Hazard Tree Assessment Report for Gladstone Nature Park, Gladstone, Oregon.

Prepared for:
Steve Graves
The City of Gladstone Parks & Recreation Department
Gladstone, Oregon

Prepared by:
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RE: Tree inventory and recommendations for trees located at:

Date: 6/24/2020
Attn: Steve Graves, Public Works Supervisor, City of Gladstone
Site Address: Gladstone Nature Park

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INTRODUCTION AND HISTORY

Gladstone Nature Park is an 11.5-acre nature park located in Gladstone, Oregon. Based on historical records the area comprising the park and surrounding lands were occupied by Clackamas and Kalapuya people. Oak savanna was the dominant eco-type in this area, maintained by fire, whether from lightning or human activity. As European settlers moved into the area in the mid-1800's they began modifying the land for farming and personal uses. For the next 160+ years the land encompassing the park and adjacent areas changed ownership with varying plans for modifications and development. In 2008 the City of Gladstone acquired the land from a developer and designated the land as a city park. Harsh, less than desirable conditions have saved this site from numerous attempts of development, resulting in a relatively intact, thriving oak woodland.

SITE CONDITIONS

The site is primarily basalt outcroppings with shallow soils and exposed boulders, resulting in dry arid conditions. The majority of native vegetation is well-adapted to dry conditions and shallow soils, consisting of Oregon white oak (*Quercus garryana*), Pacific madrone (*Arbutus menziesii*), Oceanspray (*Holodiscus discolor*), tall Oregon grape (*Mahonia aquifolium*), poison oak (*Toxicodendron diversilobum*) and other associated tree, shrub and herbaceous species.

Secondarily, Douglas fir (*Pseudotsuga menziesii*) has self-seeded and spread throughout the site, competing directly with oak and madrone. In the Willamette Valley Douglas fir typically grows in deep, fertile soils where they can live for more than 1,000 years. At Gladstone Nature Park, the soil is shallow and overall, not suitable for Douglas-firs. During the fast crown development and slow decline of the these Douglas-fir trees, they appear to crowd out and compete for space occupied by Oregon white oaks. Additionally, invasive non-native vegetation has invaded the site, species including Armenian blackberry (*Rubus armeniacus*), poison hemlock (*Conium maculatum*), and teasel (*Dipsacus fullonum*).

The park is an island, surrounded on all sides by urban development and hardscape. Numerous trails, developed or unplanned, wind through the site giving visitors unfettered access to most areas. At the front of the park, in the northeast corner, visitors encounter an open field with minimal amenities and newly planted western red cedar (*Thuja plicata*). A paved path was added in the early 2000's while numerous arterial paths have been somewhat randomly created by park visitors.

PURPOSE

The purpose of the hazard tree inventory was to identify trees and/or tree parts that pose danger to park visitors, volunteers and park maintenance staff who travel the pathways. Additionally, this report is a compilation of the field data, observations and recommendations to alleviate identified hazards.

This report may be used as a guideline for managing tree risk in the park, while practicing techniques that consider wildlife habitat. Many of the recommendations include the retention of dead wood in the form of branch stubs, downed woody debris and standing dead snags. This is, we consider dead trees in a nature park as an opportunities to retain habitat for cavity dwelling species such as woodpeckers, chickadees, nuthatch and owl that depend on these conditions.

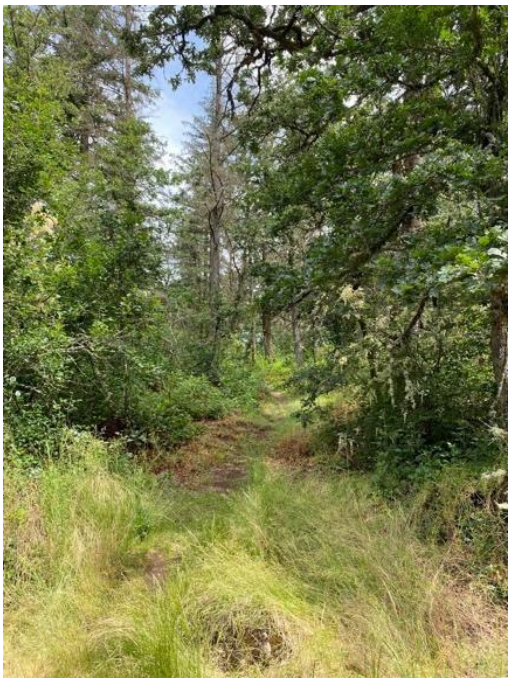
METHODS & OBSERVATIONS

On June 24, 2020 we walked all pathways through the park; paved, chipped or dirt. Careful observations were made to identify trees and/or tree parts that posed danger to park visitors and staff. These included entire trees, tree tops, dead branches, broken branches or other tree parts. We conducted visual evaluations, which is only one part of a more comprehensive tree risk assessment, which was not requested for this assessment.

The evaluated trees within the park areas were assessed for the following information:

- Assigned tree number
- Tree species
- Trunk diameter (4.5' above grade)
- Height
- Condition note/Actions

Condition notes offer additional information about trees with defects or structure that may lead to a foreseeable failure. This evaluation is of above ground structures only, and additional defects may exist at root collars or within the root systems. Furthermore, this inventory and evaluation does not consider pests, disease or any other factors that may affect the trees' health at this time.



We tagged each tree that was identified for risk mitigation work. Included in the list is tree #501-#512. We found tree #504 and #508-#512 to be the work to be prioritized. This is due to the size trees vs. branches and proximity to the trail. In addition, fungi is present on these Douglas-fir trees that indicates these trees have already dead for years and may be more likely to fail in the near future.

The majority of hazard conditions were dead branches hanging over a trail. In order to mimic natural breakage branches over 3" in diameter should be fractured back to one or two feet from the tree trunk. Debris should remain on site. Trees that are dead require height reduction and some branch fracturing when necessary. Trees should be reduced to heights maximizing habitat value while minimizing potential conflicts to park visitors and staff. All debris should remain on site, possibly being used to close off trails.

In order to further reduce risks to park visitors and staff we recommend closing off several arterial trails. Closing off tracts of the park to become inaccessible to visitors minimizes risk and exposure to hazards that otherwise benefit wildlife and the site in general. For example, several of the hazardous conditions we identified could have been ignored if these small trails were closed. No people means no targets, equating to no risk conditions that the city has to manage.

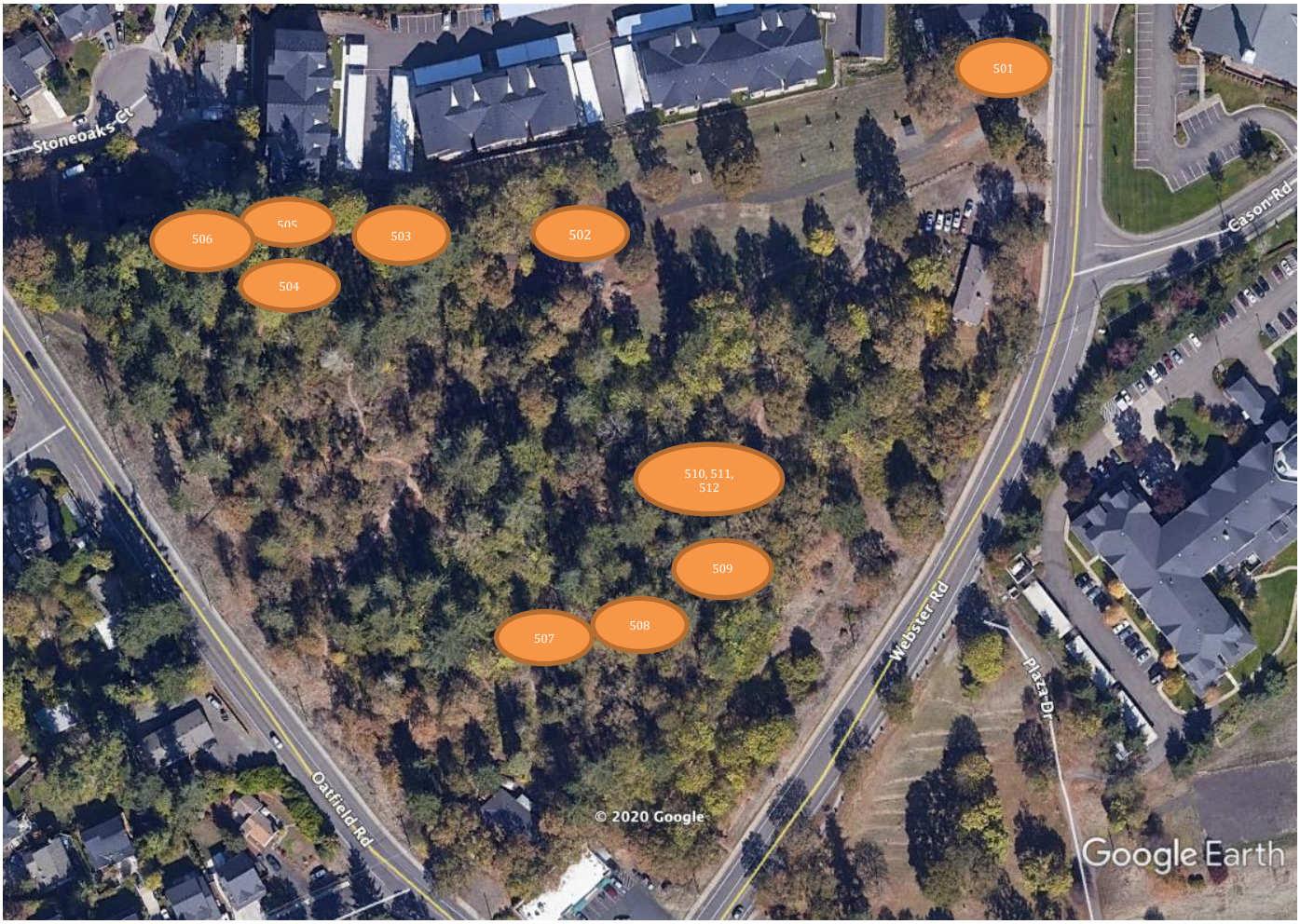
RECOMMENDATIONS

- Remove hazardous trees and parts posing immediate or impending danger to park visitors and staff
- Leave tree debris on site
- Monitor vegetation throughout park annually to identify hazards posed to park visitors and staff
- Reduce the amount and extent of trails crisscrossing the park to minimize risk exposure to park visitors and staff; minimizes edge-effect of forested areas as well.
- Develop trail standards (per regional guidelines) to include:
    - Safety – define usage, visibility, crime prevention, etc.
    - Connectivity – allow for connectivity and exercise; trail access points
    - Context – trails conform to natural settings, topography, etc.
    - Diversity – meet needs of people of all ages and abilities (including disabilities)
- Work to improve native habitat and native site conditions by developing a management plan for the entire park; plan to include recommendations to:
    - develop a long-term plan with clear guidelines to follow for the benefit of the native ecosystem, park visitors and staff; plan to include:
        - removal and control of non-native invasive vegetation
        - install site-appropriate native trees, shrubs and herbaceous plants
        - allow poison oak vines and clumps to grow (it is excellent wildlife habitat)
        - install informative signage for park users
        - maintain trail closure in certain areas
    - hire experienced site manager(s) to implement the management plan
    - outline role of volunteers and volunteer groups

Appendix A – Tree Inventory, Map

TREE DATA

Tree #	Species	Common Name	DBH	Total Ht.	Condition Notes/Actions
501	*Quercus garryana*	Oregon White oak	15	46	Reduce dead wood over trail
502	*Acer macrophyllum*	Bigleaf maple	29	36.5	Reduce dead wood; ganaderma on north side of tree; allow trunk sprouting at base and on trunk
					monitor lowest branch growing north; above targets (people underneath)
503	*Acer macrophyllum*	Bigleaf maple	30	25	Multi-stemmed; just cut piece over trail
504	*Pseudotsuga menziesii*	Douglas fir	24	84	Reduce dead wood over trail; fracture prune; no collar cuts
505	*Acer macrophyllum*	Bigleaf maple	28	62	Reduce dead wood over trail; fracture prune; no collar cuts
506	*Acer macrophyllum*	Bigleaf maple	26	65	Reduce dead wood over trail; included bark at ground-level; monitor
507	*Acer macrophyllum*	Bigleaf maple	34	40	Reduce dead wood over trail; fracture prune; no collar cuts
508	*Pseudotsuga menziesii*	Douglas fir	14	65	Dead; habitat snag; reduce ht. to 25'; leave debris across trail to close off
509	*Pseudotsuga menziesii*	Douglas fir	16	55	Dead; habitat snag; red ring rot column to 5'; reduce to 15' (tree is 16' from trail)
510	*Pseudotsuga menziesii*	Douglas fir	16	53	Dead; habitat snag; popcorn conks; tree dead more than 3 years; reduce to 20'
511	*Pseudotsuga menziesii*	Douglas fir	24	57	Dead; habitat snag; popcorn conks; tree dead more than 3 years; reduce to 20'
512	*Pseudotsuga menziesii*	Douglas fir	25	63	Dead; habitat snag; popcorn conks; tree dead more than 3 years; reduce to 30'


501
Stoneoaks Ct
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506
503
502
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Cason Rd
510, 511,
512
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508
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Webster Rd
Plaza Dr
Oatfield Rd
© 2020 Google
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Respectively submitted,

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Arborist Statement

Arborists are specialists in tree management and tree care who use their education, knowledge, training and experience to inspect and assess tree health and condition, recommend measures that are likely to enhance the health and beauty of trees and attempt to identify measures that reduce risk of personal injury or property damage from trees exhibiting defects. Clients may choose to accept or disregard the recommendation of the arborist, or to seek additional advice. Arborists cannot detect every condition that could possibly lead to the structural failure or decline in health of a tree.

Likewise, the response to any remedial treatments, like any mitigation, cannot be guaranteed. Treatment, pruning or removal of trees may involve considerations beyond the scope of the arborist's services such as property boundaries, property ownership, site lines, disputes between neighbors and other issues. Arborists cannot take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist should then be expected to reasonably rely upon the completeness and accuracy of the information provided.

In order to accomplish a full assessment and produce the best information, historical data on each tree from past observation and reporting should be provided in accordance with standard systematic tree assessment practices. Arboriculture International, LLC. has sincere interests not only for the tree(s) and the environment, but also for the residents and community surrounding the tree(s).