

July 17, 2019

## **Johnston Town Center**

Many times, a tree can become so familiar that it is hard to imagine what a place would look like without it. They are beautiful, they create shade and attract wildlife. It is often a difficult decision to let a tree go, but it is important to look at the big picture and long-term health of individual plants. Tree removal decisions are based on three primary areas: 1) existing tree health and species, 2) potential construction impacts and 3) careful planning and design.

### ***Existing Tree Health***

In Fall 2018, the City of Johnston's certified arborists conducted a tree survey and health assessment. They surveyed almost 130 individual trees on the site, identified the plant species and plant size (measured as diameter at breast height or 'DBH').

A health assessment of the trees identified that nearly 40% of the trees were in "fair" or "poor" health condition. This means that the tree may have structural problems, such as interior decay, a bad tree crotch, crack in trunks or leaders and/or is diseased/infested. Many of these trees need to be removed due to health concerns, which eventual will become public safety and welfare issues.

The remaining 60% of trees, currently identified to be in "good" health, were assessed based on their species. Elm, silver maple, cottonwood and ash are species are generally undesirable in urban-type settings due to known issues, such as weak wood (silver maple and cottonwood) and potential disease (Dutch Elm Disease and Emerald Ash Borer). 25% of the trees in "good" health are one of these undesirable species. Public safety and welfare are the primary reason why weak wood and disease-prone trees are generally undesirable, as they may fall or drop branches.

### ***Potential Construction Impacts***

Construction activities, even with tree protection in place, take a heavy toll on trees. This is through cutting roots, soil compaction and grade alteration. The most obvious types of construction-related injuries seen are damage to trunks and branches; however, the most lethal is root damage. Scientist know that damage to the root system will impair the health of a tree, and they believe that damage to 40% of the root system will guarantee death. The death may not even be realized until years later. Many people don't realize that root systems are much larger than the tree that we see aboveground - twice as wide as the height of a tree and larger.

Due to development activities, such as roads, sidewalks and infrastructure, protecting this space cannot be achieved. Tree protection for remaining, preserved trees is provided as part of this project. This protection limits how close contractors can conduct work near a tree. A highly visible fence delineates the protection boundary that to prevent construction traffic and potential root damage. In some instances, construction within these areas is permitted; although, specialized construction techniques are used to preserve the tree's root system. Certified arborists are also critical to ensuring and monitoring the health of the protected trees.

### ***Planning & Design***

Planning and design are both important in tree preservation. Tree health, species and construction considerations are only part of the planning process. The next part is locating the physical elements and infrastructure in locations that avoid healthy, desirable tree species. One way this project accomplishes protection is by providing a 3-acre greenspace on the eastern side of the development. This area protects 20 mature trees, including two of the largest existing trees on the site at 42-inches in width.

Through the planning and design process, the design team has identified the trees that will be impacted due to development and can be transplanted. In fact, the City has already relocated several small trees to nearby trails and Ray Schleih's Park. The larger trees that need to be removed due to construction-related activities or health concerns will not be wasted. As part of the new City Hall project, the design team has identified 22 individual trees that will be removed and reused within the building. The wood from these trees will be turned into future furnishings and features within City Hall.

Trees are not forgotten about in the new Town Center project. The plan will be adding a diverse selection of 245 shade and ornamental type trees, including the addition of a community orchard. The trees are selected to for their ability to thrive in urban environments, resistance to disease and heat/drought tolerance. Diversity for the new trees is also important for ensuring health and longevity benefits within the development.