



MEMO

To: Mayor and City Council

From: Public Works Engineering

Date: 6/7/24

Subject: Welch Avenue Tree Trenches

BACKGROUND:

The tree trenches were constructed in 2020 through a water quality grant from IDALS to protect the waters of College Creek. The trenches were planted with trees and native plants in the spring of 2021. Kentucky Coffeetree and Crimson Spire Oak were chosen because they have a columnar form that will grow more vertical in the narrow space between the street and the buildings, allowing visibility to the businesses. Wood mulch was placed around the plantings.

Within several weeks of being planted three of the nine trees were vandalized as branches and trunks were broken or the trees were pulled out of the ground. Many of the plants did not survive through the first year. The wood mulch that was placed around the plantings was not effective for weed control because it floated as water passed through the trench. The key is to get plants to grow, which then keeps the mulch in place.

From a stormwater perspective the tree trenches are functioning as designed. The curb intakes at the gutter divert runoff into the trenches and provide a water quality benefit removing sediment, nutrients, trash and other pollutants prior to discharge to College Creek.

The first year following construction, Public Works staff removed trash on a regular basis, most days of the week. During 2022 staff collaborated with Mike Todd's Ames High science class to plant a variety of native plants in three of the trenches. Staff pruned damaged trees to attempt to save them. One tree was replanted after being vandalized by being pulled out of the ground. Maintenance of the trenches (weed and trash removal) occurred at least monthly throughout the year.

In 2023, the trenches were maintained (trash removed and weeds trimmed) monthly. The survival rate of the ground cover vegetation planted in 2021-2022 was low, due to drought

conditions. In the fall, Public Works staff met with the City Forester to inspect the trees and it was decided that several of the trees were damaged too severely and therefore they were removed. The City Forester recently met with a local landscaper and reached out to the University of Iowa Arborist to discuss tree species for this environment and several species were suggested.

The photos taken by David Martin were taken the week of April 15, 2024. Later that week was the city-wide volunteer Stash the Trash event when trash was removed. Stormwater Interns have now begun maintaining the trenches. So far this year staff removed trash from the trenches on May 2, May 13, and May 20 and weeds on May 17 and May 20. Weed growth has been early this year due to an early spring and warm soil temperatures. Interns will be employed through the growing season until December 2024.

Staff has had limited success finding volunteers to clean the trenches on an on-going, regular schedule. Groups contacted include Campustown churches, fraternities and businesses to determine if there is an interest in volunteering to clean trash from the trenches. Groups are only willing to do occasional cleanup as a special event. For example, this coming fall an ISU student group within the Learning and Leadership Sciences minor has planned to hold "Sweep the Streets" events on September 22, October 20, and November 17 after home football games). Welch Avenue including the tree trenches will be part of the project area.

ACTION STEPS:

The City Forester recommended several tree species for tree replacement of the three trees that were vandalized. The trees will be planted this year, with timing based on availability from local nurseries.

In addition, plants of differing varieties and sizes (containers and seeds) will be planted. Staff is working on a plan to water the new plants as needed during dry periods for better establishment. Wood mulch will also be added, around the new plants and if need be, moved back into place after rains, to help with establishment.

Staff will inspect and clean the trash out on a weekly basis and weed on an as-needed basis throughout the growing season. Next year, stormwater interns will be hired at least one month earlier so that trash and early spring weed growth will be better controlled and removed.

Lastly staff is exploring positive message signage for the trenches to encourage people to respect the tree trenches, use the trash receptacles, and not dispose of trash in the trenches.