



City of Yelm
EST. 1924
WASHINGTON

SEPA #: 2021.0028

DETERMINATION OF NON-SIGNIFICANCE

Proponent: AHBL, Inc

Description of Proposal: Tahoma Blvd Apts

Location of the Proposal: 15037 Berry Valley Ave

Section/Township/Range: Section 24 Township 17 Range 1E Quarter SE NW

Threshold Determination: The City of Yelm as lead agency for this action has determined that this proposal does not have a probable significant adverse impact on the environment. Therefore, an environmental impact statement (EIS) will not be required under RCW 43.21C.030(2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public on request.

Mitigating Measures: None

Lead agency: City of Yelm

Responsible Official: Grant Beck, Community Development Director

Date of Issue: June 28, 2021

Comment Deadline: July 13, 2021

Appeal Deadline: There is no local administrative appeal of a DNS

Grant Beck, Community Development Director

This Determination of Non-Significance (DNS) is issued pursuant to Washington Administrative Code 197-11-340 (2). Comments must be submitted to Grant Beck, Community Development Department, at City of Yelm, 106 2nd St SE, Yelm, WA 98597, by July 13, 2021 at 5:00 P.M. The City of Yelm will not act on this proposal prior July 13, 2021 at 5:00 P.M.



City of Yelm

| | |
|---------------|-------|
| Fee | _____ |
| Date Received | _____ |
| By | _____ |
| File No. | _____ |

Community Development Department **ENVIRONMENTAL CHECKLIST**

Instructions:

The State Environmental Policy Act (SEPA) requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. The purpose of this checklist is to provide information to help identify impacts from your proposal, to reduce or avoid impacts from the proposal if it can be done, and to help the City decide whether an EIS is required. An environmental impact statement (EIS) must be prepared for any proposal with probable significant adverse impacts on environmental quality.

This environmental checklist asks you to describe some basic information about your proposal. The City will use this checklist to determine whether the environmental impacts of your proposal are significant and require preparation of an EIS. You must answer each question accurately, carefully and to the best of your knowledge. Answer the questions briefly, but give the best description you can. In most cases, you should be able to answer the questions from your own observations or project plans without the need for experts. If you do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply". Complete answers to the questions now may avoid delays later. If the space provided is too small, feel free to attach additional sheets.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the city staff can assist you.

The checklist questions apply to all parts of your proposal even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. You may be asked to explain your answers or provide additional information for determining if there may be significant adverse impacts.

Nonproject Proposals Only:

Complete both the checklist (even though many questions may be answered "does not apply") and the **Supplemental Sheet for Nonproject Actions** (part D). For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

CITY OF YELM

(Update to SEPA Checklist dated 4/28/2006)

ENVIRONMENTAL CHECKLIST**CITY USE ONLY**FEE: \$150.00

DATE REC'D _____

BY: _____

FILE NO. _____

A. BACKGROUND**1. Name of proposed project, if any:**

Tahoma Blvd Apartments

2. Name of applicant:

Sheri Greene, AHBL

3. Address, phone number and email address of applicant and of any other contact person:Sheri Greene, AHBL
2215 N. 30th Street #300
Tacoma, WA 98403Mr. Jerry Schuur, Schuur Bros., Inc.
PO Box 597
Puyallup, WA 98371**4. Date checklist prepared:****April 22, 2021****5. Agency requesting checklist:****City of Yelm****6. Proposed timing or schedule (including phasing, if applicable):****Construction will commence upon issuance of site development permit. It is anticipated the site development permit will be issued in August 2021.****7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.****No.****8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.****SEPA Checklist, Mazama Pocket Gopher Reconnaissance, Geotechnical Report, Traffic Study****9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.****No.****10. List any government approvals or permits that will be needed for your proposal, if known.****Site plan review, SEPA Determination, site development permits, building permits, NPDES permit**

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page.

Project proposes construction of an apartment complex with four apartment buildings and a total of 80 units. Services will include city water and sewer, and private drainage routed to onsite infiltration facilities.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. You need not duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The site is located at 15037 Berry Valley Road in the City of Yelm, Thurston County, parcel number 21724420200.

B. ENVIRONMENTAL ELEMENTS

1. Earth

- a. General description of the site (circle one):

flat, rolling, hilly, steep slopes, mountainous, other _____

- b. **What is the steepest slope on the site (approximate percent slope)?**

Approximately 5%.

- c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

According to the NRCS Soil Survey, site soils consist primarily of Spanaway gravelly sandy loam.

- d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

Not to our knowledge.

- e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

The project is in preliminary design but it is anticipated the cut and fill will balance.

- f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

Minimal erosion could occur during project construction. All applicable BMPs will be followed to prevent or minimize such impacts.

- g. **About what percent of** the site will be covered with impervious surfaces after project construction such as asphalt or buildings?
Approximately ____% of the site will be covered by impervious surfaces. What percentage?

- h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:
Proposed measures include the use of BMPs to minimize the risk of erosion during construction. A drainage plan will incorporate designs that convey and infiltrate stormwater away from the disturbed areas as much as possible.

2. **Air**

- a. What types of emissions to the air would result from the proposal (i.e., dust, automobile exhaust, odors, industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities if known. **Construction will result in a temporary increase in air pollution, including emissions from equipment and dust from construction activities. Dust controls will include watering soils to prevent blowing of dust. Construction vehicles will be turned off when not in use to help control emissions. Construction activities and equipment will follow the appropriate regulations for controlling emissions to the air. Post-construction emissions would include emissions from vehicle trips associated with the development.**

- b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.
There are no known off-site sources of emissions or odors observed that might effect this proposal.

- c. Proposed measures to reduce or control emissions or other impacts to air, if any: **Potential BMPs include using water sprays or other non-toxic dust control methods on unpaved roadways, preventing the tracking out of mud onto public streets, covering soil piles when practical, and minimizing work during periods of high winds. Additionally, to minimize air quality and odor issues caused by tailpipe emissions, BMPs will be used. Such BMPs include maintaining engines of construction equipment while also minimizing the idling of construction equipment.**

3. **Water**

- a. **Surface Water**

- 1) Is there any surface water body or wetland on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds)? If yes, describe type and provide names. State what stream or river it flows into?
No.

- 2) Will the project require any work over, in, or adjacent to (within 300 feet) the described waters? If yes, please describe and attach available plans.
Not applicable.

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

There will be no fill or dredge material as a result of construction activities associated with this proposal.

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

The project will not require surface water withdrawals or diversions.

- 5) Does the proposal lie within a 100-year floodplain? If so, note elevation on the site plan.

The project site does not lie within a 100-year floodplain.

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No.

b. Groundwater:

- 1) Will groundwater be withdrawn, or will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

Water will not be withdrawn; however stormwater runoff will be directed to stormwater treatment facilities and infiltrated onsite.

- 2) Describe the underlying aquifer with regard to quality and quantity, sensitivity, protection, recharge areas, etc.

The site is within an extremely sensitive aquifer area so all stormwater runoff from impervious surfaces will be treated prior to infiltrating onsite.

- 3) Describe waste material that will be discharged into or onto the ground from septic tanks or other sources, if any (such as domestic sewage; industrial byproducts; agricultural chemicals).

No waste material will be discharged to the ground. The apartments will be served by the City of Yelm STEP collection system and the holding tank will be maintained by the city.

c. Water Runoff (including storm water):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

Stormwater from the parking lot will be collected, treated and conveyed to two infiltration basins onsite. The individual apartment buildings will have onsite drywells to infiltrate roof runoff.

Stormwater must follow 2019 SWMMWW by WA Ecology

- 2) Could waste materials enter ground or surface waters? If so, generally describe.

No waste materials will enter ground or surface waters as a result of this proposal.

d. Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:

The project will provide source control of pollutants by providing treatment of stormwater by use of bayfilter systems. No other measures are proposed.

Stormwater must follow 2019 SWMMWW by WA Ecology

4. **Plants**

- a. Check or circle types of vegetation found on the site:
 X deciduous tree: alder, maple, oak, aspen, other
 X evergreen tree: fir, cedar, pine, other
 X shrubs
 X grasses
 pasture
 crops or grains
 wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other
 water plants: water lily, eelgrass, milfoil, other
 other types of vegetation

- b. What kind and amount of vegetation will be removed or altered?
Most of the existing vegetation will be removed.

- c. List threatened or endangered species known to be on or near the site.
None to our knowledge.

- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:
Landscape design and buffer will be in accordance with the City of Yelm Municipal Code.
Plans will be submitted to the city for approval.

1-1 replacement for
trees with diameter
exceeding 8" required

landscaping must meet
Section 18.55 YMC

5. **Animals**

- a. Circle any birds and animals that have been observed on or near the site or are known to be on or near the site:

birds: hawk, heron, ducks, eagle, songbirds

other: _____

mammals: deer, bear, elk, beaver, other: rabbits, mice

fish: bass, salmon, trout, shellfish, other: _____

- b. List any priority, threatened or endangered species known to be on or near the site.
None to our knowledge.

Mazama pocket gopher
Report by Land Services NW
found no evidence of pocket
gophers

- c. Is the site part of a migration route? If so, explain.
The site is within the Pacific Flyway for Migratory Birds.

- d. Proposed measures to preserve or enhance wildlife, if any:
No impacts are anticipated to wildlife, therefore no special measures are proposed.

6. **Energy and Natural Resources**

- a. What kinds of energy (electric, natural gas, gasoline, heating oil, wood, solar etc.) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, transportation, etc.
The completed project will utilize electricity to provide for heating, cooling and lighting needs.

- b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No, this proposal will not have an impact on adjacent property's ability to utilize solar energy.

- c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

Subject to 2018 IBC and
City of Yelm Municipal Code

The project will meet the 2015 Washington State Energy Code (WSEC). Other conservation features, such as LED lighting and low-flow plumbing fixtures, will be determined upon development.

7. Environmental Health

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spills, of hazardous waste, that could occur as a result of this proposal? If so, describe. **There is the potential for construction equipment and personal vehicles to leak fuel, oil or other fluids necessary to operate the equipment/vehicles. This risk is typical of construction activities and vehicle trips associated with the development, and is minimal. The site will provide water quality treatment prior to infiltrating stormwater, further minimizing the risk of impacts.**

Construction BMPs will be followed

- 1) Describe special emergency services that might be required.

No special emergency services will be required other than those normally provided such as police and fire protection.

- 2) Proposed measures to reduce or control environmental health hazards, if any:

None are anticipated to be required. Specialized erosion and sediment control measures will be implemented if contaminated soils are detected during the construction process. Standard dust control measures will be implemented to mitigate dust emissions resulting from construction activities. Pursuant to State Law, 811 will be contacted prior to any digging activities to prevent damage to on-site utilities.

- b. Noise

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment operation, other)?

There are no off-site sources of noise that will impact this proposal. The primary source of noise in the area is generated from vehicular traffic along Killion Road and Mountain View Road.

- 2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

Temporary, short-term noise impacts typical of construction projects will occur with operation of equipment during construction. Construction activities will be restricted to the hours permitted under the Yelm Municipal Code. Long term noise will be minimal, and will be typical of residential developments.

- 3) Proposed measures to reduce or control noise impacts, if any: **To mitigate general noise impacts during the construction phase, measures such as locating stationary equipment away from receiving properties, limiting construction hours to the appropriate Yelm ordinance, turn off idling construction equipment, and train construction crews to avoid unnecessarily loud actions near residential areas will be employed.**

8. Land and Shoreline Use

- a. What is the current use of the site and adjacent properties?

The site is currently vacant grassland.

Site currently has a vacant house. Adjacent sites are vacant with Wyndstone Apts in construction to the West

- b. Has the site been used for mineral excavation, agriculture or forestry? If so, describe.

Not to our knowledge.

Correct

- c. Describe any structures on the site. There is a house and barn currently on the property
There are no structures on the site.
- d. Will any structures be demolished? If so, what? House and barn will be demolished; a City of Yelm demolition permit and ORCAA asbestos survey are required prior to demolition
Does not apply.
- e. What is the current comprehensive plan designation of the site?
R-16
- f. What is the current zoning classification of the site?
R-16 High Density Residential District
- g. If applicable, what is the current shoreline master program designation of the site?
Does not apply.
- h. Has any part of the site been classified as a "natural resource", "critical" or "environmentally sensitive" area? If so, specify.
The site lies within an extremely sensitive aquifer recharge area.
- i. Approximately how many people would reside or work in the completed project?
Based on 1.5 persons per household, approximately 120 people will reside in the completed project.
- j. Approximately how many people would the completed project displace?
There would be no displacements. The existing house is vacant.
- k. Proposed measures to avoid or reduce displacement impacts, if any:
Does not apply.
- l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:
The proposed project is permitted outright in the R16 zone. The project requires approval through the Design Review process to ensure it is compatible with existing and proposed land uses.
9. **Housing**
- a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.
Project proposes 80 apartment units and will likely be middle income.
- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.
The existing residence will be demolished.

- c. Proposed measures to reduce or control housing impacts, if any:
No special measures are proposed.

10. **Aesthetics**

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?
The height of the structures will not exceed the maximum height of 45 feet, or three stories. The exterior building materials will likely be wood. Subject to City of Yelm Design Standards
- b. What views in the immediate vicinity would be altered or obstructed?
The site will transition from a single family residence to an attractive Apartment complex.
- c. Proposed measures to reduce or control aesthetic impacts, if any:
Perimeter landscaping will screen the development. Subject to Chapter 18.55 YMC

11. **Light and Glare**

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur?
Parking lot lighting and exterior unit lighting will occur after dark, typical of an apartment complex.
- b. Could light or glare from the finished project be a safety hazard or interfere with views?
No. Lighting will be directed downward so as not to interfere with views or provide glare.
- c. What existing off-site sources of light or glare may affect your proposal?
There are no off-site sources of light or glare that will impact the proposal.
- d. Proposed measures to reduce or control light and glare impacts, if any:
Lighting fixtures will be shielded and lighting cast downward to reduce light and glare impacts. All lighting fixtures will meet City requirements for light spill.

12. **Recreation**

- a. What designated and informal recreational opportunities are in the immediate vicinity? **Brookdale Golf Course is just south of the project site. Ball fields, football field and track are available for public use during non-school hours at Yelm Middle School, which is approximately 1/2 mile away.**
- b. Would the proposed project displace any existing recreational uses? If so, describe.

No.
- c. Proposed measures to reduce or control impacts or provide recreation opportunities:
10% of the site will be open space with amenities that include a pedestrian pathway and park benches.

13. **Historic and Cultural Preservation**

- a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? If so, generally describe.

There are no known buildings, structures, or sites within the immediate vicinity of the project site that are listed on national, state, or local preservation registers.

- b. Generally describe any landmarks or evidence of historic, archeological, scientific, or cultural importance known to be on or next to the site.

None to our knowledge.

- c. Proposed measures to reduce or control impacts, if any:

If cultural or archeological objects are found during site preparation work, the Washington State Department of Archaeology and Historic Preservation will be notified, and appropriate measures will be taken.

14. **Transportation**

- a. Identify sidewalks, trails, public streets and highways serving the site, and describe proposed access to the existing street system. Show on site plans, if any.

The site will be served by both Mountain View Road SE on the west and Killion Road SE on the east.

Will be served by Tahoma Blvd SE to the North

- b. Is site currently served by public transit? By what means? If not, what plans exist for transit service?

Yelm Avenue to the north of the project is served by Thurston County's Intercity Transit.

- c. How many parking spaces would the completed project have? How many would the project eliminate?

The project will have approximately ____ parking spaces.

Preliminary site plan shows 180 parking stalls

- d. Will the proposal require any new sidewalks, trails, roads or streets, or improvements to existing sidewalks, trails, roads or streets, not including driveways? If so, generally describe (indicate whether public or private).

no.

- e. Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

No.

- f. **How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.**

A Traffic Impact Analysis was prepared by Heath and Associates in October 2018. Based on the report, it is anticipated the project will generate 89 new AM peak trips and 119 new PM peak hour trips.

Traffic Impact Analysis prepared May 2021 shows 28 new AM peak hour trips and 34 new PM peak hour trips

- g. **Proposed measures to reduce or control transportation impacts, if any: Transportation Facilities Charges will be paid to the city as mitigation for the traffic impacts.**

15. **Public Services**

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe:

Yes, typical public services including fire, police protection, health care, schools, and utility services will be required for this project.

- b. Proposed measures to reduce or control direct impacts on public services, if any.

An increased tax base will help mitigate impacts.

Fire impact and school impact fees due at building permit issuance

16. **Utilities**

- a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

- b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

Electricity - Puget Sound Energy
Water - City of Yelm
Sanitary Sewer - City of Yelm S.T.E.P.
Refuse Service - Rural Refuse
Telephone - Centurylink
Cable/Internet - Comcast

C. **SIGNATURE**

The above answers are true and complete to the best of my knowledge. I understand that the City of Yelm is relying on them to make its decision.

Signature: 
Date Submitted: May 3, 2021

SCHUUR BROS., Inc
MAZAMA POCKET GOPHER
(*Thomomys Mazama*)
ABSENCE REPORT

Prepared for Schuur Bros., Inc.

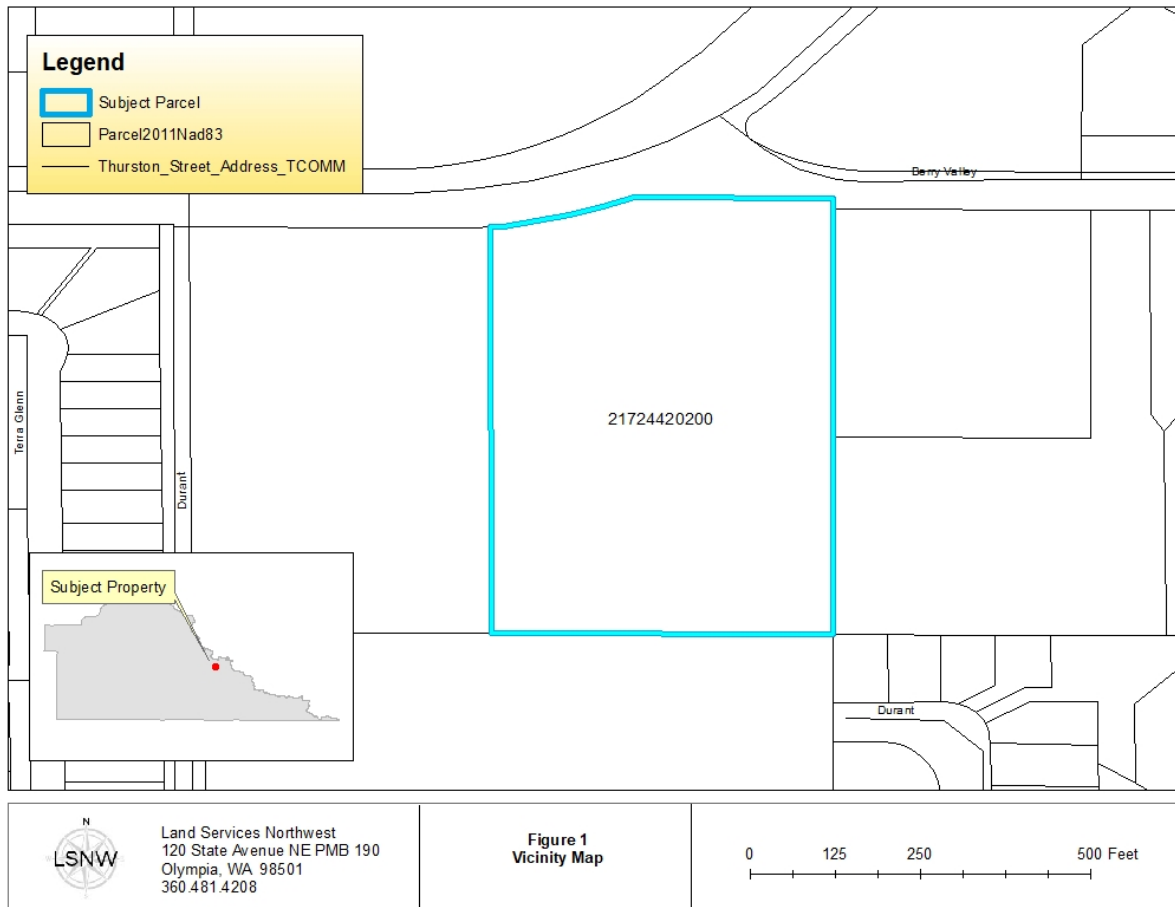


Prepared By:

ALEXANDER CALLENDER, M.S. PWS
LAND SERVICES NORTHWEST
OLYMPIA, WASHINGTON
February 2, 2021

1.0 INTRODUCTION

This report is the result of a Mazama Pocket Gopher and regulated prairie survey of the 4.99 parcel #21724420200 located at 15035 BERRY VALLEY RD SE, Yelm with the legal description of Section 24 Township 17 Range 1E Quarter SE NW BLA140153YL TR B Document 4400621 (**Figure 1**):



The Purpose of this report is to provide a study of the presence or absence of indicators of the Mazama Pocket Gopher (*Thomomys Mazama*) for the city of Yelm.

Mazama Pocket Gopher

Four subspecies of Mazama pocket gophers found in Thurston County are listed as threatened under the Endangered Species Act (ESA). Impacts to Mazama pocket gophers should be avoided or addressed through USFWS permitting processes. The presence of this species on a property may have regulatory implications that may limit the amount or type of development that can occur on a property in order to avoid “take” of the species. Take is defined under the ESA as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect any threatened or endangered species.

This study should allow the reader to assess whether the Mazama pocket gopher is likely to be found on site and what the implications of its presence or absence may have with regard to permitting a residence or other structures or development.

2.0 METHODS

2.1 Review of Existing Information

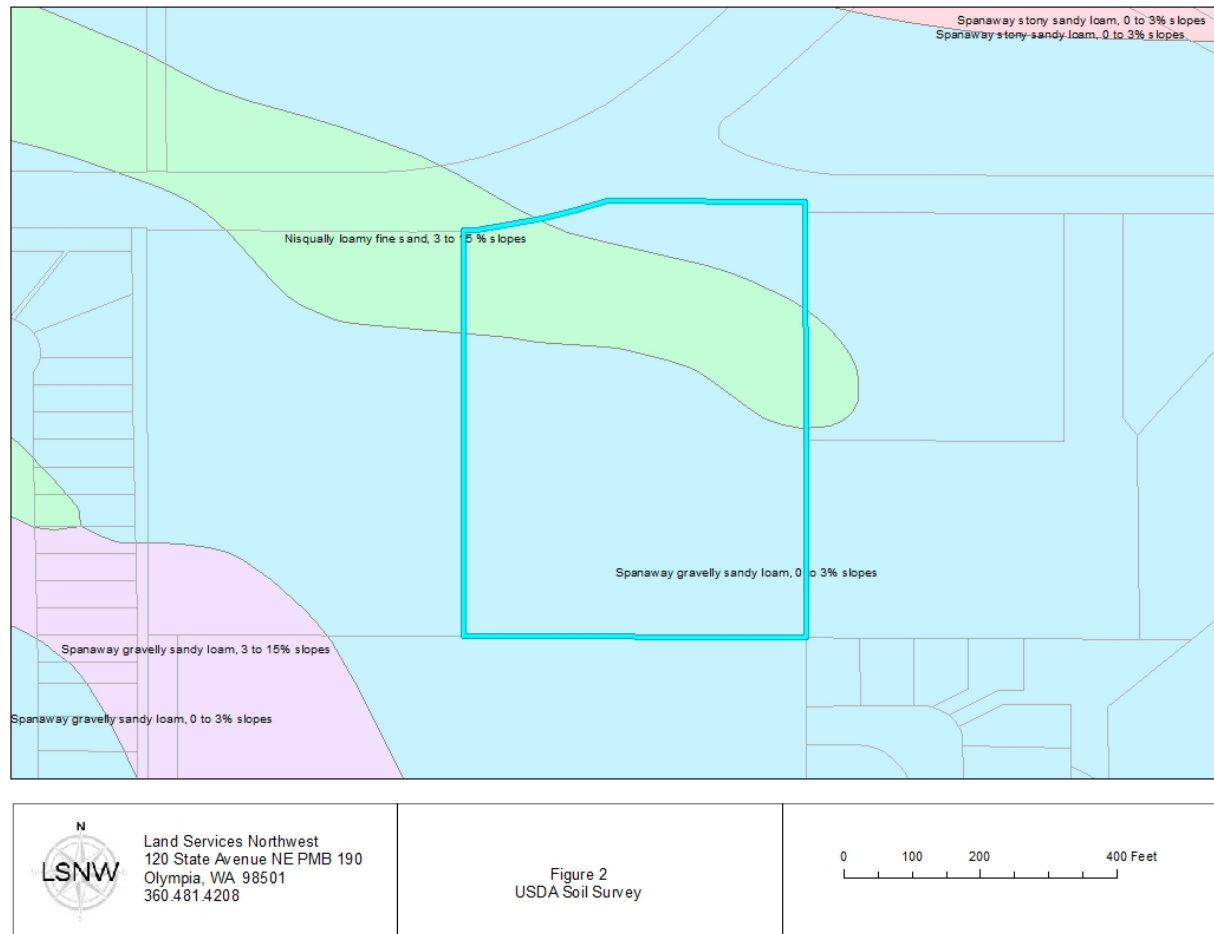
Background Review

Background information on the subject property was reviewed prior to field investigations and included the following:

- Thurston County Geodata Gopher Soils Shapefiles
- WDFW Priority Habitats and Species Information
- USFWS species list information
- WDFW species information

2.2 Summary of Existing Information

The existing information shows Nisqually loamy fine sand, 3 to 15 percent slopes, Spanaway gravelly sandy loam, 0 to 3 percent slopes, and Spanaway gravelly sandy loam, 3 to 15 percent slopes, which are more preferred by the MPG. **(Figure 2) and (Attachment A)**



Attachment A

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

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

The WDFW Priority Habitats and Species Map does not show the MPG in the vicinity of the subject property within 600 feet. (Appendix B).

2.3 2020 Mazama Pocket Gopher Protocol

A. General Information – 2020 Approach

1. The MPG review season will run June 1-October 31, 2020.
2. The protocol described in this memorandum will only apply to properties not known to be occupied by MPG since April 2014, the date of the federal listing.

The property was not known to be occupied by the MPG since April 2014.

3. Negative determinations will be valid for the length of the underlying County permit or approval, per County code.

The determination is negative.

4. Qualified consultants may perform field reviews and submit results for County evaluation, per the CAO. Consultants must have received training from USFWS at one of the two trainings offered in May/June 2019 and is certified to conduct these surveys.

Alex Callender is qualified as a consultant as he received training and certification during the May 2019 class conducted by the United States Fish and Wildlife Service.

B. In-Office Procedures

1. Staff will review land use applications to determine if the MPG field screening protocols described in this memorandum must be initiated for the following:

- a. Within 600 feet of a site known to have positive MPG occurrence ; or
- b. On or within 300 feet of a soil type known to be associated with MPG occupancy.

The existing information shows Nisqually loamy fine sand, 3 to 15 percent slopes, Spanaway gravelly sandy loam, 0 to 3 percent slopes, and Spanaway gravelly sandy loam, 3 to 15 percent slopes, which are more preferred by the MPG.

2. County staff will determine if other factors preclude the need for field screening. See Preliminary assessment below.

3. County staff will notify applicants if their application cannot be excluded from further review

4. Applicants may hire a consultant to perform field review, or may request that field review be conducted by County staff according to the protocol described in this memorandum.

5. County staff will review critical area reports submitted by consultants.

6. For sites to be screened by the County, staff will coordinate site visits with landowners/applicants, ensure advance notification and property access, and develop site visit schedules.

7. For sites where no MPG activity is observed, the County will provide applicants with a project condition that requires them to stop construction activity and alert the County and USFWS if evidence of MPG occupancy is observed.

N/A - No activity observed

8. Thurston County landowners who know or learn that Mazama pocket gophers are present on their property can move forward with their proposed development by: 1) proposing mitigation to the County as directed in the County's Critical Areas Ordinance (Title 24 TCC); or 2) contacting USFWS directly to discuss the review, assessment, and mitigation process most appropriate for their site(s) and proposed activities; or 3) waiting to

participate in the yet to be completed Thurston County HCP.

C. Preliminary Assessment

As land use applications are received, properties mapped with or within 300 feet of gopher and/or prairie soils undergo the following preliminary assessment in-office.

1. For properties or project areas that appear to meet County criteria below, an internal review is conducted by staff biologist to determine if the project may be released from the full gopher review process. The following criteria may release a project from further gopher review:

- Locations west of the Black River, or on the Steamboat Island or Cooper Point peninsulas.
N/A
- Sites submerged for 30 consecutive days or more since October 31, 2017.
N/A
- Sites covered with impervious surfaces (as defined in CAO Chapter 17.15 and Title 24).
- Fully forested (>30%) sites with shrub and fern understory.
N/A
- Sites that consist of slopes greater than 40 percent, or that contain landslide hazard areas (per existing County regulations).
N/A
- Sites on less preferred MPG soils north of Interstate 5.
N/A
- Building to take place in the footprint of an existing structure (also mobile home replacements in the same footprint).
N/A
- Mobile home replacements in existing lots in an existing mobile home park.
N/A
- Heating oil tank removal
N/A
- Foundation repair
N/A
- Projects which lie >300 feet from mapped gopher soils.
The parcel is within 300 feet of mapped gopher soils.

2. If a property and/or project area do not meet internal review criteria, the project is put on a list to be scheduled for full MPG review during the appropriate seasonal review period.

3. In addition to the in-office preliminary assessment, the County HCP biologist may, if time allows, visit properties prior to the first gopher review in order to screen for prairie habitat. This screening process focuses on the presence or absence of native prairie plants, Oregon white oak trees (*Quercus garryana*), or Mima mounds protected under the Critical Areas Ordinance (CAO).

N/A

D. Implementation Measures

In order to ensure the review process runs efficiently, the following measures will be implemented as part of the 2019 screening approach. These are intended to reduce costs and staff time, and ensure that MPG screening requests, especially those associated with building permit applications, are screened during the screening season.

1. No soil verification will be required in conjunction with MPG field screening.
2. Site mowing or brushing will be required to initiate first site visits, where necessary and feasible, and completed two to four weeks in advance of the site visit.

The ground was visible.

3. No further screening will be conducted in 2019 following the detection of MPG mounds on a property. The County will notify landowners that MPG evidence has been detected within two weeks.

The Mazama pocket gopher mounds were **not** found.

4. At the end of the 2019 season, County staff will provide data regarding MPG occupancy to USFWS.
5. No additional site visit will be required if indeterminate mounds are detected, if the full number of required visits has been completed.

N/A

6. The County will prioritize project specific applications over non-project applications. This will help ensure that applicants that have projects ready for construction will receive necessary permits and may initiate construction in a timely manner.

E. Site Visit Overview

County field personnel or hired consultants will conduct field observations to determine MPG presence on sites with potential habitat. These site visits will be conducted as follows:

1. All valid site visits must be conducted from June 1 through October 31, 2019. Site visits outside that survey window will not be considered valid.

The site visit was conducted on February 2, 2021.

2. A site or parcel is considered to be the entire property, not just the footprint of the proposed project.

The entire parcel was surveyed.

3. Sites with less preferred soils (see Attachment A) will be visited two (2) times, at least 30 days apart.

4. Sites with more preferred soils (see Attachment A) will be visited two (2) times, at least 30 days apart.

The existing information shows Nisqually loamy fine sand, 3 to 15 percent slopes, Spanaway gravelly sandy loam, 0 to 3 percent slopes, and Spanaway gravelly sandy loam, 3 to 15 percent slopes, which are more preferred by the MPG.

The site was surveyed on February 2, 2021.

5. Site conditions must be recorded on a data sheet or similar information documented in narrative form. A template data sheet can be found on the County website at <http://www.co.thurston.wa.us/permitting/gopher-reviews/index.html>

The data sheet is provided in Appendix C.

6. Document and describe which areas of the parcel cannot be screened due to limited accessibility and/or dense understory. This should be depicted on an aerial or site plan submitted to the County.

The entire parcel was surveyed.

7. The ground must be easily visible to ensure mound observation and identification. Request mowing if necessary to ensure visibility. Wait two to three weeks after mowing before beginning screening.

The ground was visible.

<http://www.co.thurston.wa.us/permitting/gopher-reviews/index.html> F. Detailed Field Methodology

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.

The survey was conducted according to the protocol.

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 County. (County has developed data sheets for your use on <http://www.co.thurston.wa.us/permitting/gopher-reviews/index.html>)

The mounds found on site were typical of moles which are round, clumpy and the show was in a linear fashion. No MPG mounds were found.

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 County. County GPS Data instruction can be found at <http://www.co.thurston.wa.us/permitting/gopher-reviews/index.html>

N /A

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.

No MPG mounds found.

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 County:

- At least one up-close photo to depict mound characteristics
No MPG mounds were found.
- At least one photo depicting groups of mounds as a whole (when groups are encountered).
N/A
- At least one photo depicting gopher mounds with recognizable landscape features in the background, at each location where mounds are detected on a property
N/A
- Photos can be taken with the GPS unit or a separate, camera, preferably a camera with locational features (latitude, longitude)
N/A
- Photo point description or noteworthy landscape or other features to aid in relocation. Additional photos to be considered.
Photos are found in Appendix A
- The approximate building footprint location from at least two cardinal directions.
N/A
- Landscape photos to depict habitat type and in some cases to indicate why not all portions of a property require gopher screening.
Appendix A Photos

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.

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.

No mounds were found.

11. In order for the County to accurately review Critical Area Reports submitted in lieu of County field inspections the information collected in the field (GPS, data sheets, field notes, transect representations on aerial, etc.) shall be filed with the County. GPS

No mounds were found, the information was submitted in an acceptable format.

3.0 CURRENT CONDITIONS AND METHODS

Land Services Northwest conducted a survey on February 2, 2021, walking the area and looking for signs of the MPG and regulated prairie in accordance with the protocol.

The 4.99 acre parcel is a large mowed field with a single family home and separate garage. The parcel is located in a area with single family homes on small lots.

4.0 RESULTS

No Mazama pocket gophers were found on site.



Date: May 4, 2021

To: Mr. Jerry Schuur
Schuur Bros, Inc.
809 39th Ave SW
Puyallup, WA 98373

From: Aaron Van Aken, PE, PTOE

Subject: Tahoma Boulevard Apartments – Yelm Traffic Assessment

The intent of this assessment serves to provide trip generation analysis for the proposed development of 80 apartment units in the city of Yelm. The subject site is located on 4.99-acre parcel #: 21724420200. A description of the project summary is provided below.

Proposed Project

Tahoma Boulevard Apartments is a proposed apartment development consisting of 80 multi-family dwelling units located in the city of Yelm. The subject site is comprised within 4.99-acre parcel #: 21724420200. Currently on-site, there is an existing single-family residence that will be demolished prior to new site development. The subject site is situated on the south side of Tahoma Boulevard SE and southwest from Berry Valley Drive SE. Access to the subject property is proposed via a new roadway currently under construction as part of the adjacent Wyndstone Apartments development to the west. A conceptual site plan illustrating the project configuration and access is shown in Figure 2.

Figure 1: Aerial Vicinity

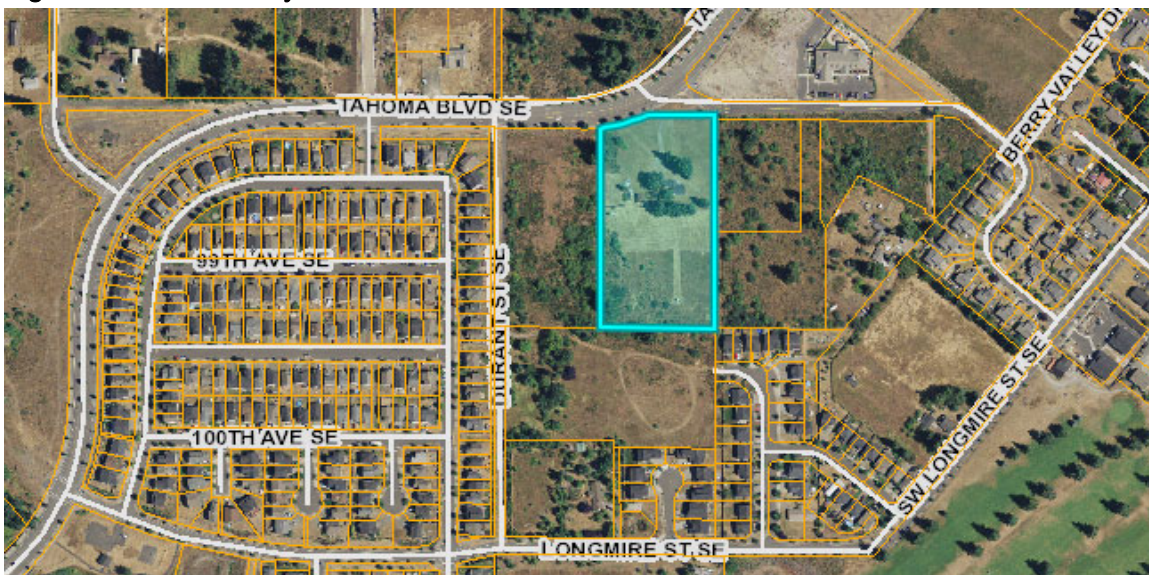
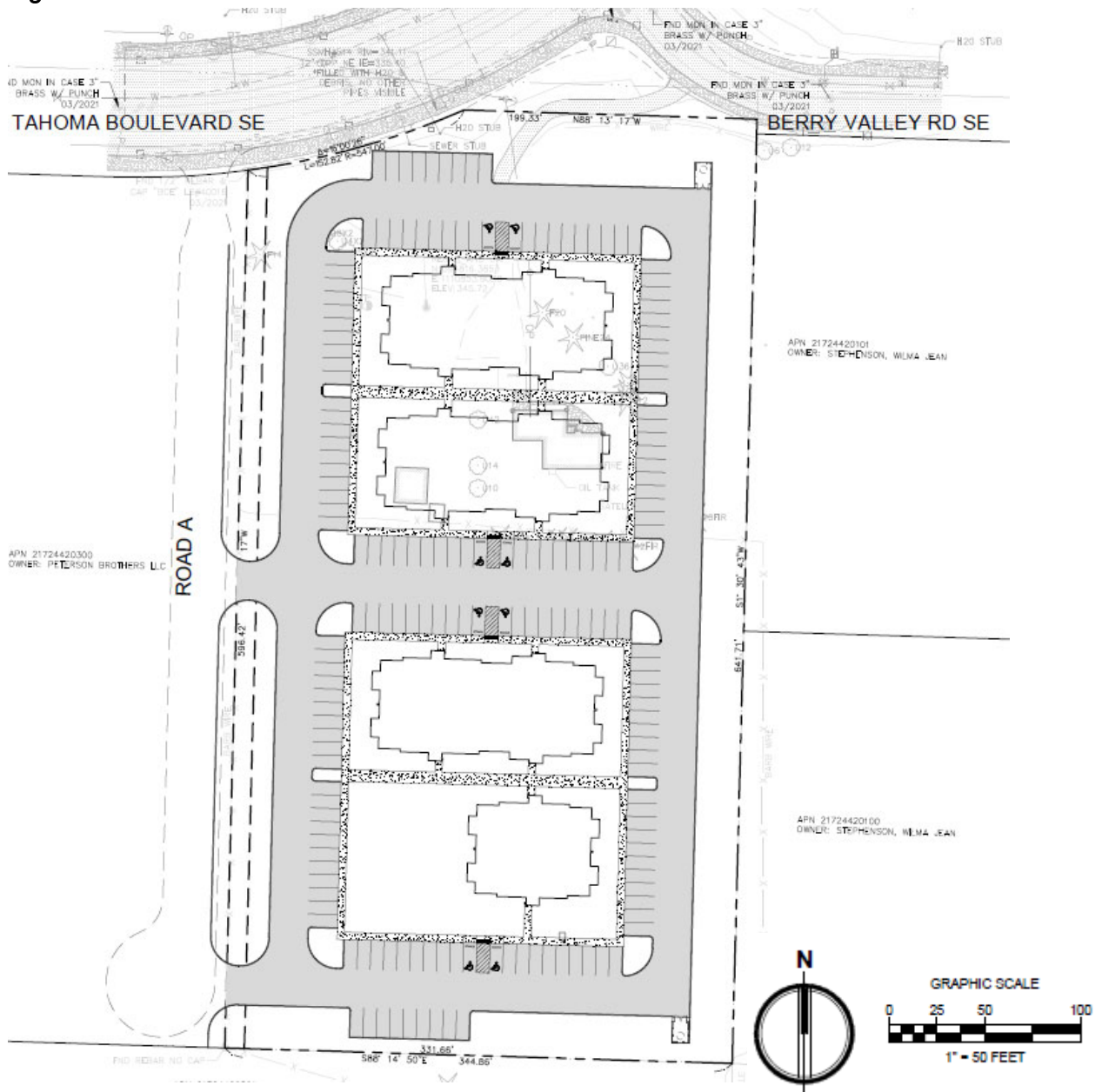


Figure 2: Site Plan



Transit Service

A review of the Intercity Transit regional system map indicates the nearest transit route in the area is served via Route 94. Service is provided from the Olympia Transit Center to the Yelm Walmart from the hours of 7:20 AM to 8:45 PM. The nearest stop with respect to the subject site is located at the intersection of Tahoma Boulevard SE / Killion Road SE & SR-510 (~0.25 miles northeast), offering 30 to 60-minute headways during peak travel times. Weekend service is also provided. Refer to the Intercity Transit route schedule for more detailed information.

Trip Generation

Trip generation is defined by the number of vehicular movements that enter or exit a site during a particular timeframe such as a specific peak hour or an entire day. Trip generation estimates are based on data from the ITE *Trip Generation Manual*, 10th Edition. Corresponding the proposed development with ITE data, the following land use of LUC 221 – Multi-Family Mid-Rise was applied. Attached to this document are excerpts from the ITE manual for the utilized land use. Table 1 below summarizes the estimated trip volumes using average rates.

Table 1: Project Trip Generation

| Land Use | Dwelling Units | AWDT | AM Peak-Hour Trips | | | PM Peak-Hour Trips | | |
|-----------------|----------------|------|--------------------|-----|-------|--------------------|-----|-------|
| | | | In | Out | Total | In | Out | Total |
| <u>Existing</u> | | | | | | | | |
| Single-Family | 1 | 9 | 0 | 1 | 1 | 1 | 0 | 1 |
| <u>Proposed</u> | | | | | | | | |
| Multi-Family | 80 | 435 | 7 | 22 | 29 | 21 | 14 | 35 |
| Net New Trips | | 426 | 7 | 21 | 28 | 20 | 14 | 34 |

The proposed development of 80 multi-family units is estimated to generate 29 AM and 35 PM peak hour trips, respectively. The removal of the existing on-site single-family residence would result in net new peak hour trips of 28 AM and 34 PM peak hour trips, respectively.

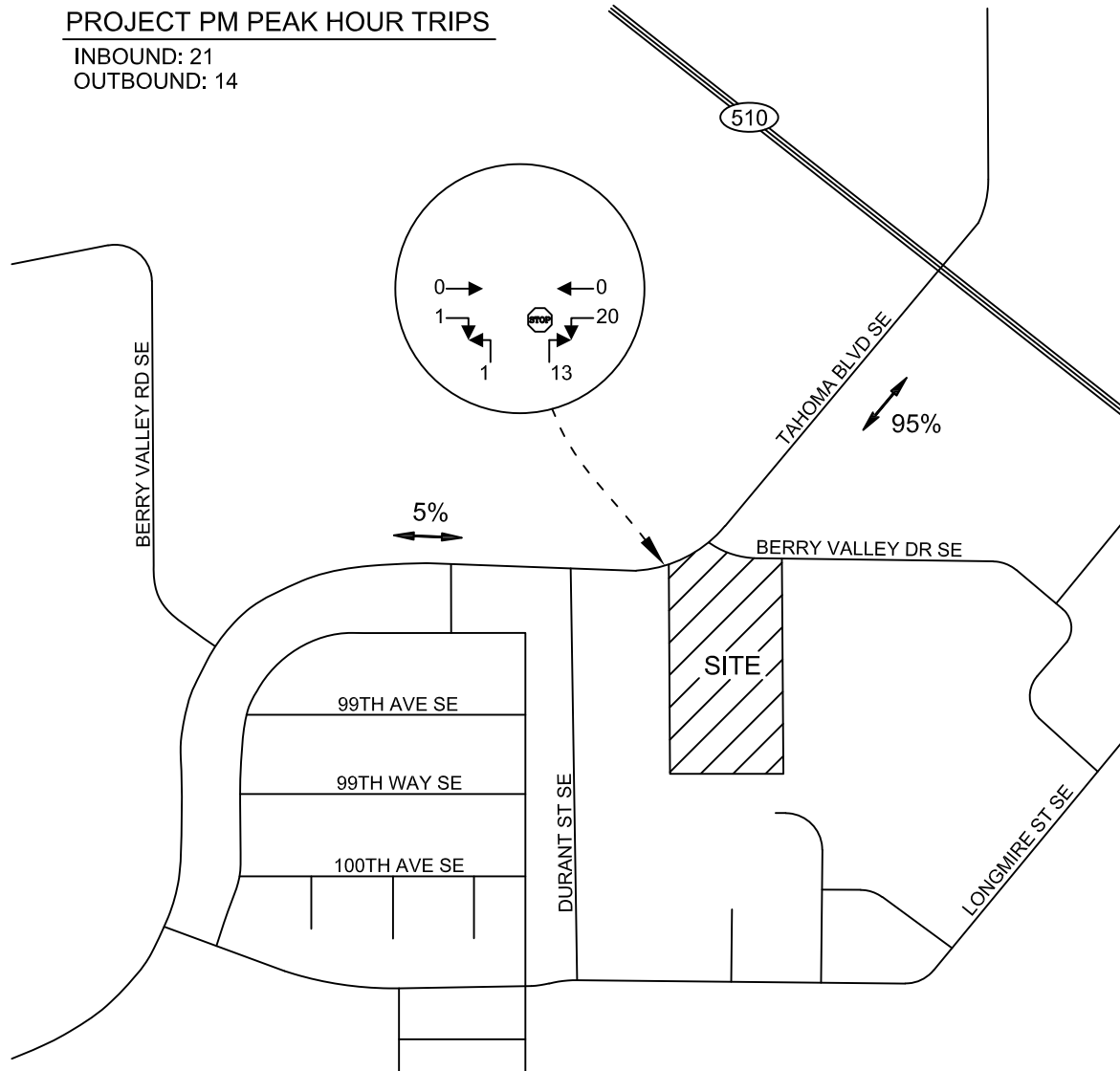
Figure 3 on the following page illustrates the project's trip distribution and assignment using total project trips. The main arterial route to and from the subject site is by way of Tahoma Boulevard SE providing connection to SR 510.



PROJECT PM PEAK HOUR TRIPS

INBOUND: 21

OUTBOUND: 14



HEATH & ASSOCIATES
TRAFFIC AND CIVIL ENGINEERING

TAHOMA BLVD APARTMENTS - YELM
PM PEAK HOUR TRIP DISTRIBUTION & ASSIGNMENT
FIGURE 3

Proposed Access

Access to the site is proposed via two new driveways on a newly constructed roadway bordering the site to the west identified as "ROAD A" in the provided site plan. The new roadway (as part of the Wyndstone Apartments development) extends south from Tahoma Blvd SE and was designed to current City of Yelm standards. Sufficient sight distance was shown to be available along Tahoma Blvd SE.

Conclusion

Tahoma Boulevard Apartments proposes for the construction of 80 new multi-family apartment units in the city of Yelm. The subject site is located on the south side of Tahoma Boulevard SE with a site address of 15035 Berry Valley Road. On-site exists one single-family dwelling and a detached garage that would be removed for new development. Based on ITE data, the project is estimated to generate a net increase of 426 average weekday daily trips with 28 trips occurring in the AM peak hour and 34 trips in the PM peak hour.

The project would be subject to City of Yelm Transportation Facilities Charge which are assessed at a cost of \$1,497.00 per new PM peak hour trip. An estimated fee is therefore as follows:

34 net new PM peak hour trips x \$1,497.00/trip = \$50,898.00.

Exact fees and calculations will be determined by the City with current fee schedules at the time of building permit issuance.

Please call if you require anything further.

Sincerely,



Aaron Van Aken, P.E., PTOE

Multifamily Housing (Mid-Rise) (221)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban

Number of Studies: 27

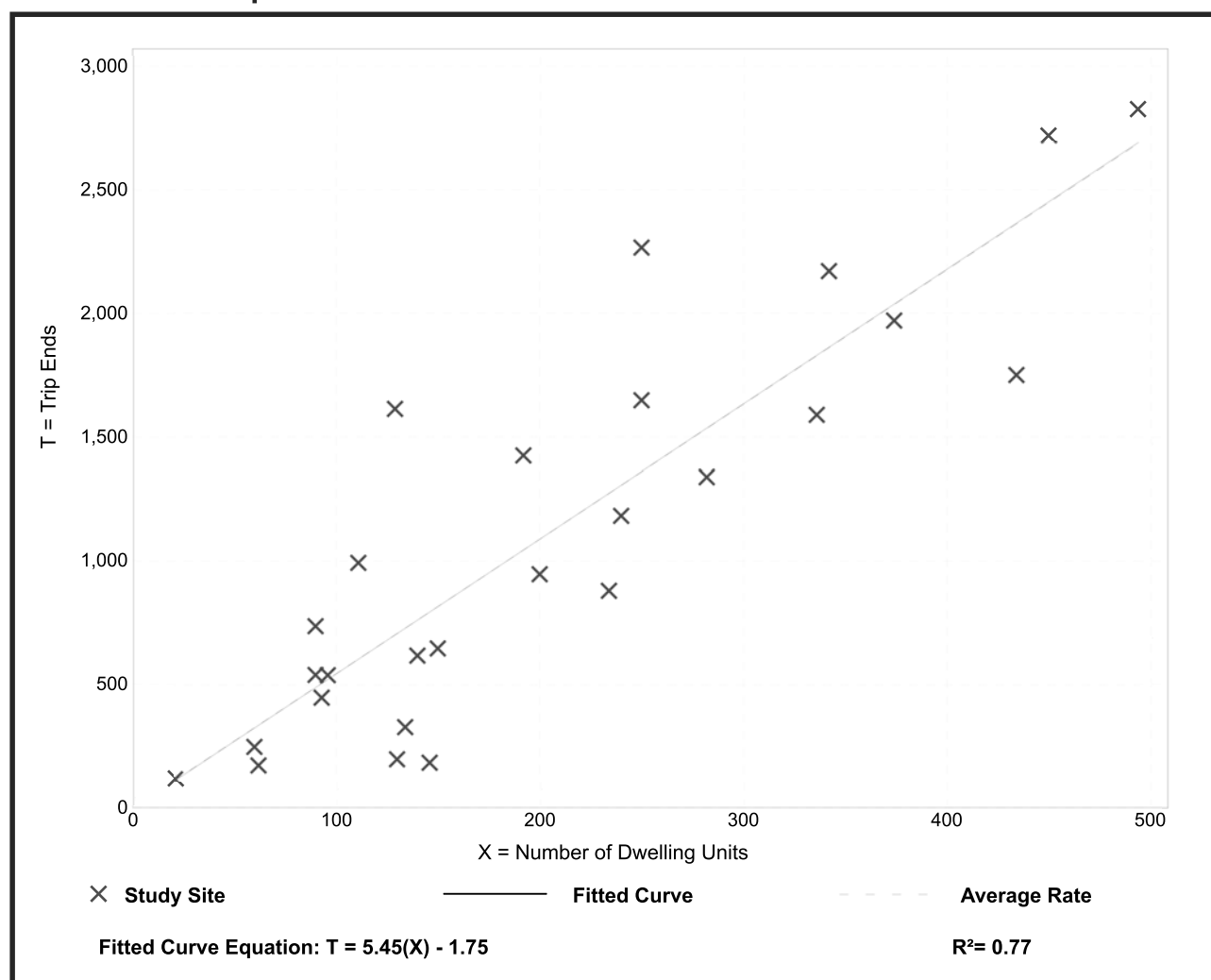
Avg. Num. of Dwelling Units: 205

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 5.44 | 1.27 - 12.50 | 2.03 |

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

Multifamily Housing (Mid-Rise) (221)

Vehicle Trip Ends vs: Dwelling Units

**On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.**

Setting/Location: General Urban/Suburban

Number of Studies: 53

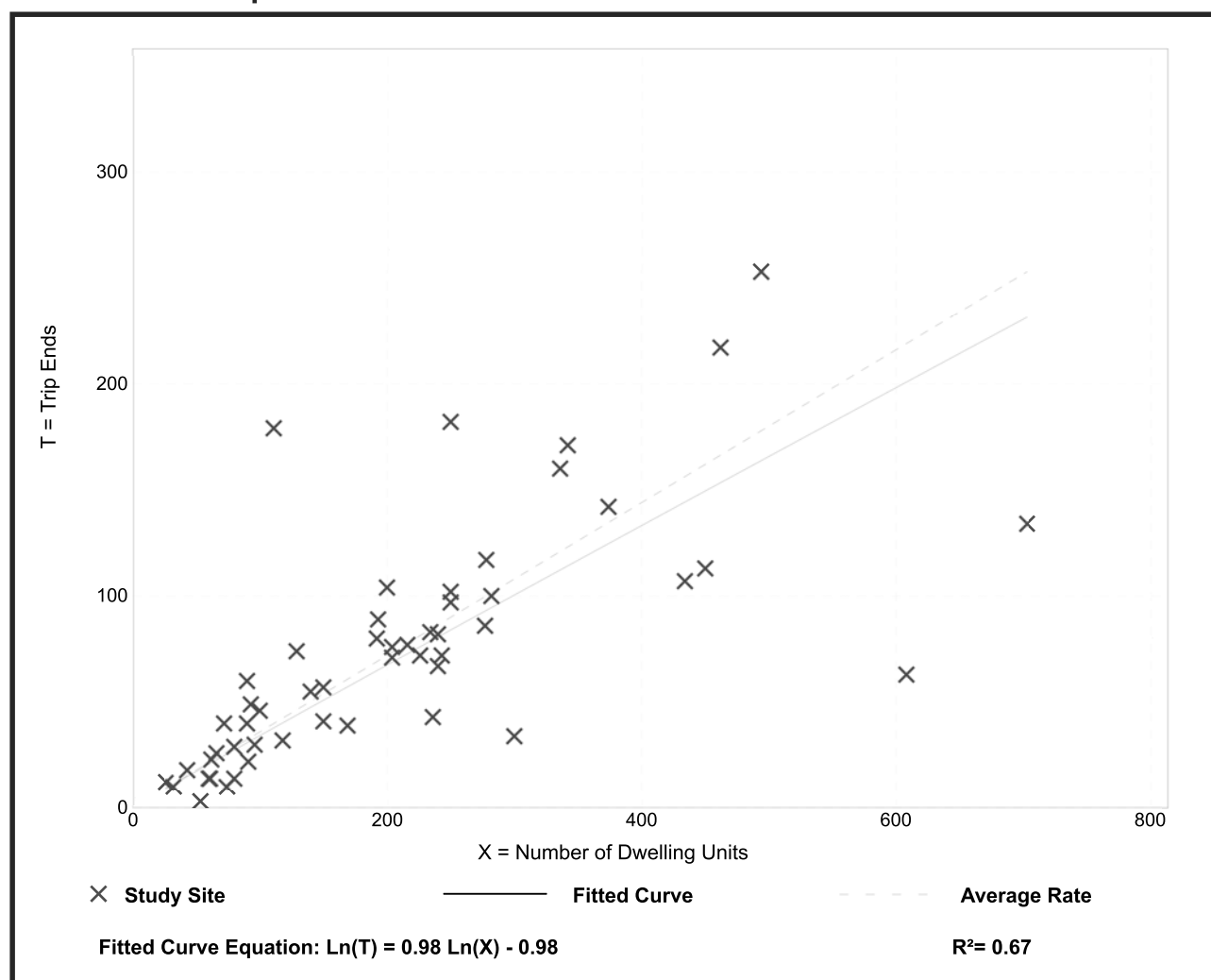
Avg. Num. of Dwelling Units: 207

Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 0.36 | 0.06 - 1.61 | 0.19 |

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers

Multifamily Housing (Mid-Rise) (221)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 60

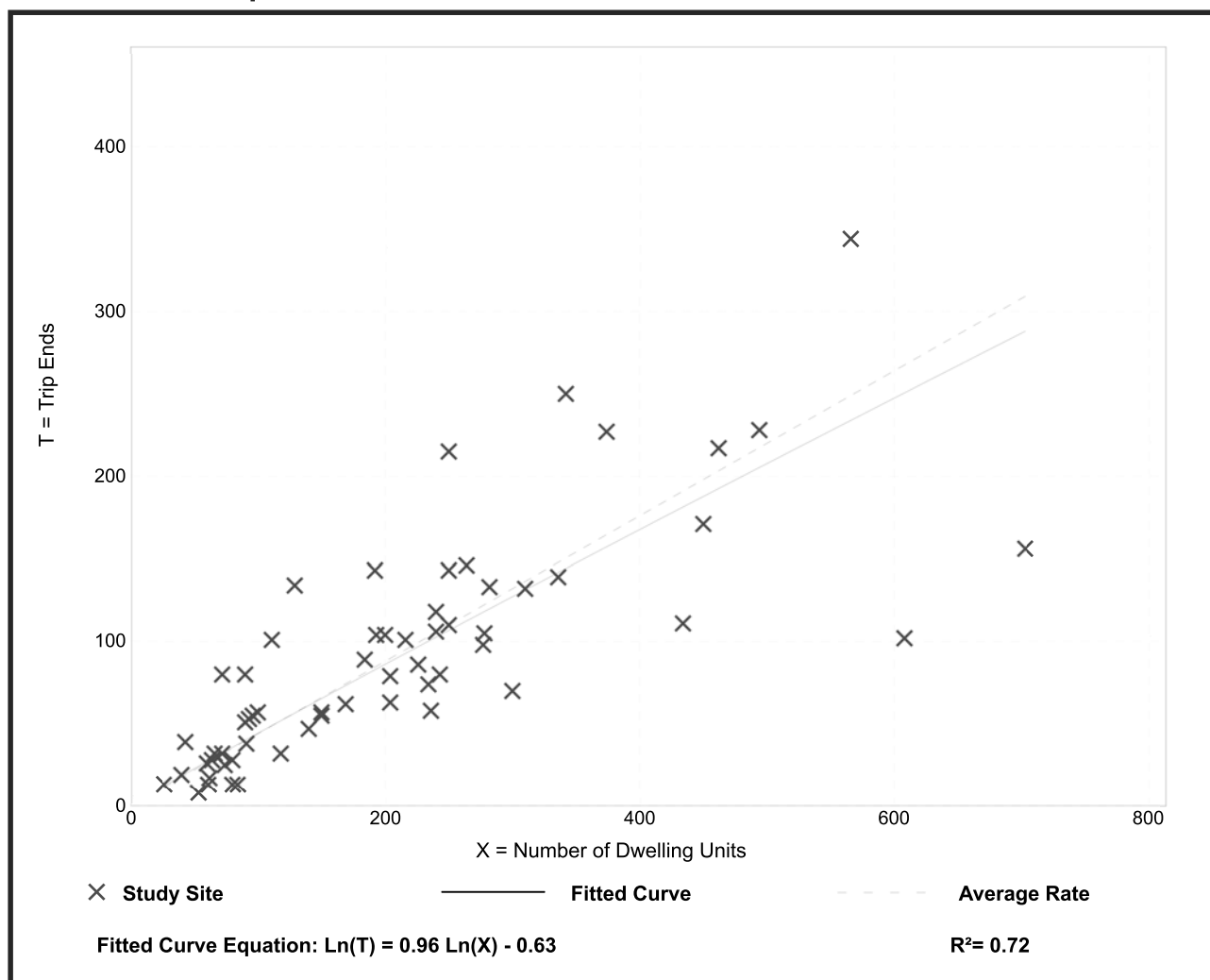
Avg. Num. of Dwelling Units: 208

Directional Distribution: 61% entering, 39% exiting

Vehicle Trip Generation per Dwelling Unit

| Average Rate | Range of Rates | Standard Deviation |
|--------------|----------------|--------------------|
| 0.44 | 0.15 - 1.11 | 0.19 |

Data Plot and Equation



Trip Generation Manual, 10th Edition • Institute of Transportation Engineers



Preliminary Stormwater Report

PREPARED FOR:

Mr. Jerry Schuur
Schuur Brothers Construction
PO Box 597
Puyallup, WA 98371

PROJECT:

Tahoma Boulevard Apartments
SPR / SEPA
Yelm, Washington
2210016.10

PREPARED BY:

Michael Lesmeister, EIT
Project Engineer

REVIEWED BY:

Scott T. Kaul, PE, LEED AP
Project Manager

DATE:

May 2021

Preliminary Stormwater Report

PREPARED FOR:

Mr. Jerry Schuur
Schuur Brothers Construction
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Puyallup, WA 98371

PROJECT:

Tahoma Boulevard Apartments
SPR / SEPA
Yelm, Washington
2210016.10

PREPARED BY:

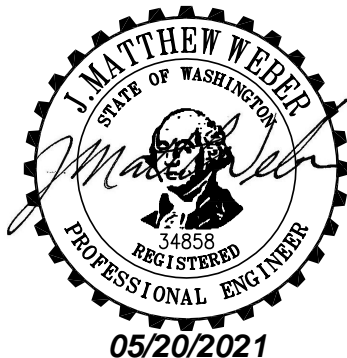
Michael Lesmeister, EIT
Project Engineer

REVIEWED BY:

Scott T. Kaul, PE, LEED AP
Project Manager

DATE:

May 2021



I hereby state that this [Preliminary Stormwater Report](#) for the [Tahoma Boulevard Apartments](#) project has been prepared by me or under my supervision, and meets the standard of care and expertise that is usual and customary in this community for professional engineers. I understand that [City of Yelm](#) does not and will not assume liability for the sufficiency, suitability, or performance of drainage facilities prepared by me.

Table of Contents

| Section | Page |
|--|-------------|
| 1.0 Project Overview | 1 |
| 1.1 Purpose and Scope..... | 1 |
| 1.2 Existing Condition Summary | 1 |
| 1.3 Post-Developed Conditions Summary | 1 |
| 2.0 Summary of Minimum Requirements | 2 |
| 2.1 MR 1 – Preparation of Stormwater Site Plans | 2 |
| 2.2 MR 2 - Construction Stormwater Pollution Prevention | 2 |
| 2.3 MR 3 – Source Control of Pollution..... | 2 |
| 2.4 MR 4 – Preservation of Natural Drainage Systems and Outfalls..... | 2 |
| 2.5 MR 5 – Onsite Stormwater Control | 2 |
| 2.6 MR 6 – Runoff Treatment | 2 |
| 2.7 MR 7 – Flow Control | 2 |
| 2.8 MR 8 – Wetlands Protection | 2 |
| 2.9 MR 9 – Basin/Watershed Planning..... | 3 |
| 2.10 MR 10 – Operation and Maintenance | 3 |
| 3.0 Wells | 3 |
| 4.0 Septic Tanks | 3 |
| 5.0 Fuel Tanks | 3 |
| 6.0 Sub-Basin Description..... | 3 |
| 7.0 Analysis of the 100-Year Flood..... | 3 |
| 8.0 Aesthetic Considerations for Facilities | 4 |
| 9.0 Facility Sizing and Downstream Analysis | 4 |
| 9.1 Conveyance | 4 |
| 9.2 Treatment..... | 4 |
| 9.3 Flow Control | 4 |
| 10.0 Covenants Dedications, Easements | 4 |
| 11.0 Property Owners Association Articles of Incorporation..... | 4 |
| 12.0 Conclusion..... | 5 |

Appendices

Appendix A

Exhibits

- A-1..... Vicinity Map
- A-2..... Existing Conditions Map
- A-3..... Developed Conditions Map
- A-4..... NRCS Soil Map
- A-5..... FEMA Flood Rate Map

Appendix B

Calculations

- B-1..... WWHM Calculations

Appendix C

Geotechnical Report

South Sound Geotechnical Consulting, April 2, 2021

1.0 Project Overview

1.1 Purpose and Scope

This Preliminary Stormwater Report accompanies the civil engineering plans submitted for the Tahoma Boulevard Apartments SPR/SEPA review. The project is located at 15035 Berry Valley Road SE, Yelm, Washington (Parcel No. 21724420200). The project property is approximately 4.99 acres. Refer to Appendix A-1 for a Vicinity Map.

This report describes the stormwater facilities designed for the project. The plans and report have been prepared to satisfy all requirements of City of Yelm and the Washington State Department of Ecology 2019 *Stormwater Management Manual for Western Washington (SMMWW)*.

1.2 Existing Condition Summary

1.2.1 Existing Site Features

The site is currently vacant, except for a single-family home. Land cover for the remainder of the site consists of pasture and scattered trees and shrubs. The site is relatively flat with gentle slopes running south to north. There are approximately 10 feet of relief between the north and south boundaries. The site is bounded to the north by Tahoma Boulevard, to the east and south by undeveloped land, and to the west by a multi-family project that is under construction (refer to the Wyndstone Project). The site will be accessed from the proposed Road A of the adjacent development. Utilities will be extended from Tahoma Boulevard.

1.2.2 Soils

The site is mapped by the Natural Resources Conservation Service (NRCS) as 30% Nisqually Loamy Fine Sand and 70% Spanaway Gravelly Sandy Loam. These soils are Hydrologic Group A soils. Erosion potential is low and infiltration is high for these soil types.

A Geotechnical Report prepared by South Sound Geotechnical Consulting, dated April 2, 2021, identifies onsite soils as 1 to 2 feet of topsoil and native soil below the topsoil as sand with trace silt to gravelly sand/sandy gravel with trace silt. These findings are consistent with NRCS mapping. This soil type is reported to have formed in glacial outwash and is a suitable receptor for infiltration. An assessment of infiltration potential of site soils was completed using gradation correlations based on Massmann's equation per Volume 3, Appendix III-A, Method 3 of the 2016 Thurston County *Drainage Design and Erosion Control Manual*. The calculated rates were consistent with Pilot Infiltration Tests (PIT) completed in outwash soils at other locations in the same vicinity. A design infiltration rate of 26 in/hr was recommended. No groundwater was observed at the time of the investigation.

Refer to Appendix C for the full Geotechnical Report.

1.3 Post-Developed Conditions Summary

The project consists of the construction of four apartment buildings totaling 68 units. Improvements are to include clearing, grading, erosion control, parking facilities, sidewalks, and stormwater facilities. Water and sewer will be extended from Tahoma Boulevard. Step tanks are proposed as part of the sewer design for the project. Refer to Appendix A-3 for a Developed Conditions Map.

2.0 Summary of Minimum Requirements

This project is subject to the *SMMWW* and is a new development that will add more than 10,000 square feet of impervious surfaces; therefore, all Minimum Requirements (MR) apply to this project.

2.1 MR 1 – Preparation of Stormwater Site Plans

This report and the project plans represent the Stormwater Site Plan for this project and satisfy MR 1.

2.2 MR 2 - Construction Stormwater Pollution Prevention

A Construction Stormwater Pollution Prevention Plan (SWPPP) will be submitted with final engineering.

2.3 MR 3 – Source Control of Pollution

Pollution source control will be provided for the site by separating roof runoff from pollution generating surfaces. The residential roads should be maintained and cleaned of debris, garbage, and sediment, as required.

The Construction SWPPP, to be submitted with final engineering, provides details on the control of pollution during construction.

2.4 MR 4 – Preservation of Natural Drainage Systems and Outfalls

The project proposes to infiltrate all stormwater runoff, so all runoff will be retained in the developed condition. There are no natural drainage systems or outfalls to preserve.

2.5 MR 5 – Onsite Stormwater Control

This project will meet the Low Impact Development (LID) performance standard. The onsite soils have a high infiltration capacity, and all runoff will be retained onsite through treatment systems and infiltration trenches. The LID performance standard will be met by infiltrating all stormwater runoff from the site. Refer to Section 9.0 for facility sizing.

2.6 MR 6 – Runoff Treatment

Over 5,000 square feet of pollution generating impervious surface (PGIS) will be added as part of these improvements; therefore, runoff treatment is required for this site. Stormwater from the parking areas will be conveyed to stormwater treatment filters before being infiltrated. The treatment system was sized using the water quality output of the Western Washington Hydrology Model (WWHM 2012) to meet the *SMMWW* treatment requirement of at least 91 percent of runoff volume. Refer to Section 9.0 for facility sizing.

2.7 MR 7 – Flow Control

The project exceeds the thresholds for new development projects and must provide flow control. Proposed flow control is achieved with the use of infiltration trenches that will infiltrate 100 percent of runoff. Refer to Section 9.0 for facility sizing.

2.8 MR 8 – Wetlands Protection

To our knowledge, no wetlands exist on or adjacent to the site.

2.9 MR 9 – Basin/Watershed Planning

To our knowledge, no basin plans exist for the site.

2.10 MR 10 – Operation and Maintenance

The stormwater system will be privately owned and maintained. An Operation and Maintenance Plan consisting of maintenance checklists for stormwater management will be submitted with final engineering.

Site soils are identified by the Soil Conservation Service (SCS) Soil Survey of Thurston County, Washington, as a Spanaway gravelly sandy loam, a Type B soil. This soil is characterized as very deep, somewhat excessively drained, and formed on terraces.

Soil test holes were dug in the vicinity of the proposed infiltration basins of the project and observations confirm that the soil types match the SCS soil description. A soil log map showing the location of the test holes is included in the geotechnical report. Geotechnical Testing Laboratory observed an infiltration rate of 34.2 in/hr in the west basin and 32.0 in/hr in the east basin. Design rates of 8.55 in/hr and 8.00 in/hr are recommended by Geotechnical Testing Laboratory in the west and east drainage basins, respectively. Refer to Appendix C for the complete Geotechnical Testing Laboratory report.

3.0 Wells

One domestic well is located on the subject property. The well is planned to be abandoned as part of this development. The well will be decommissioned according to Thurston County Department of Health and Washington State Department of Health standards. Refer to Appendix A-2, Existing Conditions Map for the approximate location.

4.0 Septic Tanks

An existing septic tank and a drain field are located on the subject property. The septic system is planned to be abandoned as part of this development. The system will be decommissioned according to Thurston County Department of Health and Washington State Department of Ecology standards. Refer to Appendix A-2, Existing Conditions Map for the approximate location.

5.0 Fuel Tanks

To the best of our knowledge, no fuel tanks were observed at the project site.

6.0 Sub-Basin Description

There are two basins in the developed condition, an onsite basin and an offsite basin. Because of the site's location and topography, it sits slightly below the neighboring property to the south. While runoff from the adjacent property is unlikely due to well-draining soils, in an effort to be conservative, the adjacent area has been included in the sizing of the development's storm facilities. A description of the land use characteristics of the developed basins can be found in Appendix A-3, Developed Conditions Map.

7.0 Analysis of the 100-Year Flood

Federal Emergency Management Agency (FEMA) mapping does not indicate flooding in the immediate area. Refer to the exhibit in Appendix A-5.

8.0 Aesthetic Considerations for Facilities

The stormwater treatment facilities and drainage basins will be located underground and will not affect the aesthetics of the site.

9.0 Facility Sizing and Downstream Analysis

The proposed system was modeled using the latest edition of the WWHM Continuous Modeling Software and was designed according to the standards in the 2019 *SMMWW*.

9.1 Conveyance

Stormwater will be conveyed to the proposed treatment and infiltration facilities through the combination of CPEP storm pipe and catch basins.

9.2 Treatment

A 72-inch StormFilter manhole outfitted with seven 27-inch PSorb media cartridges will provide stormwater treatment for this development. Each cartridge provides a treatment rate of 0.041 cfs, for a total treatment rate of 0.29 cfs. This exceeds the required treatment of 0.26 cfs, as determined by WWHM. Refer to Appendix B-1 for the WWHM Calculations.

9.3 Flow Control

An underground infiltration gallery will infiltrate all runoff onsite, which meets both the duration and LID performance standards. Refer to Appendix B-1 for the WWHM Calculations and model setup.

The infiltration gallery was designed to have a bottom area of 2,500 square feet and a depth of 4 feet of washed rock to provide void space. Two 12-inch perforated pipes spaced at 10 feet off-center will distribute stormwater within the system. Long-term native soil infiltration rates onsite were determined to be 26 in/hr.

10.0 Covenants Dedications, Easements

No covenants, dedications, or easements are proposed.

11.0 Property Owners Association Articles of Incorporation

Not applicable.

12.0 Conclusion

The proposed project involves site improvements associated with the 68-unit apartment complex. The project includes clearing, grading, erosion control, utility improvements, and stormwater management facilities. The site, as proposed, will meet the requirements of the 2019 Washington State Department of Ecology *Stormwater Management Manual for Western Washington* (SMMWW). This report and associated plans have been prepared within the guidelines established by City of Yelm for stormwater management.

This analysis is based on data and records either supplied to or obtained by AHBL. These documents are referenced within the text of the analysis. The analysis has been prepared using procedures and practices within the standard accepted practices of the industry.

AHBL, Inc.



Michael Lesmeister, EIT
Project Engineer

ML/lsk

May 2021

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