TICKNER FARM

CITY OF TUMWATER, WASHINGTON

MAZAMA POCKET GOPHER SCREENING & PRAIRIE PLANT SURVEY

Prepared By:

Curtis Wambach, M.S. Senior Biologist and Principal



30 October 2020

360-790-1559

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AND FOR

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1.0 INTRODUCTION

1.1 Purpose

This Mazama pocket gopher screening report and prairie plant study have been prepared to satisfy City of Tumwater requirements to evaluate the presence of an important habitat or species on the Study Area, and the likelihood that the particular important habitat or species will maintain or reproduce over the long-term.

1.2 Study Area

The 77.77 -acre Study Area Littlerock Road SW, Thurston County, WA in Section 08, Township 17 North, Range 02 West, Willamette Meridian (**Table 1**; **Figure 1**).

Table 1. Parcels Comprising Study Area

No#	Property Address	Parcel Number	Property Size (Acres)
1	7747 LITTLEROCK RD SW	09070001000	54.43 (Part of Parcel)
2	7927 LITTLEROCK RD SW	12708410100	13.71
3	7831 LITTLEROCK RD SW	12709320100	9.63
3 Parcels	Total Size		77.77

Permitting jurisdiction is City of Tumwater.

1.3 Site Evaluation

Two (2) Mazama pocket gopher screenings were performed in the Study Area this season on 17, 18, & 19 June 2020 and 26, 27, & 28 August 2020. A prairie plant survey was performed in the Study Area on 17, 18, & 19 June 2020.

The Mazama pocket gopher is a Federally Threatened species protected under the Endangered Species Act and the City of Tumwater Code. Mazama pocket gopher screenings were performed by a qualified biologist certified by the US Fish and Wildlife Service (USFWS) for the purpose of satisfying the City of Tumwater (2018) Site Inspection Protocol and Procedures: Mazama Pocket Gopher (**Appendix D**).

2.0 GENERAL PROPERTY DESCRIPTION

The Study Area encompasses two (2) full parcels and part of a third (3rd) larger parcel (**Table 1**, **Figures 2 & 3**). Intensive agriculture has occurred in the Study Area during the gopher screening and for decades (**Appendix A**, **Photos 8**, **15**, **16**, **& 17-22**). The site was in various stages of hay production during the site visits. Harvesting occurred during the site evaluations (**Appendix A**, **Photos 21**). Fertilizing, in the form of spreading manure, also occurred during the site evaluations (**Appendix A**, **Photos 15**, **16**, **& 17-20**). A barn and other agricultural buildings occur in the study area (**Appendix A**, **Photos 1**, **5**, **7**, **8**, **17-20**).



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Land use and conditions on the neighboring properties and parcels consist of forest, wetlands, rural single-family lots, a public school, railroad tracks, Littlerock Road, and intensive agriculture.

3.0 METHODS

3.1 Information Review

Prior to conducting fieldwork, and project design, biologists reviewed existing information to identify wetlands, streams, vegetation patterns, topography, soils, wildlife habitats, and other natural resources in the Study Area.

Existing data sources that were reviewed for this report included but were not limited to the following:

- Thurston County Geodatabase
- Washington State Department of Natural Resources (DNR) Sections Natural Heritage Features Database

3.2 Field Methodology

3.2.1 Mazama Pocket Gopher Screening

In compliance with the USFWS and City of Tumwater (2018) Mazama Pocket Gopher Screening Protocols:

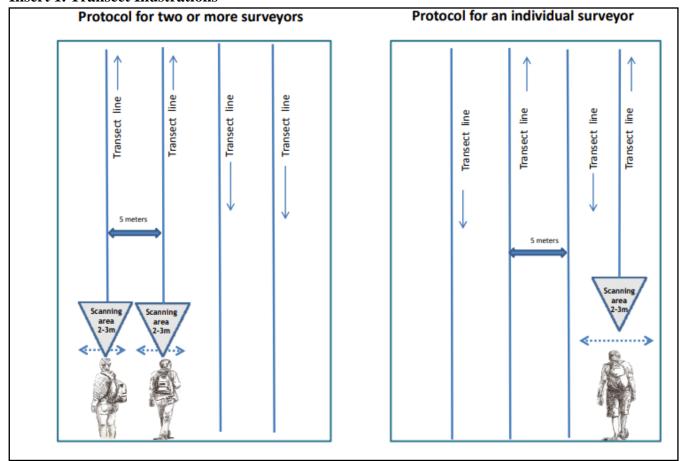
- The study has occurred during the prescribed work window of June 1 to October 31.
- A qualified biologist performed the screenings that has been trained and certified by the USFWS.
- The entire study area was evaluated, not just a project footprint.
- The site was visited two (2) times at least 30 days apart.
- Data was recorded on datasheets and provided in **Appendix E**.
- The areas of the property covered under the screening survey is illustrated in **Figure 2**.
- The ground was easily visible.

The site evaluation was conducted utilizing City of Tumwater (2018) & USFWS recommended protocol for one (1) surveyor (**Insert 1**). The search pattern had been performed along five (5) meter transects, including brushy and treed areas, examined for any evidence of mounding activity created by the Mazama pocket gopher.



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Insert 1. Transect Illustrations





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The detailed field methodology is in compliance with the USFWS Site Inspection Protocol and Procedures: Mazama Pocket Gopher as follows:

- 1. The survey crew orients themselves with the layout of the property using aerial maps and strategizes their route for walking through the property.
- 2. Start GPS to record survey route.
- 3. Walk the survey transects methodically, slowly walking a straight line and scanning an area approximately 2-3 meters to the left and right as you walk, looking for mounds. Transects should be no more than five (5) meters apart when conducted by a single individual.
- 4. If the survey is performed by a team, walk together in parallel lines approximately 5 meters apart while you are scanning left to right for mounds.
- 5. At each mound found, stop and identify it as a MPG or mole mound. If it is a MPG mound, identify it as a singular mound or a group (3 mounds or more) on a data sheet to be submitted to the City.
- 6. Record all positive MPG mounds, likely MPG mounds, and MPG mound groups in a GPS unit that provides a date, time, georeferenced point, and other required information in County GPS data instruction for each MPG mound. Submit GPS data in a form acceptable to the City.
- 7. Photograph all MPG mounds or MPG mound groups. At a minimum, photograph MPG mounds or MPG mound groups representative of MPG detections on site.
- 8. Photos of mounds should include one that has identifiable landscape features for reference. In order to accurately depict the presence of gopher activity on a specific property, the following series of photos should be submitted to the City:
 - a. At least one up-close photo to depict mound characteristics
 - b. At least one photo depicting groups of mounds as a whole (when groups are encountered).
 - c. At least one photo depicting gopher mounds with recognizable landscape features in the background, at each location where mounds are detected on a property
 - d. Photos can be taken with the GPS unit or a separate, camera, preferably a camera with locational features (latitude, longitude)
 - e. Photo point description or noteworthy landscape or other features to aid in relocation. Additional photos to be considered
 - f. The approximate building footprint location from at least two cardinal directions.
 - g. Landscape photos to depict habitat type and in some cases to indicate why not all portions of a property require gopher screening.
- 9. Describe and/or quantify what portion and proportion of the property was screened, and record your survey route and any MPG mounds found on either an aerial or parcel map.



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10. If MPG mounds are observed on a site, that day's survey effort should continue until the entire site is screened and all mounds present identified, but additional site visits are not required.

Soils known to be associated with the Mazama pocket gopher are listed in **Insert 2**.

Insert 2. Mazama pocket gopher soils

Table 1. Soils known to be associated with Mazama pocket gopher occupancy.

Mazama Pocket Gopher Preference	Soil Type		
	Nisqually loamy fine sand, 0 to 3 percent slopes		
More Preferred	Nisqually loamy fine sand, 3 to 15 percent slopes		
	Spanaway-Nisqually complex, 2 to 10 percent slopes		
(formerly High and	Cagey loamy sand		
Medium Preference	Indianola loamy sand, 0 to 3 percent slopes		
Soils)	Spanaway gravelly sandy loam, 0 to 3 percent slopes		
	Spanaway gravelly sandy loam, 3 to 15% slopes		
	Alderwood gravelly sandy loam, 0 to 3 percent slopes		
Less Preferred	Alderwood gravelly sandy loam, 3 to 15 percent slopes		
	Everett very gravelly sandy loam, 0 to 3 percent slopes		
(formerly Low	Everett very gravelly sandy loam, 3 to 15 percent slopes		
Preference Soils)	Indianola loamy sand, 3 to 15 percent slopes		
	Kapowsin silt loam, 3 to 15 percent slopes		
	McKenna gravelly silt loam, 0 to 5 percent slopes		
	Norma fine sandy loam		
	Norma silt loam		
	Spana gravelly loam		
	Spanaway stony sandy loam, 0 to 3 percent slopes		
	Spanaway stony sandy loam, 3 to 15 percent slopes		
	Yelm fine sandy loam, 0 to 3 percent slopes		
	Yelm fine sandy loam, 3 to 15 percent slopes		



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3.2.2 Prairie Plant Screening

Prairie plant screening methodology generally follows the Thurston County (April 2018) Draft Guidelines for HCP Interim Prairie Screening Process and the Thurston County (2020) Community Planning Field Screening Guidelines for Prairie Habitat.

3.3 WDFW Management Recommendations

Management recommendations are designed to maintain and enhance the integrity of Mazama pocket gopher populations and habitats. Management recommendations for important habitats and species should be based on the *Management Recommendations for Priority Habitats and Species* (1991) document created by the Washington Department of Fish and Wildlife (WDFW) as amended.

Specific WDFW Management Recommendations for development projects include but are not limited to the following:

- Avoidance unless no alternative exists
- Minimize impacts to occupied habitat
- Mitigate unavoidable impacts
- Removal of woody species

4.0 RESULTS

4.1 Background Review

4.1.1 Thurston County Geodata Soils

Two (2) soil types are mapped in the Study Area (**Table 2**). Two (2) more preferred gopher soils and two (2) prairie soils are mapped in the study area (**Appendix B & C; Table 2**).

Table 2. Thurston County Geodata Soils

Soil Unit	Prairie Soil	Gopher Soil	Preference	Comments
Nisqually loamy fine sand, 0-3%	Yes	Yes	More Preferred	Majority of the Study Area
Cagy loamy sand	Yes	Yes	More Preferred	Small portion on western edge of study area



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4.2 Field Results

4.2.1 Mazama Pocket Gopher Site Screenings

No positive confirmation of mounds created by the Mazama pocket gopher have been identified in the study area during the gopher screenings. No fresh pocket gopher activity was found during the 2020 pocket gopher screenings within the study area.

The study area is under heavy agricultural activity and has been for decades. The study area was in various stages of agricultural activities, including harvest, fertilization, and thatching, during the site evaluation (**Appendix A, Photos 15-22**).

Mounds created by the Mazama pocket gopher: 1) are crescent or oddly-shaped, 2) contain a plugged tunnel opening that extends diagonally underground from the mound edge, 3) exhibit a fine texture, and are 4) typically in a scattered distribution.

Mole mounds have centrally-located tunnel entrances that extend vertically below the surface, blocky texture, an in-line distribution pattern, and have a conical shape.

4.2.2 Mazama Pocket Gopher Habitat Evaluation

Potential low quality Mazama pocket gopher habitat occurs within the study area. Preferred gopher habitat consists prairie ecosystems. No prairie ecosystem has been identified in the Study Area. Soils that are "More Preferred" by Mazama pocket gophers are mapped over the majority of the Study Area. However, soils are highly altered and disturbed through decades of high intensity agricultural practices (**Appendix A, Photos 15-22**). Because high intensity agricultural activities, the Study Area only provides low quality continually disturbed habitat opportunity for this prairie species.

4.2.3 Prairie Plant Survey Results

No areas satisfied the definition of prairie habitat. No Prairie Habitat was identified in the Study Area during the EnviroVector site evaluations. No individual prairie plants have been identified in the Study Area during this study.

Plant species identified during the prairie survey are included in **Table 3**.



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Table 3. Plant Species Identified Onsite

COMMON NAME	SCIENTIFIC NAME	NATIVITY	PRAIRIE PLANT	
HERBS & GRASSES				
Kentucky blue grass	Agrostis Pretensis	Introduced	No	
Tall fescue	Festuca arundinacea	Introduced	No	
Velvet grass	Holcus lanatus	Introduced	No	
Alaska brome	Bromus sitchensis	Native	No	
Common plantain	Plantago lancelata	Introduced	No	
Oxeye daisy	Leucanthemum vulgare	Introduced	No	
Sweet vernal grass	Anthoxanthum odoratum	Introduced	No	
Hairy cat's ear	Hypochaeris radicata	Introduced	No	
Saint John's wort	Hypericum perforatum	Introduced	No	
Foxglove	Digitalis purpurea	Introduced	No	
Lady's purse	Capsella bursa-pastoris	Introduced	No	
American vetch	Vicia americana	Native	No	
Dandelion	Taraxacum officinale	Introduced	No	
Leafy spurge	Euphorbia esula	Introduced	No	
Western bracken fern	Pteridium aquilinum	Native	No	
Fireweed	Epilobium angustifolium	Native	No	
Orchard grass	Dactylis glomerata	Introduced	No	
Colonial bentgrass	Agrostis tenuis	Introduced	No	
Evergreen blackberry	Rubus laciniatus	Introduced	No	
English holly	Ilex aquifolium	Introduced	No	
Scot's broom	Cytisus scoparius	Introduced	No	
Himalayan blackberry	Rubus discolor	Introduced	No	
Bull thistle	Cirsium vulgare	Introduced	No	
Canadian thistle	Cirsium arvense	Introduced	No	
Purple dead nettle	Lamium purpureum	Introduced	No	
White clover	Trifolium repens	Introduced	No	
Small-fruited lupine	Lupinus polycarpus	Introduced	No	
Ryegrass	Lolium perenne	Introduced	No	
Dovesfoot geranium	Geranium molle	Introduced	No	
Lambs quarters	Chenopodium album	Introduced & Native varieties	No	
Smooth hawksbeard	Crepis capillaris	Introduced	No	

5.0 CONCLUSION

No positive confirmation of mounds created by the Mazama pocket gopher was recorded in the Study Area. No prairie habitats have been identified in the Study Area. The study area contains a managed plant community that requires intensive agricultural activities to achieve optimal harvest of the hay crop. The Study Area was in various stages of agricultural maintenance and harvest during the site evaluation, including fertilization (spreading manure), harvest, irrigation, and thatching. This intensive agricultural activity may discourage pocket gopher habitation.



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6.0 REFERENCES

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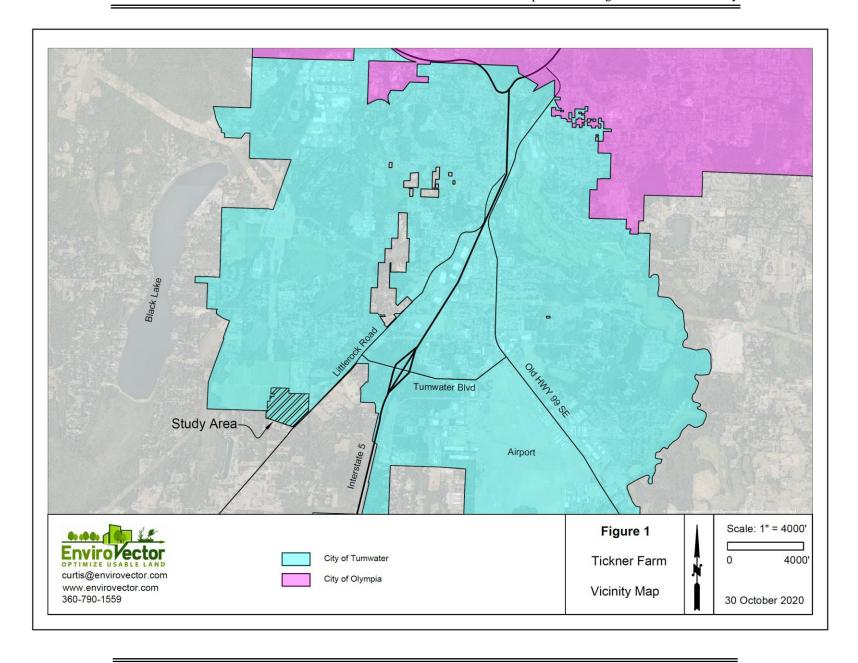


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FIGURES

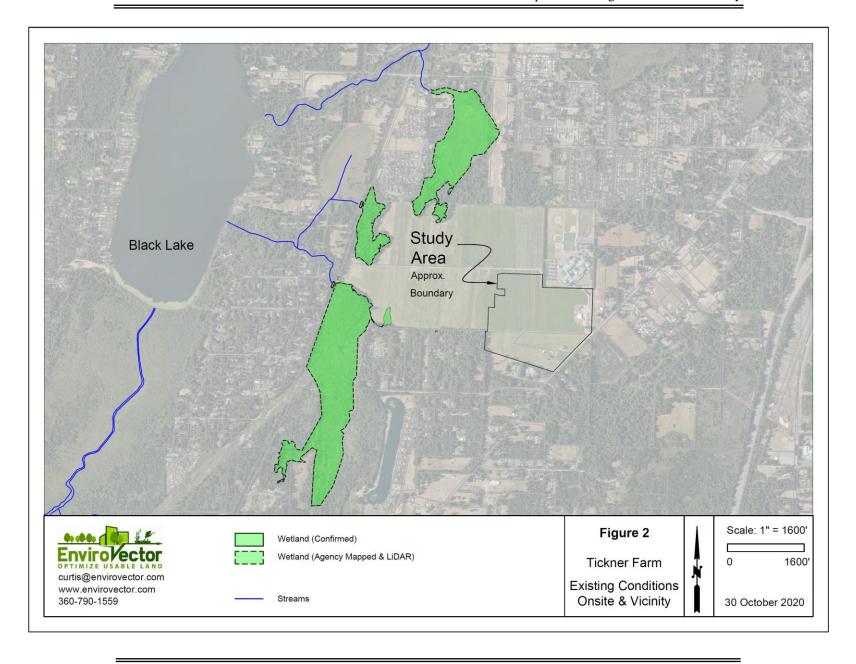


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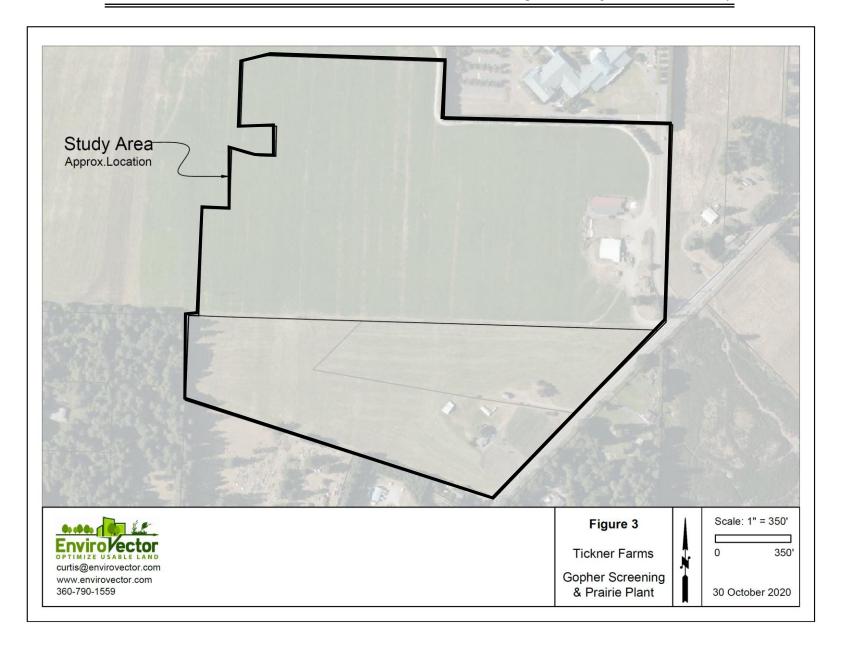


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APPENDIX A

Photographs



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First Screening 17, 18 & 19 June 2020



Photo 1. Study area with farm buildings, residence in background Photo 2. Study area facing south





Photo 3. Mole mounds in study area



Photo 4. Mole mound, central tunnel, blocky texture, conical shape



Photo 5. Mole mound with barn in background



Photo 6. Manure spread on field following harvest



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Photo 11. Mole mound, blocky texture, conical shape

Photo 12. Mole mound, blocky texture, conical shape



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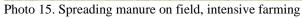




Photo 16. Spreading manure on field, intensive farming

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Second Screening 26, 27, & 28 August 2020



Photo 17. Spreading manure on field, intensive farming



Photo 18. Spreading manure on field, intensive farming



Photo 19. Spreading manure on field, intensive farming



Photo 20. Spreading manure on field, intensive farming



Photo 21. Harvest equipment onsite



Photo 22. Manure on fields



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Photo 23. Mole mound, blocky texture, central tunnel, conical



Photo 24. Mole mound, blocky texture, central tunnel, conical





Photo 25. Mole mound with central vertical tunnel, blocky texture Photo 26. Mole mound with central vertical tunnel, blocky texture



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Plant Photos



Photo 31. Ryegrass (Lolium perenne)

Photo 32. Ryegrass (Lolium perenne)



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Photo 39. Hairy cats ear (Hypochaeris radicata)

Photo 40. Hairy cats ear (Hypochaeris radicata)



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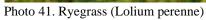




Photo 42. Smooth hawksbeard (Crepis capillaris)



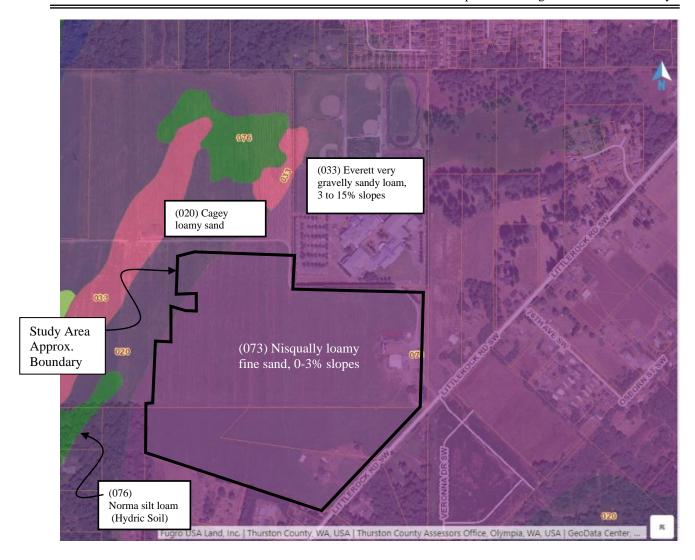
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APPENDIX B

Thurston County Geodata Soils



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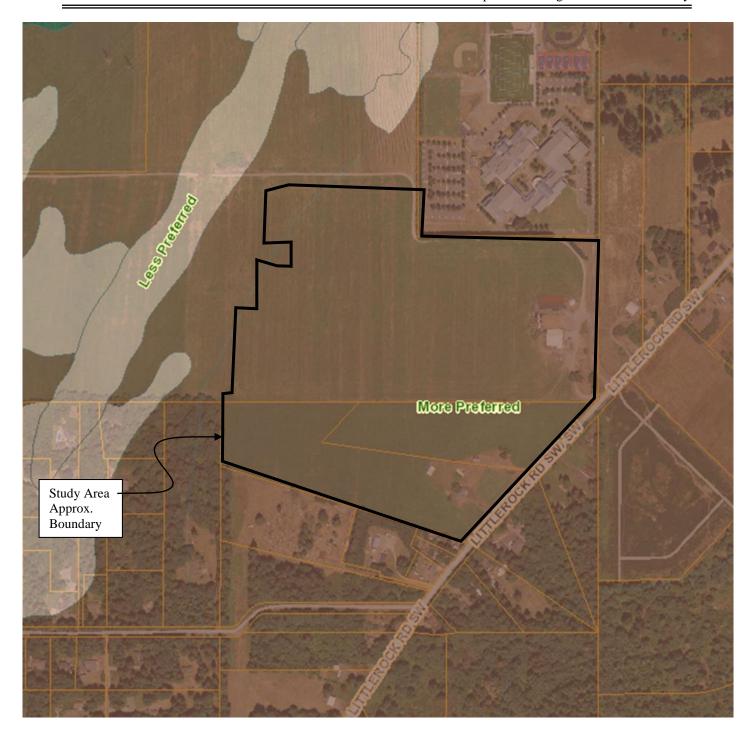
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APPENDIX C

Thurston County Geodata

Preferred Gopher Soils







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APPENDIX D

City of Tumwater

Site Inspection Protocol and Procedures:

Mazama Pocket Gopher



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COMMUNITY DEVELOPMENT DEPARTMENT ADMINISTRATIVE DETERMINATION



TOPIC: Mazama Pocket Gopher Screening

APPROVED: Make Mallon

DATE: 1/25/18

Michael Matlock, AICP

Community Development Director

BACKGROUND: The Mazama Pocket Gopher (MPG) became a federally listed endangered species in April 2014. This memo addresses the City regulatory structure. The Endangered Species Act (ESA) is a separate regulatory structure from the Growth Management Act, the State statute the City does implement, so compliance with City regulations does not necessarily mean an applicant complies with the ESA. While the City routinely addresses questions from property owners on how to comply with its local development regulations, it does not do so with respect to the ESA.¹ ESA compliance is the property owner's responsibility.

FINDINGS: In implementing the City's critical areas ordinance (CAO), and based on analysis prepared by qualified professionals, staff have found that projects in certain areas and with certain features lack gopher habitat, so do not require CAO review by a qualified professional. While the CAO governs these issues, the below summarizes what staff have found to date.

DETERMINATION: Based on the findings above, Tumwater summarizes assessment findings for MPG presence as follows:

- 1. Geographic Due to lack of habitat, no properties in the City north of Trosper Road have required CAO review.
- 2. **Vegetative Cover** Project Sites, parcels, or portions of these sites with 30% or greater forested cover have not required CAO review, although where there are adjacent unforested and undeveloped lots exceeding 7,600 square feet (SF) in area, CAO review may be needed.
- 3. Project Use Level
 - a. Single-family, manufactured homes, and duplexes for lots 7,600 SF or less
 - 1) New or additions to single-family, manufactured homes, and duplexes CAO review has typically not been required on existing lots 7,600 SF

¹ For land owners seeking guidance on ESA compliance, while the City cannot assist, see USFWS Memorandum, Guidance on Trigger for an Incidental Take Permit Under Section 10(a)(1)(B) of the Endangered Species Act Where Occupied Habitat or Potentially Occupied Habitat is Being Modified, issued April 26, 2018.

- or less in size. Unforested and undeveloped lots exceeding 7,600 SF may require CAO review.
- 2) Developed lots surrounded by existing development (homes, streets, storm ponds, sidewalks, etc.) that are of a similar size have not required CAO review. This would not exclude sites on the periphery areas where adjacent lands are not developed at an urban density level.
- 3) Single-family lots vested under RCW 58.17 and/or TMC 15.44.040 will likely not require CAO review.

b. Commercial/Industrial/Institutional

- 1) New or additions to buildings proposed in areas with 30% or greater forested coverage, existing impervious surfaces or significantly disturbed pervious areas (i.e. evidence of compacted gravel, formal landscape areas or other scenarios that would exclude the proposed developed area as being defined as habitat) have typically not required CAO review.
- 4. Approved United States Fish and Wildlife Service (USFWS)

 Avoidance/Mitigation Strategy Any projects that have consulted with USFWS and have a documented avoidance/mitigation strategy that is acceptable to USFWS can typically proceed with normal permitting.
- 5. Site Screening Properties may be screened by a qualified professional. Alternately, USFWS may screen properties by arrangement between the property owner and USFWS. At least two screenings, no less than 30 days apart, between June 1 and October 31, are consistent with best available science to determine the presence or absence of MPG.

PRIOR GUIDANCE: This Administrative Determination supersedes and replaces the City's prior Administrative Determination on Mazama Pocket Gopher Screening Protocol dated October 31, 2017.

APPEAL: This code determination shall become effective on the above date. Any person affected by this determination may appeal this decision to the Tumwater Hearing Examiner pursuant to Chapter 18.62 of the Tumwater Municipal Code.

APPENDIX E

Datasheets



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Sample Mazama Pocket Gopher Screening Field Form

Site Visit Date: 17, 18, & 19 June 2020

If 2nd or 3rd site visit, date(s) of previous visits: 26, 27, & 28 August 2020

Site Information	Parcel #: 12709320100, 12708410100, & Part of 09070001000 Site/Landowner: Tickner		
How were the data collected? (circle the method for each)	Transect: GPS Aerial Mounds: GPS Aerial Notes: No mounds present		
Field team names: (Note who filled out form and others conducting screening)	Julie Lewis		
Others onsite (name/affiliation)			
Site visit # (CIRCLE all that apply)	1 st 2 nd 3 rd Notes:		
Do onsite conditions throughout the entire parcel preclude the need for MPG surveys? (CIRCLE and DESCRIBE)	Pense woody cover (trees/shrubs) that appears to preclude any MPG use Impervious Compacted Graveled Flooded Slope Other Notes:		
Describe ground visibility for mound detection: (CIRCLE and DESCRIBE)	Poor Fair Good Notes:		

	MPG Mounds	Indeterminate	Mole Mounds
Quantify or describe amount of MPG mounds and approx. # of mounds or groups of mounds (specify whether count is	0	84	150
individual mounds or groups)	No N	MPG mounds observed (CIR	CLE)

Sample Mazama Pocket Gopher Screening Field Form

	_	ia rocket dopiner sereening riela rorm
Does woody vegetation onsite match aerial photo?	Yes	No – describe differences and show on parcel map/aerial:
(CIRCLE and DESCRIBE)		
What portion of the property was screened?	All F	Part - describe and show on parcel map/aerial:
(CIRCLE and DESCRIBE)		
Notes		
Team reviewed and agreed to		
data recorded on form?	Yes No	Reviewed by:
(CIRCLE, and EXPLAIN if "No")	Notes:	