



# KRIPPNER

Consulting, LLC

July 19, 2022

Mark Conwell  
Conwell Investments LLC  
2415 Carpenter Road SE  
Lacey, WA 98503

**RE: Native Prairie and Yelm Pocket Gopher Mound Survey Results for Parcel 11825240000  
Thurston County Project #2013104463**

Dear Mr. Conwell,

Krippner Consulting, LLC has prepared this letter report to present the findings of the native prairie and Yelm pocket gopher mound surveys conducted on your property this year to comply with Thurston County Code requirements and the federal Endangered Species Act (ESA). Your property is located at 3146 Marvin Road SE, in the Lacey Urban Growth Area (UGA) of Thurston County, Washington (Figures 1 and 2). The property (Parcel 11825240000) is approximately 20 acres in size.

### **Past Site Surveys**

No pocket gopher mounds have been found to date on this site. Thurston County surveyed the site for pocket gopher mounds in 2014 and 2016, and Krippner Consulting surveyed the site for pocket gopher mounds in 2018. Oregon white oak trees were surveyed by Landau Associates in 2013, and a mitigation plan for protecting oak trees has been prepared for this property, separate from this study and report.

### **Study Methods**

This study was conducted in accordance with the Thurston County survey protocol and the 2018 USFWS guidance for gopher mound surveys. A survey for native prairie plants was also conducted in accordance with Thurston County survey protocol for Critical Area Ordinance (CAO) protected prairie areas. Linda Krippner and Steve Krippner conducted the surveys on June 17 and July 17, 2022. Transect data was collected using the Gaia GPS application on iPhones. Mowing conducted on May 26 this year ensured good survey conditions for the gopher mound surveys.

### **Existing Information**

The site is mostly forested and is situated in a residential area (Figure 2). Soils are mapped as Spanaway gravelly sandy loam, 0 to 3 percent slopes and Alderwood gravelly sandy loam, 3 to 15 percent slopes and 15 to 30 percent slopes. Soils in the survey area are mostly Spanaway gravelly sandy loam. The closest known gopher occurrence is located more than 1.5 miles north of this site with high density residential and forest areas being barriers to gopher movement between this area and the project site.

Parcel 11825240000 – Native Prairie and Yelm Pocket Gopher Mound Survey Results

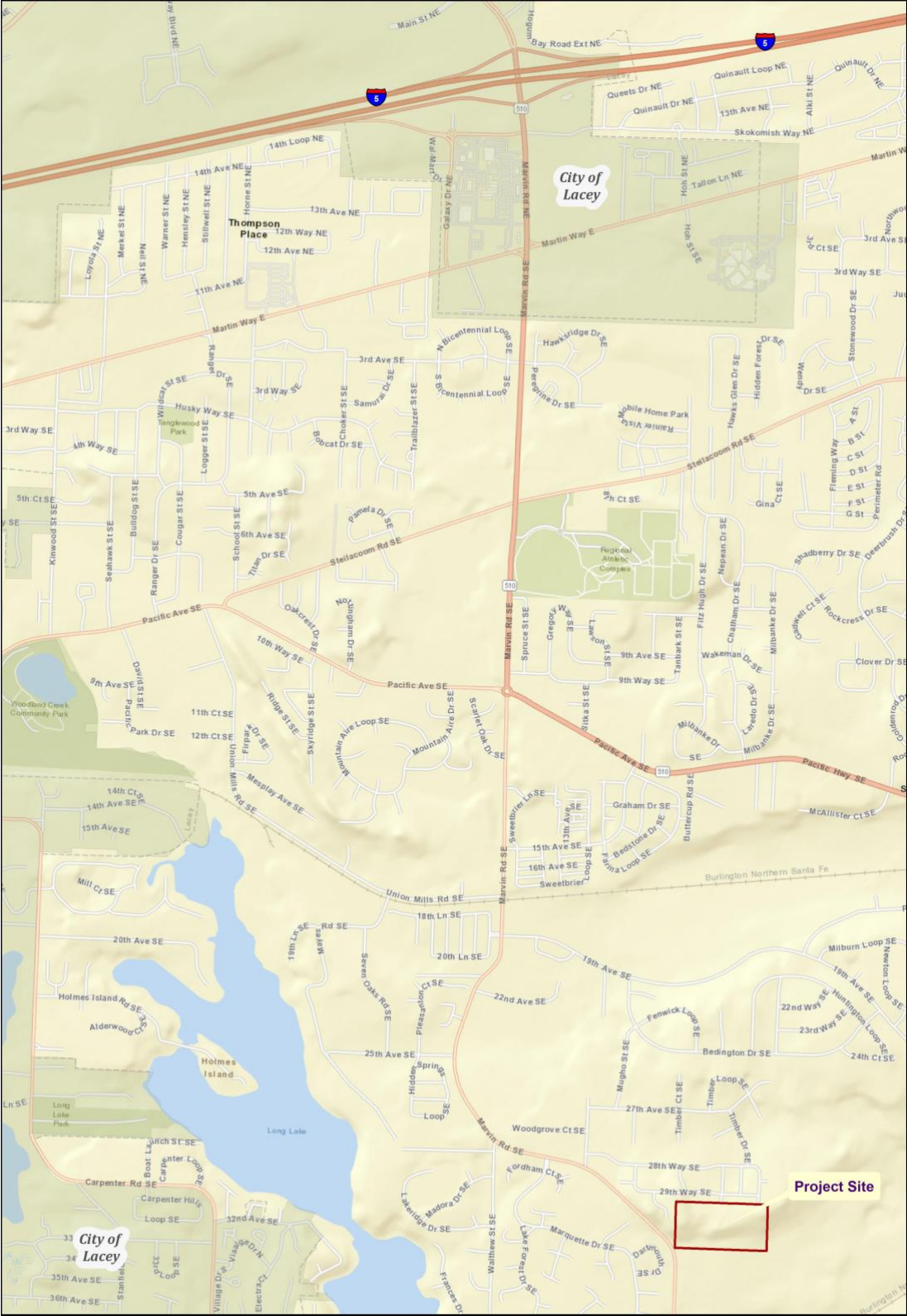


Figure 1. Vicinity Map

Conwell Investments, LLC

Sources: Project Site, Cities: Thurston Co. GIS 2018,  
Base Map: ESRI 2018, Mapping by S. Krippner,  
Krippner Consulting, LLC, Map Date: 8/3/2018





Parcel 11825240000 – Native Prairie and Yelm Pocket Gopher Mound Survey Results



### **Survey Results**

Only the south portion of the site was surveyed because the rest of the site is forested (Figure 2). Several vacant buildings are located on the southwest portion of the site (Photo 1), and this portion of the site has also been used for staging or dumping rock and woody debris. The surveyed portion of the site is dominated by a mix of non-native grasses and forbs including bentgrass, sweet vernalgrass, velvet grass, reed canarygrass, St. John's wort, sheep sorrel, hairy cat's ear, and oxeye daisy (Photos 2, 3, and 4). Native shrubs like snowberry and tall Oregon grape, and non-native shrubs and vines like rose-of-sharon and Himalayan blackberry are also found in this area. The only native Critical Area Ordinance (CAO) prairie plant (besides the oak trees addressed in a separate report) observed was harvest brodiaea (Photo 5) on July 17, 2022. This plant was found in small numbers near some of the oak trees. A more comprehensive plant list for the grassland area is provided on the attached prairie data form.

No signs indicative of Mazama pocket gopher mounds were observed during the surveys (see survey data form, attached). Fresh and aging mole mounds were observed in only a few spots, mainly near forest edges (Photo 6). Other species observed included black-tailed deer, Eastern cottontail rabbit, Pacific slope flycatcher, Swainson's thrush, dark-eyed junco, and northern flicker.



Photo 1. Vacant house on southwest portion of the site (July 17, 2022).





Photo 2. View east of central portion of the grass-dominated survey area (July 17, 2022).



Photo 3. View east of the east portion of the survey area (June 17, 2022).





Photo 4. Closer view of grassland vegetation on the site, view west (July 17, 2022).



Photo 5. Harvest brodiaea on the site (July 17, 2022).





Photo 6. Mole mounds on the site (June 17, 2022).

### **Conclusions**

No Yelm pocket gopher mounds were observed on the site during the June 17 and July 17, 2022 surveys conducted by Krippner Consulting. No gophers are known to exist in the site vicinity; none were observed by Thurston County on the site in 2014 and 2016 or by us in 2018; and the forest and high-density residential landscape surrounding the site are not conducive to gophers. No areas that meet the CAO criteria for native prairie were present. Native oak trees are described and addressed in a separate report.

Thank you for the opportunity to conduct this study and prepare this letter report for your property. Please call me if you have any questions regarding this study.

Sincerely,

Linda Krippner  
Krippner Consulting, LLC

### **Attachments:**

Prairie screening data sheet

Mazama pocket gopher screening field form

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## 2022 Thurston County Critical Areas Ordinance (CAO) Prairie Screening Data Sheet

Parcel Number: <b>11825240000</b>	CAO prairie criteria met?	Yes or <input checked="" type="radio"/> No
Property Owner: <b>Conwell Investments LLC</b>	Mima mounds present?	Yes or <input checked="" type="radio"/> No
Surveyor(s): <b>Linda Krippner and Steve Krippner</b>	Oaks ( <i>Quercus garryana</i> ) present?	<input checked="" type="radio"/> Yes or No
Date: <b>June 17 and July 17, 2022</b>	Mature:	See oak report and mitigation plan for this site.
Composition of Vegetation: <b>Mostly non-native, invasive grasses and forbs and Scot's broom, surrounded by forest</b>	Sapling:	
	Seedling:	

X	Target species	Class* (circle)
	<i>Apocynum androsaemifolium</i>	1 2 3 4 5 N/A
	<b><i>Balsamorhiza deltoidea</i></b>	Present / Absent
	<b><i>Bistorta bistortoides</i></b>	Present / Absent
X	<i>Brodiaea coronaria</i>	<input checked="" type="radio"/> 1 2 3 4 5 N/A
	<i>Camassia leichtlinii</i>	1 2 3 4 5 N/A
	<u><i>Camassia quamash</i></u>	Present / Absent
	<b><i>Carex densa</i></b>	Present / Absent
	<i>Carex feta</i>	1 2 3 4 5 N/A
	<i>Carex inops</i> ssp. <i>inops</i>	1 2 3 4 5 N/A
	<i>Carex tumulicola</i>	1 2 3 4 5 N/A
	<i>Carex unilateralis</i>	1 2 3 4 5 N/A
	<i>Castilleja hispida</i>	1 2 3 4 5 N/A
	<b><i>Castilleja levisecta</i></b>	Present / Absent
	<i>Danthonia californica</i>	1 2 3 4 5 N/A
	<i>Delphinium menziesii</i>	1 2 3 4 5 N/A
	<i>Delphinium nuttallii</i>	1 2 3 4 5 N/A
	<i>Deschampsia cespitosa</i>	1 2 3 4 5 N/A
	<i>Deschampsia danthonioides</i>	1 2 3 4 5 N/A
	<i>Dodecatheon hendersonii</i>	1 2 3 4 5 N/A
	<i>Downingia yina</i>	1 2 3 4 5 N/A
	<i>Erigeron speciosus</i>	1 2 3 4 5 N/A
	<i>Eriophyllum lanatum</i>	Cover: ___ m <sup>2</sup> N/A
	<b><i>Eryngium petiolatum</i></b>	Present / Absent
	<i>Festuca roemerii</i> (F. <i>idahoensis</i> )	1 2 3 4 5 N/A
	<i>Fragaria virginiana</i>	Cover: ___ m <sup>2</sup> N/A
	<i>Fritillaria affinis</i>	1 2 3 4 5 N/A
	<i>Hieracium scouleri</i>	1 2 3 4 5 N/A
	<b><i>Hosackia pinnata</i></b> ( <i>Lotus pinnatus</i> )	Present / Absent
	<i>Koeleria macrantha</i> (K. <i>cristata</i> )	1 2 3 4 5 N/A
	<i>Leptosiphon bicolor</i> ( <i>Linanthus b.</i> )	1 2 3 4 5 N/A
	<b><i>Lomatium bradshawii</i></b>	Present / Absent
	<i>Lomatium nudicaule</i>	1 2 3 4 5 N/A
	<i>Lomatium triternatum</i>	1 2 3 4 5 N/A
	<u><i>Lomatium utriculatum</i></u>	Present / Absent

	<i>Lupinus albicaulis</i>	1 2 3 4 5 N/A
	<i>Lupinus lepidus</i> var. <i>lepidus</i>	1 2 3 4 5 N/A
	<i>Lupinus polyphyllus</i>	1 2 3 4 5 N/A
	<u><i>Micranthes integrifolia</i></u> ( <i>Saxifraga i.</i> )	Present / Absent
	<i>Micranthes oregana</i> ( <i>Saxifraga o.</i> )	1 2 3 4 5 N/A
	<b><i>Microseris laciniata</i></b>	Present / Absent
	<i>Perideridia gairdneri</i>	1 2 3 4 5 N/A
	<i>Plagiobothrys figuratus</i>	1 2 3 4 5 N/A
	<u><i>Plectritis congesta</i></u>	Present / Absent
	<b><i>Polemonium carneum</i></b>	Present / Absent
	<u><i>Potentilla gracilis</i></u>	Present / Absent
	<i>Ranunculus alismifolius</i>	1 2 3 4 5 N/A
	<i>Ranunculus occidentalis</i>	Present / Absent
	<i>Ranunculus orthorhynchus</i>	1 2 3 4 5 N/A
	<b><i>Sericocarpus rigidus</i></b>	Present / Absent
	<b><i>Sidalcea malviflora</i></b> var. <i>virgata</i>	Present / Absent
	<b><i>Silene scouleri</i></b>	Present / Absent
	<i>Sisyrinchium idahoense</i>	1 2 3 4 5 N/A
	<i>Solidago missouriensis</i>	1 2 3 4 5 N/A
	<i>Solidago simplex</i> (S. <i>spathulata</i> )	1 2 3 4 5 N/A
	<i>Toxicoscordion venenosum</i> var. <i>venenosum</i> ( <i>Zigadenus venenosus</i> )	1 2 3 4 5 N/A
	<i>Trifolium willdenowii</i> (T. <i>tridentatum</i> )	1 2 3 4 5 N/A
	<i>Triteleia grandiflora</i>	1 2 3 4 5 N/A
	<i>Triteleia hyacinthina</i>	1 2 3 4 5 N/A
	<i>Veratrum californicum</i>	1 2 3 4 5 N/A
	<b><i>Veratrum viride</i></b>	1 2 3 4 5 N/A
	<i>Viola adunca</i>	1 2 3 4 5 N/A
	<i>Viola praemorsa</i> var. <i>nuttallii</i>	1 2 3 4 5 N/A

\*Species Count Class:

- 1 = < 25
- 2 = 25 - 49
- 3 = 50 - 74
- 4 = 75 - 100
- 5 = >100

Prairie Plant Manual:

<https://www.thurstoncountywa.gov/planning/planningdocuments/cao-prairie-plant-manual-4.23.2018.pdf>



## Non-CAO vegetation

Species or codons (i.e. "HYPRAD" for <i>Hypochaeris radicata</i> )		Notes
1	<i>Cytisus scoparius</i>	<b>Vegetation in open, grass-dominated areas on this site.</b>
2	<i>Hypochaeris radicata</i>	17 <i>Leucanthemum vulgare</i>
3	<i>Daucus carota</i>	18 <i>Vicia sativa</i>
4	<i>Anthoxanthum odoratum</i>	19 <i>Rubus laciniatus</i>
5	<i>Rubus bifrons</i>	20 <i>Festuca rubra</i>
6	<i>Agrostis</i> sp.	21 <i>Mahonia aquifolium</i>
7	<i>Rumex acetosella</i>	22 <i>Holcus lanatus</i>
8	<i>Pseudotsuga menziesii</i>	23 <i>Lolium perenne</i>
9	<i>Rubus ursinus</i>	24 <i>Capsella bursa-pastoris</i>
10	<i>Montia parviflora</i>	25 <i>Bromus hordeaceus</i>
11	<i>Medicago lupulina</i>	26 <i>Phalaris arundinacea</i>
12	<i>Galium</i> sp.	27 <i>Geranium</i> sp.
13	<i>Pteridium aquilinum</i>	28 <i>Viola</i> sp. - garden variety, not a native prairie species
14	<i>Mysotis discolor</i>	29 <i>Plantago lanceolata</i>
15	<i>Symphoricarpos albus</i>	30 <i>Senecio vulgaris</i>
16	<i>Hypericum perforatum</i>	31 <i>Hypericum calycinum</i>

Prairie Habitat Criteria: If at any point at least three target species, totaling in general at least 25 plants each are encountered within about 5 meters of each other (WDFW 2015), the area in question meets the criteria to be established as occurrence of prairie. For certain plants such as WNHP rare plants (indicated here in bold), or species which serves as nectar or host plants for both TCB and either SCC or SGCN butterflies (indicated here with underline), presence is enough to meet prairie habitat criteria for such species, even if their count is less than 25 individual plants. CAO wet and dry prairie plant lists can be found in Tables 24.25-7 and 24.25-8, respectively. More info available at: <https://www.thurstoncountywa.gov/planning/Pages/hcp-prairie-review.aspx>

Mima mounds and oak habitat definitions can be found in TCC 24.03.010

Site Name and Parcel #	Parcel #: <u>11825240000</u> Project #: <u>2013104463</u> Site/Landowner: <u>Conwell Investments LLC</u>
How were the data collected? (circle the method for each)	Transect: <u>Trimble</u> <u>Garmin</u> <u>Aerial</u> Mounds <u>Trimble</u> <u>Garmin</u> <u>Aerial</u> Notes: <u>Transect data was collected using GAIA GPS on an iPhone.</u>
Field Team Personnel: (Indicate all staff present, CIRCLE who filled out form)	Name: <u>Linda Krippner</u> Name: <u>Steve Krippner</u> Name: _____
Others onsite (name/affiliation)	
Site visit # (CIRCLE all that apply)	<u>1<sup>st</sup></u> and <u>2<sup>nd</sup></u> Unable to screen Notes: _____
Do onsite conditions preclude the need for further visits?	Yes <u>No</u> Dense woody cover that encompasses the entire site (trees/shrubs) that appears to preclude any potential MPG use. Impervious      Compacted      Graveled      Flooded Other _____ Notes: _____
Describe visibility for mound detection:	Poor      Fair <u>Good</u> Notes: _____ Vegetation in grass dominated areas was mowed for the surveys on May 26, 2022.
Request mowing? (CIRCLE and DESCRIBE WHERE MOWING IS NEEDED and SHOW ON AERIAL PHOTO	Yes <u>No</u> N/A      Notes: _____ See above for earlier mowing date.



<p><b>Mounds observed over the whole site are characteristic of:</b></p> <p><b>Quantify or describe amount of each type and approx. # of mounds</b></p> <p><i>Group = 3 mounds or more</i></p>	<p><b>MPG Mounds</b></p>	<p><b>Likely MPG Mounds</b></p>	<p><b>Indeterminate</b></p>	<p><b>Likely Mole Mounds</b></p>	<p><b>Mole Mounds</b></p> <p>Mole mounds were only found in a few areas, mostly near forest edges.</p>
	<p><b>No MPG mounds</b>(circle)</p>				
<p><b>MPG mounds in GPS?</b></p> <p><b>(CIRCLE and DESCRIBE)</b></p> <p><b>If MPG mounds present, entered in GPS?</b></p>	<p><b>None</b>   All   Most   Some</p> <p><b>Notes:</b></p> <p>Yes   No   <b>N/A</b></p>				
<p><b>Does woody vegetation onsite match aerial photo?</b></p>	<p><b>Yes</b>   No - describe differences and show on parcel map/aerial:</p>				
<p><b>What portion(s) of the property was screened?</b></p> <p><b>(CIRCLE and DESCRIBE)</b></p>	<p>All   <b>Part</b> - describe and show on parcel map/aerial:</p> <p>See Figure 2.</p>				
<p><b>Notes -</b></p>	<p><b>Describe, and show on parcel map/aerial if applicable:</b></p>				
<p><b>Team reviewed and agreed to data recorded on form?</b></p> <p><b>(CIRCLE, and EXPLAIN if "No")</b></p>	<p><b>Yes</b>   No   Reviewed by initials: <u>SK</u>   _____</p> <p><b>Notes:</b></p>				