustainability Improvements – This project has improved campus sustainability by:

- Saving energy while reaping the myriad benefits of returning a large, beautiful, fast-growing shade tree to campus.
- Increased biodiversity of the campus treescape while creating a more verdant campus.
- Fill a void in the knowledge related to the success of various DED-resistant elm cultivars in the Southeast United States.

Using the National Tree Benefit Calculator, the Energy, Stormwater, Air Quality, CO2, and

Property Value were computed for these trees, assuming they average 2” in diameter. Each tree was calculated to provide $4 value to the campus, for a total first-year savings of $280 (70 trees x $4/ea.). As the trees grow larger, this figure will increase (generally, exponential growth) every year.
Outreach – Publicity measures have not been taken yet, with the exception of participation in the 3rd Annual Sustainability Showcase. Next Arbor Day, publicity measures will be taken, and a suitable DED resistant elm tree will be selected for planting by the university President.

Budget report- $1,762 were spent on this project. All of the monies spent were for DED-resistant trees and shipping. This is less than the amount granted ($3,135) because of the impossibility of finding cultivar varieties for sale this past season. Root control bags and watering cans (budgeted for $320 and $255, respectively) were not purchased, as they were deemed unnecessary by Facilities.

II. Student and Community Impact

Student impact for this project derives from student workers at Landscape Services pursuing Service Learning hours assisting in the propagation of the DED-resistant elm trees.

Grant Leverage

This grant was leveraged in several important ways. First, I secured the donation of 15 large St. Croix variety cultivars that were successfully planted around campus. Second, I was able to secure the pledged donation of 15 Jefferson, New Harmony, Prairie Expedition, Princeton, and Valley Forge cultivars each in 2018.

Project abstract

70 Dutch Elm Disease (DED)-Resistant Elm Cultivars were purchased and planted around campus by GSU Landscape Services. These saplings also serve as propagation ‘parents’, thus ensuring a steady future supply of DED-resistant elm trees for GSU. As there has been virtually no research into the performance of these cultivars in Georgia, the long-term performance of these cultivars will be reported to the National Elm Trial as part of their continuing research.


Figure 1 – Planted Elm Cultivars on GSU Campus