HEARING EXAMINER
MEETING AGENDA

Online via Zoom and In Person at
Tumwater City Hall, Sunset Room, 555
Israel Rd. SW, Tumwater, WA 98501

Wednesday, May 24, 2023
7:00 PM

The Tumwater Hearing Examiner is an appointed official of the City, and rules upon land use and zoning matters. Within 10 business days of the conclusion of the hearing, the Examiner shall render a decision, including findings and conclusions. Questions on the operation and procedures of the Hearing Examiner may be directed to the Community Development Department at 360-754-4180.

1. Call to Order
2. Administrative Affairs
   a. Changes to Agenda
3. Public Hearing
   a. Sunrise Hills Preliminary Plat TUM-21-0551
4. Adjourn

Meeting Information
All committee members will be attending remotely. The public is welcome to attend in person, by telephone or online via Zoom.

Watch Online
Go to http://www.zoom.us/join, and enter the Webinar ID 845 2610 9239 and Passcode 074169.

Listen by Telephone
Call (253) 215-8782, listen for the prompts and enter the Webinar ID 845 2610 9239 and Passcode 074169.

The City of Tumwater Hearing Examiner will hear testimony from interested parties in person, via computer audio or by telephone by registering in advance to provide comment.

Public Comment – Register in advance for this webinar:
https://us02web.zoom.us/webinar/register/WN_T5EZoB-LTLqQJ5P97TSN0g

After registering, you will receive a confirmation email containing information about joining the webinar.

Written comments may be submitted to City of Tumwater, Community Development Department, 555 Israel Road SW, Tumwater, WA 98501, or by email at tmerriman@ci.tumwater.wa.us or by fax at (360) 754-4138, and must be received by 6:00 p.m. on May 24, 2023.

Post Meeting
Audio of the meeting will be recorded and later available by request, please email CityClerk@ci.tumwater.wa.us

Accommodations

The City of Tumwater takes pride in ensuring that people with disabilities are able to take part in, and benefit from, the range of public programs, services, and activities offered by the City. To request an accommodation or alternate format of communication, please contact the City Clerk by calling (360) 252-5488 or email CityClerk@ci.tumwater.wa.us. For vision or hearing impaired services, please contact the Washington State Relay Services at 7-1-1 or 1-(800)-833-6384. To contact the City's ADA Coordinator directly, call (360) 754-4128 or email ADACoordinator@ci.tumwater.wa.us.

TO: City of Tumwater Hearing Examiner

FROM: Tami Merriman, Permit Manager

DATE: May 12, 2023

SUBJECT: Sunrise Hills Preliminary Plat TUM-21-0551

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1) Recommended Action:
Staff recommends the preliminary plat be approved, subject to conditions of approval outlined in this staff report.

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2) Background:
Applicant requests preliminary plat approval to subdivide 10.72 acres into 36 single-family lots, with 7 tracts, as a Clustered Subdivision.

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3) Alternatives:
- Approve Case No. TUM-21-0551
- Approve Case No. TUM-21-0551 with additional conditions
- Deny Case No. TUM-21-0551
- Remand Case No. TUM-21-0551 to staff for further analysis

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4) Attachments:

Exhibit 1	Staff Report 05-12-2023
Exhibit 2	Vicinity Map
Exhibit 3	Zoning Map
Exhibit 4	Preliminary Plat Application 03-22-2021
Exhibit 5	Preliminary Plat Map 11-23-2022
Exhibit 6	Public Notice Certifications May 12, 2023
Exhibit 7	TUM-19-0317 Staff Report 08-23-2019
Exhibit 8	Hearing Examiner Decision 09-20-2019
Exhibit 9	Hearing Examiner Reconsideration and LUPA Appeal
Exhibit 10	DNS and Checklist 06-27-2019
Exhibit 11	Public Works Director Concurrency Ruling 05-08-2019
Exhibit 12	Tree Plan 09-20-2018
Exhibit 13	Plat Name Certificate 04-22-2023
Exhibit 14	Geotech Report 09-04-2018
Exhibit 15	Notice of Application Comments 06-18-2021
Exhibit 16	Notice of Application Comments May 2023
Exhibit 17	Preliminary Stormwater Site Plan 02-21-2023
Exhibit 18	Water Sewer Availability 05-10-2023
Exhibit 19	Tumwater School District Comment 8-23-2019

EXHIBIT 1

CITY OF TUMWATER
HEARING EXAMINER STAFF REPORT
Hearing Date: May 24, 2023

Project Name: Sunrise Hills Preliminary Plat

Case Number: TUM-21-0551

Applicant: Chul M. Kim
454 SW 297th Street
Federal Way, WA 98023

Type of Action Requested: Preliminary Plat approval to divide 10.72 acres into 36 single-family lots, with 7 tracts, as a Clustered Subdivision. (Exhibit 5)

Project Location: The property is located on the north side of Sapp Road SW between Antsen Street and Crosby Boulevard, Tumwater, WA 98512. Section 27, Township 18 N., Range 2 W.W.M. Parcel #12827330000. (Exhibit 2)

SEPA Determination: A Determination of Nonsignificance issued on June 27, 2019 for development of a preliminary plat, with its associated studies and reports are incorporated by reference. (Exhibit 10)

Public Notification: Public notification for the application was mailed to property owners within 300 feet of the subject property and various agencies and posted on-site on March 7, 2023. The notice was published in The Olympian on March 10, 2023. (Exhibit 6)

Public notification for the public hearing was mailed to property owners within 300 feet of the subject property, persons who provided written comments on the notice of application, and various agencies, and posted on-site on May 12, 2023, and published in The Olympian on May 12, 2023. (Exhibit 6)

Staff Recommendation: Approve Preliminary Plat as Clustered Development, subject to proposed conditions as specified at the end of the staff report.

Staff Planner: Tami Merriman, Permit Manager

Phone: 360-754-4180

E-Mail: tmerriman@ci.tumwater.wa.us

I. BACKGROUND INFORMATION

Application and Review Process

The Preliminary Plat application was submitted on March 22, 2021. The application, while complete did not meet the density requirements of TMC Chapter 18.08. The applicant worked on revising the application, and the application was deemed complete on March 10, 2023. (Exhibit 6) Under TMC 2.58.090. Review authority for Preliminary Plat applications fall under the purview of the Hearing Examiner.

Background

The applicant applied for and was denied a preliminary plat application in September 2019 (TUM-19-0317). The application was to subdivide a 10.72 acre parcel into 36 single family lots with 5 community tracts meant for open space, private roads/alleys, park/play area and tree preservation. At that time, City staff recommended denial of the preliminary plat, as stated: *"Staff and the applicant have a disagreement regarding how density is calculated for the project. Staff believes that the steep slope areas depicted on the preliminary plat map (Exhibit 4), which are regulated by TMC 16.20, should be excluded from the gross site area per TMC 18.08.050.B.1 before doing the density calculation. If the two steep slope areas depicted on the preliminary plat drawing are excluded from the density calculation, the density per acre for 36 lots calculates to 4.76 dwelling units per acre. By excluding the two steep slope areas from the density calculation, the maximum number of lots for the project is 30. Based on staff's interpretation of how density is calculated, the proposed density does not meet the density policy of the Comprehensive Plan for the Residential Sensitive Resource zone. Staff finds that the project density is not consistent with the Comprehensive Plan."* Page 3, City of Tumwater Staff Report, August 23, 2019 (Exhibit 7)

The Hearing Examiner, after hearing the matter denied the preliminary plat request, as *"the proposal does not meet the requirements related to allowable density under the City's zoning ordinances and is not consistent with the Comprehensive Plan designation for the property."* Hearing Examiner Findings, Conclusions, and Decision, September 20, 2019. (Exhibit 8)

The applicant filed a request for reconsideration, which was denied October 7, 2019. The applicant then filed a LUPA appeal, which was later withdrawn. (Exhibit 9)

The applicant now applies for a preliminary subdivision, excluding critical areas from density calculation, and providing for a clustered development as permitted in Chapter 18.08.050.2.E.

18.08.050.2. Maximum: four dwelling units per acre, or if a land division is subject to the clustering provisions of subsection E of this section and not subject to the wetland protection standards of TMC Chapter 16.28, the maximum density shall be no greater than one hundred twenty-five percent of the maximum density that would

otherwise be allowed.

….

E. Clustered Subdivision. Any site in this zone district may be subdivided as a clustered subdivision, subject to the following:

1. The portion of the site set aside for open space use shall be at least thirty percent of the area of the entire site;

2. At least one-half of the area set aside for open space shall be useful for passive recreational purposes;

3. The area set aside for open space shall be located so as to include environmentally sensitive areas (e.g., wetlands, riparian areas) to the maximum extent possible;

4. The clustered subdivision must meet all other provisions of this chapter.

Existing Conditions

The site is vacant land forested with a mixture of deciduous and coniferous tree species. The property contains steep slopes regulated by TMC Chapter 16.20.

Project Description

The proposal is to subdivide 10.72 acres into a clustered subdivision of 36 single-family lots and 7 community tracts meant for open space and access, streets, and tree preservation. Improvements will include grading for streets and building sites, construction of 159 lineal feet of street frontage improvements on Sapp Road abutting the south side of the project site, extension of City water and sewer utilities to serve the project, a storm water system to treat and detain/retain storm water generated from new pollution generating impervious surfaces, street lighting and extension of private utilities (i.e. power, gas, cable and telephone). (Exhibit 5)

II. REGULATORY FRAMEWORK

The proposal is subject to the following policies and regulations:

Tumwater Comprehensive Plan:

The project site is located in the Tumwater Hill Neighborhood as designated by the City's Comprehensive Land Use Plan. The land use designation for the project site is Residential Sensitive Resource (RSR) 2 – 4 dwelling units per acre. The Residential Sensitive Resource Land Use Designation in the Comprehensive Plan states:

The purpose of this designation is to recognize areas of unique open space character and sensitivity to environmental disturbance such as around stream corridors, lakes, and wetlands within the city limits and Tumwater's Urban Growth Area.

In addition to being of a relatively low density, development in these areas should be clustered. Clustering means grouping or "clustering" development onto part of a property so that the remainder can be preserved as unbuilt open space. The intent of clustering development in this area is to preserve open space along environmentally sensitive areas and provide a lot configuration that allows for the preservation of the specified amount of open space and also allows for future applied density to be achieved over the 20-year time period. Densities in this designation should be two to four dwelling units/acre.

The applicant proposes 36 residential lots as part of a clustered subdivision.

Density is calculated by excluding land on which development is prohibited by TMC Title 16, Environment, and land that is to be used for roads and dedicated public open spaces.

The preliminary plat shows that landslide hazard areas (steep slopes) equal 1.61 acres, and proposed roads and access easements equaling 1.17 acres, leaving 7.94 acres in which to determine density. The clustered subdivision requires a minimum of 30 percent of the gross area to be open space, to provide for passive open space and to protect critical areas. 30 percent of 10.72 acres 3.22 acres.

When a clustered subdivision is provided, it allows for an increase in density of 125 percent of maximum density. Maximum density at 7.94 acres is 30 dwelling units. The clustered subdivision increase of 125 percent would allow 37 units. The applicant proposes 36 units.

Staff Response and Recommended Finding:

Staff finds that by excluding steep slopes, public roads and access tracts from gross acreage, providing 30% of total acreage as open space, and providing a clustered development, the project is consistent with the Comprehensive Plan.

Tumwater Parks and Recreation Plan:

The only reference in the Parks Plan affecting the property indicates a desire for a bicycle lane on Sapp Road along the project frontage.

The City collects community park impact fees as a condition of building permit issuance for all residential units. These fees are used by the City Parks and Recreation Department for acquisition, design and construction of new public park facilities.

In addition to the payment of impact fees, the clustered subdivision requires a minimum of 30% of the gross area to be set aside as private open space. This is well over the minimum required in the Land Division Code TMC 17.12.210, which requires a minimum of 10 percent of the gross site area be set aside as private open space. The code requires that both passive and active recreation elements be included in the open space areas.

The open space area for the proposed subdivision is 30.05 acres. This meets the minimum open space requirement.

Staff Response and Recommended Finding:

Staff finds that the applicant constructing frontage improvements on Sapp Road which will accommodate a future bicycle lane, payment of community park impact fees for each single-family residence proposed in the subdivision and setting aside the minimum amount of private open space with both passive and active recreation elements the project is consistent with the Comprehensive Parks Plan.

Tumwater Transportation Plan:

The Transportation Plan includes language speaking to providing for the safe, efficient, cost-effective movement of people and goods in ways that support adopted land use plans, enhance neighborhood and community livability, support a strong and resilient economy, and minimize environmental impacts.

The applicant provided a trip generation report in in 2019 with lot locations and trip generation similar to what is proposed in this application. Staff reviewed the materials and determined that the concurrency ruling still applies.

Staff Response and Recommended Finding:

After review of a Transportation Trip Distribution Report, the Public Works Director issued a transportation concurrency ruling on May 8, 2019, indicating that traffic generated from the project will not cause the level of service at any impacted corridors or intersections to fall below the City's level of service standard. (Exhibit 11)

Staff finds that the project trip generation and distribution of the proposed layout does not change the determination in 2019, and that by constructing street improvements on Sapp Road along the property's frontage, building the two internal streets to City standard and payment of transportation impact fees for each dwelling unit the project is consistent with the Tumwater Transportation Plan.

Thurston Regional Trails Plan:

The City of Tumwater is a participating member of the Thurston Regional Planning Council (TRPC). TRPC adopted the Thurston Regional Trails Plan in December 2007.

The Regional Trails Plan defines a trail network blueprint and a set of guidelines and recommendations for all of Thurston County and its cities, towns and communities. The Goals and Policies section of the Plan serves to link local trail planning efforts within the broader context of planning the regional transportation network. The plan charts a systematic path creating interconnected corridors that improve access to community destinations.

Staff Response and Recommended Finding:

The project site is not affected by the regional trail network outlined in the Thurston Regional Trails Plan.

Staff finds that approval of the project will not affect implementation of the Thurston

Regional Trails Plan.

Sustainable Development Plan for the Thurston Region:

The Plan indicates that the regional community has set a target to reduce vehicle miles traveled and to preserve sensitive areas, farmland, forest land, prairies and rural lands.

To implement the goal in the Plan to reduce vehicle miles traveled, strategies are stated including connecting streets, sidewalks and trails to provide multiple safe travel routes and shorter distances for all travel modes and encouraging a multimodal transportation system that includes walk, bike, bus, carpool, vanpool, telework, car, truck, and rail transportation systems.

With the extension of public streets with sidewalks into the project as well as providing street improvements on the site frontage of Sapp Road, the project is contributing to the goal in the Plan of reducing vehicle miles traveled.

The Plan also has a target goal stating that by 2035, 72 percent of all (new and existing) households in our cities, towns, and unincorporated growth areas will be within a half-mile (comparable to a 20-minute walk) of an urban center, corridor, or neighborhood center with access to goods and services to meet some of their daily needs. The project site is located approximately .7 mile south of the intersection of Crosby Boulevard and Irving Street. Properties in the vicinity of the intersection have a zone designation of General Commercial (GC) and include professional service, retail and restaurant uses.

Staff Response and Recommended Finding:

Staff finds that the project is not in conflict with the Sustainable Development Plan for the Thurston Region.

Tumwater Municipal Code (TMC) 14.06 – Public Notice Requirements:

TMC Chapter 14.06 requires the City to provide public notification of certain application types by issuing a Notice of Application (TMC 14.06.010) and a Notice of Open Record Hearing (TMC 14.06.070).

Staff Response and Recommended Finding:

Public notice for the application was mailed to property owners within 300 feet of the subject property and various agencies and posted on-site on March 7, 2023. The notice was published in The Olympian on March 10, 2023. (Exhibit 6)

Public notification for the public hearing was mailed to property owners within 300 feet of the subject property, persons who provided written comments on the notice of application, various agencies, and posted on-site on May 12, 2023. The public hearing notice was published in The Olympian on May XX, 2023, in conformance with Tumwater Municipal Code (TMC) 14.06.070. (Exhibit 6)

State Environmental Policy Act – TMC 16.04:

The City of Tumwater Community Development Department reviewed a SEPA

Environmental Checklist and other information submitted by the applicant and issued a Determination of Non-significance on June 27, 2019. (Exhibit 10)

Staff Response and Recommended Finding:

The City of Tumwater Community Development Department, as lead agency, has completed environmental review in accordance with TMC 16.04, RCW 43-21C and WAC 197-11. The City's SEPA threshold determination was issued on June 27, 2019. (Exhibit 10) No appeals of the City's SEPA threshold determination were filed.

The City incorporates the original SEPA determination pursuant to WAC 197-11-230(3). The project has not changed substantially, and does not require any revision to the determination issued in 2019.

Tumwater Zoning Code, Title 18:

Residential Sensitive Resource zone district TMC 18.08 - Permitted Uses and Development Standards:

Single-family detached dwelling units are allowed at a minimum density of 2 dwelling units per acre and a maximum of 4 dwelling units per acre, or if a land division is subject to the clustering provisions of subsection E of this section and not subject to the wetland protection standards of TMC Chapter 16.28, the maximum density shall be no greater than one hundred twenty-five percent of the maximum density that would otherwise be allowed.

Maximum building height is 35 feet.

For lots less than nine thousand five hundred square feet in area, yards shall be as follows:

a. Front: twenty feet minimum from frontage property line on streets interior to a development, twenty-five feet minimum from frontage property line on streets classified in the Tumwater transportation plan as urban collectors, minor arterials, and major arterials;

b. Side: seven and one-half feet from property line, minimum;

c. Rear: ten feet, minimum, from rear property line; twenty-five feet minimum from rear property line abutting streets classified in the Tumwater transportation plan as urban collectors, minor arterials, and major arterials. Exception: Storage, garden, and tool sheds two hundred square feet in area or less, and residential mechanical equipment, may be located a minimum of five feet from the property line.

Staff Response and Recommended Finding:

TMC 18.08.020.A lists single-family homes as a permitted use in the Residential Sensitive Resource zone district.

TMC 18.08.050.B. Density Calculation requires certain land be excluded when determining density. "The calculation of the density requirements in subsection A of this section is based on the portion of the site that contains lots devoted to residential

and associated uses (e.g., dwelling units; private community clubs; stormwater detention, treatment and infiltration). The following land is excluded from density calculations:

1. *Land that is required to be set aside for public use as open space, right-of-way, or land on which development is prohibited by TMC Title 16, Environment, and land that is to be used for private roads; provided, that portion of park and open space areas that consists of stormwater facilities and that is designed for active and/or passive recreational purposes in accordance with the drainage design and erosion control manual for Tumwater shall not be excluded from density calculations;*
2. *Land that is intended for future phases of development created in accordance with TMC 18.08.060;*
3. *Land that consists of lots devoted to uses other than residential and associated uses, including but not limited to churches, schools, and support facilities (except for stormwater detention, treatment, and infiltration facilities).*

The increased open space required by the clustered subdivision is intended to protect the critical areas as well as provide open space for the residents of the subdivision. The open space is not dedicated to the public, and should not be removed for the purpose of density calculation.

The preliminary plat map shows landslide hazard area (steep slopes) of 1.61 acres, proposed roads and access easements of 1.17 acres, leaving 7.94 acres. Chapter 18.08 requires minimum density of 16 dwelling units, and maximum 30 dwelling units. The clustered subdivision allows density to be increased to 125% with the provision of 30 percent of the gross area to be open space. 125% of 30 units allows up to 37 units. The applicant proposes 36 units.

Staff finds that by excluding steep slopes and roads and access tracts from gross acreage, providing 30% of total acreage as open space, and providing a clustered development, the project meets the minimum and maximum density of TMC Chapter 18.08.

Aquifer Protection Overlay (AQP) zone district - TMC 18.39 – Restricted Land Uses

The AQP zone restricts hazardous uses to protect aquifer recharge areas.

Staff Response and Recommended Finding:

The intent of the aquifer protection (AQP) overlay zone district is to identify, classify and protect vulnerable and/or critical aquifer recharge areas within the city and urban growth area. Protection is to be accomplished by controlling the use and handling of hazardous substances.

The proposed residential subdivision is not a restricted land use in the AQP overlay. In addition, an Integrated Pest Management Plan (IPMP) approved by Thurston County Environmental Health will be required to be recorded against the properties.

An IPMP is a written instrument that outlines prevention, monitoring, and control which offers the opportunity to eliminate or drastically reduce the use of pesticides, and to minimize the toxicity of and exposure to any products which are used.

Inadvertent discovery of archaeological and cultural resources – TMC 18.40.065:

Building, grading, land clearing, shoreline, and development permits shall include the following note:

When an unanticipated discovery of protected cultural material (e.g., bones, shells, stone tools, beads, ceramics, old bottles, hearths, etc.) or human remains are discovered, the property owner or contractor will immediately stop all work, completely secure the location, and contact the Washington State Department of Archaeology and Historic Preservation and other contacts as identified in the City of Tumwater Standard Inadvertent Archaeological and Historic Resources Discovery Plan. The individual or representative whom the permit was issued to must send written notification of the inadvertent discovery to the city of Tumwater department of community development.

Hearing Examiner, TMC 2.58.090: – Hearing Examiner authority to review Preliminary Plat requests:

The examiner shall receive and examine all available information, conduct public hearings and prepare a record thereof and enter findings of fact and conclusions based upon these facts, which conclusions shall represent the final action on the application, unless appealed as provided for herein, for Preliminary plats.

Staff Response and Recommended Finding:

Preliminary Plats require a public hearing and decision by the Tumwater Hearing Examiner. Final Plat approval authority is with City of Tumwater staff.

Tree Protection and Replacement Ordinance, TMC 16.08:

TMC Chapter 16.08 regulates the removal and preservation of existing trees on a site to be developed.

Staff Response and Recommended Finding:

A professional forester's report has been submitted for the project. (Exhibit 12)

The report indicates that there are a total of 353 trees regulated by TMC 16.08 on the property. The City's tree protection ordinance requires 20 percent of the existing trees or 12 trees per acre, whichever is greater to be retained.

In this case, the 12 tree per acre standard is the greater number requiring 112 trees to be retained. The report specifies that 167 trees are proposed for retention on the site.

Staff finds that the project complies with the City's Tree Protection and Replacement Ordinance (TMC 16.08).

Geologically Hazardous Areas, TMC 16.20:

TMC Chapter 16.20 regulates geologically hazardous areas.

Staff Response and Recommended Finding:

The applicant submitted a geotechnical report for the project in 2019. (Exhibit 14) The report indicates that the property contains areas with slope characteristics which designates them "geologically hazardous" per TMC 16.20.045.B.8. Specifically, the report calls out areas of the property characterized by slopes of forty percent or steeper and with a vertical relief of ten or more feet.

In accordance with TMC 18.08.050.B.1, areas where development is prohibited by TMC Title 16 shall be excluded when calculating density for a project.

Staff concludes that the areas designated as geologically hazardous by the applicant's geotechnical engineer must be excluded from the density calculation before the City can recommend approval of the project.

TMC Chapter 17.14 – Preliminary Land Division and RCW 58.17:

TMC 17.14 and RCW 58.17 regulate the submission, review criteria and consideration of proposed divisions of land.

Staff Response and Recommended Finding:

The applicant completed the pre- submission process described in TMC 17.14.02, and the application submission requirements listed in TMC 17.14.030 have been met.

TMC 17.14.040 and RCW 58.17.110 require the Hearing Examiner to inquire into the public use and interest proposed to be served by the establishment of the proposed land division and any public dedications associated with a project. Criteria to be considered include if appropriate provisions are made for, but not limited to, the public health, safety and general welfare, for open spaces, drainage ways, streets or roads, alleys, other public ways, other grounds, transit stops, potable water supplies, sanitary wastes, parks and recreation playgrounds, schools and school grounds, fire protection and other public facilities, and shall consider all other relevant facts, including the physical characteristics of the site, and determine whether the public interest will be served by the land division and dedication. Further, consideration shall be given for sidewalks and other planning features that assure safe walking conditions for students who only walk to and from school.

Staff concludes that adequate provisions will be made for public health, safety and general welfare as follows:

The amount of open space proposed for the subdivision meets the minimum amount required by TMC Chapter 18.08 to meet the clustered subdivision requirements. The open space areas will contain critical areas, as well as passive and active recreation elements as required by TMC 17.12.210.

Thurston County requires a preliminary plat to reserve a plat name. The Plat

Name Reservation Certificate provided by the applicant expired in April 2023. The certificate will need to be renewed. (Exhibit 13)

New public streets that comply with the City's current Development Guide are proposed to be constructed and dedicated to the City. In addition, public right- of-way dedication and street improvements, including widening, a bike lane, sidewalks and street illumination will be completed on Sapp Road along the entire abutting frontage of the property.

A storm drainage system complying with the City's 2022 Drainage Design and Erosion Control Manual will be constructed for the site. A preliminary storm drainage report, including a geotechnical investigation has been submitted to support the preliminary design. (Exhibit 17)

Sanitary sewer and water will be extended into the property to serve the proposed homes. The Tumwater Public Works Department has issued a water availability ruling indicating that the City has the ability to serve the subdivision with potable water. (Exhibit 18)

The site is not currently being considered by the Tumwater School District for their future needs and Intercity Transit does not currently have a route that serves the site.

Current Tumwater Fire Department facilities are adequate to service the proposed project.

The children residing within the proposed subdivision will attend Tumwater Hill Elementary, Tumwater Middle School and Black Hills High School. Tumwater Hill Elementary is approximately 1 mile from the site by the shortest walking route. Tumwater Middle School is approximately 2 miles from the site by the shortest walking route. Black Hills High School is approximately 3.5 miles from the site by the shortest walking route.

The Tumwater School District has a policy for children walking to school. The District will offer bus service to children attending the schools serving the proposed subdivision.

Elementary school students in the northern portion of the subdivision can walk to an existing bus stop on Woodland Drive via new and existing sidewalks. Middle and High School students in the northern portion of the subdivision can walk to an existing bus stop on Crosby Boulevard.

The Tumwater School District requested during the previous application process in 2019, that the developer be required to install a bus waiting area for students living in the southern portion of the subdivision at the northeast intersection of Sapp Road and proposed Road A south of proposed Tract A. (Exhibit 19)

III PUBLIC COMMENT

Four (4) comment letters were received during the first public noticing for the project application in June 2021. A letters from the Squaxin Island Tribe noting no cultural concern, and 3 comment letters from property owners in the vicinity. (Exhibit 15)

June 18, 2021 Janine Beaudry. Included her comments from the application in 2019.
June 22, 2021 Sqauxin Island Tribe No specific comment or concern, requests notice of any Inadvertent Discovery.
June 24, 2021 Jeanette Parks. Expresses concern regarding impacts to wildlife, excavation, and loss of privacy.
July 2, 2021 Jeff Parks. Concerned that land is not suitable for development and loss of trees adjacent to his property.

Eight (8) comment letters were received during the public noticing for the project application. Letters from both the Squaxin Island and Nisqually Indian Tribes noted no cultural concern, comment from the City of Olympia inquiring about connected streets, a letter from Representative Doglio office requesting application information, and 4 comment letters from property owners in the vicinity. (Exhibit 16)

March 7, 2023 John J. Ryan. Notifies City to expect an appeal.
March 8, 2023 City of Olympia; David Smith and Nicole Floyd. Inquiry into street connectivity.
March 8, 2023 Nisqually Indian Tribe. No specific comment or concern, requests notice of any Inadvertent Discovery.
March 14, 2023 Sqauxin Island Tribe No specific comment or concern, requests notice of any Inadvertent Discovery.
March 16, 2023 Eric Trimble and Sydne Cogburn. Objects to development of two lots adjacent to their property to prevent possible future damage, to provide screening and retain views. If construction is approved, they request additional vegetation and fencing adjacent to their property, along with required protection of root zones, and the prohibition of the use of heavy machinery during construction.
March 17, 2023 Darin & Denise Rice – Express concern about water runoff that may impact their property
March 23, 2023 Kathy & Philip Searles – Express concern about map clarification, specifically parcels that may be interpreted as future access or lines that appear to delineate lot lines.
April 2, 2023 Emily Oberoi – request redistribution of Notice of Application as she did not receive the notice.
April 10, 2023 Representative Doglio office requested information regarding the plat application materials.

IV STAFF ANALYSES & RECOMMENDATION

As per Section 17.14.040 of the Tumwater Municipal Code, the Hearing Examiner is required to review the preliminary plat based on certain criteria and prepare findings of fact.

Staff analyses is as follows:

1. The preliminary plat, as conditioned, conforms to the subdivision regulations, comprehensive plan, zoning ordinance, wetland ordinance, fish and wildlife habitat protection ordinance, tree protection ordinance, and to planning standards, development standards, specifications and policies of the City of Tumwater.

2. Adequate provisions have been made for public health, safety, and general welfare for such open spaces, drainage ways, streets, sanitary wastes, parks and recreation, schools, sidewalks, and, that the public use and interest will be served by the subdivision of the property.

RecommendationN

Pursuant to TMC 2.58.110, staff recommends approval of the Preliminary Plat and Planned Unit Development requests described herein with the following conditions:

1. Stormwater from impervious surfaces associated with the project shall be managed in accordance with the City of Tumwater 2022 Drainage Design and Erosion Control Manual.

2. Blasting permits will be required if the underlying rock cannot be removed by conventional methods. If the blast area is within 100 feet of other structures, the permit applicant is required to notify the affected property owners a minimum of two weeks in advance of any blast. If the affected property owners request a pre- blast inspection of their structure, one shall be performed at the developer's cost. The permit application shall include the surrounding property owner's information and copies of the letters notifying them of their option. Blasting permits are not issued "over the counter" so sufficient time needs to be incorporated in the schedule to receive the permit.

3. Some of the lots in this plat have steep slopes that exceed 15% and may be located on rock or areas containing ground or surface water. In addition, areas of fill and construction of rockeries or retaining walls may be required to establish lots suitable for building. Therefore, the footings and foundations for structures are required to be designed by a licensed

structural engineer and geo-tech slope report submitted for each lot. The Building Official will decide upon completion of the grading and site development if this requirement will apply to all lots.

4. The Fire Department has determined that because access may be difficult for some of the lots in the plat additional fire protection measures are needed. Authority for the following requirement is derived from the International Fire Code (IFC) 503.1.1 and 503.2.

5. Residential fire sprinklers, meeting the requirements of NFPA 13D will be required to be installed in the homes on the following lots: 7, 6, 9, 10, 16, 17, 19, 21, 22, 23, 24, 25, 28, 29, 30, 32, 33, 36 and 35. Pursuant to comment #4 above, additional lots may be added to this list.

6. The lots that are requiring sprinklers will need 1" water meters installed, unless design fire flows can be achieved with ¾" water meters.

7. The maximum grade on public streets within the subdivision shall be 15 percent.

8. Erosion and sediment control measures that comply with the City of Tumwater 2022 Drainage Design and Erosion Control Manual shall be implemented during construction of the project to prevent sediment laden runoff from entering surface waters.

9. A Site Development/Grading Permit shall be obtained from the City for grading, street, sidewalk and utility construction, tree removal and construction of storm drainage facilities.

10. In accordance with TMC 18.08.070, clearing, grading or other activities that remove or substantially alter vegetative ground cover shall not be permitted during the wet season (between October 1 and April 30) to protect environmentally sensitive areas from potential sedimentation and runoff associated with these activities.

11. Should contaminated soils be encountered during construction, all of the following shall apply:
    a. Construction activity shall be immediately suspended;
    b. The contractor shall immediately notify the Washington State Department of Ecology;
    c. Contaminated materials shall be properly handled, characterized, and disposed of consistent with applicable regulations.

12. Pursuant to TMC18.40.065, Building, grading, land clearing, shoreline, and

development permits shall include the following Inadvertent Discovery note:

When an unanticipated discovery of protected cultural material (e.g., bones, shells, stone tools, beads, ceramics, old bottles, hearths, etc.) or human remains are discovered, the property owner or contractor will immediately stop all work, completely secure the location, and contact the Washington State Department of Archaeology and Historic Preservation and other contacts as identified in the City of Tumwater Standard Inadvertent Archaeological and Historic Resources Discovery Plan. The individual or representative whom the permit was issued to must send written notification of the inadvertent discovery to the City of Tumwater Community Development Department.

13. Fill for the project shall be clean material, void of solid waste or organic debris.

14. Disposal of construction debris and overburden associated with construction and grading activity that is not suitable for fill is required to be disposed of at an approved location.

15. The applicant shall secure a National Pollutant Discharge Elimination System (NPDES) Construction Storm Water General Permit from the Washington State Department of Ecology.

16. The proposed public streets within the subdivision shall comply with the Tumwater Development Guide design requirements in place at the time the preliminary plat application was vested, subject to the following: Road A as depicted in the preliminary plat map shall provide 40-foot right-of-way, and Road B shall provide 48 foot right-of-way. Public streets shall be dedicated to the City of Tumwater.

17. No parking signs shall be installed in the cul-de-sac turnaround areas.

18. Street frontage improvements including curb and gutter, sidewalk, landscape strip, bike lane, street illumination and storm drainage facilities complying with the design requirements of the Tumwater Development Guide shall be constructed along the property frontage on Sapp Road. Additional right-of-way, as necessary, shall be dedicated to contain the improvements.

19. The City's water and sewer utilities shall be extended to serve the needs of the subdivision. The utility extensions shall be in accordance with the Tumwater Development Guide requirements in place at the time the

preliminary plat application was vested. All necessary right-of-way and/or easement will need to be dedicated.

20. The minimum fire flow requirement for the project shall be 1,000 gallons per minute at 20 pounds per square-inch. The system shall be designed for a maximum velocity of 8 feet per second.

21. If the required fire flow cannot be achieved, NFPA 13D residential fire sprinklers shall be required in each home in the subdivision.

22. Separate permits and engineered designs are required for all retaining walls on-site if the height of the wall is over 4 feet measured from the bottom of the footing or if the wall is supporting a surcharge.

23. A final geotechnical engineering report shall be submitted for the grading and site work. The report shall include conclusions and recommendations for grading procedures, soil design criteria for structures or embankments required to accomplish the proposed grading and recommendations and conclusions regarding the site geology. The report shall also include recommendations for measures to protect existing and future homes and properties in the event of slope failure related to the steep slopes identified on the property.

24. All grading and filling work shall be conducted in accordance with the approved soils report. Compaction testing of the soils under the building foundations and utility trenches shall be verified by the geotechnical engineer of record and the WABO registered special inspector.

25. Fire hydrants shall be provided at all intersections and at approximately 600-foot spacing along the internal streets.

26. Fire hydrants and paved access roads shall be installed, tested for fire flow by the Fire Department and made serviceable by the Public Works Department prior to any building permits being issued.

27. The project proponent shall be responsible for providing the City with all costs associated with the installation of water, sewer, street and storm drainage systems that are dedicated to the City of Tumwater.

28. All engineering designs and construction will need to be in accordance with the City of Tumwater's Development Guide and WSDOT standards.

29. All street construction, utility installation and storm drainage work requires engineered plans certified by a professional engineer licensed to

practice in the State of Washington. The plans shall be submitted for review and approval by the City.

30. Any public or private utility relocation necessary to construct the project is the sole responsibility of the project proponent.

31. The applicant is required to submit a performance surety and surety agreement prior to release of the Site Development/Grading Permit to ensure successful completion of the required public improvements. The amount of the surety shall be 150% of the proponent engineer's estimate of completing the required public improvements.

32. The applicant shall be responsible for the maintenance and timely repair of all public improvements for a period of 30 months following final certification by the City and shall submit a surety and surety agreement for maintenance equal in value to fifteen (15) percent of the total value of the required public improvements certified by the Public Works Director.

33. Maintenance of the on-site storm water system will be the responsibility of the project proponent, their successors or assigns. A stormwater maintenance agreement will be recorded against the property prior to or concurrent with final plat approval.

34. A water main special assessment fee has been recorded against this property. The fee in the amount of $12,216.01 shall be paid to the City of Tumwater prior to recording the final plat map with the Thurston County Auditor.

35. Back flow prevention is required on all irrigation services in accordance with the AWWA Cross Connection Control Manual.

36. A landscape and irrigation plan must be submitted for the proposed street planter strips, proposed open space tracts and the storm water facilities showing proposed plantings, tree types and heights, and other vegetation. Street trees are required to be installed along Sapp Road and the proposed interior public streets in accordance with the Tumwater Development Guide and Comprehensive Street Tree Plan. This plan must be submitted as part of site development grading application, and approved prior to final plat approval.

37. Each residential lot shall have a building site no less than 1,600 square feet in area within which a suitable building can be built and served by utilities and vehicular access unless dedicated or restricted by covenant for open space, park, recreation or other public use.

38. The minimum lot size shall be 7,600 square feet.

39. The maximum impervious surface for all lots within the subdivision shall be forty percent of the total area of the lot.

40. Two off-street parking spaces are required for each lot. Driveways and off-street parking spaces must be hard-surfaced (asphalt, concrete or turfstone).

41. Impact fees for traffic, community parks, and schools will be assessed to each dwelling unit in the subdivision as building permits are issued. The impact fees will be in accordance with the most current fee resolution adopted by the City at the time of vesting of the building permit applications.

42. An integrated pest management plan approved by Thurston County Environmental Health must be submitted to the City of Tumwater prior to final plat approval.

43. All legal descriptions on documents submitted to the City must be accompanied with an appropriate drawing that the City can use to verify the legal description.

44. The Professional Land Surveyor responsible for the surveying of the project must obtain a permit from Department of Natural Resources before any existing monuments are disturbed.

45. The applicant must maintain a current Plat Name Reservation Certificate approved by the Thurston County Auditor.

46. Property taxes may need to be paid for the current year, including any advance and delinquent taxes, before a Final Plat can be recorded. Please contact Thurston County Auditor's Office to confirm taxes due.

47. A Homeowners Association is required to be formed for the project. Prior to final plat approval, the project proponent shall supply the City with copies of the grantee organization's articles of incorporation and bylaws, and with evidence of a binding commitment to convey. The articles of incorporation shall provide that membership in the organization shall be appurtenant to ownership of land in the land division; that the corporation is empowered to assess such land for costs of construction and maintenance of the improvements and property owned by the corporation, and that such assessments shall be in lien upon the land.

48. At the request of the Tumwater School District, the developer shall be required to install a new concrete school bus waiting area at the northeast intersection of Sapp Road and proposed Road A, south of proposed Tract A.

49. In addition, the developer is required to install a "School Bus Stop Ahead" sign at the corner of Sapp Road and Crosby Boulevard. The final location of the sign shall be approved by the City's Public Works Department.

Submitted on Behalf Of the Community Development Department by/ Staff Contact:

Tami Merriman, Permit Manager
Phone: 360-754-4180
E-mail: tmerriman@ci.tumwater.wa.us

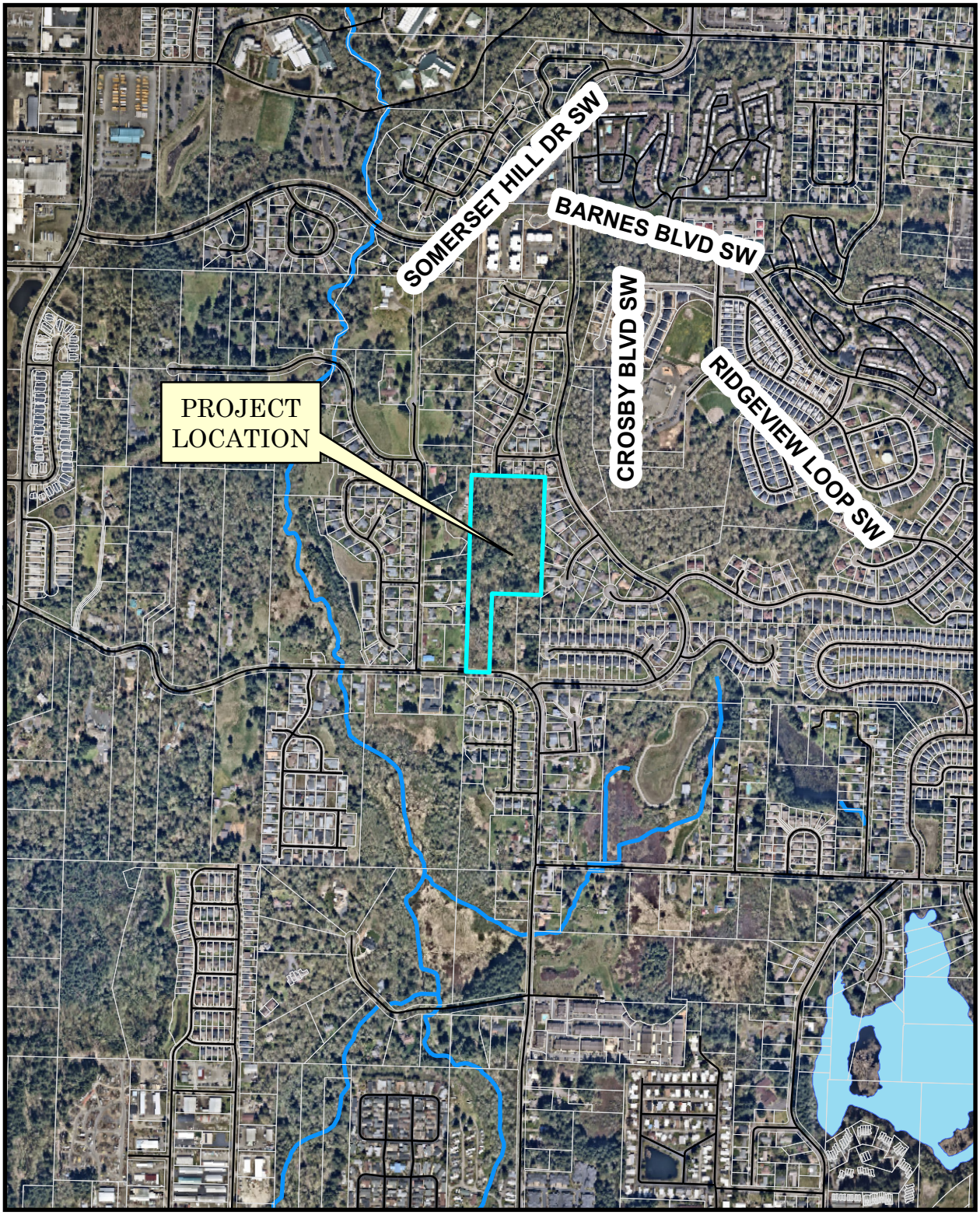
Report Issue Date: May 17, 2023

List of Exhibits:

Exhibit 1	Staff Report 05-12-2023
Exhibit 2	Vicinity Map
Exhibit 3	Zoning Map
Exhibit 4	Preliminary Plat Application 03-22-2021
Exhibit 5	Preliminary Plat Map 11-23-2022
Exhibit 6	Public Notice Certifications May 12, 2023
Exhibit 7	TUM-19-0317 Staff Report 08-23-2019
Exhibit 8	Hearing Examiner Decision 09-20-2019
Exhibit 9	Hearing Examiner Reconsideration and LUPA Appeal
Exhibit 10	DNS and Checklist 06-27-2019
Exhibit 11	Public Works Director Concurrency Ruling 05-08-2019
Exhibit 12	Tree Plan 09-20-2018
Exhibit 13	Plat Name Certificate 04-22-2023
Exhibit 14	Geotech Report 09-04-2018
Exhibit 15	Notice of Application Comments 06-18-2021
Exhibit 16	Notice of Application Comments May 2023
Exhibit 17	Preliminary Stormwater Site Plan 02-21-2023
Exhibit 18	Water Sewer Availability 05-10-2023
Exhibit 19	Tumwater School District Comment 8-23-2019

Exhibit 2

Sunrise Hills Preliminary Plat TUM-21-0551
TPN 12827330000

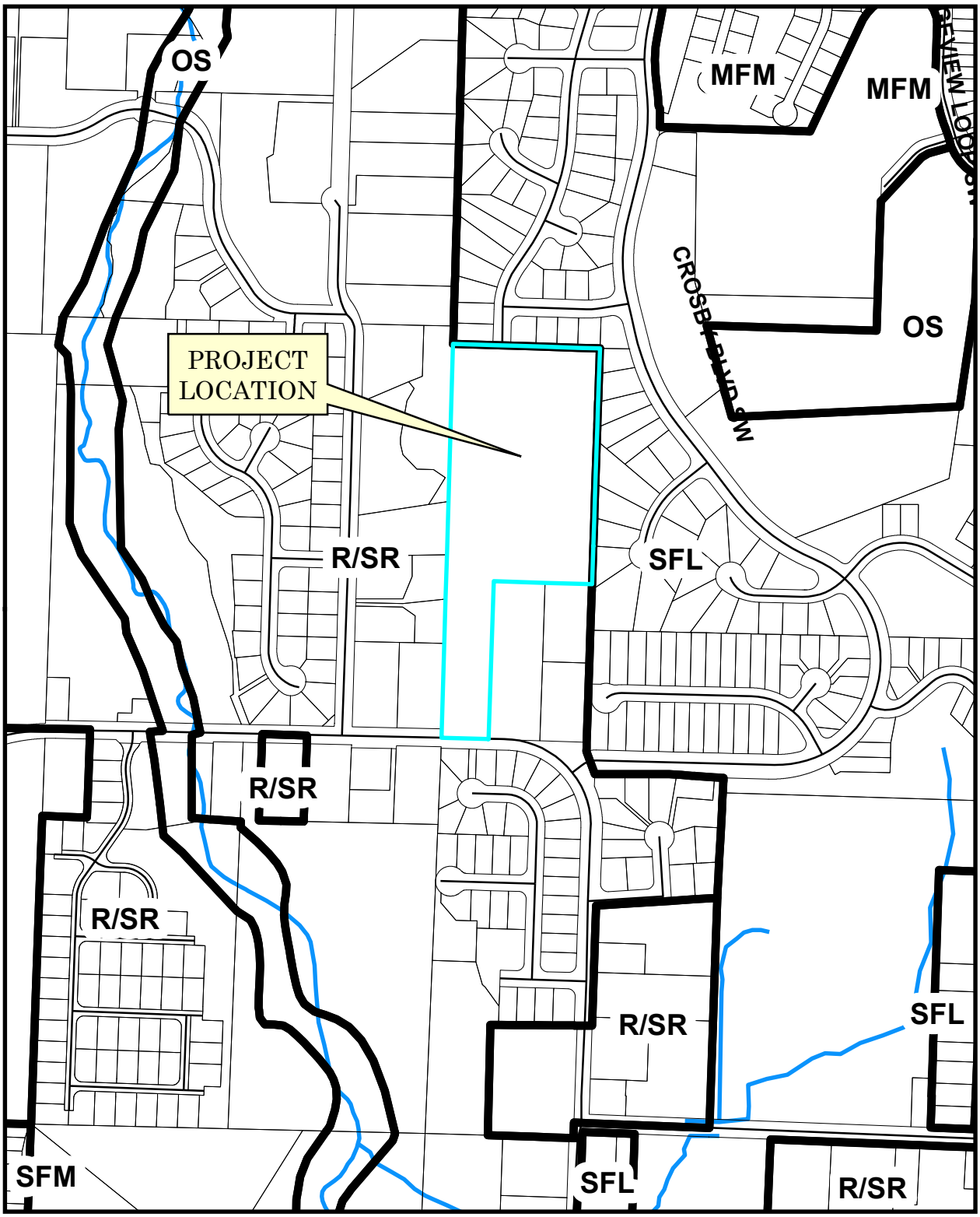


DISCLAIMER: The City of Tumwater does not warrant, guarantee, or accept any liability for the accuracy, precision, or completeness of any information shown hereon or for any inferences made therefrom.

1 inch = 1,000 feet

N

Comprehensive Plan and Zoning Designation
Sunrise Hills Preliminary Plat TUM-21-0551
TPN 12827330000



DISCLAIMER: The City of Tumwater does not warrant, guarantee, or accept any liability for the accuracy, precision, or completeness of any information shown hereon or for any inferences made therefrom.

1 inch = 500 feet

Exhibit 4

CITY OF TUMWATER

555 ISRAEL RD. SW, TUMWATER, WA 98501
Email: cdd@ci.tumwater.wa.us
(360) 754-4180

PRELIMINARY PLAT Application

TUM -21-	DATE STAMP
0551	March 22, 2021
EMAIL KJK	
RCVD BY	

Application fee: $2,750.00, plus $38.50 per lot.

SUBJECT PROPERTY

ADDRESS OF PROPERTY (COMPLETE): 1000 SW Woodland Dr, Tumwater, WA 98512

PROJECT NAME: Sunrise Hills

PARCEL NUMBER(s): 128273 30000

APPLICANT *(please print neatly)*

NAME OF APPLICANT: CHUL M KIM

APPLICANT'S MAILING ADDRESS (COMPLETE): 454 SW 297th St, Federal Way, WA 98023

APPLICANT'S TELEPHONE(S): 206-835-6300

APPLICANT'S E-MAIL: CHULKIM8@gmail.com

PROJECT REPRESENTATIVE

NAME OF PROJECT REPRESENTATIVE: CHUL M KIM

REPRESENTATIVE'S MAILING ADDRESS (COMPLETE): 454 SW 297th St, Federal Way, WA 98023

REPRESENTATIVE'S TELEPHONE(S): 206-835-6300

REPRESENTATIVE'S E-MAIL: CHULKIM8@gmail.com

PROPERTY OWNER

NAME OF PROPERTY OWNER: Sunrise Hills, LLC

OWNER'S MAILING ADDRESS (COMPLETE): 454 SW 297th St, Federal Way, WA 98023

OWNER'S TELEPHONE(S): 206-835-6300

OWNER'S E-MAIL: chulkim8@gmail.com

PROJECT DESCRIPTION *(attach additional sheets and documentation, as needed)*

Application to subdivide approx. 10.7 Acres into either 31 or 34 single family lots of 9,500+ S.F per hearing examination's ruling.

I affirm that all answers, statements, and information submitted with this application are correct and accurate to the best of my knowledge. I also affirm that I am the owner of the subject site or am duly authorized by the owner to act with respect to this application. Further, I grant permission to any and all employees and representatives of the City of Tumwater and other governmental agencies to enter upon and inspect said property as reasonably necessary to process this application. I agree to pay all fees of the City that apply to this application.

Chul M Kim
Signature of Applicant/Representative

2/12/2021
Date

Please attach the **Preliminary Plat submittal checklist** to this Application.

PRELIMINARY PLAT EXHIBIT OF SUNRISE HILLS

A PORTION SW 1/4 OF THE SW 1/4 OF SECTION 27, TOWNSHIP 18 N., RANGE 02 W., W.M.
CITY OF TUMWATER, THURSTON COUNTY, WASHINGTON

SCALE: 1"=50'

LEGEND

SURVEY		PROPOSED
	CONTOURS	
	PROPERTY LINE/RIGHT-OF-WAY	
	RIGHT-OF-WAY DEDICATION	
	RIGHT-OF-WAY CENTERLINE	
	UTILITY EASEMENT	
	BUILDING SETBACK LINE	
	BUILDING SETBACK LINE	
	SLOPE SETBACK LINE PER GEOTECHNICAL ENGINEER	
	"ENGINEERED BARRIER" PER GEOTECHNICAL ENGINEER	
	ASPHALT	
	CONCRETE	
	JOINT USE DRIVEWAY EASEMENT	
	OPEN SPACE	
	ACTIVE/PASSIVE OPEN SPACE	
LANDSLIDE HAZARD AREAS (LHA) PER TMC 16.20.045.B.8 SEE SHEET 3		

APPLICANT AND SITE PLANNER

SUNRISE HILLS, LLC
454 SW 297TH STREET
FEDERAL WAY, WA 98023
(206) 835-6300
CONTACT: CHUL KIM
CHULKIM8@GMAIL.COM

SURVEYOR

LENHERR SURVEYING PLLC
209 SOUTH 3RD STREET
ELMA, WA 98541
(360) 482-8750

ARBORIST

PROFESSIONAL FORESTRY SERVICES, INC.
100 RUBY ST SE, SUITE B
TUMWATER, WA 98501
(360) 943-1470
CONTACT: MICHAEL JACKSON

GEOTECHNICAL ENGINEER

INSIGHT GEOLOGIC, INC.
1015 – 4TH AVE E
OLYMPIA, WA 98506
(360) 943-5003
CONTACT: WILLIAM HALBERT, L.E.G., L.H.G.

AREAS

GROSS SITE AREA: 466,977 SF (10.72 AC)
CRITICAL AREAS (LANDSLIDE HAZARD AREAS PER TMC 16.20.045.B.8): 70,274 SF (1.61 AC)
ROADS (ROAD A, TRACT F, ROAD B): 50,929 SF (1.17 AC)
NET SITE AREA: 345,756 SF (7.94 AC)

REQUIRED OPEN SPACE: 30 PERCENT OF GROSS SITE AREA = 140,093 (3.22 AC)
REQUIRED PASSIVE RECREATION OPEN SPACE: 50% OF OVERALL OPEN SPACE = 70,047 SF (1.61 AC)

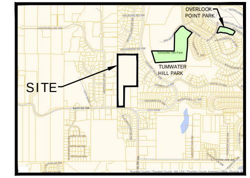
PROVIDED OPEN SPACE: 30.05% (140,321 SF 3.22 AC)
PROVIDED PASSIVE RECREATION SPACE:
71,135 SF; TRAILS AND IMPROVEMENTS TBD AT FINAL ENGINEERING

DENSITY

MIN DENSITY: 2 DU/NET AC (7.94x2) = 15.9 = 16 LOTS
BASE DENSITY: 4 DU/NET AC (7.94x4) = 31.8 = 31 LOTS
MAX DENSITY (CLUSTER): 4 DU/NET AC (31) X 1.25 = 38.75 = 39 LOTS
DENSITY TRANSFER FROM CRITICAL AREAS: (1.61x4) = 6.44 = 6+31 = 37
TOTAL DUs PERMITTED: 37

NOTES

1. TAX #: 12827330000
2. SITE AREA: 466,977 S.F. (10.72 AC)
3. SITE ADDRESS: NOT ASSIGNED
4. EXISTING USE: VACANT
5. PROPOSED USE: 36-LOT SINGLE FAMILY RESIDENTIAL CLUSTER SUBDIVISION
6. EXISTING ZONING: R/SR (RESIDENTIAL/SENSITIVE RESOURCE)
7. REQUIRED MIN. SETBACKS: 9,500 SF / 7,600 SF (CLUSTER)
   - FRONT/SIDE STREET: 20 FEET / 20 FEET
   - SIDE YARD: 10 FEET / 7.5 FEET
   - REAR YARD: 20 FEET / 10 FEET
8. OPEN SPACE REQUIRED: 10% / 30% GSA
9. REQUIRED MINIMUM USABLE SPACE PER LOT: 1,600 SF
10. MAX BASE HEIGHT OF BUILDINGS: 35 FEET
11. TREES WILL BE PROTECTED IN ALL OPEN SPACE AREAS EXCEPT IN STORM DRAIN AND UTILITY EASEMENT AREAS



VICINITY MAP

NOT TO SCALE

ABBREVIATIONS

PSDE	PRIVATE SHARED DRIVEWAY EASEMENT
BSBL	BUILDING SETBACK
SF	SQUARE FEET
R	RADIUS
R/W	RIGHT OF WAY

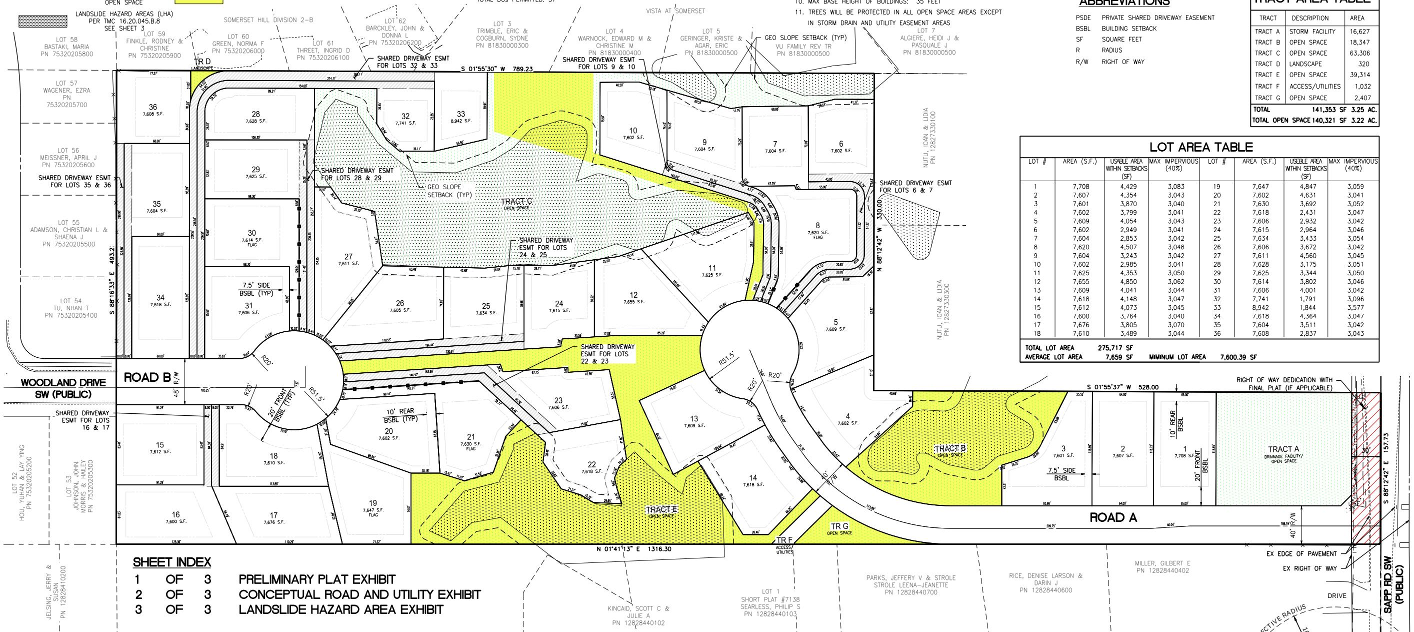
TRACT AREA TABLE

TRACT	DESCRIPTION	AREA
TRACT A	STORM FACILITY	16,627
TRACT B	OPEN SPACE	18,347
TRACT C	OPEN SPACE	63,306
TRACT D	LANDSCAPE	320
TRACT E	OPEN SPACE	39,314
TRACT F	ACCESS/UTILITIES	1,032
TRACT G	OPEN SPACE	2,407
TOTAL		141,353 SF 3.25 AC.
TOTAL OPEN SPACE		140,321 SF 3.22 AC.

LOT AREA TABLE

LOT #	AREA (S.F.)	USABLE AREA WITHIN SETBACKS (SF)	MAX IMPERVIOUS (40%)	LOT #	AREA (S.F.)	USEBLE AREA WITHIN SETBACKS (SF)	MAX IMPERVIOUS (40%)
1	7,708	4,429	3,083	19	7,647	4,847	3,059
2	7,607	4,354	3,043	20	7,602	4,631	3,041
3	7,601	3,870	3,040	21	7,630	3,692	3,052
4	7,602	3,799	3,041	22	7,618	2,431	3,047
5	7,609	4,054	3,043	23	7,606	2,932	3,042
6	7,602	2,949	3,041	24	7,615	2,964	3,046
7	7,604	2,853	3,042	25	7,634	3,433	3,054
8	7,620	4,507	3,048	26	7,606	3,672	3,042
9	7,604	3,243	3,042	27	7,611	4,560	3,045
10	7,602	2,985	3,041	28	7,628	3,175	3,051
11	7,625	4,353	3,050	29	7,625	3,344	3,050
12	7,655	4,850	3,062	30	7,614	3,802	3,046
13	7,609	4,041	3,044	31	7,606	4,001	3,042
14	7,618	4,148	3,047	32	7,741	1,791	3,096
15	7,612	4,073	3,045	33	8,942	1,844	3,577
16	7,600	3,764	3,040	34	7,618	4,364	3,047
17	7,676	3,805	3,070	35	7,604	3,511	3,042
18	7,610	3,489	3,044	36	7,608	2,837	3,043

TOTAL LOT AREA 275,717 SF
AVERAGE LOT AREA 7,659 SF MIMINUM LOT AREA 7,600.39 SF



SHEET INDEX

UTILITIES/SERVICES:

WATER: CITY OF TUMWATER ... SW ... 98501 ...33

SEWER: CITY OF TUMWATER (LOTT CLEAN WATER ALLIANCE) 500 ADAMS ST NE OLYMPIA, WA 98501 (360) 664-2333

POWER/GAS: PUGET SOUND ENERGY 8001 SOUTH 212TH STREET KENT, WA 98032 (253) 395-7065

CABLE: XFINITY 4020 AUBURN WAY NORTH AUBURN, WA 98002 (253) 288-7450

SCHOOL: TUMWATER SCHOOL DISTRICT NO. 33 621 LINWOOD AVE SW TUMWATER, WA 98512 (360) 709-7000

PHONE: MULTIPLE

FIRE: CITY OF TUMWATER 555 ISRAEL RD SW TUMWATER, WA 98501 (360) 754-4170

NOTE:

BARGHAUSEN CONSULTING ENGINEERS, INC. HAS NOT VERIFIED THE ACCURACY OF THE BOUNDARY OR TOPOGRAPHIC SURVEY PROVIDED BY LENHERR SURVEYING PLLC. BARGHAUSEN DOES NOT WARRANT ACCURACY OF THE SITE PLAN OR CONFORMITY TO ZONING OR SUBDIVISION CODES. ALL SITE PLANNING HAS BEEN COMPLETED BY THE APPLICANT. BARGHAUSEN HAS NOT COMPLETED ANY ENGINEERING STUDY OR DESIGN RELATED TO THE SITE PLAN.

LEGAL DESCRIPTION

AS PER THURSTON COUNTY POLICY NUMBER: SGW 08002968

LOT 5 OF SECTION 27, TOWNSHIP 18 NORTH, RANGE 2 WEST, W.M.; EXCEPT THE SOUTH 528 FEET OF THE EAST 330 FEET AND EXCEPT COUNTY ROAD KNOWN AS SAPP ROAD ALONG THE SOUTH BOUNDARY.

REVISION	DESCRIPTION	DATE	BY
1	CITY REVIEW	11/16/22	-

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222
barghausen.com

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SHEET TITLE: PRELIMINARY PLAT EXHIBIT OF SUNRISE HILLS

CLIENT: CHUL M. KIM 454 SW 297TH STREET FEDERAL WAY, WA 98023

CONTACT: CHUL M. KIM PHONE: (206) 835-6300

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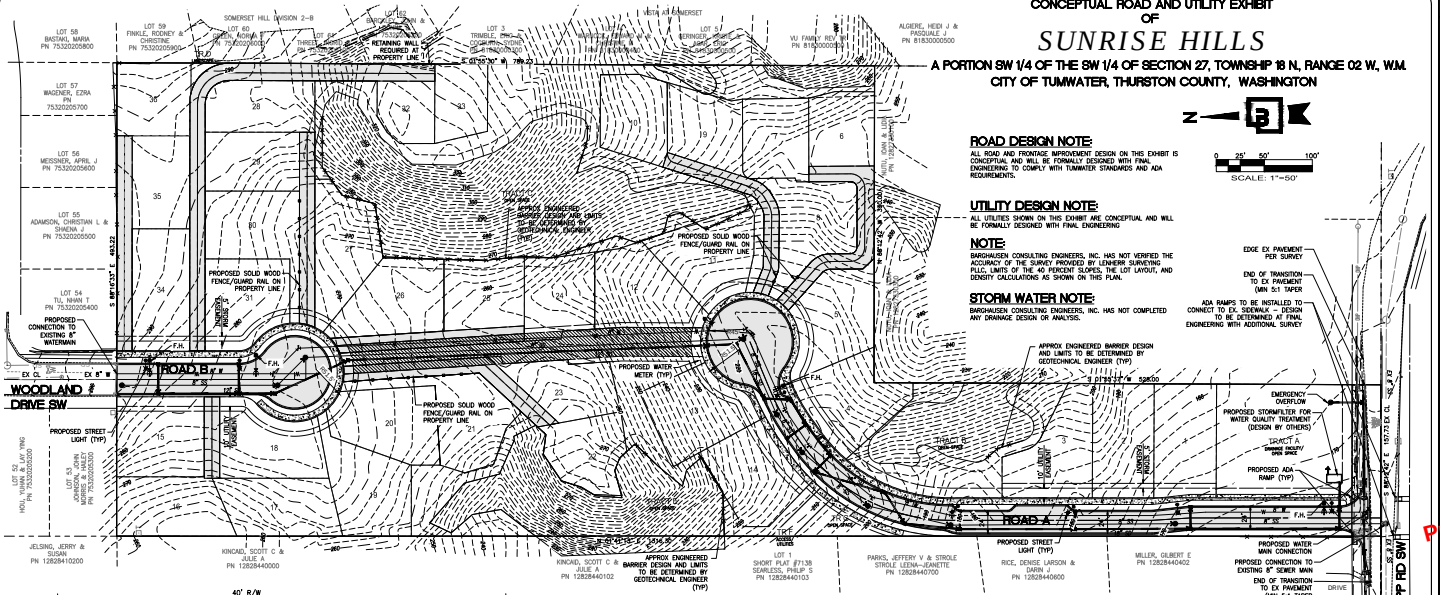
CONCEPTUAL ROAD AND UTILITY EXHIBIT OF SUNRISE HILLS

A PORTION SW 1/4 OF THE SW 1/4 OF SECTION 27, TOWNSHIP 18 N., RANGE 02 W., W.M.
CITY OF TUMWATER, THURSTON COUNTY, WASHINGTON



ROAD DESIGN NOTE:

ALL ROAD AND FRONTAGE IMPROVEMENT DESIGN ON THIS EXHIBIT IS CONCEPTUAL AND WILL BE FORMALLY DESIGNED WITH FINAL ENGINEERING TO COMPLY WITH TUMWATER STANDARDS AND ADA REQUIREMENTS.

SCALE: 1"=50'

UTILITY DESIGN NOTE:

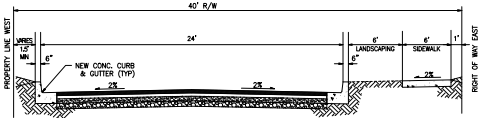
ALL UTILITIES SHOWN ON THIS EXHIBIT ARE CONCEPTUAL AND WILL BE FORMALLY DESIGNED WITH FINAL ENGINEERING

NOTE:

BARGHAUSEN CONSULTING ENGINEERS, INC. HAS NOT VERIFIED THE ACCURACY OF THE SURVEY PROVIDED BY LENHERR SURVEYING PLLC, LIMITS OF THE 40 PERCENT SLOPES, THE LOT LAYOUT, AND DENSITY CALCULATIONS AS SHOWN ON THIS PLAN.

STORM WATER NOTE:

BARGHAUSEN CONSULTING ENGINEERS, INC. HAS NOT COMPLETED ANY DRAINAGE DESIGN OR ANALYSIS.



ROAD A
(LOCAL ROAD)

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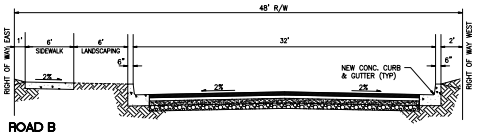


ROAD B
(WOODLANDS DR)

NOT TO SCALE

REVISION	DESCRIPTION	DATE	BY
1	CITY REVIEW	11/2022	

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

Preliminary
11/17/2022 3:50:38 PM

SHEET TITLE: CONCEPTUAL ROAD AND UTILITY EXHIBIT FOR SUNRISE HILLS

CHUL M. KIM
4644 SOUTH 272ND STREET
FEDERAL WAY, WA 98023
CONTACT: CHUL M. KIM PHONE: (206) 835-6300

SHEET 2 OF 3 REV.

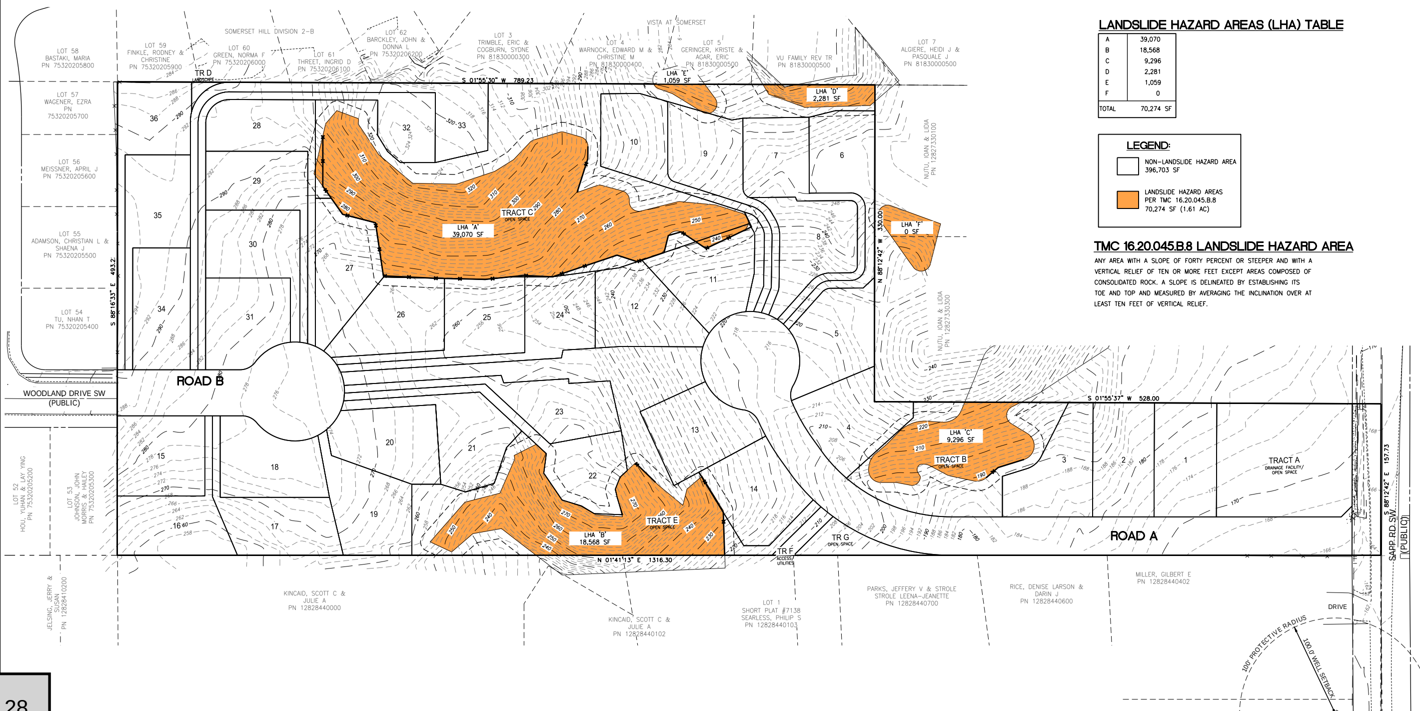
P:\27000s\27057\preliminary\27057-Prelim.dwg 11/16/2022 1:02 PM ADMIN

LANDSLIDE HAZARD AREA EXHIBIT
OF

SUNRISE HILLS

A PORTION SW 1/4 OF THE SW 1/4 OF SECTION 27, TOWNSHIP 18 N., RANGE 02 W., W.M.
CITY OF TUMWATER, THURSTON COUNTY, WASHINGTON

0 25' 50' 100'
SCALE: 1"=50'



LANDSLIDE HAZARD AREAS (LHA) TABLE

A	39,070
B	18,568
C	9,296
D	2,281
E	1,059
F	0
TOTAL	70,274 SF

LEGEND:

NON-LANDSLIDE HAZARD AREA 396,703 SF

LANDSLIDE HAZARD AREAS PER TMC 16.20.045.B.8 70,274 SF (1.61 AC)

TMC 16.20.045.B.8 LANDSLIDE HAZARD AREA

ANY AREA WITH A SLOPE OF FORTY PERCENT OR STEEPER AND WITH A VERTICAL RELIEF OF TEN OR MORE FEET EXCEPT AREAS COMPOSED OF CONSOLIDATED ROCK. A SLOPE IS DELINEATED BY ESTABLISHING ITS TOE AND TOP AND MEASURED BY AVERAGING THE INCLINATION OVER AT LEAST TEN FEET OF VERTICAL RELIEF.

REVISION	DESCRIPTION	DATE	BY
1	CITY REVIEW	11/16/22	-

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222
barghausen.com

Preliminary
11/17/2022 3:50:38 PM

SHEET TITLE: LANDSLIDE HAZARD AREA EXHIBIT FOR SUNRISE HILLS

CLIENT: CHUL M. KIM
454 SW 297TH STREET
FEDERAL WAY, WA 98023

CONTACT: CHUL M. KIM PHONE: (206) 835-6300

SHEET 3 OF 3 REV.

P:\21000s\21373\preliminary\21373-PSS.dwg 11/16/2022 2:10 PM AJONES

Exhibit 6

City Hall
555 Israel Road SW
Tumwater, WA 98501-6515
Phone: 360-754-5855
Fax: 360-754-4138

CERTIFICATION OF PUBLIC NOTICE

I, Tami Merriman, Permit Manager for the City of Tumwater hereby certify that public notice for the Project #TUM-21-0551, Sunrise Hills was given as follows:

APPLICATION

Notice of Application Published:	March 10, 2023
Notice of Application Posted:	March 10, 2023
Posting Location:	Sapp Road

Environmental Determination incorporated by reference:	March 10, 2023

HEARING

Notice of Public Hearing Published:	May 12, 2023
Notice of Public Hearing Posted:	May 12, 2023
Posting Locations:	Sapp Road

Notice of Public Hearing Mailed to Mailing List:	May 11, 2023

The above is an accurate accounting of the public notice provided for the project.

Tami Merriman, Permit Manager

May 12, 2023
Date

City Hall
555 Israel Road SW
Tumwater, WA 98501-6515
Phone: 360-754-5855
Fax: 360-754-4138

AMENDED NOTICE OF APPLICATION
Sunrise Hills LLC Preliminary Plat
Permit No. TUM-21-0551
March 10, 2023

Description of Proposal: Preliminary Plat approval to divide 10.72 acres into 36 single-family lots, with 7 tracts, as a Clustered Subdivision.

Applicant: Sunrise Hills LLC, 454 SW 297th Street, Federal Way, WA 98023

Location of Proposal: Located on Sapp Road SW, Tumwater, WA 98512, Section 27, T18N, R2W, Tax Parcel # 12827330000.

Date of Complete Application: Amended February 24, 2023.

Required Permits/Approvals: The following permits and approvals may be required: Preliminary and Final Plat approvals, Transportation Concurrency ruling, Land Clearing/Grading, and Building permits.

Determination of Consistency: At this time, no determination of consistency with City of Tumwater plans, regulations, or standards has been made. At a minimum, this project will be subject to the following plans and regulations: Tumwater Comprehensive Plan, Tumwater Zoning Ordinance, Tumwater Land Division Ordinance, Tumwater Environmental Policy Ordinance, Tumwater Transportation Concurrency Ordinance, Tumwater Development Guide (street, utility, and storm water standards), and the International Building and Fire Codes.

Environmental Review: A Determination of Nonsignificance issued on June 27, 2019 for development of a preliminary plat, with its associated studies and reports are incorporated by reference.

Public Hearing: A public hearing is required for this project. No specific date has been set for the public hearing, however, persons receiving this notice will be informed of the date, time, and place of the hearing a minimum of 10 days prior to the hearing date.

Public Comment Period: Written comments may be submitted to City of Tumwater, Community Development Department, Attn: Tami Merriman, 555 Israel Road SW, Tumwater, WA 98501, or by email to tmerriman@ci.tumwater.wa.us, and must be received by 5:00 p.m. on March 24, 2023. If you have any questions or would like additional information, contact Tami Merriman, Permit Manager, at 360-754-4180.

PRELIMINARY PLAT EXHIBIT OF SUNRISE HILLS

A PORTION SW 1/4 OF THE SW 1/4 OF SECTION 27, TOWNSHIP 18 N., RANGE 02 W., W.M.

CITY OF TUMWATER, THURSTON COUNTY, WASHINGTON

LEGEND

SURVEY / PROPOSED

- CONTOURS
- PROPERTY LINE/RIGHT-OF-WAY
- RIGHT-OF-WAY DEDICATION
- RIGHT-OF-WAY CENTERLINE
- UTILITY EASEMENT
- BUILDING SETBACK LINE
- BUILDING SETBACK LINE
- SLOPE SETBACK LINE PER GEOTECHNICAL ENGINEER
- "ENGINEERED BARRIER" PER GEOTECHNICAL ENGINEER
- ASPHALT
- CONCRETE
- JOINT USE DRIVEWAY EASEMENT
- OPEN SPACE
- ACTIVE/PASSIVE OPEN SPACE
- LANDSLIDE HAZARD AREAS (LHA) PER TMC 16.20.045.B.8 SEE SHEET 3

APPLICANT AND SITE PLANNER

SUNRISE HILLS, LLC
454 SW 297TH STREET
FEDERAL WAY, WA 98023
(206) 835-6300
CONTACT: CHUL KIM
CHULKIMB@GMAIL.COM

SURVEYOR

LENHERR SURVEYING PLLC
209 SOUTH 3RD STREET
ELMA, WA 98541
(360) 482-8750

ARBORIST

PROFESSIONAL FORESTRY SERVICES, INC.
100 RUBY ST SE, SUITE B
TUMWATER, WA 98501
(360) 943-1470
CONTACT: MICHAEL JACKSON

GEOTECHNICAL ENGINEER

INSIGHT GEOLOGIC, INC.
1015 - 4TH AVE E
OLYMPIA, WA 98506
(360) 943-5003
CONTACT: WILLIAM HALBERT, L.E.G., L.H.G.

AREAS

GROSS SITE AREA: 466,977 SF (10.72 AC)
CRITICAL AREAS (LANDSLIDE HAZARD AREAS PER TMC 16.20.045.B.8): 70,274 SF (1.61 AC)
ROADS (ROAD A, TRACT F, ROAD B): 50,929 SF (1.17 AC)
NET SITE AREA: 345,756 SF (7.94 AC)

REQUIRED OPEN SPACE: 30 PERCENT OF GROSS SITE AREA = 140,093 (3.22 AC)
REQUIRED PASSIVE RECREATION OPEN SPACE: 50% OF OVERALL OPEN SPACE = 70,047 SF (1.61 AC)

PROVIDED OPEN SPACE: 30.05% (140,321 SF 3.22 AC)
PROVIDED PASSIVE RECREATION SPACE:
71,135 SF; TRAILS AND IMPROVEMENTS TBD AT FINAL ENGINEERING

DENSITY

MIN DENSITY: 2 DU/NET AC (7.94x2) = 15.9 = 16 LOTS
BASE DENSITY: 4 DU/NET AC (7.94x4) = 31.8 = 31 LOTS
MAX DENSITY (CLUSTER): 4 DU/NET AC (31) X 1.25 = 38.75 = 39 LOTS
DENSITY TRANSFER FROM CRITICAL AREAS: (1.61x4) = 6.44 = 6+31 = 37
TOTAL DUs PERMITTED: 37

NOTES

1. TAX #: 12827330000
2. SITE AREA: 466,977 S.F. (10.72 AC)
3. SITE ADDRESS: NOT ASSIGNED
4. EXISTING USE: VACANT
5. PROPOSED USE: 36-LOT SINGLE FAMILY RESIDENTIAL CLUSTER SUBDIVISION
6. EXISTING ZONING: R/SR (RESIDENTIAL/SENSITIVE RESOURCE)
7. REQUIRED MIN. SETBACKS:

	9,500 SF	7,600 SF (CLUSTER)
FRONT/SIDE STREET:	20 FEET	20 FEET
SIDE YARD:	10 FEET	7.5 FEET
REAR YARD:	20 FEET	10 FEET

8. OPEN SPACE REQUIRED: 10% 30% GSA
9. REQUIRED MINIMUM USABLE SPACE PER LOT: 1,600 SF
10. MAX BASE HEIGHT OF BUILDINGS: 35 FEET
11. TREES WILL BE PROTECTED IN ALL OPEN SPACE AREAS EXCEPT IN STORM DRAIN AND UTILITY EASEMENT AREAS

ABBREVIATIONS

PSDE	PRIVATE SHARED DRIVEWAY EASEMENT
BSBL	BUILDING SETBACK
SF	SQUARE FEET
R	RADIUS
R/W	RIGHT OF WAY

TRACT AREA TABLE

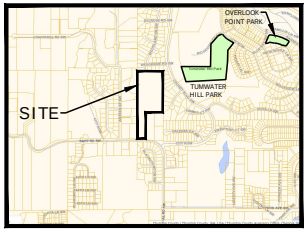
TRACT	DESCRIPTION	AREA
TRACT A	STORM FACILITY	16,627
TRACT B	OPEN SPACE	18,347
TRACT C	OPEN SPACE	63,306
TRACT D	LANDSCAPE	320
TRACT E	OPEN SPACE	39,314
TRACT F	ACCESS/UTILITIES	1,032
TRACT G	OPEN SPACE	2,407
TOTAL		141,353 SF 3.25 AC.
TOTAL OPEN SPACE		140,321 SF 3.22 AC.

LOT AREA TABLE

LOT #	AREA (S.F.)	USABLE AREA WITHIN SETBACKS (SF)	MAX IMPERVIOUS (40%)	LOT #	AREA (S.F.)	USABLE AREA WITHIN SETBACKS (SF)	MAX IMPERVIOUS (40%)
1	7,708	4,429	3,083	19	7,647	4,847	3,059
2	7,607	4,354	3,043	20	7,602	4,631	3,041
3	7,601	3,870	3,040	21	7,630	3,692	3,052
4	7,602	3,799	3,041	22	7,618	2,431	3,047
5	7,609	4,054	3,043	23	7,606	2,932	3,042
6	7,602	2,949	3,041	24	7,615	2,964	3,046
7	7,604	2,853	3,042	25	7,634	3,433	3,054
8	7,620	4,507	3,048	26	7,606	3,672	3,042
9	7,604	3,243	3,042	27	7,611	4,560	3,045
10	7,602	2,985	3,041	28	7,628	3,175	3,051
11	7,625	4,353	3,050	29	7,625	3,344	3,050
12	7,655	4,850	3,062	30	7,614	3,802	3,046
13	7,609	4,041	3,044	31	7,606	4,001	3,042
14	7,618	4,148	3,047	32	7,741	1,791	3,096
15	7,612	4,073	3,045	33	8,942	1,844	3,577
16	7,600	3,764	3,040	34	7,618	4,364	3,047
17	7,676	3,805	3,070	35	7,604	3,511	3,042
18	7,610	3,489	3,044	36	7,608	2,837	3,043
TOTAL LOT AREA		275,717 SF					
AVERAGE LOT AREA		7,659 SF	MIMINUM LOT AREA			7,600.39 SF	

VICINITY MAP

NOT TO SCALE



SHEET INDEX

UTILITIES/SERVICES:

WATER: CITY OF TUMWATER, 555 ISRAEL RD SW, TUMWATER, WA 98501, 754-4133

SEWER: CITY OF TUMWATER (LOTT CLEAN WATER ALLIANCE), 500 ADAMS ST NE, OLYMPIA, WA 98501, (360) 664-2333

POWER/GAS: PUGET SOUND ENERGY, 8001 SOUTH 212TH STREET, KENT, WA 98032, (253) 395-7065

CABLE: XFINITY, 4020 AUBURN WAY NORTH, AUBURN, WA 98002, (253) 288-7450

SCHOOL: TUMWATER SCHOOL DISTRICT NO. 33, 621 LINWOOD AVE SW, TUMWATER, WA 98512, (360) 709-7000

PHONE: MULTIPLE

FIRE: CITY OF TUMWATER, 555 ISRAEL RD SW, TUMWATER, WA 98501, (360) 754-4170

NOTE:

BARGHAUSEN CONSULTING ENGINEERS, INC. HAS NOT VERIFIED THE ACCURACY OF THE BOUNDARY OR TOPOGRAPHIC SURVEY PROVIDED BY LENHERR SURVEYING PLLC. BARGHAUSEN DOES NOT WARRANT ACCURACY OF THE SITE PLAN OR CONFORMITY TO ZONING OR SUBDIVISION CODES. ALL SITE PLANNING HAS BEEN COMPLETED BY THE APPLICANT. BARGHAUSEN HAS NOT COMPLETED ANY ENGINEERING STUDY OR DESIGN RELATED TO THE SITE PLAN.

LEGAL DESCRIPTION

AS PER THURSTON COUNTY POLICY NUMBER: SGW 08002968

LOT 5 OF SECTION 27, TOWNSHIP 18 NORTH, RANGE 2 WEST, W.M.; EXCEPT THE SOUTH 528 FEET OF THE EAST 330 FEET AND EXCEPT COUNTY ROAD KNOWN AS SAPP ROAD ALONG THE SOUTH BOUNDARY.

REVISION	DESCRIPTION	DATE	BY
1	CITY REVIEW	11/16/22	

Barghausen Consulting Engineers, Inc.
18215 72nd Avenue South
Kent, WA 98032
425.251.6222 barghausen.com

Preliminary
11/17/2022 3:50:24 PM

SHEET TITLE: PRELIMINARY PLAT EXHIBIT OF SUNRISE HILLS

CLIENT: CHUL M. KIM, 454 SW 297TH STREET, FEDERAL WAY, WA 98023

CONTACT: CHUL M. KIM PHONE: (206) 835-6300

SHEET 1 OF 3 REV.

P:\21000s\21373\preliminary\21373-PP-lots.dwg 11/16/2022 1:02 PM AJONES

City Hall
555 Israel Road SW
Tumwater, WA 98501-6515
Phone: 360-754-5855
Fax: 360-754-4138

DETERMINATION OF NON-SIGNIFICANCE (DNS)
Sunrise Hills
TUM-19-0318

Description of proposal: The applicant is requesting Preliminary Plat approval (TUM-19-0317) to subdivide 10.72 acres into 36 single-family lots.

Proponent: Sunrise Hills LLC, Attn: Chul Kim, 454 SW 297th Street, Federal Way, WA 98023.

Location of proposal: The property is located on the north side of Sapp Road, east of Antsen Street, west of Crosby Boulevard and south of Brookside Road SW, in Tumwater, WA 98512, within a portion of the southwest quarter of the southwest quarter, Section 27, Township 18 N., Range 2 W.W.M. Parcel #12827330000.

Lead agency: City of Tumwater, Community Development Department.
The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An Environmental Impact Statement is not 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.

This DNS is issued under WAC 197-11-340; the lead agency will not act on this proposal for 14 days from the date below. Comments must be submitted no later than July 11, 2019, by 5:00 p.m.

Date: June 27, 2019

Responsible official:
Michael Matlock, AICP
Community Development Director

Contact person: Suresh Bhagavan, 360-754-4180
555 Israel Road SW
Tumwater, WA 98501

Appeals of this DNS must be made to the City Clerk, no later than July 17, 2019, by 5:00 p.m. All appeals shall be in writing, be signed by the appellant, be accompanied by a filing fee of $175, and set forth the specific basis for such appeal, error alleged and relief requested.

City Hall
555 Israel Road SW
Tumwater, WA 98501-6515
Phone: 360-754-5855
Fax: 360-754-4138

NOTICE OF PUBLIC HEARING
May 24, 2023

NOTICE IS HEREBY GIVEN that the City of Tumwater Hearing Examiner will conduct a public hearing at or about **7:00 p.m. on Wednesday, May 24, 2023**, for consideration of the following items:

Case #: TUM-21-0551 Sunrise Hills Preliminary Plat.

Description of Proposal: The applicant proposes to subdivide approximately 10.72 acres into 36 single-family lots, with 7 tracts, as a Clustered Subdivision.

Applicant: Sunrise Hills LLC, 454 SW 297th Street, Federal Way, WA 98023

Location of Proposal: Located on Sapp Road SW, Tumwater, WA 98512, Section 27, T18N, R2W, Tax Parcel # 12827330000

The public hearing will be held both virtually via Zoom and in person at Tumwater City Hall.

ATTEND in Person
Tumwater City Hall, 555 Israel Rd. SW, Tumwater, WA 98501.

WATCH Online
Go to http://www.zoom.us/join, and enter the Webinar ID: 845 2610 9239 Passcode 074169**.**

LISTEN by Telephone
Call (253) 215-8782, listen for the prompts, and enter the Webinar ID: 845 2610 9239 Passcode 074169**.**

The City of Tumwater Hearing Examiner will hear testimony from interested parties in person or via computer audio or by telephone. To provide comments via computer audio or by telephone you must register in advance:

https://us02web.zoom.us/webinar/register/WN_T5EZoB-LTLqQJ5P97TSN0g

After registering, you will receive a confirmation email containing information about joining the webinar.

Written comments may be submitted to City of Tumwater, Community Development Department, 555 Israel Road SW, Tumwater, WA 98501, or by email at tmerriman@ci.tumwater.wa.us, and must be received by 6:00 p.m. on Wednesday, May 24, 2023. Verbal testimony will be received during the hearing either virtually, or in person.

The staff report for this request will be available for review at least five business-days prior to the public hearing. If you have any questions or would like additional information, please contact Tami Merriman at 360-754-4180.

Do not publish below this line

Published: May 12, 2023
Posted: May 12, 2023

Exhibit 7

City Hall
555 Israel Road SW
Tumwater, WA 98501-6515
Phone: 360-754-5855
Fax: 360-754-4138

TUMWATER HEARING EXAMINER AGENDA
Tumwater Council Chambers
Wednesday, September 4, 2019
Time: 7:00 p.m.

The Tumwater Hearing Examiner is an appointed official of the City, and rules upon land use and zoning matters. Within 10 business days of the conclusion of a hearing, the Examiner shall render a decision, including findings and conclusions. Questions on the operation and procedures of the Hearing Examiner may be directed to the Community Development Department at 360-754-4180.

I. CALL TO ORDER

II. ADMINISTRATIVE AFFAIRS

A. Changes to Agenda

III. PUBLIC HEARING

A. Application **TUM-19-0317 – Sunrise Hills Preliminary Plat**

Sunrise Hills LLC is requesting Preliminary Plat approval to divide 10.72 acres into 36 single-family lots.

IV. ADJOURN

Enclosure:

Agenda Packet:
- TUM-19-0317

AGENDA ITEM NO. III.A
HEARING DATE: September 4, 2019

TO: John Doan, City Administrator
jdoan@ci.tumwater.wa.us

FOR: Tumwater Hearing Examiner

FROM: Chris Carlson, Permit Manager
ccarlson@ci.tumwater.wa.us

RE: Preliminary Plat application (TUM-19-0317)
Sunrise Hills Preliminary Plat

A. Exhibits: (List only those attached)

1. Staff Report, dated August 23, 2019
2. Site Aerial Photo Map
3. Preliminary Plat Application, dated March 25, 2019
4. Preliminary Plat Map
5. Certification of Public Notice
6. Environmental Checklist, dated March 25, 2019
7. DNS, dated June 27, 2019
8. Notice of Application, dated May 23, 2019
9. Forester's Report, dated September 20, 2018
10. Geotechnical Report, dated September 4, 2018
11. E-mail from Engineering Geologist, dated June 7, 2019
12. Preliminary Storm Drainage Report, dated May 2019
13. Transportation Trip Distribution Report, dated May 3, 2019
14. Tumwater Public Works Director Concurrency Ruling, dated May 8, 2019
15. Tumwater Public Works Department Water and Sewer Availability Ruling, dated April 1, 2019
16. DOE Comments, dated June 6, 2019
17. DOE Comments, dated July 11, 2019
18. Squaxin Island Tribe Comments, dated May 23, 2019
19. Tumwater School District letter, dated August 22, 2019
20. Jim Oberlander Comments, dated May 28, 2019
21. Amanda Gress Comments, dated May 28, 2019
22. Eric Trimble and Sydne Cogburn Comments, dated June 5, 2019
23. Geoffrey Provost Comments, dated June 5, 2019
24. Janine Beaudry Comments, dated June 6, 2019
25. Applicant's summary statement with attachments

B. Action Requested / Staff Recommendation:

Staff recommends that after reviewing the Staff report, taking testimony, and evaluating all other relevant facts and criteria, Case No. TUM-19-0317 be denied. If the Hearing Examiner chooses to approve the request, staff recommends the project be subject to the conditions of approval outlined in the staff report.

C. History and Facts Brief:

The applicant is requesting Preliminary Plat approval to subdivide 10.72 acres into 36 single-family lots.

D. Discussion & Alternatives:

- ❑ Deny Case No. TUM-19-0317 for cause
- ❑ Approve Case No. TUM-19-0317 as conditioned by staff
- ❑ Approve Case No. TUM-19-0317 with additional conditions
- ❑ Remand Case No. TUM-19-0317 to staff for further analyses

EXHIBIT 1

CITY OF TUMWATER
HEARING EXAMINER STAFF REPORT
Hearing Date: September 4, 2019

Project Name: **Sunrise Hills Preliminary Plat**

Case Number: TUM-19-0317

Applicant: **Sunrise Hills LLC - Chul Kim**
454 SW 297th Street, Federal Way, WA 98023

Representative: **Contour Engineering – Stephen Bridgeford**
P.O. Box 949, Gig Harbor, WA 98335

Type of Action Requested: Preliminary Plat approval for 36 single-family lots on 10.72 acres. (Exhibits 3 & 4)

Project Location: The property is located on the north side of Sapp Road SW between Antsen Street and Crosby Boulevard, Tumwater, WA 98512, within a portion of the southwest quarter of southwest quarter, Section 27, Township 18 N., Range 2 W.W.M. Parcel #12827330000. (Exhibit 2)

SEPA Determination: Pursuant to the State Environmental Policy Act, the City of Tumwater Community Development Department after review of a SEPA environmental checklist and other information issued a Determination of Non-significance on June 27, 2019. (Exhibits 6 & 7)

Public Notification: Public notification for the application was mailed to property owners within 300 feet of the subject property and various agencies and posted on-site on May 23, 2019. The notice was published in *The Olympian* on May 24, 2019, in conformance with Tumwater Municipal Code (TMC) 14.06. (Exhibits 5 & 8)

Staff Recommendation: Denial. If the Hearing Examiner chooses to approve the application, staff recommends that the project be conditioned as specified at the end of the staff report.

Staff Planner: Chris Carlson, Permit Manager
Phone: 360-754-4180
E-Mail: ccarlson@ci.tumwater.wa.us

I. BACKGROUND INFORMATION

A. Application and Review Process

The Preliminary Plat application was submitted on March 25, 2019 and the application was deemed complete on May 7, 2019. (Exhibits 3 & 8) Under TMC 2.58.090, review authority for Preliminary Plat applications fall under the purview of the Hearing Examiner.

B. Existing Conditions

The site is vacant land forested with a mixture of deciduous and coniferous tree species.

The property contains steep slopes regulated by TMC 16.20.

C. Project Description

The proposal is to subdivide 10.72 acres into 36 single-family lots and 5 community tracts meant for open space, private roads/alleys, park/play area and tree preservation. Improvements will include mass grading for public and private roads and lot pads, construction of 159 lineal feet of street frontage improvements on Sapp Road abutting the south side of the project site, extension of City water and sewer utilities to serve the project, a storm water system to treat and detain/retain storm water generated from new pollution generating impervious surfaces, street lighting and extension of private utilities (i.e. power, gas, cable and telephone). (Exhibit 4)

II. REGULATORY FRAMEWORK

The proposal is subject to the following policies and regulations:

A. <u>Tumwater Comprehensive Land Use Plan:</u>

The project site is located in the Tumwater Hill Neighborhood as designated by the City's Comprehensive Land Use Plan. The land use designation for the project site is Residential Sensitive Resource (RSR).

The Residential Sensitive Resource Land Use Designation in the Comprehensive Plan states:

"*The area north of Sapp Road, east of RW Johnson Boulevard, south of Somerset Hill Drive, and west of Crosby Boulevard has been designated Residential/Sensitive Resource (2-4 Dwelling Units/Acre) to ensure that the unique open space character and environmental sensitivity of Percival Creek is*

protected from the effects of intensive urban development. Most of Percival Creek lacks sufficient stream flow to be under the protection of the Shoreline Management Act; and, therefore, lacks the special protection measures afforded by the Act. However, Percival Creek connects two areas of the city that are under the protection of the Shoreline Management Act: Trosper Lake and the Black Lake Drainage Ditch/Percival Creek Lower Reach. Areas in the 100-year flood plain have been designated Parks/Open Space to ensure consistency with the Conservation Element. Areas outside of the 100-year flood plain, however, should receive a land use designation that would be low intensity yet still allow the area to be developed on sanitary sewer in order to protect Percival Creek itself and the groundwater in the area."

Staff Response and Recommended Finding: *Staff and the applicant have a disagreement regarding how density is calculated for the project. Staff believes that the steep slope areas depicted on the preliminary plat map (Exhibit 4), which are regulated by TMC 16.20, should be excluded from the gross site area per TMC 18.08.050.B.1 before doing the density calculation.*

If the two steep slope areas depicted on the preliminary plat drawing are excluded from the density calculation, the density per acre for 36 lots calculates to 4.76 dwelling units per acre.

By excluding the two steep slope areas from the density calculation, the maximum number of lots for the project is 30.

Based on staff's interpretation of how density is calculated, the proposed density does not meet the density policy of the Comprehensive Plan for the Residential Sensitive Resource zone.

Staff finds that the project density is not consistent with the Comprehensive Plan.

B. **Tumwater Parks and Recreation Plan:** The only reference in the Parks Plan affecting the property indicates a desire for a bicycle lane on Sapp Road along the project frontage.

Staff Response and Recommended Finding: *The Parks Plan expresses the desire to construct bicycle lanes on Sapp Road along the project frontage.*

The City collects community park impact fees as a condition of building permit issuance for all residential units. These fees are used by the City Parks and Recreation Department for acquisition, design and construction of new public park facilities.

In addition to the payment of impact fees, TMC 17.12.210 of the Land Division Ordinance requires a minimum of 10 percent of the gross site area be set aside as

private open space. The code requires that both passive and active recreation elements be included in the open space areas.

The open space area for the proposed subdivision is 1.1 acres. This amounts to slightly over 10 percent of the gross site area, meeting the minimum open space requirement.

Staff finds that the applicant constructing frontage improvements on Sapp Road which will accommodate a future bicycle lane, payment of community park impact fees for each single-family residence proposed in the subdivision and setting aside the minimum amount of private open space with both passive and active recreation elements the project is consistent with the Comprehensive Parks Plan.

C. **Tumwater Transportation Plan:** The Transportation Plan includes language speaking to providing for the safe, efficient, cost-effective movement of people and goods in ways that support adopted land use plans, enhance neighborhood and community livability, support a strong and resilient economy, and minimize environmental impacts.

Staff Response and Recommended Finding: *After review of a Transportation Trip Distribution Report (Exhibit 13), the Public Works Director has issued a transportation concurrency ruling indicating that traffic generated from the project will not cause the level of service at any impacted corridors or intersections to fall below the City's level of service standard. (Exhibit 14)*

Staff finds that by constructing street improvements on Sapp Road along the property's frontage, building the two internal cul-de-sac streets to City standard and payment of transportation impact fees for each dwelling unit the project is consistent with the Tumwater Transportation Plan.

D. **Thurston Regional Trails Plan:** The City of Tumwater is a participating member of the Thurston Regional Planning Council (TRPC). TRPC adopted the Thurston Regional Trails Plan in December 2007.

The Regional Trails Plan defines a trail network blueprint and a set of guidelines and recommendations for all of Thurston County and its cities, towns and communities. The Goals and Policies section of the Plan serves to link local trail planning efforts within the broader context of planning the regional transportation network. The plan charts a systematic path creating interconnected corridors that improve access to community destinations.

Staff Response and Recommended Finding: *The project site is not affected by the regional trail network outlined in the Thurston Regional Trails Plan.*

Staff finds that approval of the project will not affect implementation of the Thurston Regional Trails Plan.

E. **Sustainable Development Plan for the Thurston Region:** The Plan indicates that the regional community has set a target to reduce vehicle miles traveled and to preserve sensitive areas, farmland, forest land, prairies and rural lands.

To implement the goal in the Plan to reduce vehicle miles traveled, strategies are stated including connecting streets, sidewalks and trails to provide multiple safe travel routes and shorter distances for all travel modes and encouraging a multimodal transportation system that includes walk, bike, bus, carpool, vanpool, telework, car, truck, and rail transportation systems.

With the extension of a public street with sidewalks into the project as well as providing street improvements on the site frontage of Sapp Road, the project is contributing to the goal in the Plan of reducing vehicle miles traveled.

The Plan also has a target goal stating that by 2035, 72 percent of all (new and existing) households in our cities, towns, and unincorporated growth areas will be within a half-mile (comparable to a 20-minute walk) of an urban center, corridor, or neighborhood center with access to goods and services to meet some of their daily needs. The project site is located approximately .7 mile south of the intersection of Crosby Boulevard and Irving Street. Properties in the vicinity of the intersection have a zone designation of General Commercial (GC) and include professional service, retail and restaurant uses.

Staff finds that the project is not in conflict with the Sustainable Development Plan for the Thurston Region.

F. **Tumwater Municipal Code (TMC) 14.06 – Public Notice Requirements:** TMC Chapter 14.06 requires the City to provide public notification of certain application types by issuing a Notice of Application (TMC 14.06.010) and a Notice of Open Record Hearing (TMC 14.06.070).

Staff Response and Recommended Finding: *Public notice for the application containing notification for the September 4, 2019 public hearing was mailed to property owners within 300 feet of the subject property, affected agencies and posted on-site on August 23, 2019; and published in The Olympian on August 23, 2019, in conformance with Tumwater Municipal Code (TMC) 14.06.070. (Exhibit 5)*

The application was deemed complete on May 7, 2019. Public notice for the application indicating that the application was submitted and deemed complete was mailed to property owners within 300 feet of the subject property, affected agencies and

posted on-site May 23, 2019; and published in the Olympian on May 24, 2019. (Exhibits 5 & 8)

G. **State Environmental Policy Act – TMC 16.04:** The City of Tumwater Community Development Department reviewed a SEPA Environmental Checklist and other information submitted by the applicant and issued a Determination of Non-significance on June 27, 2019. (Exhibits 6 & 7)

Staff Response and Recommended Finding: *The City of Tumwater Community Development Department, as lead agency, has completed environmental review in accordance with TMC 16.04, RCW 43-21C and WAC 197-11.*

The City's SEPA threshold determination was issued on June 27, 2019. (Exhibit 7)

No appeals of the City's SEPA threshold determination were filed.

H. **Tumwater Zoning Code, Title 18:**

1. Residential Sensitive Resource zone district TMC 18.08 - Permitted Uses and Development Standards

Staff Response and Recommended Finding: *TMC 18.08.020.A lists single-family homes as a permitted use in the Residential Sensitive Resource zone district.*

As mentioned in Section II.A above (Tumwater Comprehensive Land Use Plan), staff and the applicant have a disagreement regarding how the density is calculated for the project. Staff believes that the steep slope areas regulated by TMC 16.20 and depicted on the preliminary plat drawing (Exhibit 4) should be excluded from the gross site area per TMC 18.08.050.B.1 before doing the density calculation.

TMC 18.08.050.B.1 states: *Density Calculation. The calculation of the density requirements in subsection A of this section is based on the portion of the site that contains lots devoted to residential and associated uses (e.g., dwelling units; private community clubs; storm water detention, treatment and infiltration). The following land is excluded from density calculations:*

1. Land that is required to be dedicated for public use as open space, right-of-way, ***or land on which development is prohibited by TMC Title 16, Environment****, and land that is to be used for private roads; provided, that portion of open space/park areas that consists of storm water facilities and that is designed for active and/or passive recreational purposes in accordance with the drainage design and erosion control manual for Tumwater shall not be excluded from density calculations;*

2. Land that is intended for future phases of development created in accordance with TMC 18.08.060;

3. Land that consists of lots devoted to uses other than residential and associated uses, including but not limited to churches, schools, and support facilities (except for stormwater detention, treatment and infiltration facilities).

It's staff's interpretation that development is prohibited in the steep slope areas regulated by TMC 16.20 depicted on the preliminary plat map and these areas must be excluded from the density calculation per TMC 18.08.050.B.1.

If the steep slope areas depicted on the preliminary plat map are excluded from the density calculation, the density per acre for the 36 proposed lots calculates to 4.76 dwelling units per acre. This density exceeds the maximum density of 4 dwelling units per acre allowed in the Residential Sensitive Resource zone.

Based on staff's interpretation of how density is calculated, the proposed density does not meet the requirements of the zoning regulations.

Staff finds that the project density is not consistent with the Tumwater Zoning Ordinance.

2. Aquifer Protection Overlay (AQP) zone district - TMC 18.39 – Restricted Land Uses

Staff Response and Recommended Finding: *The intent of the aquifer protection (AQP) overlay zone district is to identify, classify and protect vulnerable and/or critical aquifer recharge areas within the city and urban growth area. Protection is to be accomplished by controlling the use and handling of hazardous substances.*

The proposed residential subdivision is not a restricted land use in the AQP overlay. In addition, an Integrated Pest Management Plan (IPMP) approved by Thurston County Environmental Health will be required to be recorded against the properties. An IPMP is a written instrument that outlines prevention, monitoring, and control which offers the opportunity to eliminate or drastically reduce the use of pesticides, and to minimize the toxicity of and exposure to any products which are used.

I. Hearing Examiner, TMC 2.58.090: – Hearing Examiner authority to

review Preliminary Plat requests.

Staff Response and Recommended Finding: *Preliminary Plats require a public hearing and decision by the Tumwater Hearing Examiner. Final Plat approval authority is with City of Tumwater staff.*

J. **Tree Protection and Replacement Ordinance, TMC 16.08:** TMC Chapter 16.08 regulates the removal and preservation of existing trees on a site to be developed.

Staff Response and Recommended Finding: *A professional forester's report has been submitted for the project. (Exhibit 9)*

The report indicates that there are a total of 353 trees regulated by TMC 16.08 on the property. The City's tree protection ordinance requires 20 percent of the existing trees or 12 trees per acre, whichever is greater to be retained.

In this case, the 12 tree per acre standard is the greater number requiring 112 trees to be retained. The report specifies that 167 trees are proposed for retention on the site.

Staff finds that the project complies with the City's Tree Protection and Replacement Ordinance (TMC 16.08).

K. **Geologically Hazardous Areas, TMC 16.20:** TMC Chapter 16.20 regulates geologically hazardous areas.

Staff Response and Recommended Finding: *The applicant has submitted a geotechnical report for the project (Exhibit 10). The report indicates that the property contains areas with slope characteristics which designates them "geologically hazardous" per TMC 16.20.045.B.8. Specifically, the report calls out areas of the property characterized by slopes of forty percent or steeper and with a vertical relief of ten or more feet.*

In accordance with TMC 18.08.050.B.1, areas where development is prohibited by TMC Title 16 shall be excluded when calculating density for a project.

The Engineering Geologist who prepared the report followed up with an e-mail articulating why he feels the geologically hazardous area should not be excluded from the density calculation (Exhibit 11).

Staff concludes that the areas designated as geologically hazardous by the applicant's

geotechnical engineer must be excluded from the density calculation before the City can recommend approval of the project.

L. **TMC Chapter 17.14 – Preliminary Land Division and RCW 58.17:** TMC 17.14 and RCW 58.17 regulate the submission, review criteria and consideration of proposed divisions of land.

Staff Response and Recommended Finding: *The applicant completed the pre-submission process described in TMC 17.14.020.*

The application submission requirements listed in TMC 17.14.030 have been met.

TMC 17.14.040 and RCW 58.17.110 require the Hearing Examiner to inquire into the public use and interest proposed to be served by the establishment of the proposed land division and any public dedications associated with a project. Criteria to be considered include if appropriate provisions are made for, but not limited to, the public health, safety and general welfare, for open spaces, drainage ways, streets or roads, alleys, other public ways, other grounds, transit stops, potable water supplies, sanitary wastes, parks and recreation playgrounds, schools and school grounds, fire protection and other public facilities, and shall consider all other relevant facts, including the physical characteristics of the site, and determine whether the public interest will be served by the land division and dedication. Further, consideration shall be given for sidewalks and other planning features that assure safe walking conditions for students who only walk to and from school.

Staff concludes that adequate provisions will be made for public health, safety and general welfare as follows:

1. *The amount of open space proposed for the subdivision is the minimum amount required by code. The open space areas will contain both passive and active recreation elements as required by TMC 17.12.210.*
2. *New public streets that comply with the City's current Development Guide are proposed to be constructed and dedicated to the City. In addition, public right-of-way dedication and street improvements, including widening, a bike lane, sidewalks and street illumination will be completed on Sapp Road along the entire abutting frontage of the property.*
3. *A storm drainage system complying with the City's 2018 Drainage Design and Erosion Control Manual will be constructed for the site. A preliminary storm drainage report, including a geotechnical investigation has been submitted to support the preliminary design. (Exhibit 12)*
4. *Sanitary sewer and water will be extended into the property to serve the*

proposed homes. The Tumwater Public Works Department has issued a water availability ruling indicating that the City has the ability to serve the subdivision with potable water. (Exhibit 15)

5. *Intercity Transit does not currently have a route that serves the site.*
6. *The site is not currently being considered by the Tumwater School District for their future needs.*
7. *Current Tumwater Fire Department facilities are adequate to service the proposed project.*
8. *The children residing within the proposed subdivision will attend Tumwater Hill Elementary, Tumwater Middle School and Black Hills High School. Tumwater Hill Elementary is approximately 1 mile from the site by the shortest walking route. Tumwater Middle School is approximately 2 miles from the site by the shortest walking route. Black Hills High School is approximately 3.5 miles from the site by the shortest walking route.*

   The Tumwater School District has a policy for children walking to school. The District will offer bus service to children attending the schools serving the proposed subdivision.

   Elementary school students in the northern portion of the subdivision can walk to an existing bus stop on Woodland Drive via new and existing sidewalks. Middle and High School students in the northern portion of the subdivision can walk to an existing bus stop on Crosby Boulevard.

   The Tumwater School District has requested that the developer be required to install a bus waiting area for students living in the southern portion of the subdivision at the northeast intersection of Sapp Road and proposed Road A south of proposed Tract D.

III. PUBLIC COMMENT

10 comment letters/e-mails have been received during the public noticing for the project application. Two letters are from the Washington State Department of Ecology, one letter from the Squaxin Island Tribe, one letter from the Tumwater School District, one letter with attachments from the applicant and five comments from property owners in the vicinity of the project site. (Exhibits 16 through 25)

Exhibit 16. Department of Ecology Comments, dated June 6, 2019
Exhibit 17. Department of Ecology Comments, dated July 11, 2019
Exhibit 18. Squaxin Island Tribe Comments, dated May 23, 2019
Exhibit 19. Tumwater School District Comments, dated August 22, 2019
Exhibit 20. Jim Oberlander Comments, dated May 28, 2019

Exhibit 21. Amanda Gress Comments, dated May 28, 2019
Exhibit 22. Eric Trimble and Sydne Cogburn Comments, dated June 5, 2019
Exhibit 23. Geoffrey Provost Comments, dated June 5, 2019
Exhibit 24. Janine Beaudry Comments, dated June 6, 2019
Exhibit 25. Chul M. Kim Comments, dated August 16, 2019

IV. RECOMMENDATION

Pursuant to TMC 2.58.110, staff recommends denial of the Preliminary Plat request because the project exceeds the density allowed by the Tumwater Zoning Code and the proposed density is not consistent with the Comprehensive Land Use Plan designation for the site.

Should the Hearing Examiner disagree with staff and choose to approve the application, staff recommends the following conditions:

1. Storm water from impervious surfaces associated with the project shall be managed in accordance with the City of Tumwater 2018 Storm Drainage Manual.

2. Blasting permits will be required if the underlying rock cannot be removed by conventional methods. If the blast area is within 100 feet of other structures, the permit applicant is required to notify the affected property owners a minimum of two weeks in advance of any blast. If the affected property owners request a pre-blast inspection of their structure, one shall be performed at the developer's cost. The permit application shall include the surrounding property owner's information and copies of the letters notifying them of their option. Blasting permits are not issued "over the counter" so sufficient time needs to be incorporated in the schedule to receive the permit.

3. Some of the lots in this plat have steep slopes that exceed 15% and may be located on rock or areas containing ground or surface water. In addition, areas of fill and construction of rockeries or retaining walls may be required to establish lots suitable for building. Therefore, the footings and foundations for structures are required to be designed by a licensed structural engineer and geo-tech slope report submitted for each lot. The Building Official will decide upon completion of the grading and site development if this requirement will apply to all lots.

4. The Fire Department has determined that because access may be difficult for some of the lots in the plat additional fire protection measures are needed. Authority for the following requirement is derived from the International Fire Code (IFC) 503.1.1 and 503.2.

    A. Residential fire sprinklers, meeting the requirements of NFPA 13D will be required to be installed in the homes on the following lots: 7, 8, 9, 10, 16,

17, 18, 19, 20, 21, 22, 23, 24 and 25.

The lots that are requiring sprinklers will need 1" water meters installed, unless design fire flows can be achieved with ¾" water meters.

5. The maximum grade on the private lanes associated with the subdivision shall be 15 percent.

6. Erosion and sediment control measures that comply with the City of Tumwater 2018 Storm Drainage Manual shall be implemented during construction of the project to prevent sediment laden runoff from entering surface waters.

7. A Site Development/Grading Permit shall be obtained from the City for grading, street, sidewalk and utility construction, tree removal and construction of storm drainage facilities.

   In accordance with TMC 18.08.070, clearing, grading or other activities that remove or substantially alter vegetative ground cover shall not be permitted during the wet season (between November 1 and April 30) to protect environmentally sensitive areas from potential sedimentation and runoff associated with these activities.

8. Should contaminated soils be encountered during construction, all of the following shall apply:

   A. Construction activity shall be immediately suspended;
   B. The contractor shall immediately notify the Washington State Department of Ecology;
   C. Contaminated materials shall be properly handled, characterized, and disposed of consistent with applicable regulations.

9. Should archeological artifacts be encountered during construction, all of the following shall apply:

   A. Construction activity shall be immediately suspended;
   B. The contractor shall immediately notify the City of Tumwater Community Development Department;
   C. The contractor shall immediately notify the Washington State Department of Archeology and Historic Preservation; and
   D. The contractor shall immediately notify potentially affected tribal nations including, but not limited, to the Squaxin Island Tribe, Chehalis Tribe and Nisqually Tribe.

10. Fill for the project shall be clean material, void of solid waste or organic debris.

11. Disposal of construction debris and overburden associated with construction

and grading activity that is not suitable for fill is required to be disposed of at an approved location.

12. The applicant shall secure a National Pollutant Discharge Elimination System (NPDES) Construction Storm Water General Permit from the Washington State Department of Ecology.

13. The proposed public streets and private streets within the subdivision shall comply with the Tumwater Development Guide design requirements in place at the time the preliminary plat application was vested. The public streets shall be dedicated to the City of Tumwater.

14. No parking signs shall be installed in the cul-de-sac turnaround areas.

15. Street frontage improvements including curb and gutter, sidewalk, landscape strip, bike lane, street illumination and storm drainage facilities complying with the design requirements of the Tumwater Development Guide shall be constructed along the property frontage on Sapp Road. Additional right-of-way, as necessary, shall be dedicated to contain the improvements.

16. The City's water and sewer utilities shall be extended to serve the needs of the subdivision. The utility extensions shall be in accordance with the Tumwater Development Guide requirements in place at the time the preliminary plat application was vested. All necessary right-of-way and/or easement will need to be dedicated.

17. The minimum fire flow requirement for the project shall be 1,000 gallons per minute at 20 pounds per square-inch. The system shall be designed for a maximum velocity of 8 feet per second.

    If the required fire flow cannot be achieved, NFPA 13D residential fire sprinklers shall be required in each home in the subdivision.

18. Separate permits and engineered designs are required for all retaining walls on-site if the height of the wall is over 4 feet measured from the bottom of the footing or if the wall is supporting a surcharge.

19. A final geotechnical engineering report shall be submitted for the grading and site work. The report shall include conclusions and recommendations for grading procedures, soil design criteria for structures or embankments required to accomplish the proposed grading and recommendations and conclusions regarding the site geology. The report shall also include recommendations for measures to protect existing and future homes and

properties in the event of slope failure related to the steep slopes identified on the property.

All grading and filling work shall be conducted in accordance with the approved soils report. Compaction testing of the soils under the building foundations and utility trenches shall be verified by the geotechnical engineer of record and the WABO registered special inspector.

20. Fire hydrants shall be provided at all intersections and at approximately 600-foot spacing along the internal streets.

21. Fire hydrants and paved access roads shall be installed, tested for fire flow by the Fire Department and made serviceable by the Public Works Department prior to any building permits being issued.

22. The project proponent shall be responsible for providing the City with all costs associated with the installation of water, sewer, street and storm drainage systems that are dedicated to the City of Tumwater.

23. All engineering designs and construction will need to be in accordance with the City of Tumwater's Development Guide and WSDOT standards.

24. All street construction, utility installation and storm drainage work requires engineered plans certified by a professional engineer licensed to practice in the State of Washington. The plans shall be submitted for review and approval by the City.

25. Any public or private utility relocation necessary to construct the project is the sole responsibility of the project proponent.

26. The applicant is required to submit a performance surety and surety agreement prior to release of the Site Development/Grading Permit to ensure successful completion of the required public improvements. The amount of the surety shall be 150% of the proponent engineer's estimate of completing the required public improvements.

27. The applicant shall be responsible for the maintenance and timely repair of all public improvements for a period of 30 months following final certification by the City and shall submit a surety and surety agreement for maintenance equal in value to fifteen (15) percent of the total value of the required public improvements certified by the Public Works Director.

28. Maintenance of the on-site storm water system will be the responsibility of the project proponent, their successors or assigns. A storm water maintenance

agreement will be recorded against the property prior to or concurrent with final plat approval.

29. Sanitary sewer is required to be extended across the frontage on Littlerock Road. The City will accept a FILO (fee in lieu of) for this requirement.

30. A water main special assessment fee has been recorded against this property. The fee in the amount of $12,216.01 shall be paid to the City of Tumwater prior to recording the final plat map with the Thurston County Auditor.

31. Back flow prevention is required on all irrigation services in accordance with the AWWA Cross Connection Control Manual.

32. A landscape and irrigation plan must be submitted for the proposed street planter strips, proposed open space tracts and the storm water facilities showing proposed plantings, tree types and heights, and other vegetation. Street trees are required to be installed along Sapp Road and the proposed interior public streets in accordance with the Tumwater Development Guide and Comprehensive Street Tree Plan. This plan must be submitted and approved prior to final plat approval.

33. Each residential lot shall have a building site no less than 1,600 square feet in area within which a suitable building can be built and served by utilities and vehicular access unless dedicated or restricted by covenant for open space, park, recreation or other public use.

    The minimum lot size shall be 9,500 square feet.

34. The maximum impervious surface for all lots within the subdivision shall be forty percent of the total area of the lot.

35. Two off-street parking spaces are required for each lot. Driveways and off-street parking spaces must be hard-surfaced (asphalt, concrete or turfstone).

36. Impact fees for traffic, community parks, and schools will be assessed to each dwelling unit in the subdivision as building permits are issued. The impact fees will be in accordance with the most current fee resolution adopted by the City at the time of vesting of the building permit applications.

37. An integrated pest management plan approved by Thurston County Environmental Health must be submitted to the City of Tumwater prior to final plat approval.

38. All legal descriptions on documents submitted to the City must be accompanied

with an appropriate drawing that the City can use to verify the legal description.

39. The Professional Land Surveyor responsible for the surveying of the project must obtain a permit from Department of Natural Resources before any existing monuments are disturbed.

40. The applicant must maintain a current Plat Name Reservation Certificate approved by the Thurston County Auditor.

41. Property taxes must be paid in full for the current year, including any advance and delinquent taxes, before a Final Plat can be recorded.

42. A Homeowners Association is required to be formed for the project. Prior to final plat approval, the project proponent shall supply the City with copies of the grantee organization's articles of incorporation and bylaws, and with evidence of a binding commitment to convey. The articles of incorporation shall provide that membership in the organization shall be appurtenant to ownership of land in the land division; that the corporation is empowered to assess such land for costs of construction and maintenance of the improvements and property owned by the corporation, and that such assessments shall be in lien upon the land.

43. At the request of the Tumwater School District, the developer shall be required to install a new concrete school bus waiting area at the northeast intersection of Sapp Road and proposed Road A, south of proposed Tract D.

    In addition, the developer is required to install a "School Bus Stop Ahead" sign at the corner of Sapp Road and Crosby Boulevard. The final location of the sign shall be approved by the City's Public Works Department.

Submitted on Behalf Of the Community Development Department by/ Staff Contact: **Chris Carlson**, Permit Manager

Chris Carlson

Phone: 360-754-4180
E-mail: ccarlson@ci.tumwater.wa.us

Report Issue Date: August 23, 2019

List of Exhibits:
1. Staff Report, dated August 23, 2019

2. Site Aerial Photo Map
3. Preliminary Plat Application, dated March 25, 2019
4. Preliminary Plat Map
5. Certification of Public Notice
6. Environmental Checklist, dated March 25, 2019
7. DNS, dated June 27, 2019
8. Notice of Application, dated May 23, 2019
9. Forester's Report, dated September 20, 2018
10. Geotechnical Report, dated September 4, 2018
11. E-mail from Engineering Geologist, dated June 7, 2019
12. Preliminary Storm Drainage Report, dated May 2019
13. Transportation Trip Distribution Report, dated May 3, 2019
14. Tumwater Public Works Director Concurrency Ruling, dated May 8, 2019
15. Tumwater Public Works Department Water and Sewer Availability Ruling, dated April 1, 2019
16. DOE Comments, dated June 6, 2019
17. DOE Comments, dated July 11, 2019
18. Squaxin Island Tribe Comments, dated May 23, 2019
19. Tumwater School District letter, dated August 22, 2019
20. Jim Oberlander Comments, dated May 28, 2019
21. Amanda Gress Comments, dated May 28, 2019
22. Eric Trimble and Sydne Cogburn Comments, dated June 5, 2019
23. Geoffrey Provost Comments, dated June 5, 2019
24. Janine Beaudry Comments, dated June 6, 2019
25. Applicant's summary statement with attachments

Exhibit 8

BEFORE THE HEARING EXAMINER
FOR THE CITY OF TUMWATER

In the Matter of the Application of	)	No. TUM-19-0317
	)	
Chul Kim, Sunrise Hills, LLC	)	Sunrise Hills Preliminary Plat
	)	
	)	
	)	FINDINGS, CONCLUSIONS,
For Approval of a Preliminary Plat	)	AND DECISION

SUMMARY OF DECISION

The request for a preliminary plat to subdivide approximately 10.72 acres into 36 single-family residential lots, with associated improvements, on the northern side of Sapp Road SW, east of Antsen Street SW, is **DENIED**: the proposal does not meet the requirements related to allowable density under the City's zoning ordinances and is not consistent with the Comprehensive Plan designation for the property.

SUMMARY OF RECORD

Hearing Date:
The Hearing Examiner held an open record hearing on the request on September 4, 2019. The record was left open until September 6, 2019, to allow the parties to submit additional information on the proposal.

Testimony:
The following individuals provided testimony under oath at the open record hearing:

Chris Carlson, City Permit Manager
Chul Kim, Applicant Representative
Rod Finkle
Christine Finkle
Jim Oberlander
Carrie Wayno
Ricky Fryer
Scott Kincaid
Jeff Parks
Eric Trimble
Darin Rice

Attorney John Ryan represented the Somerset Hills Homeowner's Association at the hearing.

Exhibits:
The following exhibits were admitted into the record:

1. Staff Report, dated August 23, 2019
2. Sunrise Hill Preliminary Plat, dated August 23, 2019
3. Preliminary Plat Application, dated March 25, 2019
4. Preliminary Plat Map (Sheets PP1, PP2, and PP3), dated March 15, 2019
5. Certification of Public Notice, dated August 23, 2019
6. SEPA Environmental Checklist, dated March 25, 2019, with Staff Notes
7. Determination of Nonsignificance, dated June 27, 2019
8. Notice of Application, posted May 23, 2019
9. Tree Plan, Professional Forestry Services, Inc., dated September 20, 2018
10. Steep Slope Evaluation, Insight Geologic, Inc., dated September 4, 2018
11. Email from William Halbert to Chris Carlson, dated June 7, 2019
12. Preliminary Drainage Report, Contour Engineering, LLC, dated May 2019
13. Transportation Concurrency – Trip Generation and Distribution, Jake Traffic Engineering, Inc., dated May 3, 2019
14. Memo from Jay Eaton to Chris Carlson, Transportation Concurrency, dated May 8, 2019
15. Letter from Dan Smith to Chul M. Kim, Water and Sewer Availability, dated April 1, 2019
16. Letter from Southwest Regional Office, Department of Ecology, to Chris Carlson, dated June 6, 2019
17. Letter from Southwest Regional Office, Department of Ecology, to Chris Carlson, dated July 11, 2019
18. Email from Rhonda Foster, Squaxin Island Tribe, to Sara Tuomey, dated May 23, 2019
19. Letter from Mel Murray, Tumwater School District, to Chris Carlson, dated August 22, 2019
20. Email from Jim Oberlander to Chris Carlson, dated May 28, 2019, with email string and two photos
21. Email from Amy Gress to Chris Carlson, dated May 28, 2019
22. Letter from Eric Trimble and Sydne Cogburn to Chris Carlson, undated
23. Letter from Geoffrey Scott Provost to Chris Carlson, dated June 5, 2019
24. Email from Janine Meissner-Beaudry to Chris Carlson, dated June 6, 2019
25. Letter from Chul M. Kim to Chris Carlson, dated August 16, 2019, with attachments
26. Applicant's Statement on Comments Submitted by Neighbors, received September 4, 2019
27. Email from Chris Carlson to Janine Meissner-Beaudry, dated September 3, 2019, with email string
28. Letter from Darin & Denise Rice, received September 4, 2019
29. Email from Jeff Parks to Chris Carlson, dated September 5, 2019
30. Memorandum from John Ryan, dated September 5, 2019

31. Letter from Chul Kim, dated September 6, 2019

The Hearing Examiner enters the following findings and conclusions based upon the admitted testimony and exhibits:

FINDINGS

Application

1. Chul Kim, on behalf of Sunrise Hills, LLC (Applicant), requests approval of a preliminary plat to subdivide 10.72 acres into 36 single-family residential lots, with associated improvements, including open space tracts, utility tracts, several access tracts, and a stormwater tract. The subdivision would be located on the northern side of Sapp Road SW and east of Antsen Street SW. Access to the proposed plat would be from two access points: the 14 southernmost lots would receive access from a new connection (Road A) to Sapp Road SW that would end in a cul-de-sac; the northern 22 lots take access from Woodland Driveway SW by a new road (Road B), that would also terminate in a cul-de-sac. Due to site topography and constraints, there would be no connectivity for vehicular traffic between these portions of the plat.[1] *Exhibit 1, Staff Report, page 1; Exhibit 2; Exhibit 3; Exhibit 4.*

2. The project site is currently vacant and is forested. The majority of the site is rectangular in shape. Access from the south, however, is provided by a narrower strip of land that connects to the bulk of the parcel further north, giving the overall parcel the look of a flag lot. There are three steep slope areas on the project site. Contour Engineering, LLC, performed an elevation survey of the property and determined that each of these steep slope areas have inclinations greater than 40 percent with vertical relief of 10 or more feet, classifying these areas as "Landslide Hazard Areas" under Tumwater Municipal Code (TMC) 16.20.045.B.8. Site plans indicate that:
   - "Steep Slope A" is located in the center of the project site, toward the eastern property line, and covers approximately 41,132 square feet.
   - "Steep Slope B" is located on the western property boundary, also near the center of the site, and covers 22,115 square feet.
   - "Steep Slope C" is located in the southern portion of the site, in the narrower strip of land providing the connection to Sapp Road SW to the south, and covers 8,975 square feet.

   Exhibit 1, Staff Report, pages 1 and 2; Exhibit 4; Exhibit 10.

3. The property is within a designated Aquifer Protection Overlay (AQP) district, under Chapter 18.39 TMC. The intent of the AQP overlay zone is to "identify, classify, and protect vulnerable and/or critical aquifer recharge areas within the city and urban growth

[1] The property is identified by Tax Assessor Parcel No. 12827330000. *Exhibit 1, Staff Report, page 1.* A legal description of the property is included with the application materials. *Exhibit 4.*

area" through "controlling the use and handling of hazardous substances and uses of land that pose a threat to groundwater." *TMC 18.39.010.* Residential development is not restricted in the AQP overlay zone, but any future development of the site would require approval of an Integrated Pest Management Plan (IPMP) approved by Thurston County Environmental Health. An IPMP is a written, recorded instrument that outlines prevention, monitoring, and control of pests and noxious plants that seeks to eliminate, or drastically reduce, the use of pesticides and to minimize the toxicity of and exposure to any products used on-site for pest treatment and weed control. *Exhibit 1, Staff Report, page 7.*

Notice

4. The City of Tumwater (City) determined that the application was complete on May 7, 2019. On May 23, 2019, the City posted notice of the application on the property and mailed notice to property owners within 300 feet of the subject property and to reviewing government departments and agencies. The next day, the City published notice of the application in *The Olympian*. On August 23, 2019, the City mailed notice of the open record hearing associated with the application to property owners within 300 feet of the subject property, posted notice on-site, and published notice of the hearing in *The Olympian*. *Exhibit 1, Staff Report, pages 1 and 2; Exhibit 3; Exhibit 5; Exhibit 8.*

5. The City received two comments from reviewing departments and agencies specific to the notice of application. The Washington State Department of Ecology (DOE) noted that, if toxic contamination is suspected, discovered, or occurs during development, the Applicant must test the potential contaminated medium and notify DOE. DOE also provided general comments about the need for erosion control measures during construction and the need for appropriate stormwater and solid waste management on-site. The Squaxin Island Tribe commented that it does not have specific concerns over cultural resources related to the project site but stated that, if the Washington State Department of Archaeology and Historic Preservation (DAHP) recommends a cultural resources survey, the Squaxin Island Tribe would support that recommendation. DAHP did not comment on the proposal. *Exhibit 16; Exhibit 18.*

6. The City also received several written comments from area residents expressing opposition to the proposal. Specifically:
   - Jim Oberlander wrote the City with concerns over sight-distance, traffic, and safety issues related to the intersection of Rural Road and Trosper Road.
   - Amy Gress expressed general concern over the potential impacts the development would have on existing neighborhoods in the vicinity.
   - Eric Trimble wrote that he is especially concerned about the development of proposed lots 20, 21, and 22, which would be sited on the eastern property line on top of a rocky hill, because extensive rock removal, use of heavy machinery, and

blasting would all likely be necessary. He noted that blasting, in particular, would have negative impacts on existing homes in the vicinity.

- Geoffrey Provost commented that the proposed density would have detrimental impacts on wildlife in the vicinity and that the proposal fails to account for the unique nature of the watershed. He also expressed concern over noise, traffic, and impact to property values.
- Janine Meissner-Beaudry wrote that many of the neighbors in the area were misled by former homeowners and realtors into believing the project site was a protected greenspace. She further stressed that traffic would be a concern, especially with Woodland Drive SW serving as the primary entrance to the development.
- Denise and Darin Rice commented that potential flooding from stormwater is a consistent problem in the vicinity and that denuding much of the project site would exacerbate this issue. They also expressed concern over the proposed density of the project and the potential impacts from blasting.

Exhibits 20 through 24; Exhibit 27; Exhibit 28.

7. The Applicant provided a response addressing several of the written comments. Specifically, the Applicant stated: the intersection of Rural Road and Trosper Road is approximately 2.5 miles away and is unrelated to the subject property; the Applicant would ensure no blasting occurs near existing residences and that visual buffers would be maintained for properties to the east; the proposed density is on the "low end compared with many houses in the neighborhood" with smaller lot sizes; the Applicant intends to leave most vegetation "untouched" in steep slope areas "except where it is absolutely necessary"; and the property was approved for development of 34 lots in both 2005 and 2008 and, as such, has not been classified as a protected greenspace. *Exhibit 26.*

State Environmental Policy Act

8. The City Community Development Department (CDD) acted as lead agency and analyzed the environmental impacts of the proposal under the State Environmental Policy Act (SEPA), Chapter 43.21C Revised Code of Washington RCW (RCW). CDD reviewed the Applicant's environmental checklist and other information on file and determined that the proposal would not have a probable significant adverse impact on the environment. Accordingly, CDD issued a Determination of Nonsignificance (DNS) on June 27, 2019, by publishing, mailing, and posting notice, with a comment deadline of July 11, 2019, and an appeal deadline of July 17, 2019. The City received one comment on its SEPA determination: DOE reiterated the comments it earlier provided in response to the notice of application related to toxic contamination, the need for erosion control measures during construction, and the need for appropriate stormwater and solid waste management on-site. No other comments specific to SEPA were received, and the DNS was not appealed. *Exhibit 1, Staff Report, page 6; Exhibit 5; Exhibit 6; Exhibit 7; Exhibit 17.*

Comprehensive Plan and Zoning

9. The property is within the Tumwater Hill Neighborhood and is designated Residential/Sensitive Resource (RSR), under the City's Comprehensive Plan. The purpose of the designation is to "recognize areas of unique open space character and sensitivity to environmental disturbance such as around stream corridors, lakes, and wetlands" within the city limits and Tumwater's urban growth area (UGA). *City Comprehensive Plan, Land Use Element, page 32*. The Residential/Sensitive Resource designation is "to be used only for exceptional places within the city and its growth area" and applied "to areas that are not protected by the State Shoreline Management Act and are not already built out." *City Comprehensive Plan, Land Use Element, page 32*. The Comprehensive Plan encourages low-density residential development of 2 to 4 dwelling units per acre in Residential/Sensitive Resource areas. In addition, clustering is encouraged. *Clustering* means grouping or "clustering" development onto part of a property so that the remainder can be preserved as un-built open space, further protecting environmentally sensitive areas. *City Comprehensive Plan, Land Use Element, page 32. Exhibit 1, Staff Report, page 2.*

10. The property is located in the Residential/Sensitive Resource (RSR) zoning district, which allows a density of two to four dwelling units per acre. The intent of the RSR zone is to accommodate and establish low-density residential neighborhoods in a manner that is compatible with areas of unique open space character and environmental sensitivity. *TMC 18.08.010*. Single-family detached dwellings are a permitted use in the RSR zone. *TMC 18.08.020.A. Exhibit 1, Staff Report, page 6.*

11. TMC 18.08.050 provides density requirements for the RSR zone. Specifically, TMC 18.08.050.B requires that density calculations be based on "the portion of the site that contains lots devoted to residential and associated uses" such as "dwelling units; private community clubs; [and] stormwater detention, treatment and infiltration." Land that is "required to be dedicated for public use as open space, right-of-way, or land on which development is prohibited by TMC Title 16, Environment," however, is excluded from density calculations. *TMC 18.08.050.B.1. Exhibit 1, Staff Report, pages 6 and 7.*

12. The gross site area of the site is, according to the submitted preliminary plat map (Exhibit 4), approximately 10.72 acres, or 466,977 square feet. After removing square footage associated with the two internal roads and three access tracts, as is required by TMC 18.08.050, then just over 9 acres (or 392,439 square feet) of potentially "buildable" area remains. The Applicant has used this figure to calculate an allowable maximum density of 36 residential lots, accounting for four lots per acre of buildable area. This calculation is incorrect. In addition to excluding areas devoted to right-of-way from the density calculation, TMC 18.08.050 provides that areas that are "required to be dedicated for public use as open space" also be excluded from the density calculation. Here, under

TMC 17.12.210, the "minimum usable open space/park area for residential subdivisions . . . shall be ten percent of the total gross site area." Accordingly, the required open space for the proposal would be, at a minimum, 46,698 square feet, or approximately 1.07 acres. When further reducing the potential buildable area of the property by this amount, the Applicant is left with approximately 7.93 buildable acres. This would allow for no more than 31 residential lots to be built on-site. As such, the proposal would exceed the maximum allowable density under both the Comprehensive Plan and zoning ordinances. *Exhibit 4.*

13. In addition, there are steep slope areas on-site that have been recognized as landslide hazard areas, as explained above.[2] The City and the Applicant disagree on whether these steep slope areas should be excluded from the density calculations applicable to the site. The City contends that, under TMC 18.08.050.B.1, the steep slope areas entail "land on which development is prohibited by TMC Title 16" and, as such, should be excluded from the density calculation. Submitted plans indicate that the three steep slope areas on-site occupy 72,222 square feet (or approximately 1.66 acres). If these areas were excluded from the site (without accounting for the open space requirements detailed above) the buildable area of the site would be 7.34 acres and would allow for no more than 29 homes.[3] The Applicant contends that, under the performance standards related to landslide hazard areas under TMC 16.20.057, such areas need not be removed from the density calculation. Under TMC 16.20.057.A.8.a, land "that is located wholly within a landslide hazard area or its buffer may not be subdivided" but land that is "located partially within a landslide hazard area or its buffer may be divided; provided that each resulting lot has sufficient buildable area outside of, and will not affect, the landslide hazard or its buffer." The Applicant argues that this provision means that, so long as sufficient buildable area exists on each lot impacted by the landslide hazard area, development is "not prohibited" and, accordingly, such areas need not be excluded from the density calculation under TMC 18.08.050.B.1. Because the Applicant's density calculation fails to account for required open space, however, this is a moot point. Regardless of whether steep slope areas should be excluded from the density calculation

[2] The City's staff report notes that there are two steep slope areas on-site, and its calculations concerning density appear to only account for two such areas (Steep Slope Areas A and B). The Applicant's own project plans (Exhibit 4) and submitted Steep Slope Evaluation (Exhibit 10), however, clearly delineate three such areas. Accordingly, the Hearing Examiner's analysis accounts for all three areas, consistent with the materials submitted by the Applicant.

[3] Under TMC 17.12.210, critical areas may be designated as open space/park areas so long as certain requirements are met, including that facilities for active and/or passive recreation be provided, such as walking trails, picnicking facilities, or play areas. Project plans do not indicate that the steep slope areas encumbering the site would provide for such amenities. When excluding these areas from the density calculation *and* excluding required open space, the buildable area would be approximately 6.27 acres and allow for development of no more than 25 homes. *Exhibit 4.*

(as the City contends), the proposal would not meet density requirements under both the Comprehensive Plan and zoning ordinances when open space is appropriately accounted for and excluded from the density calculation. *Exhibit 1, Staff Report, page 3; Exhibit 4; Exhibit 11; Exhibit 25*.

Testimony and Argument[4]

14. City Permit Manager Chris Carlson testified generally about the application review process, explaining that the City reviewed the application for consistency with the Comprehensive Plan, zoning requirements, and critical areas ordinances. He stressed that the Residential/Sensitive Resource designation under the Comprehensive Plan and zoning ordinances is intended to have the lowest residential density of all land use designations in the city. Here, based on the City's interpretation of TMC 18.08.050.B, the proposal would exceed the allowable maximum density under both the Comprehensive Plan and zoning ordinances. Mr. Carlson stated that the City believes that, under TMC 18.08.050.B, land prohibited from development would include areas with slopes greater than 40 percent and, when accounting for such areas and excluding them from required density calculations, the proposal would involve greater density than is allowed in the RSR zone. Mr. Carlson explained that, because of this, the City recommends denial of the proposal as it is inconsistent with the City's Comprehensive Plan and fails to meet density requirements under the zoning code. *Testimony of Mr. Carlson.*

15. Applicant Representative Chul Kim testified that the property was previously approved for the development of 34 lots in 2005, but development never occurred because of the recession that struck the U.S. economy around that time. Mr. Kim acknowledged that the previous approval expired around 2016. He noted that the Applicant would like to develop the property, but grading the site would be very expensive. Because of this, the Applicant does not believe site development would be feasible if density calculations require that fewer homes be built than proposed. Mr. Kim stated that the steep slopes on-site would be protected and, because of this, development should be allowed as proposed. Further, Mr. Kim argued that, as detailed above, under TMC 16.20.057.A.8.a, land that is partially within a landslide hazard area may be subdivided so long as each resulting lot has sufficient buildable area and, accordingly, such land should not be treated as "prohibited" from development under TMC 18.08.050.B for purposes of calculating density. Mr. Kim also argued that the Applicant has researched this matter and has not found instances where the City has excluded critical areas from density calculations in the past. *Testimony of Mr. Kim.*

[4] Because the proposal would exceed allowable density under both the Comprehensive Plan and zoning ordinances, denial of the proposal is required. Accordingly, no further analysis of other aspects of the preliminary plat—including whether appropriate provisions have been made for the public health, safety and general welfare, and for open spaces, drainage ways, streets, transit stops, potable water supplies, sanitary wastes, parks and recreation, schools, fire protection, and other public facilities, and whether the public interest would be served by allowing the subdivision—are not addressed in this decision.

16. Attorney John Ryan represented the Somerset Hills Homeowner's Association (HOA) at the hearing, the development to the north of the plat, and argued that the proposal would have significant traffic impacts on the neighborhood that have not been adequately addressed. Mr. Ryan also stated that the HOA concurs with the City's density calculations and stressed that having a maximum allowable density of 4 dwelling units per acre (du/acre) in the RSR zone is not merely about protecting property values but also about protecting the Percival Creek Watershed, as required by the Comprehensive Plan. *Argument of Mr. Ryan.*

17. Rod Finkle testified that noise and environmental impacts are concerns that require further analysis. He also noted that there is no connectivity within the plat itself, contrary to normal platting requirements, and that sight distance and traffic are concerns in the area. Mr. Finkle also expressed concern over the potential impacts from blasting that would occur with site development. *Testimony of Mr. Finkle.*

18. Christine Finkle also expressed concern over potential impacts from blasting and noted that, when development has occurred in the vicinity in the past, blasting has had detrimental effects on existing properties. She also stressed that traffic is a concern, especially because the majority of traffic entering the plat would have to travel through the existing Woodland neighborhood to the north. *Testimony of Ms. Finkle.*

19. Jim Oberlander testified that he has resided in the area for almost 50 years, and he reiterated the concerns raised in his written comments. He also noted that, because of the rocky nature of the underlying soil, stormwater runoff in the area is a major problem because infiltration does not work. Mr. Oberlander stressed that no additional development should be allowed until existing traffic hazards in the vicinity of the site are properly addressed. *Testimony of Mr. Oberlander.*

20. Carrie Wayno testified that she is concerned about traffic safety, especially with the increase in vehicle traffic that would occur through the Somerset Hills neighborhood. She also stressed that the Oso Slide was not that long ago and that the Oso event highlighted the need to ensure landslide hazard areas are appropriately protected from development. *Testimony of Ms. Wayno.*

21. Ricky Fryer testified that he moved into the neighborhood recently and shares his neighbors' concerns over traffic and potential impacts from blasting and site development. *Testimony of Mr. Fryer.*

22. Scott Kincaid testified that he is concerned over the proposed density and that, contrary to the Applicant's contentions, does not believe that having more homes on the site would somehow lead to fewer impacts, especially in relation to stormwater impacts. Mr.

Kincaid stressed that the Percival Creek Watershed should be protected. He also expressed concerns over traffic. *Testimony of Mr. Kincaid.*

23. Jeff Parks testified that it is not the City's job to ensure that development is allowed to occur on a property and that, in this instance, it would be best if this property were left undeveloped, especially in light of the wildlife that currently resides on the property. *Testimony of Mr. Parks.*

24. Eric Trimble reiterated the concerns he expressed in his written comments to the City and stressed that much of the site would not be developable without significant blasting and that the potential impacts from blasting have not been adequately addressed. *Testimony of Mr. Trimble.*

25. Darin Rice testified that he is concerned over stormwater impacts from the proposal, especially on adjacent properties. *Testimony of Mr. Rice.*

26. Mr. Kim responded to the received testimony and arguments and stressed that: very little blasting would be necessary based on site design, cut-through traffic would not be an issue because the two sections of the plat would not be connected by a road, stormwater would be appropriately managed on-site and would not impact adjacent properties, and all at-risk trees would be removed that might impact neighboring properties. *Testimony of Mr. Kim.*

27. Mr. Carlson also responded to issues raised by the testimony of Mr. Kim and concerned area residents. Mr. Carlson stressed that the City does not concur with the Applicant's interpretation of TMC 16.20.057.A.8 and continues to maintain that steep slope areas should be excluded from the density calculation. He also noted that the City regulates blasting and that, were development to occur, municipal requirements concerning blasting would need to be followed. Finally, Mr. Carlson noted that the Applicant submitted a traffic impact analysis that determined that concurrency would be met. *Testimony of Mr. Carlson.*

28. At the conclusion of the hearing, the Hearing Examiner ruled that the record would be left open until September 6, 2019, to allow limited additional comment and argument related to the proposal and to allow Mr. Kim to respond, in writing, to submitted comments and testimony. *Oral Ruling of the Hearing Examiner.*

Additional Submittals

29. Jeff Parks submitted an additional written comment, addressing concerns over sight lines between the proposed Sapp Road entrance to the plat and the intersection of Crosby Road and Sapp Road. *Exhibit 29.*

30. Attorney John Ryan submitted additional comments on behalf of the Somerset Hills HOA. He argued that, although the HOA supports the staff's recommendation that the project be denied, the HOA believes the City failed to appropriately address the issues of traffic impacts on the Somerset Hills neighborhood, construction staging, blasting, and erosion control. *Exhibit 30.*

31. Chul Kim submitted additional written comments and stressed that the proposal previously received approval in 2005 and that, during review then, critical areas were not excluded from density calculations even though that portion of the municipal code has not changed. Mr. Kim also noted that sight distance was addressed by the Applicant's traffic engineer and would not be a concern. *Exhibit 31.*

Staff Recommendation

32. As noted above, Mr. Carlson testified that the City recommends denial of the proposal because the proposed plat would not be consistent with the City's Comprehensive Plan and would be contrary to requirements of the City's zoning ordinances. *Testimony of Mr. Carlson.*

CONCLUSIONS

Jurisdiction

The Hearing Examiner has authority to hear and decide applications for preliminary plats. The Hearing Examiner may grant, deny, or grant with such conditions, limitations, modifications, and restrictions as the Hearing Examiner finds necessary to make the application compatible with applicable laws and regulations, including but not limited to compatibility with the environment, the Comprehensive Plan, other official policies and objectives, and land use regulatory enactments. *TMC 2.58.090.A; TMC 2.58.130.A.2.*

Criteria for Review

The Hearing Examiner shall inquire into the public use and interest proposed to be served by the establishment of the proposed land division. *TMC 17.14.040.A.* Under TMC 17.14.040.A, the Hearing Examiner shall determine:

> If appropriate provisions are made for, but not limited to, the public health, safety and general welfare, for open spaces, drainage ways, streets or roads, alleys, other public ways, other grounds, transit stops, potable water supplies, sanitary wastes, parks and recreation playgrounds, schools and school grounds, fire protection and other public facilities, and shall consider all other relevant facts, including the physical characteristics of the site, and determine whether the public interest will be served by the land division. Further, consideration shall be given for sidewalks and other planning features that assure safe walking conditions for students who only walk to and from school.

If the Hearing Examiner finds that the proposed division of land makes appropriate provisions, and makes written findings to that effect, then it shall be approved. If the Hearing Examiner finds that the proposed land division does not make such appropriate provisions or that the public use and interest will not be served, then the Hearing Examiner shall disapprove the proposed division of land. *TMC 17.14.040.A.*

Dedication of land, provision of public improvements to serve the land division, and/or payment of impact fees allowed by state law, to any public body, may be required as a condition of land division approval. The Hearing Examiner shall not, as a condition of approval, require an Applicant to obtain a release from damages from other property owners. The Hearing Examiner shall consider the physical characteristics of a proposed land division site, and may disapprove a proposed division because of flood, inundation, or wetland conditions. Construction of protective improvements may be required as a condition of approval. *TMC 17.14.040.B, .040.C, and .040.D.*

The subdivision provisions of the Tumwater Municipal Code are substantially similar to RCW 58.17.110, which provides:

> A proposed subdivision and dedication shall not be approved unless the city, town, or county legislative body makes written findings that: (a) Appropriate provisions are made for the public health, safety, and general welfare and for such open spaces, drainage ways, streets or roads, alleys, other public ways, transit stops, potable water supplies, sanitary wastes, parks and recreation, playgrounds, schools and schoolgrounds and all other relevant facts, including sidewalks and other planning features that assure safe walking conditions for students who only walk to and from school; and (b) the public use and interest will be served by the platting of such subdivision and dedication. If it finds that the proposed subdivision and dedication make such appropriate provisions and that the public use and interest will be served, then the legislative body shall approve the proposed subdivision and dedication.

The criteria for review adopted by the Tumwater City Council are designed to implement the requirement of Chapter 36.70B RCW to enact the Growth Management Act. In particular, RCW 36.70B.040 mandates that local jurisdictions review proposed development to ensure consistency with City development regulations, considering the type of land use, the level of development, infrastructure, and the characteristics of development. *RCW 36.70B.040.*

Conclusions Based on Findings

The proposed subdivision would not be consistent with the City's Comprehensive Plan or with development regulations and standards, as required by the municipal code. The subject property is within an area designated Residential/Sensitive Resource under the Comprehensive Plan, a designation reserved for "exceptional places" that is designed to "recognize areas of unique open space character and sensitivity to environmental disturbance." *City Comprehensive Plan, Land Use Element, page 32*. Because of this, low-density residential development is encouraged and the Comprehensive Plan sets a maximum allowable density of 4 du/acre. Here, the Applicant's plans fail to account for required open space and, because of this, the project would result in density at a higher rate than is allowed by the Comprehensive Plan. For this reason alone, denial of the proposed plat is necessary.

In addition, the property is within the RSR zoning district, which also allows for a maximum density of 4 du/acre. The Applicant and the City disagree on how density should be calculated when critical areas are being considered, under TMC 18.08.050.B.1. Under this provision, however, land that is "required to be dedicated for public use as open space [and] right-of-way" must be excluded from density calculations. When 46,698 feet of open space is properly accounted for, as well as the 74,538 square feet of right-of-way that would be dedicated as roads and access tracts, the "buildable" net area of the site would be approximately 7.93 acres, allowing for development of no more than 31 homes—not the 36 homes proposed by the Applicant.

Furthermore, the Hearing Examiner concurs with the City's assessment of TMC 18.08.050.B.1, i.e., that steep slope areas should be removed from density calculations. The performance standard the Applicant has relied on to exclude such areas from the density calculation (TMC 16.20.057.A.8.a) relates generally to whether a particular property may be subdivided—not to how density should be calculated. Moreover, the Applicant's interpretation runs contrary to the intent of the City's critical areas ordinances generally, which encourage critical areas being set aside in separate tracts and protected in perpetuity. Under the Applicant's interpretation, any critical area (be it a wetland or steep slope area) could be "subdivided" into several parcels so long as each parcel had a buildable area. This, though, would make protecting critical areas difficult and would not allow for maintenance and protection of such areas as separate tracts.

Finally, Chapter 18.08 TMC provides a clear example, in the language following TMC 18.08.080, entitled "Density Calculation Formula for All Residential Zones," which shows that density should be calculated by taking the total lot area and subtracting critical areas, additional dedicated open space, rights-of-way, reserve tracts, and lots devoted to uses other than residential and associated uses to arrive at the "total net developable land" area. Using this formula, the total net developable land area of this site would be approximately 6.27 acres and would allow for development of no more than 25 homes. Accordingly, the Applicant has failed to properly

calculate the allowable density for the site, rendering denial of the proposal necessary.[5] *Findings 1 – 32.*

DECISION

Based on the preceding findings and conclusions, the request for a preliminary plat to subdivide 10.72 acres into 36 single-family residential lots, with associated improvements, on the northern side of Sapp Road SW and east of Antsen Street SW, is **DENIED.**

DECIDED this 20th day of September 2019.

ANDREW M. REEVES
Hearing Examiner
Sound Law Center

[5] Mr. Kim has repeatedly stressed that the site was approved for development of 34 lots in 2005. That approval is in no way controlling in the present circumstances. The Hearing Examiner notes that a different hearing officer presided over that 2005 hearing and that there has been significant turnover in the City's planning department since then. Regardless, while mistakes concerning density calculations were made in 2005, they need not be repeated now.

HEARING EXAMINER
POST-DECISION PROCEDURES

The following sections of the Tumwater Municipal Code outline procedures for requesting reconsideration of a decision by the Tumwater Hearing Examiner and appealing a decision made by the Tumwater Hearing Examiner.

TMC 2.58.135 Reconsideration.
Upon the written request of a party of record filed with the city clerk within five working days of the hearing examiner's written decision, such decision may be reconsidered at the discretion of the hearing examiner. The request for reconsideration must state the grounds upon which the request is made. In the event reconsideration is granted, the hearing examiner shall have an additional 10 working days to render a written final decision.

TMC 2.58.150 Appeal from examiner's decision.

A. In cases where the examiner's jurisdictional authority is to render a decision, the decision of the examiner shall be final and conclusive unless appealed to superior court within the applicable appeal period as set forth in TMC 2.58.180.

B. In cases where the hearing examiner decision is appealable to the city council, the decision of the examiner shall be final and conclusive unless appealed within the applicable appeal period as set forth in this section.

C. Appeals to the city council must be filed with the city clerk by the applicant or other party of record, a department of the city, county or other agency within 14 calendar days following rendering of such decision. Persons not in attendance at the hearing but who submit written information prior to the hearing which becomes a part of the record of the hearing shall also have appeal rights. Such appeal shall be in writing, shall contain all grounds on which error is assigned to the examiner's decision and shall be accompanied by a fee as established by resolution of the city council; provided, that such appeal fee shall not be charged to a department of the city or to other than the first appellant.

D. In the event an apparent prevailing party files an appeal to preserve appeal rights and no opposing appeals are filed, said party may, by giving written notice thereof to the city clerk, abandon their appeal and in such event shall be refunded their filing fee.

E. The timely filing of an appeal shall stay the effective date of the examiner's decision until such time as the appeal is adjudicated by the city council or is withdrawn.

F. Within five days after the final day upon which an appeal may be filed, notice thereof and of the date, time and place for city council consideration shall be mailed to the applicant, all other parties of record and anyone who submitted written information prior to the hearing. Such notice shall additionally indicate the deadline for submittal of written arguments as prescribed in TMC 2.58.160.

TMC 2.58.180 Judicial appeals.
Final decisions (after exhausting administrative remedies) may be appealed by a party of record with standing to file a land use petition in the Thurston County superior court, except shoreline permit actions which may be appealed to the shoreline hearings board. Such petition must be filed within 21 days of issuance of the decision as provided in Chapter 36.70C RCW.

Updated: June 10, 2013

BEFORE THE HEARING EXAMINER
FOR THE CITY OF TUMWATER

In the Matter of the Application of	)	No. TUM-19-0317
	)	
Chul Kim, Sunrise Hills LLC	)	Sunrise Hills Preliminary Plat
	)	
	)	
	)	DECISION ON REQUEST FOR
For Approval of a Preliminary Plat	)	RECONSIDERATION

TO: Parties of Record

BACKGROUND

The Tumwater Hearing Examiner held an open record hearing on the Sunrise Hills Preliminary Plat (No. TUM-19-0317), a request to subdivide approximately 10.72 acres into 36 single-family residential lots, on September 4, 2019. The record was left open until September 6, 2019, to allow additional information on the proposal to be submitted. On September 20, 2019, the Hearing Examiner denied the application, specifically concluding that the "Applicant's plans fail to account for required open space and, because of this, would result in density at a higher rate than is allowed by the Comprehensive Plan." *Decision of the Hearing Examiner, dated September 20, 2019.* On September 24, 2019, the Applicant timely requested reconsideration of the decision under Tumwater Municipal Code (TMC) 2.58.135. Because no obvious legal error has occurred and no material factual issue was overlooked that would change the previous decision, the request for reconsideration is hereby **DENIED.**

RECONSIDERATION

Request

The Applicant argues that reconsideration is warranted on several grounds. Specifically, the Applicant argues that the Hearing Examiner misinterpreted TMC 18.08.050.B.1, in relation to open space requirements and how open space calculations impact allowable density calculations; that a similar proposal was approved in 2005 and, accordingly, should be approved now; that, contrary to the Hearing Examiner's decision, the municipal code encourages building in critical areas through engineered solutions; that market concerns justify the density; and that the density transfer provisions of Chapter 18.08 TMC would allow the proposed density. *Reconsideration Request, pages 1 through 3.*

Criteria

TMC 2.58.135 provides:

> Upon the written request of a party of record filed with the city clerk within five working days of the hearing examiner's written decision, such decision may be reconsidered at the discretion of the hearing examiner. The request for reconsideration must state the grounds upon which the request is made. In the event reconsideration is granted, the hearing examiner shall have an additional ten working days to render a written final decision.

DECISION

The Applicant's first contention is that, under TMC 18.08.050.B.1, areas designated for open space should not be excluded from the allowable density calculation for the property. This, however, misconstrues the municipal code. That provision states that the following types of land should be excluded from density calculations:

> Land that is required to be dedicated for public use as open space, right-of-way, or land on which development is prohibited by TMC Title 16, Environment, and land that is to be used for private roads; provided, that portion of open space/park areas that consists of stormwater facilities and that is designed for active and/or passive recreational purposes in accordance with the drainage design and erosion control manual for Tumwater shall not be excluded from density calculations.

TMC 18.08.050.B.1.

The Applicant appears to argue that all the open space tracts proposed on-site should be included in the allowable density calculation because active and passive recreational amenities would be included in these open space areas. TMC 18.08.050.B.1, however, provides that open space/park areas that consist of stormwater facilities *and* are designed for active and/or passive recreation not be excluded from density calculations. Here, the Applicant has proposed a stormwater tract, "Tract D," that is 18,992 square feet. Project plans do not indicate how this tract would be designed for active and/or passive recreation. Nevertheless, even were Tract D designed to meet the requirements of TMC 18.08.050.B.1 such that this tract were included in the allowable density calculation, the proposal would still involve higher-than-allowed density, as other open space areas must be excluded from the density calculation.

As noted in the decision, the gross site area of the property is 466,977 square feet. After removing square footage associated with the two internal roads and three access tracts, as is required by TMC 18.08.050, then just over 9 acres (or 392,439 square feet) of potentially "buildable" area remains. Under TMC 17.12.210, at least 46,698 square feet of open space is required. Even assuming Tract D is treated as "open space" under TMC 18.08.050.B.1, an additional 27,706 square feet of required open space would *not* be excluded from the net buildable area calculation. This would result in 8.3 usable acres of land (before excluding

critical areas) and no more than 33 homes would be allowed. Accordingly, the Applicant's first contention fails.

The Applicant next contends that, in 2005, the Hearing Examiner approved a similar proposal and, in doing so, did not exclude landslide hazard areas from allowable density calculations. The 2005 decision has no bearing on the current application and this argument holds no merit. As was stated in the Hearing Examiner's recent decision:

> Mr. Kim has repeatedly stressed that the site was approved for development of 34 lots in 2005. That approval is in no way controlling in the present circumstances. The Hearing Examiner notes that a different hearing officer presided over that 2005 hearing and that there has been significant turnover in the City's planning department since then. Regardless, while mistakes concerning density calculations were made in 2005, they need not be repeated now.

Decision of the Hearing Examiner, dated September 20, 2019.

The Applicant's next argument appears to be that, contrary to the Hearing Examiner's decision, the municipal code encourages development in critical areas through engineered solutions. The Applicant sites TMC 16.20.020 for this proposition. TMC 16.20.020 provides:

> It is the declared policy of the city of Tumwater to encourage land uses that are compatible with underlying geological conditions through the use of appropriate engineering, design and construction practices. It is also recognized that at times even the best of efforts to properly design and apply technology will not adequately reduce the risks of geological hazards. In these instances, areas of extreme geological instability are to be avoided as sites for development and placement of structures.

This code provision does not support the Applicant's argument: it speaks to encouraging "compatibility" with underlying geological conditions, not encouraging development in all circumstances.

The Applicant next contends that market concerns warrant the higher density that has been proposed. Market concerns are not one of the factors that must be considered in assessing a proposed preliminary plat under the Tumwater Municipal Code or the State Subdivision Act (Chapter 58.17 RCW). The Applicant did not apply for a reasonable use exception under TMC 16.20.048, where economic considerations may be considered. Accordingly, this contention has no merit.

Finally, the Applicant appears to argue that "density transfer provisions" of Chapter 18.08 TMC are applicable to this proposal. The density transfer provisions referenced by the Applicant relate to "Clustered Subdivisions" under TMC 18.08.050.E. The Applicant has not proposed this

(and, further, clustered subdivisions have a 30 percent open space requirement). The density transfer provisions are inapplicable.

Because the record does not support a conclusion that an obvious legal error has occurred or that a material factual issue was overlooked that would change the previous decision, the request for reconsideration is hereby **DENIED.**

DECIDED this 7th day of October 2019.

ANDREW M. REEVES
Hearing Examiner
Sound Law Center

Filed
Washington State
Court of Appeals
Division Two

October 9, 2020

IN THE COURT OF APPEALS OF THE STATE OF WASHINGTON

DIVISION II

SUNRISE HILLS, LLC, Appellant, v. CITY OF TUMWATER, Respondent.	No. 54687-6-II RULING GRANTING DISMISSAL

On October 1, 2020, Appellant Sunrise Hills filed with this court a Notice of Withdrawal of Appeal. Attached to Sunrise Hills' motion is a certificate of service showing that the opposing parties were served with a copy of the motion to withdraw appeal on October 1, 2020. Accordingly, it is hereby

ORDERED that Appellant Sunrise Hills' appeal is dismissed.

Eric B. Schmidt
Court Commissioner

cc: Carolyn A. Lake
Jeffrey S. Myers
Karen E. Kirkpatrick
Hon. John Skinder

Exhibit 10

City Hall
555 Israel Road SW
Tumwater, WA 98501-6515
Phone: 360-754-5855
Fax: 360-754-4138

DETERMINATION OF NON-SIGNIFICANCE (DNS)
Sunrise Hills
TUM-19-0318

Description of proposal: The applicant is requesting Preliminary Plat approval (TUM-19-0317) to subdivide 10.72 acres into 36 single-family lots.

Proponent: Sunrise Hills LLC, Attn: Chul Kim, 454 SW 297th Street, Federal Way, WA 98023.

Location of proposal: The property is located on the north side of Sapp Road, east of Antsen Street, west of Crosby Boulevard and south of Brookside Road SW, in Tumwater, WA 98512, within a portion of the southwest quarter of the southwest quarter, Section 27, Township 18 N., Range 2 W.W.M. Parcel #12827330000.

Lead agency: City of Tumwater, Community Development Department.
The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An Environmental Impact Statement is not 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.

This DNS is issued under WAC 197-11-340; the lead agency will not act on this proposal for 14 days from the date below. Comments must be submitted no later than July 11, 2019, by 5:00 p.m.

Date: June 27, 2019

Responsible official:
Michael Matlock, AICP
Community Development Director

Contact person: Suresh Bhagavan, 360-754-4180
555 Israel Road SW
Tumwater, WA 98501

Appeals of this DNS must be made to the City Clerk, no later than July 17, 2019, by 5:00 p.m. All appeals shall be in writing, be signed by the appellant, be accompanied by a filing fee of $175, and set forth the specific basis for such appeal, error alleged and relief requested.

CITY OF TUMWATER

555 ISRAEL RD. SW, TUMWATER, WA 98501

Email: cdd@ci.tumwater.wa.us

(360) 754-4180

TUM-19-0318

RECEIVED

MAR 25 2019

CITY OF TUMWATER
COMMUNITY DEVELOPMENT

RECEIVED BY: Kelly

Any person proposing to develop in the incorporated limits of the City of Tumwater is required to submit an environmental checklist unless the project is exempt as specified in WAC 197-11-800 (Categorical Exemptions) of the State Environmental Policy Act Rules. **SUBMITTAL REQUIREMENTS** are as follows:

1. **A COMPLETE ENVIRONMENTAL CHECKLIST.** If the project is located within the Port of Olympia property, the checklist must also be signed by a representative of the Port.
2. **FEE OF $880.00 TO BE PAID UPON SUBMITTAL.** This includes the Public Notice fee.
3. **NAME AND ADDRESS LIST OF PROPERTY OWNERS WITHIN 300 FEET OF THE SUBJECT PROPERTY.**

SEPA ENVIRONMENTAL CHECKLIST

UPDATED 2015

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants: [help]

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

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. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impacts.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals: [help]

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead

Agency may exclude (for non-projects) questions in Part B – Environmental Elements – that do not contriburte meaningfully to the analysis of the proposal.

A. Background [HELP]

EVALUATION FOR AGENCY USE ONLY

1. Name of proposed project, if applicable:
   Sunrise Hill Plat
2. Name of applicant:
   Sunrise Hills LLC
3. Address and phone number of applicant and contact person:
   Applicant: **Chul M. Kim**
   454 SW 297th St
   Federal Way, WA 98023
   206-835-6300

   Agent: **Stephen Bridgeford,**
   Contour Engineering LLC
   PO Box 949
   Gig Harbor WA 98407
   253-857-5454
4. Date checklist prepared:
   March 2018
5. Agency requesting checklist:
   City of Tumwater
6. Proposed timing or schedule (including phasing, if applicable):
   It is anticipated that the site improvement for the the proposed plat will be built in a single phase.
7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.
   Not at this time
8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.
   Insight Geological, Inc. 2018. Geotechnical Engineering Report Steep Slope Evaluation. Prepared for Chul M. Kim, Ph.D., P.E..

   Parnell Engineering LLC. 2015. Soil Report for Drainage Purposes. Prepared for Chul M. Kim, Ph.D., P.E..

   Bradley-Noble Geotechnical Services. 2006, Soil Exploration Logs. Prepares for Mr Bill Turner, PE.

   Professional Forestry Services, Inc. 2018, Tree Plan For Sunrise Hill. Prepares for Chul M. Kim, Ph.D., P.E.

Preliminary Drainage Report - Contour Engineering

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.

City of Tumwater – SEPA Determination
Preliminary Plat
Grading Permit
Utility Permit
Right-of-way/Frontage Improvement permits
Final Plat

Washington State Dept. of Ecology – Construction Stormwater NPDES

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. (Lead agencies may modify this form to include additional specific information on project description.)

The proposed is the subdivision of on parcels totaling 10.72 acres into 36 single-family residential lots. The plat will include six tracts: 1 shared access facilities, three Open Space/ Landscape Areas and two utility tracts. Along with two new Cul-de-sac roads and two shared access located in easements. Both sewer and water mains will be construct through the site to connect to mains in Sapp Rd SW and Woodland Rd SW.

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. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The site does not have an address at this time. The site is located north of Sapp RD SW between the intersection of Crosby Blvd SW (350 LF west) and Antsen St SW (360 LF east). The site also has frontage along the southern terminus of Woodland Dr SW.
Parcel ID: 12827330000
Section 27, Township, 18 Range 2

EVALUATION FOR AGENCY USE ONLY

B. Environmental Elements [HELP]

EVALUATION FOR AGENCY USE ONLY

1. Earth [help]

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)?

The steepest slopes on site are approximately 50-60%

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 agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

Per the 1986 Soil Conservation Service (SCS) Soil Survey. The soils on site are classified as Everett very gravelly, sandy loam, Indianola loamy sand and Schneider very gravelly loam

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

Per the Insight Geological, Inc. Steep Slope Evaluation dated September 4, 2018 no evidence of recent slope failure was observed and there is no landslide activity near the project site based on review of DNR maps.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

At this time the exact areas of clearing and grading activities is unknown. It is estimated that as much as 80% of the site will be cleared. The exact cut and fill quantities are also unknown currently. It is anticipated that the total cut and fill quantities will be 90,000 CY of material with a net fill of 6,900 CY. The source of any fill materials has not been determined.

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

As with any construction site, erosion can occur. A Temporary Erosion and Sediment Control (TESC) plan will be implemented during construction activities.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

No more than 25% of the site will be covered with impervious surfaces

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

A Storm Water Pollution Prevention Plan (SWPPP) will be created for the development of the site and will be approved by state and local jurisdictions

EVALUATION FOR AGENCY USE ONLY

2. Air [help]

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

During construction, there will be diesel exhaust emissions from construction equipment, and some dust can be expected from various construction operations depending on site and weather conditions. The only known sources of emissions from the completed project are from automobiles traveling to and from the development.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No, not to our knowledge.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Exhaust emissions during construction activities will not require mitigation. Dust can be controlled using Best Management Practices as outlined in the SWPPP mentioned above.

3. Water [help]

a. Surface Water: [help]

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

No, not to our knowledge

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

Not applicable there are no known water bodies.

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. **Not applicable there are no known water bodies.** 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. **No surface water withdrawals or diversions are planned.** 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan. **No** 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 waste materials will be discharged to surface waters as part of the proposed subdivision.** b. Ground Water: [help] 1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known. **Water will be provided by City of Tumwater. No water will be discharged into the ground other than stormwater runoff that is proposed to be infiltrated.** 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve. **None proposed, site will be served by sanitary sewer.** c. Water runoff (including stormwater): 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. **Runoff from the entire site will be collected via a system of ditches, catch basins, and conveyance pipes and directed to an**	**EVALUATION FOR AGENCY USE ONLY**

approved water quality facility. All treated water will then discharge to a retention (infiltration) pond located at the southeastern portion of the site

2) Could waste materials enter ground or surface waters? If so, generally describe.
No waste material will enter ground or surface water. Where needed, sites will be covered under Industrial SWPPPs and regulated by the local and state authorities. Employed BMPs (Best Management Practices) will provide necessary controls and water quality measures to ensure that waste material does not enter the ground or surface water.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.
Drainage at the site flows generally to the southwest. The proposed development will direct stormwater to a detention pond located in the southeast corner of the site.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:
Proposed measures for the site include water quality treatment and stormwater retention as indicated in 3.c.1 above.

EVALUATION FOR AGENCY USE ONLY

4. Plants [help]

a. Check the types of vegetation found on the site:

__X__deciduous tree: alder, maple, aspen, other
__X__evergreen tree: fir, cedar, pine, other
__X__shrubs
__X__grass
____pasture
____crop or grain
____ Orchards, vineyards or other permanent crops.
____ wet soil plants: cattail, buttercup, bullrush, 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?
Approximately, 80% of the site will be cleared removing deciduous trees, evergreen trees, shrubs, and grasses. Tree preservation areas with fencing will be delineated onsite.

c. List threatened and endangered species known to be on or near the site.

There are no known threatened or endangered species on or in the immediate vicinity of the site.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

The development will be landscape and tree will be preserved to meet applicable City of Tumwater Municipal code.

e. List all noxious weeds and invasive species known to be on or near the site.

There are no known noxious or invasive species on the Thurston County Noxious Weed List known to be on the site. The Thurston County Permitting Map GIS indicates that properties to the west had Tansy Ragwort discovered in 2014 it is unknown if the weed is still present.

EVALUATION FOR AGENCY USE ONLY

5. Animals [help]

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site.

Examples include:

birds: hawk, heron, eagle, **songbirds**, other:
mammals: **deer**, bear, elk, beaver, other:
fish: bass, salmon, trout, herring, shellfish, other:

b. List any threatened and endangered species known to be on or near the site.

There are no known threatened or endangered species on or in the immediate vicinity of the site.

c. Is the site part of a migration route? If so, explain.

To our knowledge, the site is not a part of a migration route. However, as with most of Western Washington, the project site is located within the Pacific flyway.

d. Proposed measures to preserve or enhance wildlife, if any:

It is not anticipated that the proposed project will affect wildlife habitat or cause disturbance such that mitigation measures will be needed.

e. List any invasive animal species known to be on or near the site.

There are no known invasive animal species on or near the site

6. *Energy and Natural Resources* [help]

EVALUATION FOR AGENCY USE ONLY

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Electricity and potential natural gas will be used for the completed subdivision.

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

No, not to our knowledge

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:

The development will be built to conform to all applicable energy codes.

7. *Environmental Health* [help]

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

Not to our knowledge

1) Describe any known or possible contamination at the site from present or past uses.

None known

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

None known

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

None known

4) Describe special emergency services that might be required.

No special emergency services are anticipated

5) Proposed measures to reduce or control environmental health hazards, if any: **None known**	**EVALUATION FOR AGENCY USE ONLY**
b. Noise 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)? **Existing noise sources in the vicinity of the site include traffic on adjacent public roads, and property maintenance (e.g., lawn mowing). Noise from these sources will not affect the proposed use.**	
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. **On a short-term basis, elevated noise levels will be generated by construction. Construction will be restricted to daytime hours.Long-term noise will be limited to that typical with single-family residential developments.**	
3) Proposed measures to reduce or control noise impacts, if any: **None proposed**	Comply with City Noise Ordinance
8. Land and Shoreline Use [help] a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe. **The site is currently vacant. The properties immediately adjacent to the subject property are a mix of single-family residence and vacant undeveloped land. To our knowledge the proposed will not affect the adjacent or nearby uses.**	
b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use? **No, not to our knowledge.**	
1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how: **No, not to our knowledge.**	

c. Describe any structures on the site. **The site is vacant/undeveloped.** d. Will any structures be demolished? If so, what? **Not applicable the site is vacant/undeveloped.** e. What is the current zoning classification of the site? **The current zoning of the site is RSR- Residential Sensitive resources. The properties to the west, north and northeast are also zoned RSR'. Properties to the east and south are zoned SFL- Single Family Low Density.** f. What is the current comprehensive plan designation of the site? **RSR- Residential Sensitive resources** g. If applicable, what is the current shoreline master program designation of the site? **Not applicable the site is not with a shoreline jurisdiction.** h. Has any part of the site been classified as a critical area by the city or county? If so, specify. **Yes, City mapping indicates there is a potential landslide hazard located on and in the vicinity of the property. The applicant has provided a geotechnical "Steep Slope Evaluation" by Insight Geological, Inc dated September 4, 2018. The report discuses the onsite landslide hazard and possible mitigation measures.** i. Approximately how many people would reside or work in the completed project? **Based on the average household size of 2.6 people approximately 94 people residing within the proposed 36 lot subdivision.** j. Approximately how many people would the completed project displace? **Not applicable, the site is vacant** k. Proposed measures to avoid or reduce displacement impacts, if any: **Not applicable, the site is vacant there are not displacement impacts.** L. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: **The proposed subdivision will be reviewed by the City of Tumwater under both the Preliminary and Final Plat reviews to ensure compatibility with applicable codes and regulations as identified by Tumwater Municipal Code. The propose subdivision complies with the use permitted outright in the RSR zoning district and the Future Land Use Map.**	**EVALUATION FOR AGENCY USE ONLY**

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

Not applicable, there are no adjacent agriculture or forestlands

EVALUATION FOR AGENCY USE ONLY

9. Housing [help]

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

The proposed subdivision will include 36 single-family residences.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

Not applicable, the site is vacant

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

The proposed adds residential units to the existing housing stock within the City of Tumwater.

10. Aesthetics [help]

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The building height is typical of two-story single-family structures in the region. The building height will not exceed the 35' maximum height allowed by the underlying zoning district. The exterior building materials will be a combination of wood and composite siding, and roofing materials, glass windows, and concrete.

b. What views in the immediate vicinity would be altered or obstructed?

The clearing of the site, removal of buildings and vegetation and the construction of 36 single-family dwellings, all within the constraints of City of Tumwater regulation, will alter local views.

b. Proposed measures to reduce or control aesthetic impacts, if any:

Landscaping will be installed as required by City of Tumwater Municipal Code.

11. Light and Glare [help]

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Lighting will be typical of residential development and include streetlights and building lighting. Lighting will typically occur during nighttime hours and will be provided for safety and security throughout the single-family residential development.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

Lighting or glare from the project will not be a safety hazard, interfere with views, or affect wildlife. Lighting will comply with all applicable City regulations.

c. What existing off-site sources of light or glare may affect your proposal?

None known

d. Proposed measures to reduce or control light and glare impacts, if any:

Lighting will be designed to minimize light trespass on adjacent properties.

EVALUATION FOR AGENCY USE ONLY

12. Recreation [help]

a. What designated and informal recreational opportunities are in the immediate vicinity?

A trail head for Tumwater Hill Park is located approximately 0.5 miles by foot to the east of the property.

b. Would the proposed project displace any existing recreational uses? If so, describe.

Not to our knowledge

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

The proposed subdivision will provide passive and active recreation amenities on site in compliance with Tumwater Municipal Code

13. Historic and cultural preservation [help]

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.

The Department of Archaeology and Historic Preservation's WISAARD online database does not indicate that there are buildings, structures or sites either located on the subject property or in the immediate vicinity that are eligible or listed as eligible for preservation registers.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any

professional studies conducted at the site to identify such resources.

Not to our knowledge, no professional studies have been conducted or are anticipated to be required.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

The Washington State Department of Archaeology and Historic Preservation's WISAARD online database, and Thurston County Public GIS.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

If any archaeological sites, Traditional Cultural Properties (TCPs), or historic buildings are identified within or adjacent to the project area that are eligible for national, state, or local registers, additional coordination with City of Tumwater, WA Department of Archaeology and Historic Preservation, and ~~Puyallup Indian Tribe~~ (if applicable) will be necessary. Potential mitigation measures for controlling impacts would be to avoid the resource and/or minimize impact to the resource by conducting additional archaeological testing, a TCP study, and/or further documentation of the historic building.

Notify Squaxin, Chehalis and Nisqually Tribes

14. Transportation [help]

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

The site will be served by Sapp Rd SW and Woodland Dr SW. Access to the site will be from two new Cul-de-sac roads.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

Yes, Intercity Transit Routes 12 and 68 have bus stops approximately 0.50 miles to the north of the site near the intersection of Summerset Hill Dr SW and Crosby Blvd SW.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

Two parking spaces will be provided per dwelling unit, 72 total parking spaces will be provided. Parking will be located in the garage/driveway. No parking will be eliminated, the site is vacant.

EVALUATION FOR AGENCY USE ONLY

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private). **Yes, vertical curb and gutter and sidewalk will be provided along the frontage Sapp Rd SW.** e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe. **No, the project will not use water or air transportation.** f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates? **Per the Institute of Transportation Engineers (ITE) Trip Generation 6th Edition the Single-Family Detached Housing Weekday Average Vehicle Trip rate is 9.57 trips per dwelling units or 344.52 trips per day for the completed development. The peak hour would occur between 4:00 and 6:00 p.m. at a rate of 1.01 trips per dwelling unit or 36.36 trips.** g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe. **Not to our knowledge** h. Proposed measures to reduce or control transportation impacts, if any: **Payment of the City's transportation impact fee for residential developments** ***15. Public Services*** [help] a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe. **The site would require additional coverage for fire and police protection; however, it would be a minimal increase to the existing infrastructure supporting the community.**	**EVALUATION FOR AGENCY USE ONLY**

b. Proposed measures to reduce or control direct impacts on public services, if any. **No measures are proposed.** ***16. Utilities*** [help] a. Underline utilities currently available at the site: **electricity, natural gas, water, refuse service, telephone, sanitary sewer**, septic system, other _____ c. 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. **The development will require sewer (City of Tumwater) and water (City of Tumwater) main extensions. The connection will be made to the existing utilities located in Sapp Rd SW and Woodland Drive SW.**	**EVALUATION FOR AGENCY USE ONLY**

C. Signature [HELP]

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

Signature: Chul Kim

Name of signee Chul M. Kim

Position and Agency/Organization One of property owners.

Date Submitted: 3/25/2019

Reviewed By: Chris Carlson, Permit Manager
May 21, 2019

Exhibit 11

City Hall
555 Israel Road SW
Tumwater, WA 98501-6515
Phone: 360-754-5855
Fax: 360-754-4138

Memo

To: Chris Carlson, Permit Manager

From: Jay Eaton, Public Works Director

Date: May 8, 2019

Re: Transportation Concurrency – Sunrise Hills

Based on the Transportation Concurrency Trip Generation and Distribution Report*, dated May 3, 2019, the City of Tumwater Capital Facilities Plan and the City Operations programs, the City finds that the Sunrise Hills Plat is concurrent in regards to Transportation, conditioned as follows:

1. Sunrise Hills Plat shall pay Transportation Impact Fees per the Fee Resolution current at time of permit application.

*The report incorrectly assigns the trips amongst the two access points to the plat. Correction of the trip assignment will not affect the findings.

Professional Forestry Services, Inc.
Since 1960

100 Ruby St. SE, Suite B
Tumwater, WA 98501

Phone (360) 943-1470
Fax (360) 943-1471

September 20, 2018

Chul M. Kim, Ph.D., P.E.
Sunrise Hills LLC
50 Lascascadas Road
Orinda, CA 94563

Re: Tree Plan for Sunrise Hill off Woodland Drive,
Tumwater, Washington

Dear Dr. Kim:

As you authorized, Professional Forestry Services, Inc. has inspected the trees on the site where the proposed project is to take place. The following information should satisfy your requirement for a tree plan, as needed for submission before land clearing begins.

1. LOCATION

All trees involved are within parcel #12827330000, on a portion of the SW¼ SW¼ of Section 27, T18N, R2W, W.M. (Net Acres = 9.286)

2. TREES ON-SITE

There are a total of 353 trees on this site. The estimated numbers of trees are listed below:

Species	Number Trees	DBH* Range	Comments
Douglas-fir	81	12-32"	Healthy Trees**
Bigleaf Maple	168	12-38"	Healthy Trees
Red Alder	37	6-18"	Healthy Trees
Western Redcedar	49	12-24"	Healthy Trees
Western Hemlock	18	18-30"	Healthy Trees
TOTAL TREES	**353**		

*DBH = Diameter @ 4½' above ground.
**Laminated root rot noticed in one area of site.

3. TREES OFF SITE

Adjacent properties are developed. Two trees along west property line will need to be protected during land clearing.

4. TREES TO BE RETAINED

As outlined in Chapter 16.08.070R of the Tumwater Tree Ordinance, at least 20% of the trees on the site shall be retained or 12 trees per acre whichever is greater.

On this site, 20% (353 x .20) equals 71 trees. Since 12 trees x 9.286 acres equals 112 trees, the city will require retention of 112 trees to meet the requirements of the tree ordinance. Once the open space and property boundaries are staked, Professional Forestry Services, Inc. will ribbon the tree protection areas. Currently using the proposed development plan, the following is required:

Total Trees Required to be Retained =	112
Trees Being Retained on Lots and Other Open Space =	167
TOTAL TREES UNDER RETENTION REQUIREMENT =	-0-

Save trees are on this project are on open space and back of lots.

5. PROTECTION OF TREES BEING RETAINED

The tree protection fence and land clearing boundary would be the same boundary. In our opinion, a four-foot high protection fence would protect the "Tree Protection Areas" from any entry by equipment. Six-foot steel fence posts need to be placed at six to eight-foot intervals along the fence to keep the fence erect during land clearing. If silt fencing is required along this boundary, it could take the place of the four-foot high tree protection fence.

6. STREET TREES

All street trees and landscape vegetation will be addressed in the landscape plan to be completed by the landscape architect contracted by the developer.

7. LAND CLEARING PERMIT

The City of Tumwater will approve the permit needed to remove trees from the project area.

Once the land clearing permit is approved by the City of Tumwater and before land clearing begins, PFSI will meet on-site with the owner or owner's representative to make sure, there is ample protection for all trees to be protected.

If further information is needed in regard to the trees on this site, please contact us.

Sincerely,

Michael D. Jackson, CF, ACF
Professional Forester

Enclosure: Map Exhibit

MDJ:dkd

SUNRISE HILL PLAT

A PORTION SW 1/4 OF THE SW 1/4 OF SECTION 27, TOWNSHIP 18 NORTH, RANGE 2 WEST, W.M., CITY OF TUMWATER, THURSTON COUNTY, WASHINGTON

PRELIMINARY SITE PLAN

GRAPHIC SCALE
0 50 100
1 INCH = 50 FEET (22"x34")
1 INCH = 100 FEET (11"x17")

** NO ACCESS TO SHARED DRIVEWAY

STEEP SLOPE AREA +40%

INDIVIDUAL LOT ACCESS

OWNER INFORMATION

SUNRISE HILLS, LLC
454 SW 987TH STREET
FEDERAL WAY, WA 98023
(206) 835-6300
EVERGREEN278@YAHOO.COM

DENSITY CALC

GROSS SITE AREA =466,967 SQ FT (10.72 ACRES)
ROAD A =35,659 SQ FT
ROAD B =26,803 SQ FT

NET USEABLE AREA = GROSS AREA - ROAD AREA
466,967 SQ FT - (35,659 SQ FT + 26,803 SQ FT)
TOTAL NET USABLE AREA = 404,505 SQ FT (9.286 ACRES)

DENSITY 4 UNITS PER NET USEABLE ACRE = 37.14 UNITS

PROJECT INFORMATION

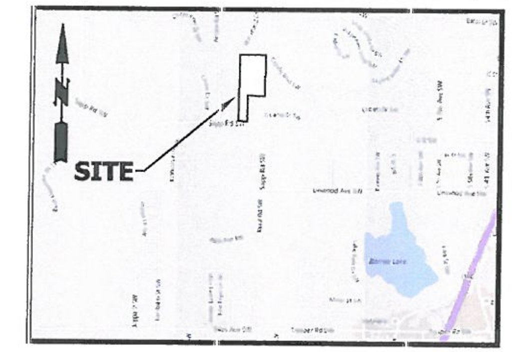
PARCEL#S:	12127330000
ZONING:	RSR (SINGLE-FAMILY)
MINIMUM LOT SIZE:	9,500 SQ. FT.
BUILDING SETBACKS:	FRONT: 20 FEET REAR: 20 FEET INTERIOR: 10 FEET
WATER PROVIDER:	CITY OF TUMWATER
SEWER PROVIDER:	CITY OF TUMWATER
PARKING SPACES:	4
IMPERVIOUS SURFACE:	30% COVERAGE

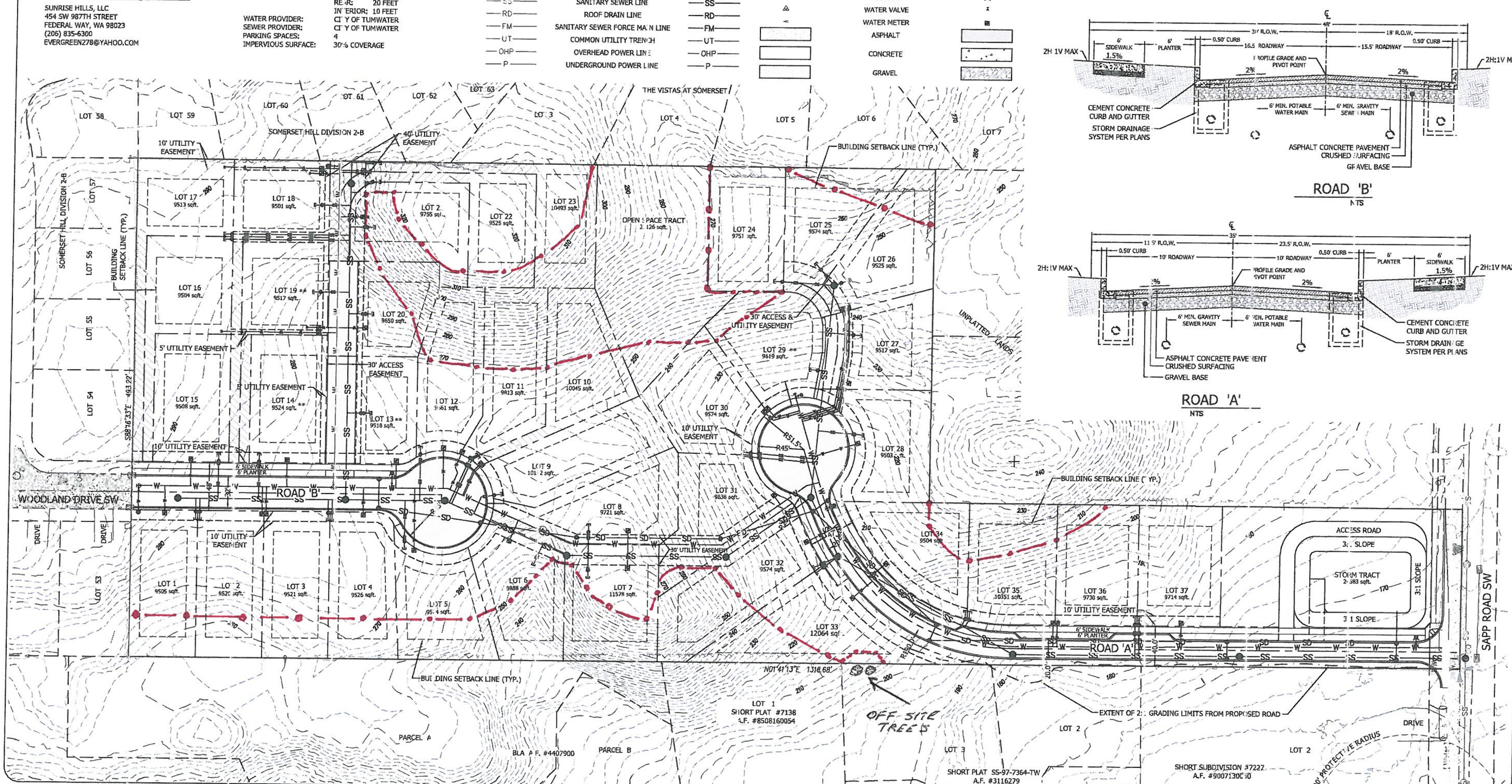
LEGEND

SURVEY		PROPOSED
100	CONTOURS	100
— — —	PROPERTY LINE/RIGHT-OF-WAY	
	RIGHT-OF-WAY DEDICATION	— — —
— — —	RIGHT-OF-WAY CENTERLINE	— — —
- - - - -	EASEMENT	- - - - -
- - - - -	BUILDING SETBACK	- - - - -
—SD—	STORM DRAIN LINE	—SD—
—SS—	SANITARY SEWER LINE	—SS—
—RD—	ROOF DRAIN LINE	—RD—
—FM—	SANITARY SEWER FORCE MAIN LINE	—FM—
—UT—	COMMON UTILITY TRENCH	—UT—
—OHP—	OVERHEAD POWER LINE	—OHP—
—P—	UNDERGROUND POWER LINE	—P—

SURVEY		PROPOSED
—G—	GAS LINE	—G—
—W—	WATER LINE	—W—
	TYPE 2 CATCHBASIN	
	TYPE 1/TYPE 1L CATCHBASIN	
	STORM DRAIN CLEANOUT (SDCO)	
	SANITARY SEWER MANHOLE	
	SANITARY SEWER CLEANOUT (SSCO)	
	HYDRANT	
	WATER VALVE	
	WATER METER	
	ASPHALT	
	CONCRETE	
	GRAVEL	

TREE Protection FENCE





REVISION	DESCRIPTION	DATE	BY

CONTOUR ENGINEERING • LLC
CIVIL ENGINEERS ~ SURVEYORS ~ LAND PLANNERS
Phone: 253-857-5454 ~ Fax: 253-509-0044 ~ info@contourpllc.com
Mailing Address: P.O. Box 949, Gig Harbor, WA 98335
Physical Address: 4706 97th Street NW, Suite 100, Gig Harbor, WA 98332

BRETT M. ALLEN – STATE OF WASHINGTON – REGISTERED PROFESSIONAL ENGINEER – PRELIMINARY

SHEET TITLE: PRELIMINARY SITE PLAN

CLIENT: CHUL M. KIM
454 SW 297TH STREET
FEDERAL WAY, WA 98023

CONTACT: CHUL M. KIM PHONE: (206) 835-6300

DESIGNER: J. JACOBY
ENGINEER: B. ALLEN
DRAWN: J. JACOBY
S27 T18 N R02 WWM
DATE: 2018-07-24
REVISED:
PROJECT: 17-226
DWG NAME: 17-226-A

SHEET	REV.
1 OF 1	△

Exhibit 13

AUDITOR
THURSTON COUNTY

Mary Hall
AUDITOR

Issued to:

Chul M Kim
Sunrise Hills LLC
454 SW 297th St
Federal Way, WA 98023

PLAT NAME RESERVATION CERTIFICATE

Date: **April 27, 2022 - Renewal**

The Plat name, **Sunrise Hills** has been reserved for future use by **Sunrise Hills, LLC**.

I certify that I have checked the records of previously issued and reserved map names. The requested name has not been previously used in Thurston County nor is it currently reserved by any party.

This reservation will expire on **April 20, 2023**, one year from issuance. It may be renewed one year at a time. If the plat/map has not been recorded or the reservation renewed by the above date, it will be deleted.

Spencer Ryan
Recording & Licensing Supervisor

Please present this certificate at the time of recording.

Elections
2000 Lakeridge Dr SW, Bldg 1, Rm 118
Olympia WA, 98502
Phone: (360) 786-5408
Fax: (360) 786-5223

Ballot Processing Center
2905 29th Avenue SW, Ste E & F
Tumwater, WA 98512
Phone: (360) 786-5408
Fax: (360) 705-3518

Financial Services
929 Lakeridge Dr SW, Rm 226
Olympia, WA 98502
Phone: (360) 786-5402
Fax: (360) 357-2481

Licensing and Recording
2000 Lakeridge Dr SW, Bldg 1, Rm 106
Olympia, WA 98502
Licensing phone: (360) 786-5406
Recording Phone: (360) 786-5405
Fax: (360) 786-5223

INSIGHT GEOLOGIC, INC.

September 4, 2018

Chul Kim
454 Southwest 297th Street
Federal Way, Washington 98023

Report
Steep Slope Evaluation
Sunrise Hills Development
Sapp Road SW
Parcel No. 12827330000
Tumwater, Washington
Project No. 843-001-01

INTRODUCTION

Insight Geologic is pleased to provide our report regarding our evaluation of the steep slopes for the proposed Sunrise Hills Development to be located on the property identified as Thurston County Tax Parcel No. 12827330000 in Tumwater, Washington. The location of the site is shown relative to surrounding physical features in the Vicinity Map, Figure 1. The property is approximately 11 acres and contains areas that appear to meet the definition of Landslide Hazard Areas under Tumwater's Critical Areas Ordinance for Geologically Hazardous Areas. A site plan is shown in Figure 2.

SCOPE OF SERVICES

The purpose of our services was to evaluate site conditions as they relate to slope stability on the subject property in the area of the proposed development. We proposed to perform our evaluation in general accordance with the procedures outlined in Tumwater's Ordinance for Geologically Hazardous Areas. The specific tasks performed were:

1. Evaluated critical slopes on the property relative to the potential for landslide hazard in conformance with the City of Tumwater's Ordinance for Geologically Hazardous Areas, Chapter 16.20.
2. Reviewed pertinent and readily available information, including previously generated reports regarding the site geology and hydrogeology, as well as mapped landslides in the area.
3. Provided for the location of subsurface utilities on the property. We conducted this task by notifying the "One Call" utility notification system.
4. Excavated eight (8) exploratory test pits on the site using a small, track-mounted excavator. The test pits were excavated to depths of approximately 8 feet below ground surface, or to bedrock, whichever was encountered first.

1015 East 4th Avenue, Olympia, Washington 98506
Phone: 360.754.2128 Fax: 360.754.9299

5. Logged the soils encountered in the test pits in general accordance with the Unified Soil Classification System (ASTM D2487). Detailed logs of the test pits were completed in the field.
6. Collected representative soil samples from the test pits, as appropriate, for laboratory analyses.
7. Prepared a steep slope evaluation report for review by the City of Tumwater summarizing our activities and presenting our opinion on slope stability at the subject site.

REGULATORY DEFINITION

According to the City of Tumwater Critical Areas Ordinance (CAO), "Landslide Hazard Areas" means those areas which are potentially subject to risk of landslide due to a combination of geologic, topographic, and/or hydrologic factors; and where the vertical height is 10 feet or more.

The following areas, at a minimum, are considered to be subject to landslide hazards:

1. Areas of historic failures such as:
    a. Those areas delineated by the U.S. Department of Agriculture's Natural Resources Conservation Service as having "severe" limitation for building site development;
    b. Those areas mapped by the Department of Ecology (Coastal Zone Atlas) or the Department of Natural Resources (slope stability mapping) as unstable ("U" or class 3), unstable old slides ("UOS" or class 4), or unstable recent slides ("URS" or class 5);
    c. Areas designated as quaternary slump, earthflows, mudflows, lahars, or landslides on maps published by the U.S. Geological Survey or Department of Natural Resources.

2. Areas with all three of the following characteristics:
    a. Slopes steeper than fifteen percent; and
    b. Hillsides that have intersecting geologic contact with a relatively permeable sediment overlying a relatively impermeable sediment or bedrock; and
    c. Springs or ground water seepage.

3. Areas that have shown movement during the Holocene epoch (from ten thousand years ago to present) or that are underlain or covered by mass wastage debris of that epoch.

4. Slopes that are parallel or sub parallel to planes of weakness (such as bedding planes, joint systems, and fault planes) in subsurface materials.

5. Slopes having gradients steeper than eighty percent subject to rock fall during seismic shaking.

6. Areas potentially unstable because of rapid stream incision, stream bank erosion, and undercutting by wave action.

7. Areas located in a canyon or on an active alluvial fan, presently or potentially subject to inundation by debris flows or catastrophic flooding.

8. Any area with a slope of forty percent or steeper and with a vertical relief of ten or more feet, except areas composed of consolidated rock. A slope is delineated by establishing its toe and top and measured by averaging the inclination over at least ten feet of vertical relief.

FINDINGS

Area Geology

We reviewed the Washington State Department of Natural Resources (DNR) Interactive Geologic Map (https://geologyportal.dnr.wa.gov/) to evaluate the geology of the area and landslide potential. Based on our review, the site appears to be predominantly underlain by Vashon age glacial till deposits. The glacial till consists of an unsorted mixture of silt, sands, and gravels that was deposited at the base of the advancing glacier and was subsequently glacially compacted. Deposits of Eocene age basalts of the Crescent Formation are exposed on limited portions of the hillslopes and underlie soils at the site. The southern portion of the site, north of Sapp Road SW is identified as Vashon age glacial recessional outwash deposits. This material is described as recessional sands with minor fines and was deposited in stream channels and along the margins of glacially-formed lakes during the waning stages of the most recent glacial period in the Puget Sound area. These deposits are not glacially consolidated.

No landslide activity has been identified near the project site based on our review of DNR maps showing landslide inventories.

Soil beneath the site is classified as Everett very gravelly sandy loam, Indianola loamy sand and Schneider very gravelly loam, based on the 1986 Soil Conservation Service (SCS) Soil Survey for the Thurston County Area. The Everett and Indianola soils are generally deep, somewhat excessively drained soil formed along terraces and glacial outwash plains. The Schneider soils are generally deep well drained soils formed in colluvium derived from basalt.

Site Reconnaissance

We visited the subject site to evaluate the slopes on the property with regard to current and historical slope stability. The property consists of an undeveloped and wooded south facing slope of Tumwater Hill. The property is roughly rectangular in shape with an extension connecting to Sapp Road SW on the south edge of the property. The property is also accessed by Woodland Drive SW from the north. The parcel encompasses a shallow drainage that drains to the central portion of the site and discharged to the southwest and slopes from an elevation of 325 feet above mean sea level (MSL) along the east parcel boundary, to an elevation of 168 feet MSL near Sapp Road SW. A gravel road accesses the central portion of the property from Sapp Road SW. Three steep slopes were identified as having inclinations greater than 40 percent based on an elevation survey performed by Contour Engineering and provided by the client. The slopes are identified as Steep Slope A, B and C on the site plan. The majority of the remainder of the site has moderate slopes that descend to the south. Two limited areas with slopes less than 15 percent exist along the northeast and south edges of the site. A topographic map with identified steep slopes is shown on the Site Plan, Figure 2.

The proposed development area consists of all but an open tract area on the east portion of the site and a proposed stormwater infiltration pond near the south edge of the site. The southern and northern portions of the site will be accessed by roadways off of Sapp Road SW and Woodland Drive SW, respectively.

We did not observe indications of current or past large-scale slope failure on the property, such as slump blocks, back-tilted slopes, or ponded water on the slope. Geologic contacts with the underlying bedrock were observed in isolated areas along the steepest portions of the site, however no groundwater seeps were observed in these areas.

Subsurface Exploration

We excavated eight test pits in the locations as shown on the Site Plan, Figure 2. The test pits were excavated using a track-mounted excavator owned and operated by Insight Geologic. A geologist from Insight Geologic maintained a log of the conditions encountered. The test pits were generally completed to a depth of between 3 and 6 feet below ground surface (bgs) and were terminated upon reaching the underlying basalt. The test pits were completed along the steep slopes and northern portion of the site. The soils were visually classified in general accordance with the system described in ASTM D2487-06. The exploration logs are contained in Attachment A.

Soil Conditions

Soil conditions encountered in the test pits were highly variable across the site. Approximately 1 foot of organic forest duff was encountered in each of the test pits. Underlying the duff in test pits TP-1 and TP-2, we encountered 2 feet of brown fine to coarse sand with gravel and silt (SP-SM) in a loose and dry condition, overlying 2 to 3 feet of similar material in a very dense and dry condition. Underlying the granular soils at a depth of 5 feet bgs, we encountered weathered basalt in TP-2. Test pit TP-3 consisted of 2 feet of gravel with sand (GP) in a medium dense and dry condition between the duff and basalt. Test pits TP-4 and TP-5 consisted of 2 to 3 feet of silt (ML) with varying levels of gravel in a soft to medium stiff and dry to moist condition between the duff and weathered basalt. Test pits TP-6 and TP-8 consisted of 1 foot of forest duff directly in contact with the underlying weathered basalt. Test pit TP-7 consisted of 3 feet of silty sand with gravel (SM) in a loose and dry condition, overlying 2 feet of sand with gravel (SP) in a very dense and dry condition, before encountering the underlying weathered basalt. The granular soils in a very dense condition encountered at the site were consistent with a thin glacial till horizon.

Groundwater

Groundwater was not encountered in any of the test pits performed by Insight Geologic in August, due to the relatively dry summer. Test pits performed by Bradley Noble in early 2004 encountered significant groundwater in the mid-portion of the site along the existing roadway. In addition, the weathered basalt encountered at the site is moderately fractured which would provide conduits for groundwater flow. It has been our experience on other sites in the basalts that the fractures can be sources for significant quantities of groundwater flow during the winter months. Collection and diversion of the groundwater on individual lots will be required.

OPINION AND RECOMENDATIONS

The property includes three slopes that are designated as Landslide Hazard Areas due to inclinations greater than 40 percent. The three slopes range from approximately 40 to 65 feet in overall height. Cross sections of the landslide hazard areas are presented in Figure 3-A and 3-B. No indications of recent slope failure were observed on the steep slopes at the site. We did not observe ponded water or seeps on the slope. Fir trees do not exhibit evidence of curvature or "pistol butt" growth that would indicate minor shallow soil creep along the slope.

The probability of deep seated failure along these slopes is low. The slopes consist of a thin and poorly developed soil less than 6 feet in thickness over weathered basalts. The anticipated failure mechanism would be sloughing of shallow soil as a fluidized debris flow during a period of intense rain, which is a typical failure mechanism on slopes underlain by till and shallow bedrock.

Based on the City of Tumwater CAO, the required prescriptive buffer for the property would be a 50-foot setback from the edges of the Landslide Hazard Area. However, based on our evaluation and understanding of the project, it is our opinion that the slopes are stable in their current condition and construction activities are unlikely to negatively impact on-site or off-site conditions. Therefore, it is our opinion that the landslide hazard buffer may be reduced to 10 feet from the top and sides of the slopes provided foundations bear on the underlying bedrock.

Based on the anticipated shallow soil failure mechanism, we recommend a landslide hazard buffer of 20 feet from the toe of the slope. It would be possible to further reduce the buffer at the toe of the slope with the use of a properly engineered catchment wall to capture or divert debris flows which may occur on the steep slopes. A qualified professional engineer should be consulted for the design of such catchment walls. We should be contacted during the design phase to review retaining wall plans and provide supplemental recommendations, if needed.

DOCUMENT REVIEW AND CONSTRUCTION OBSERVATION

We recommend that we be retained to review the portions of the plans and specifications that pertain to earthwork construction. We recommend that monitoring, testing and consultation be performed during construction to confirm that the conditions encountered are consistent with our explorations and our stated design assumptions. Insight Geologic would be pleased to provide these services upon request.

LIMITATIONS

We have prepared this steep slope evaluation for the exclusive use of Chul Kim and his authorized agents for the Sunrise Hills Development located on Thurston County Tax Parcel No. 12827330000 at Sapp Road SW in Tumwater, Washington.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in the field of geotechnical engineering in this area at the time this report was prepared. No warranty or other conditions, expressed or implied, should be understood.

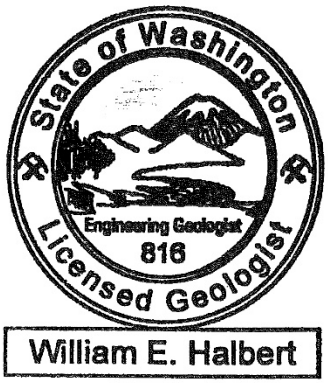
Please refer to Attachment B titled “Report Limitations and Guidelines for Use” for additional information pertaining to use of this report.

We appreciate the opportunity to be of service to you on this project. Please contact us if you have questions or require additional information about the contents of this report.

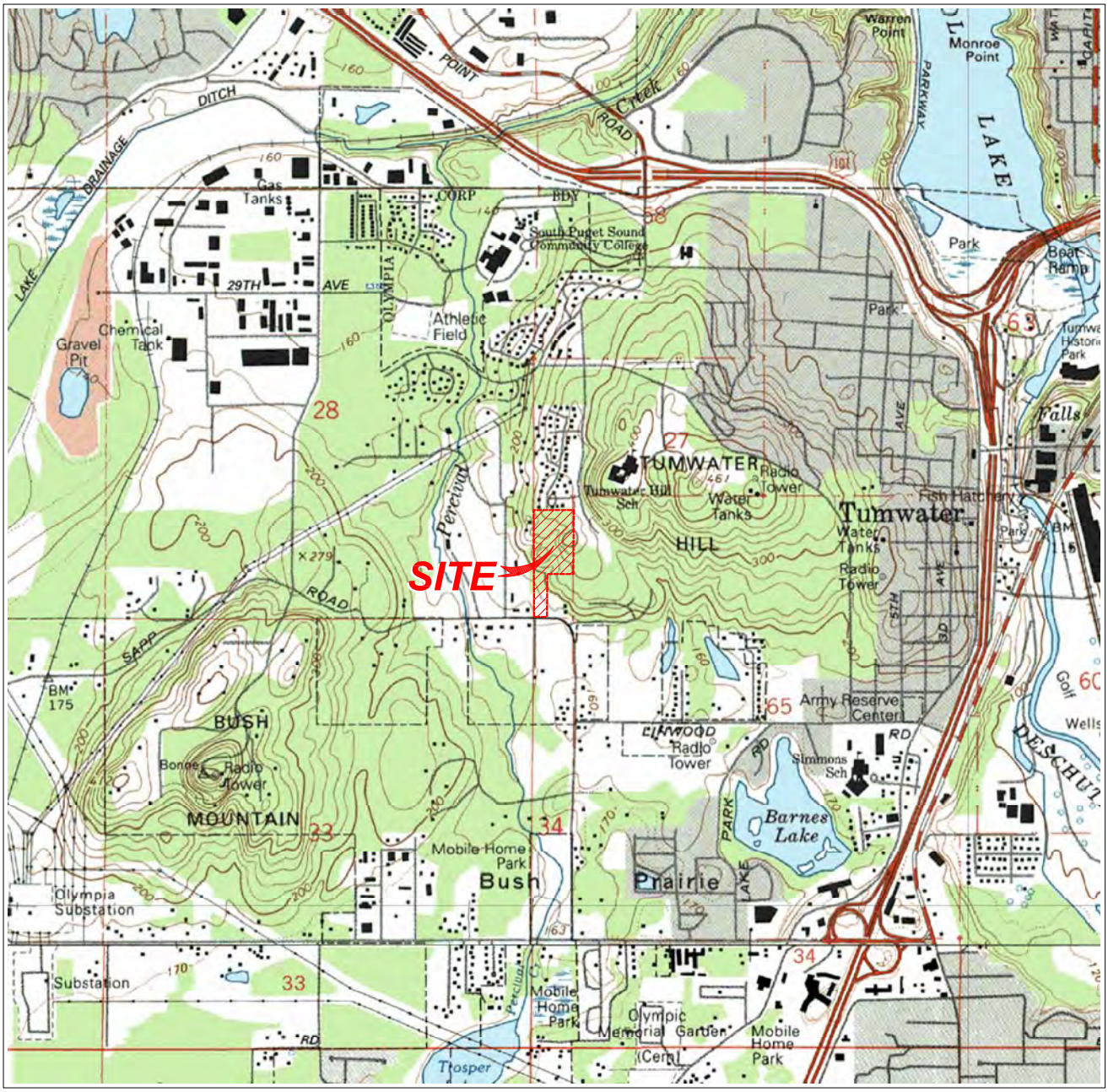
Respectfully Submitted,
INSIGHT GEOLOGIC, INC.

William E. Halbert L.HG., L.E.G.
Principal

Attachments



FIGURES



TUMWATER, WASHINGTON
7.5 MINUTE QUADRANGLE
Year 1994

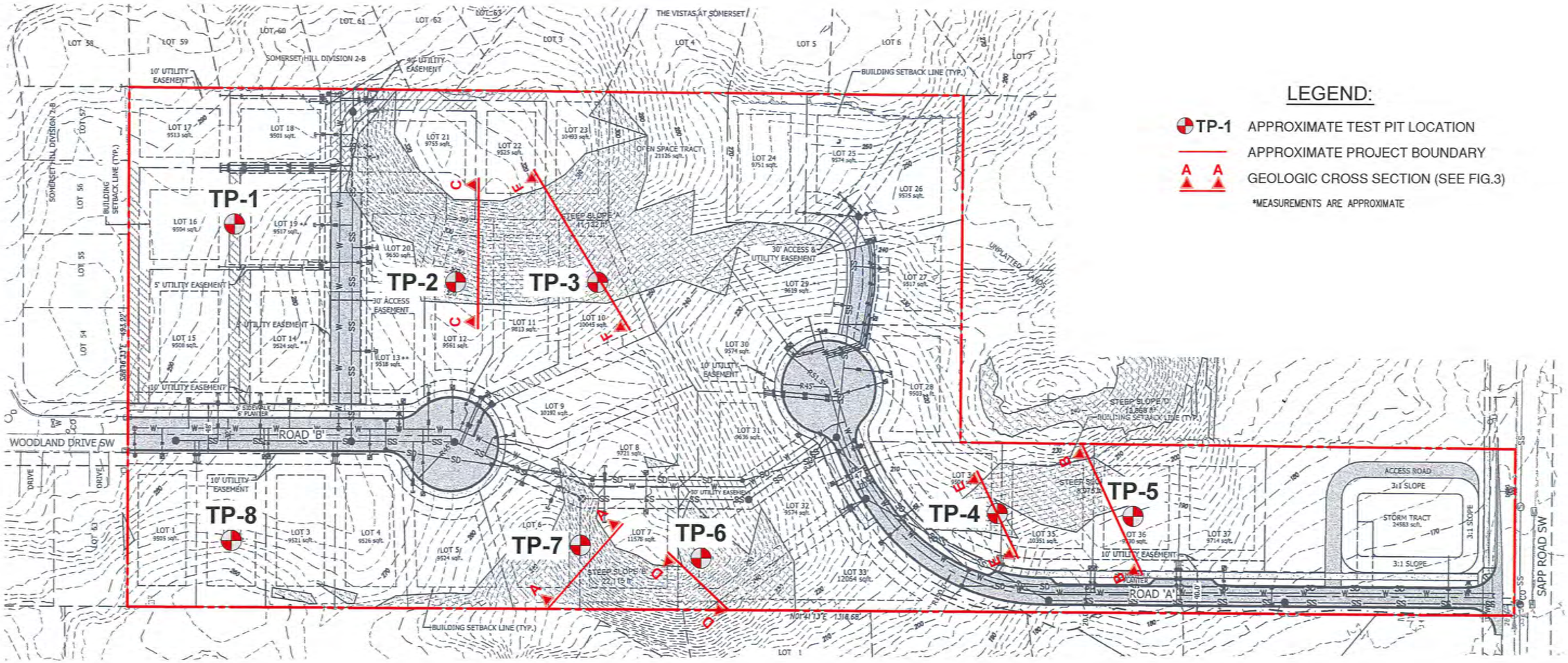
SCALE: 1: 24000

SUNRISE HILLS

TUMWATER, WASHINGTON

INSIGHT GEOLOGIC, INC.

Figure 1
Vicinity Map



LEGEND:

- TP-1 APPROXIMATE TEST PIT LOCATION
- APPROXIMATE PROJECT BOUNDARY
- A A GEOLOGIC CROSS SECTION (SEE FIG.3)

*MEASUREMENTS ARE APPROXIMATE

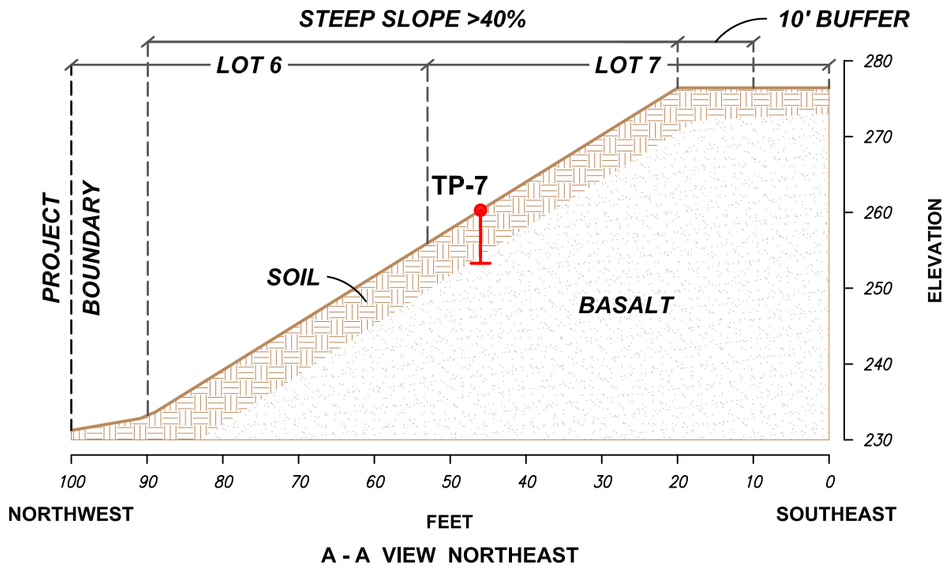
SOURCE: CONTOUR ENGINEERING

SCALE: 1" = 100'

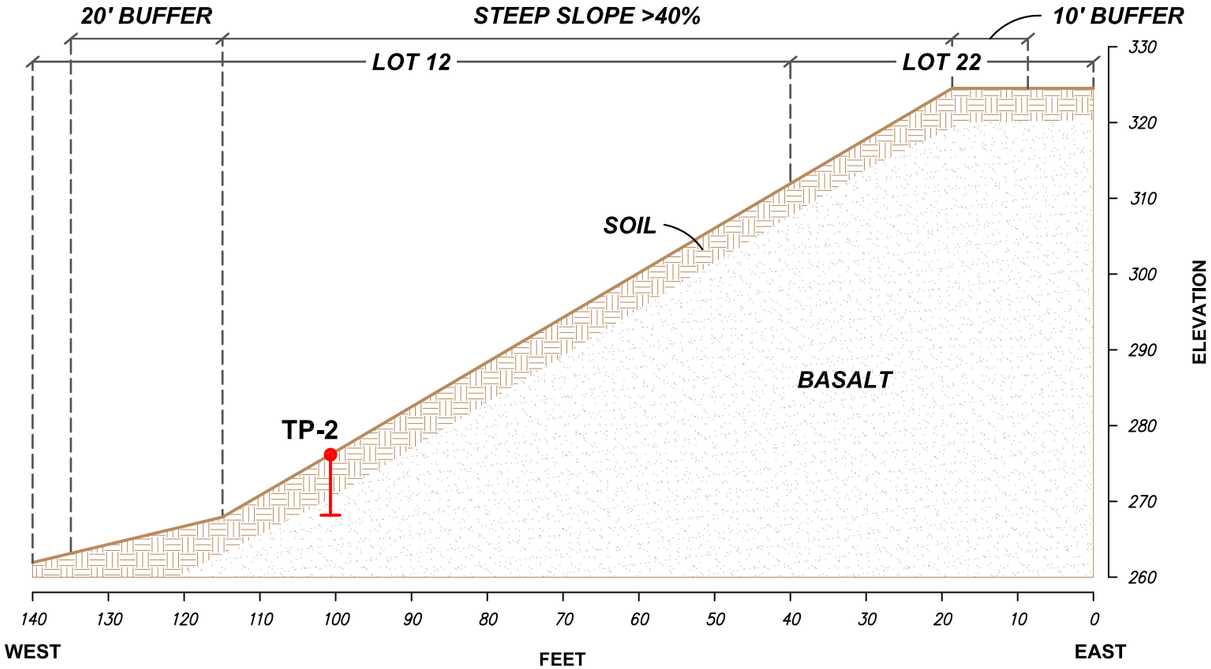
SUNRISE HILLS
TUMWATER, WASHINGTON

INSIGHT GEOLOGIC, INC.

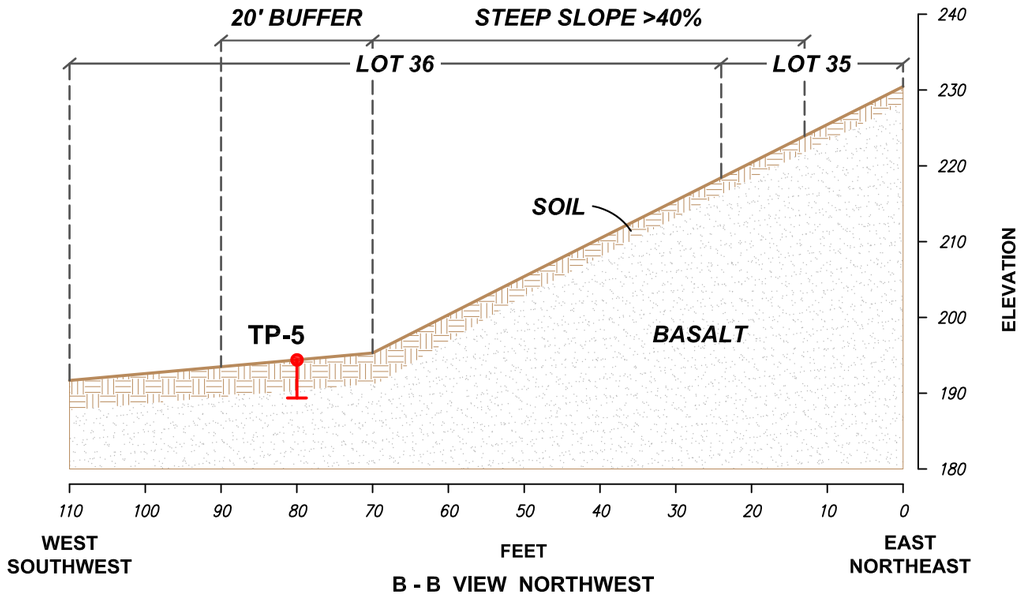
Figure 2
Site Plan



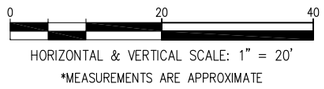
A - A VIEW NORTHEAST



C - C VIEW NORTH



B - B VIEW NORTHWEST



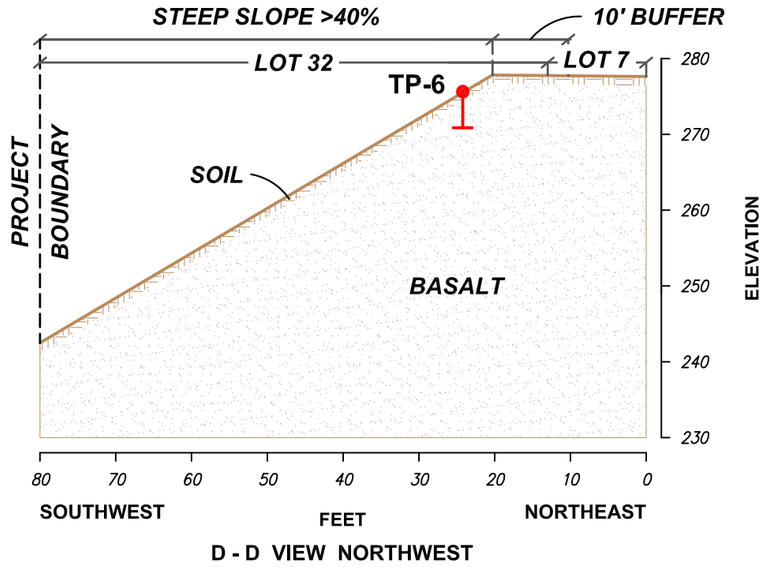
SUNRISE HILLS

TUMWATER, WASHINGTON

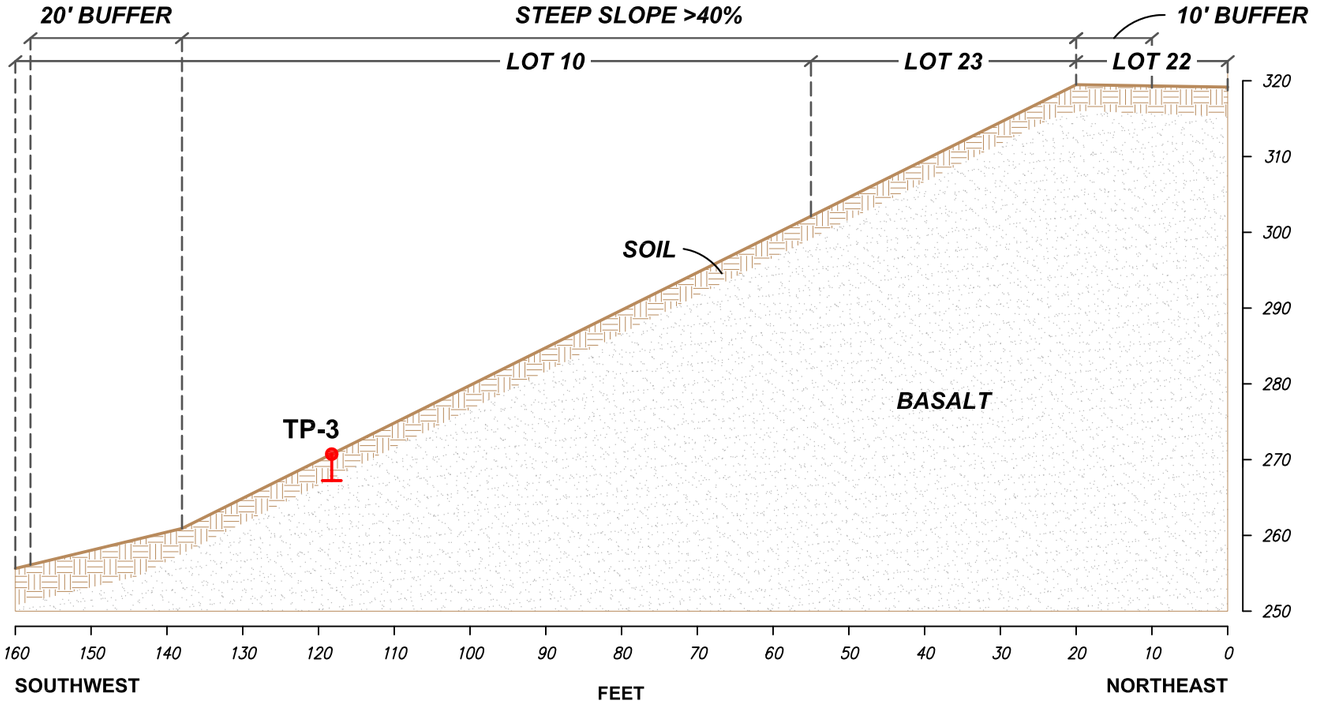
INSIGHT GEOLOGIC, INC.

Figure 3-A

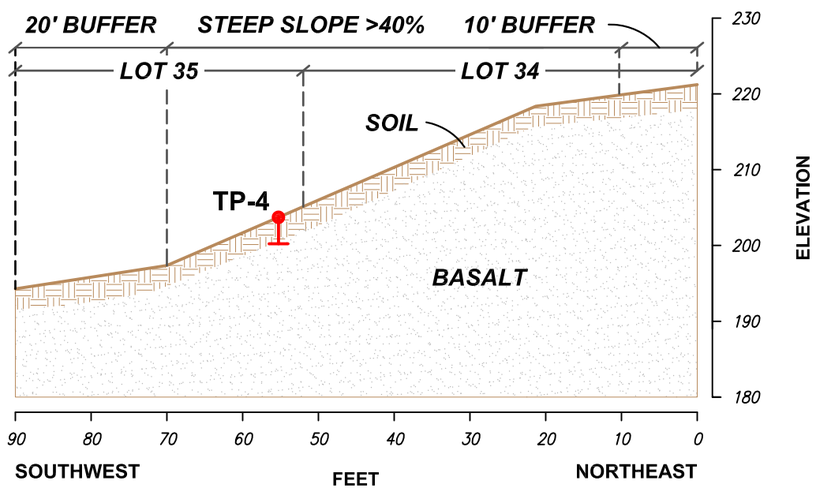
Cross Section



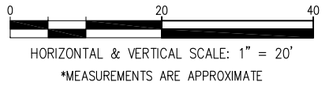
D - D VIEW NORTHWEST



F - F VIEW NORTHWEST



E - E VIEW NORTHWEST



SUNRISE HILLS

TUMWATER, WASHINGTON

INSIGHT GEOLOGIC, INC.

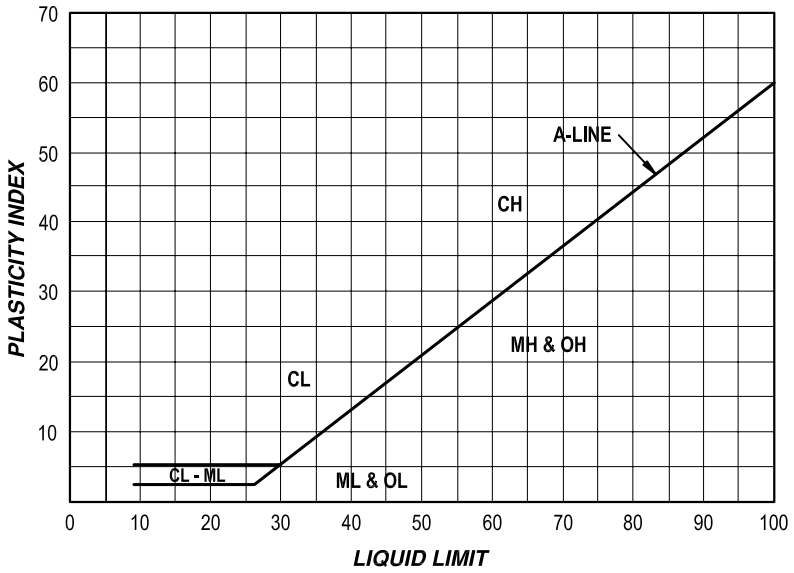
Figure 3-B

Cross Section

ATTACHMENT A
EXPLORATION LOGS

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		GROUP NAME
COARSE GRAINED SOILS (MORE THAN 50% RETAINED ON NO. 200 SIEVE)	GRAVEL AND GRAVELLY SOILS (MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE)	CLEAN GRAVEL <5% FINES		GW	WELL-GRADED GRAVEL, FINE TO COARSE GRAVEL
				GP	POORLY GRADED GRAVEL
		GRAVEL WITH FINES >12% FINES		GM	SILTY GRAVEL
				GC	CLAYEY GRAVEL
	SAND AND SANDY SOILS (MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE)	CLEAN SAND <5% FINES		SW	WELL-GRADED SAND, FINE TO COARSE SAND
				SP	POORLY GRADED SAND
		SAND WITH FINES >12% FINES		SM	SILTY SAND
				SC	CLAYEY SAND
FINE GRAINED SOILS (MORE THAN 50% PASSING NO. 200 SIEVE)	SILTS AND CLAYS (LIQUID LIMIT LESS THAN 50)	INORGANIC		ML	SILT
				CL	CLAY
		ORGANIC		OL	ORGANIC SILT, ORGANIC CLAY
	SILTS AND CLAYS (LIQUID LIMIT 50 OR MORE)	INORGANIC		MH	SILT OF HIGH PLASTICITY, ELASTIC SILT
				CH	CLAY OF HIGH PLASTICITY, FAT CLAY
		ORGANIC		OH	ORGANIC CLAY, ORGANIC SILT
HIGHLY ORGANIC SOILS				PT	PEAT



SOIL MOISTURE MODIFIERS:
DRY - ABSENCE OF MOISTURE, DUSTY, DRY TO THE TOUCH
MOIST - DAMP, BUT NO VISIBLE WATER
WET - VISIBLE FREE WATER OR SATURATED, USUALLY SOIL IS OBTAINED BELOW WATER TABLE

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS	TYPICAL DESCRIPTION
CC	CEMENT CONCRETE
AC	ASPHALT CONCRETE
CR	CRUSHED ROCK / QUARRY SPALLS
TS	TOPSOIL/SOD/DUFF

GROUNDWATER EXPLORATION SYMBOLS

- MEASURED GROUNDWATER LEVEL IN EXPLORATION, WELL, OR PIEZOMETER
- GROUNDWATER OBSERVED AT TIME OF EXPLORATION
- PERCHED WATER OBSERVED AT TIME OF EXPLORATION
- MEASURED FREE PRODUCT IN WELL OR PIEZOMETER

STRATIGRAPHIC CONTACT

- APPROXIMATE CONTACT BETWEEN SOIL STRATA OR GEOLOGIC UNIT
- APPROXIMATE LOCATION OF SOIL STRATA CHANGE WITHIN GEOLOGIC SOIL UNIT
- APPROXIMATE GRADUAL CHANGE BETWEEN SOIL STRATA OR GEOLOGIC SOIL UNIT
- APPROXIMATE GRADUAL CHANGE OF SOIL STRATA WITHIN GEOLOGIC SOIL UNIT

LABORATORY / FIELD TEST CLASSIFICATIONS

- **%F** PERECENT FINES
- **AL** ATTERBERG LIMITS
- **CA** CHEMICAL ANALYSIS
- **CP** LABORATORY COMPACTION TEST
- **CS** CONSOLIDATION TEST
- **DS** DIRECT SHEAR
- **HA** HYDROMETER ANALYSIS
- **MC** MOISTURE CONTENT
- **MD** MOISTURE CONTENT AND DRY DENSITY
- **OC** ORGANIC COMPOUND
- **PM** PERMEABILITY OR HYDRAULIC CONDUCTIVITY
- **PP** POCKET PENETROMETER
- **SA** SIEVE ANALYSIS
- **TX** TRIAXIAL COMPRESSION
- **UC** UNCONFINED COMPRESSION
- **VS** VANE SHEAR

SAMPLER SYMBOLS

- 2.4 INCH I.D. SPLIT BARREL
- DIRECT-PUSH
- STANDARD PENETRATION TEST
- SHELBY TUBE
- PISTON
- BULK OR GRAB

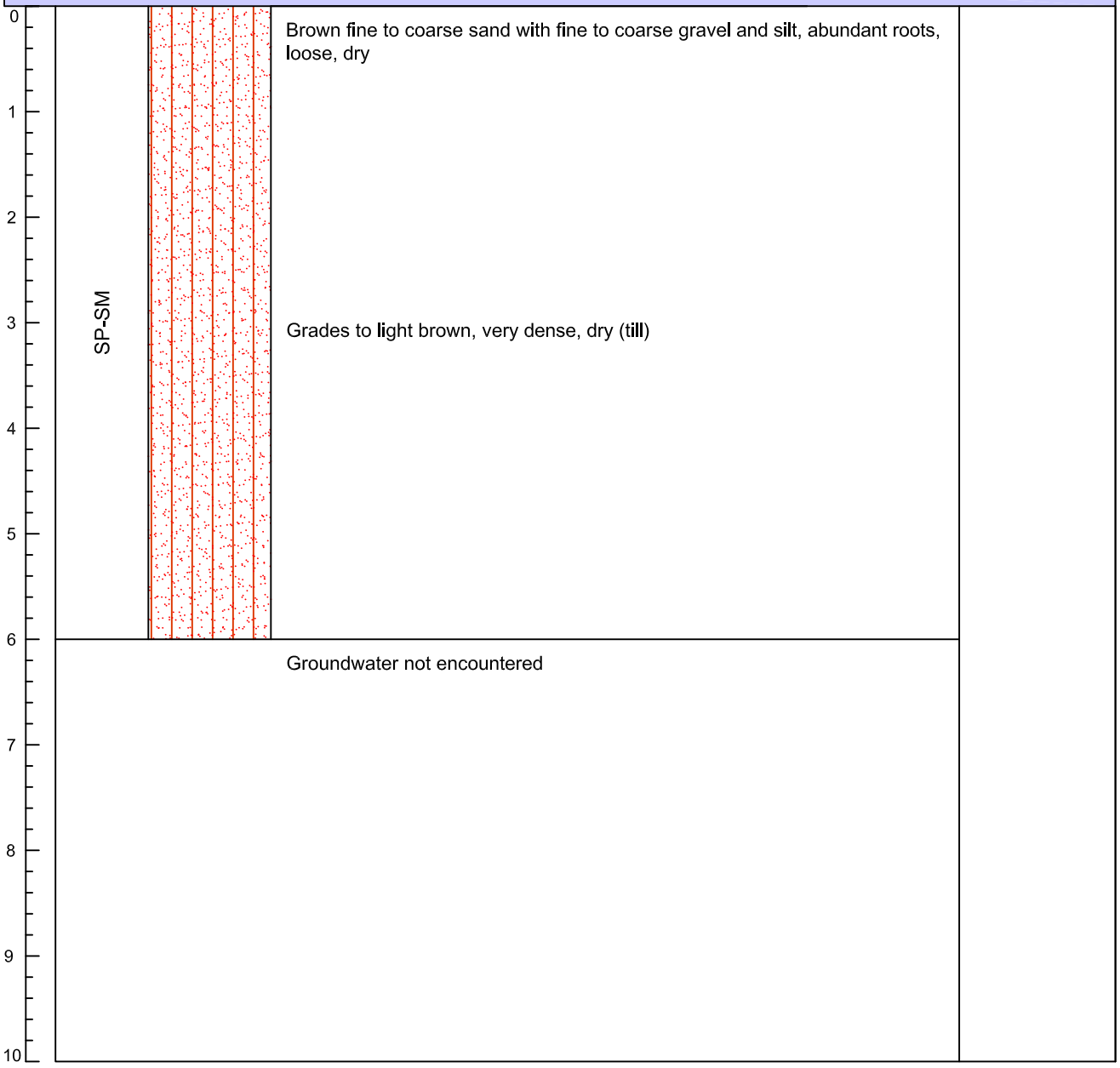
SHEEN CLASSIFICATIONS

- **NS** NO VISIBLE SHEEN
- **SS** SLIGHT SHEEN
- **MS** MODERATE SHEEN
- **HS** HEAVY SHEEN
- **NT** NOT TESTED

INSIGHT GEOLOGIC, INC.

Key to Exploration Logs

TP-1



LEGEND:

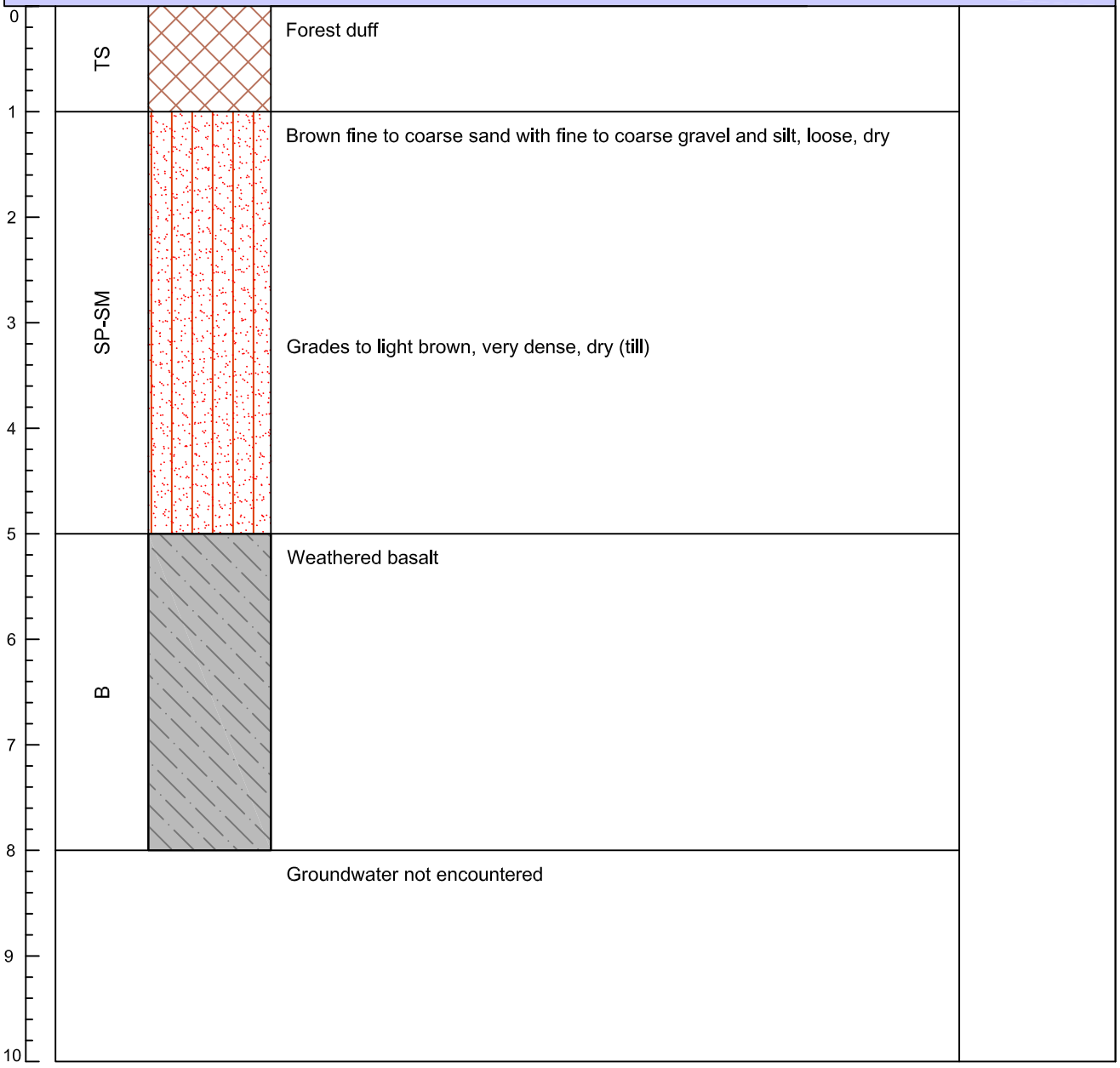
PROJECT NO.: 843-001-01
DATE: AUGUST 20, 2018
TOTAL DEPTH: 6 FEET
DRILLING EQUIPMENT: EXCAVATOR
LOGGED BY: KEVIN VANDEHEY

SUNRISE HILLS
TUMWATER, WASHINGTON

INSIGHT GEOLOGIC, INC.

Exploration Log TP-1

TP-2



LEGEND:

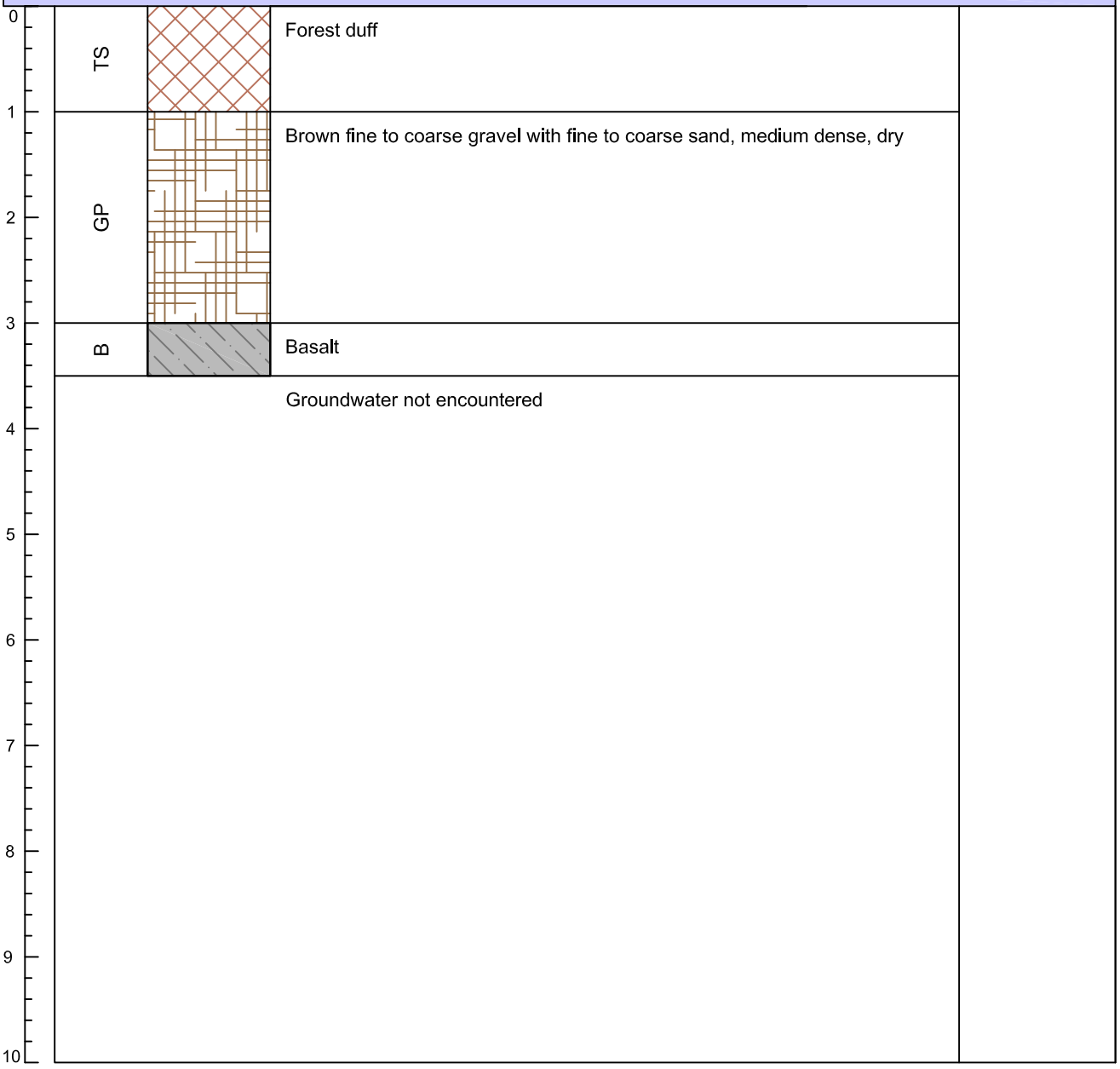
PROJECT NO.: 843-001-01
DATE: AUGUST 20, 2018
TOTAL DEPTH: 8 FEET
DRILLING EQUIPMENT: EXCAVATOR
LOGGED BY: KEVIN VANDEHEY

SUNRISE HILLS
TUMWATER, WASHINGTON

INSIGHT GEOLOGIC, INC.

Exploration Log TP-2

TP-3



LEGEND:

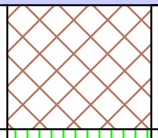
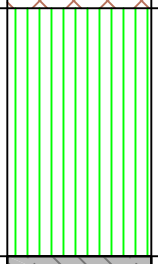
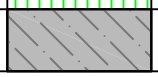
PROJECT NO.: 843-001-01
DATE: AUGUST 20, 2018
TOTAL DEPTH: 3.5 FEET
DRILLING EQUIPMENT: EXCAVATOR
LOGGED BY: KEVIN VANDEHEY

SUNRISE HILLS
TUMWATER, WASHINGTON

INSIGHT GEOLOGIC, INC.

Exploration Log TP-3

TP-4

DEPTH (FT)	U.S.C.S.	LITHOLOGY	SOIL DESCRIPTION	REMARKS AND LABORATORY TEST RESULTS
0	TS		Forest duff	
1	ML		Brown silt, occasional fine gravel, abundant roots, soft, dry	
3	B		Basalt	
			Groundwater not encountered	
10				

LEGEND:

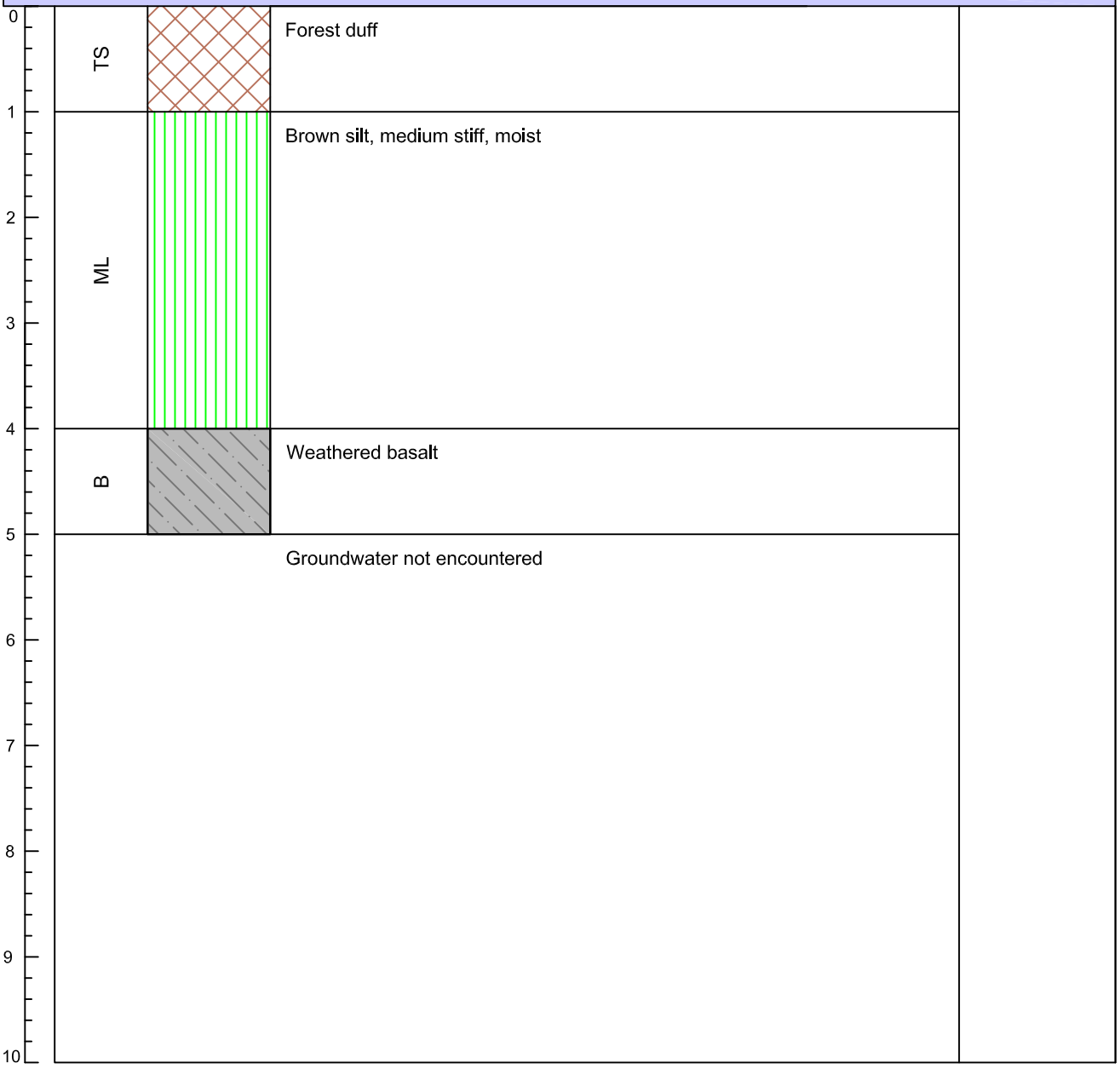
PROJECT NO.: 843-001-01
DATE: AUGUST 20, 2018
TOTAL DEPTH: 3.5 FEET
DRILLING EQUIPMENT: EXCAVATOR
LOGGED BY: KEVIN VANDEHEY

SUNRISE HILLS
TUMWATER, WASHINGTON

INSIGHT GEOLOGIC, INC.

Exploration Log TP-4

TP-5



LEGEND:

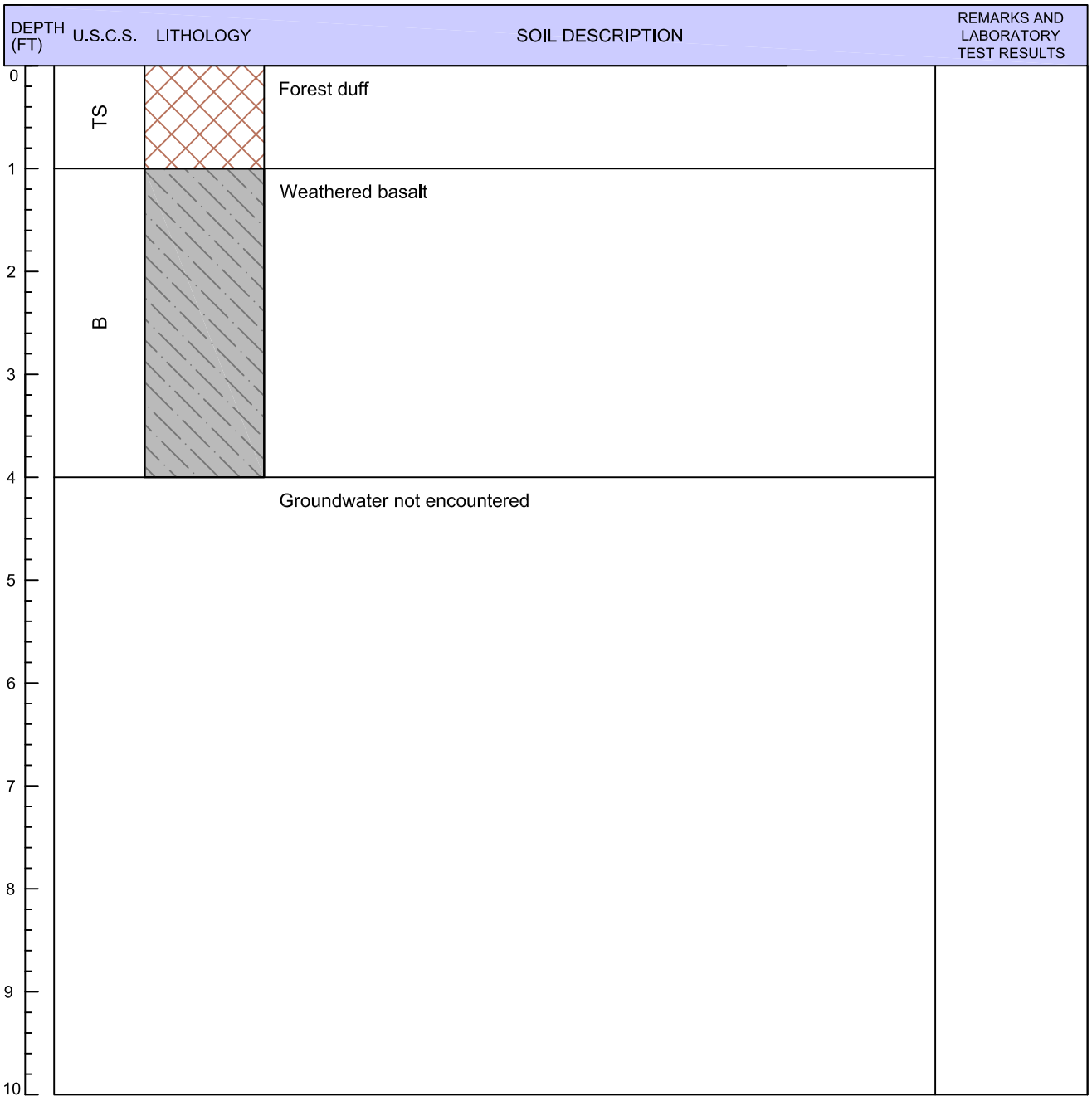
PROJECT NO.: 843-001-01
DATE: AUGUST 20, 2018
TOTAL DEPTH: 5 FEET
DRILLING EQUIPMENT: EXCAVATOR
LOGGED BY: KEVIN VANDEHEY

SUNRISE HILLS
TUMWATER, WASHINGTON

INSIGHT GEOLOGIC, INC.

Exploration Log TP-5

TP-6



LEGEND:

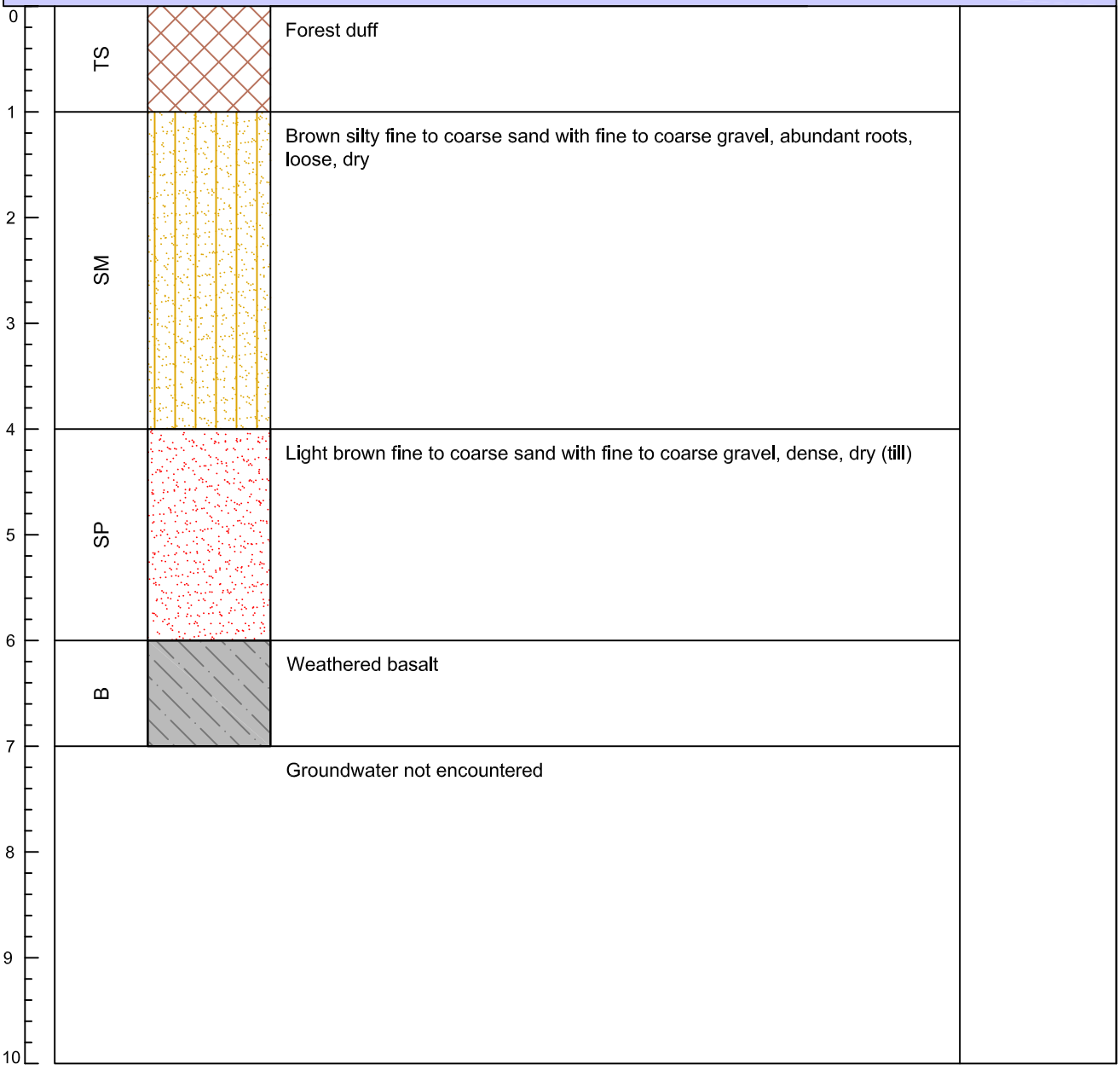
PROJECT NO.: 843-001-01
DATE: AUGUST 20, 2018
TOTAL DEPTH: 4 FEET
DRILLING EQUIPMENT: EXCAVATOR
LOGGED BY: KEVIN VANDEHEY

SUNRISE HILLS
TUMWATER, WASHINGTON

INSIGHT GEOLOGIC, INC.

Exploration Log TP-6

TP-7



LEGEND:

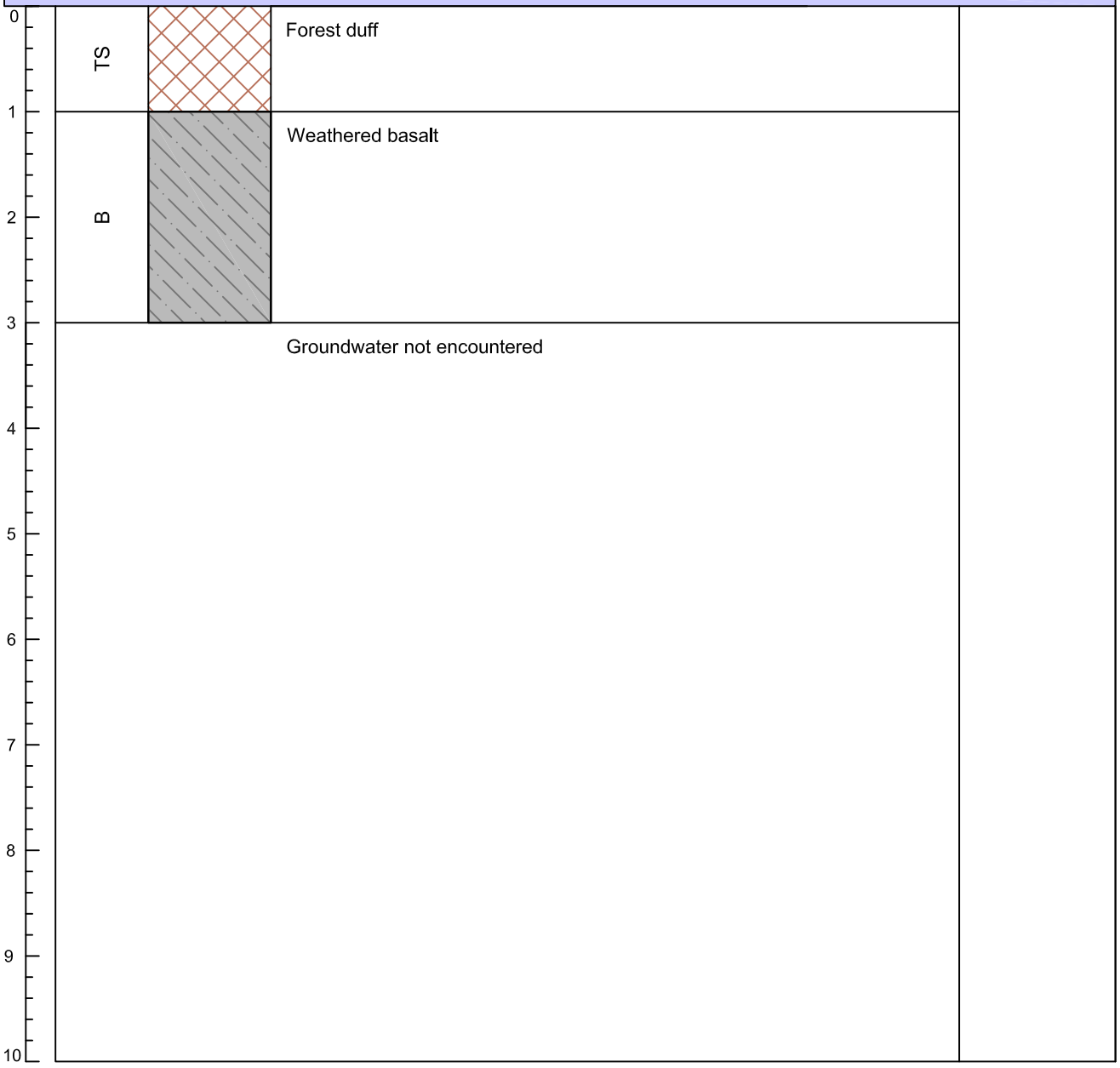
PROJECT NO.: 843-001-01
DATE: AUGUST 20, 2018
TOTAL DEPTH: 7 FEET
DRILLING EQUIPMENT: EXCAVATOR
LOGGED BY: KEVIN VANDEHEY

SUNRISE HILLS
TUMWATER, WASHINGTON

INSIGHT GEOLOGIC, INC.

Exploration Log TP-7

TP-8



LEGEND:

PROJECT NO.: 843-001-01
DATE: AUGUST 20, 2018
TOTAL DEPTH: 3 FEET
DRILLING EQUIPMENT: EXCAVATOR
LOGGED BY: KEVIN VANDEHEY

SUNRISE HILLS
TUMWATER, WASHINGTON

INSIGHT GEOLOGIC, INC.

Exploration Log TP-8

ATTACHMENT B
REPORT LIMITATIONS AND GUIDELINES FOR USE

ATTACHMENT B

REPORT LIMITATIONS AND GUIDELINES FOR USE[1]

This attachment provides information to help you manage your risks with respect to the use of this report.

GEOTECHNICAL SERVICES ARE PERFORMED FOR SPECIFIC PURPOSES, PERSONS AND PROJECTS

This report has been prepared for the exclusive use of Chul Kim (Client) and his authorized agents. This report may be made available to regulatory agencies for review. This report is not intended for use by others, and the information contained herein is not applicable to other sites.

Insight Geologic Inc. structures our services to meet the specific needs of our clients. For example, a geotechnical or geologic study conducted for a civil engineer or architect may not fulfill the needs of a construction contractor or even another civil engineer or architect that are involved in the same project. Because each geotechnical or geologic study is unique, each geotechnical engineering or geologic report is unique, prepared solely for the specific client and project site. Our report is prepared for the exclusive use of our Client. No other party may rely on the product of our services unless we agree in advance to such reliance in writing. This is to provide our firm with reasonable protection against open-ended liability claims by third parties with whom there would otherwise be no contractual limits to their actions. Within the limitations of scope, schedule and budget, our services have been executed in accordance with our Agreement with the Client and generally accepted geotechnical practices in this area at the time this report was prepared. This report should not be applied for any purpose or project except the one originally contemplated.

A GEOTECHNICAL ENGINEERING OR GEOLOGIC REPORT IS BASED ON A UNIQUE SET OF PROJECT-SPECIFIC FACTORS

Insight Geologic, Inc. considered a number of unique, project-specific factors when establishing the scope of services for this project and report. Unless Insight Geologic specifically indicates otherwise, do not rely on this report if it was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

For example, changes that can affect the applicability of this report include those that affect:

- the function of the proposed structure;
- elevation, configuration, location, orientation or weight of the proposed structure;
- composition of the design team; or
- project ownership.

If important changes are made after the date of this report, Insight Geologic should be given the opportunity to review our interpretations and recommendations and provide written modifications or confirmation, as appropriate.

---

[1] Developed based on material provided by ASFE, Professional Firms Practicing in the Geosciences; www.asfe.org .

SUBSURFACE CONDITIONS CAN CHANGE

This geotechnical or geologic report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by manmade events such as construction on or adjacent to the site, or by natural events such as floods, earthquakes, slope instability or ground water fluctuations. Always contact Insight Geologic before applying a report to determine if it remains applicable.

MOST GEOTECHNICAL AND GEOLOGIC FINDINGS ARE PROFESSIONAL OPINIONS

Our interpretations of subsurface conditions are based on field observations from widely spaced sampling locations at the site. Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Insight Geologic reviewed field and laboratory data and then applied our professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ, sometimes significantly, from those indicated in this report. Our report, conclusions and interpretations should not be construed as a warranty of the subsurface conditions.

GEOTECHNICAL ENGINEERING REPORT RECOMMENDATIONS ARE NOT FINAL

Do not over-rely on the preliminary construction recommendations included in this report. These recommendations are not final, because they were developed principally from Insight Geologic's professional judgment and opinion. Insight Geologic's recommendations can be finalized only by observing actual subsurface conditions revealed during construction. Insight Geologic cannot assume responsibility or liability for this report's recommendations if we do not perform construction observation.

Sufficient monitoring, testing and consultation by Insight Geologic should be provided during construction to confirm that the conditions encountered are consistent with those indicated by the explorations, to provide recommendations for design changes should the conditions revealed during the work differ from those anticipated, and to evaluate whether or not earthwork activities are completed in accordance with our recommendations. Retaining Insight Geologic for construction observation for this project is the most effective method of managing the risks associated with unanticipated conditions.

A GEOTECHNICAL ENGINEERING OR GEOLOGIC REPORT COULD BE SUBJECT TO MISINTERPRETATION

Misinterpretation of this report by other design team members can result in costly problems. You could lower that risk by having Insight Geologic confer with appropriate members of the design team after submitting the report. Also retain Insight Geologic to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering or geologic report. Reduce that risk by having Insight Geologic participate in pre-bid and pre-construction conferences, and by providing construction observation.

DO NOT REDRAW THE EXPLORATION LOGS

Geotechnical engineers and geologists prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a

geotechnical engineering or geologic report should never be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, but recognize that separating logs from the report can elevate risk.

GIVE CONTRACTORS A COMPLETE REPORT AND GUIDANCE

Some owners and design professionals believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering or geologic report, but preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with Insight Geologic and/or to conduct additional study to obtain the specific types of information they need or prefer. A pre-bid conference can also be valuable. Be sure contractors have sufficient time to perform additional study. Only then might an owner be in a position to give contractors the best information available, while requiring them to at least share the financial responsibilities stemming from unanticipated conditions. Further, a contingency for unanticipated conditions should be included in your project budget and schedule.

CONTRACTORS ARE RESPONSIBLE FOR SITE SAFETY ON THEIR OWN CONSTRUCTION PROJECTS

Our geotechnical recommendations are not intended to direct the contractor’s procedures, methods, schedule or management of the work site. The contractor is solely responsible for job site safety and for managing construction operations to minimize risks to on-site personnel and to adjacent properties.

READ THESE PROVISIONS CLOSELY

Some clients, design professionals and contractors may not recognize that the geoscience practices (geotechnical engineering or geology) are far less exact than other engineering and natural science disciplines. This lack of understanding can create unrealistic expectations that could lead to disappointments, claims and disputes. Insight Geologic includes these explanatory “limitations” provisions in our reports to help reduce such risks. Please confer with Insight Geologic if you are unclear how these “Report Limitations and Guidelines for Use” apply to your project or site.

GEOTECHNICAL, GEOLOGIC AND ENVIRONMENTAL REPORTS SHOULD NOT BE INTERCHANGED

The equipment, techniques and personnel used to perform an environmental study differ significantly from those used to perform a geotechnical or geologic study and vice versa. For that reason, a geotechnical engineering or geologic report does not usually relate any environmental findings, conclusions or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. Similarly, environmental reports are not used to address geotechnical or geologic concerns regarding a specific project.

EXHIBIT 11

From: Bill Halbert
To: Chris Carlson
Cc: "Chul Kim"
Subject: Proposed Sunrise Hills Development - Steep Slope Critical Area
Date: Friday, June 7, 2019 3:37:31 PM

Chris,

Thank you for meeting with Dr. Kim and myself a week or so ago. As we discussed, the proposed development site has critical slopes which designate as Landslide Hazard Areas based solely on their slope angle (greater than 40 percent). The site geology consists of a thin layer (3 feet or so) of weathered material (glacial basal till or ablation till) overlying competent marine basalts of the Crescent Formation. There was no evidence of past soil failures on these slopes and no evidence of soil creep such as bowed trees, cracks or sags in the soil. Exclusion of designated Critical Areas by the City in the overall density calculations for the development results in the loss of 5 building lots. Given the cost of grading and earthworks in an area underlain by dense basalt, the loss of these lots then renders the project fiscally unfeasible.

A question I posed at the end of our conversation was “When does a Critical Area cease being a Critical Area?” That is, if the slope can be engineered in a way that it no longer poses a threat to homes constructed at the top or at the toe of the slope, does it remain a “Critical Area”. For an exaggerated example, if we were to strip all the overlying soil off the bedrock so that there is nothing left to fail but bare rock (assuming no rockfall hazard), does this slope remain a CAO Landslide Hazard? There would be nothing left on the slope to fail and therefore the homes built at the base would be protected from the (now eliminated) hazard. Of course, we are not proposing to log those slopes and remove the soil, but you get the idea.

Along this same line of thinking, if we designed a highly engineered retention system for the slope consisting of rock bolts and a steel mesh so that the upper soil zone would be securely anchored to the slope and would not fail, and the homes below were thereby protected, does this engineered slope remain a hazard under the CAO simply due to slope? I would say that it does not.

Of course the first option is undesirable from both an aesthetic and cost standpoint and the second option would be costly as well, but the homes at the base of the slope would be protected from the potential hazard through either of these engineering measures.

To mitigate the potential hazard, we are proposing the installation of a continuous barrier or diversion wall along the base of the slope. This would not be a “retaining wall” per se, as it would not support the soil mass subject to potential failure on the slope. It would, however provide protection from “runout” at the base of the slope resulting from the likely mechanism of failure which would be mobilization of the thin soil layer as a debris flow. This mechanism involves loosening of the upper soil layer through over-saturation, resulting in increased weight of the soil and lowering of the soil strength. The mobilized soil then comes down the slope as a muddy, fluidized mass of relatively low volume. The engineered wall at the base of the slope would be designed to withstand the impact of the initial surge, and then retention and diversion of the remainder of the flow. There would be space between the wall and the slope sufficient to retain the debris flow and to allow cleanout of the mud by construction equipment. The houses and occupants at the base of the slope would therefore be protected through the implementation of engineered measures.

As with all the examples presented, the goal is protection of life and property through engineering means. We believe that our proposed engineered barrier negates the threat to houses and persons from a potential soil failure on the slope above. Therefore, the potential hazard has been mitigated and the slope should no longer be considered as “critical”. If this is the case, then the previously designated critical areas would then be deemed non-critical. As non-critical areas, they should be allowed to be included in the density calculations for the proposed development.

I appreciate your thoughtful review of our argument for this development. Please feel free to contact me if you have questions or require additional information.

Respectfully,

William Halbert

William Halbert, L.E.G., L.HG.
Principal

INSIGHT GEOLOGIC, INC.

1015 - 4th Avenue East
Olympia, Washington 98506
360.943.5003

Exhibit 15

Tami Merriman

From: Brad Medrud
Sent: Monday, June 21, 2021 8:35 AM
To: Janine Beaudry
Cc: Eileen Swarthout; John Ryan; Greg Knight; Tami Merriman
Subject: RE: Exhibit 14 on Sunrise Hills
Attachments: Notice of Application with Preliminary Plat Maps 06-18-2021.pdf; Notice of Application with SEPA Checklist and Preliminary Plat Maps 06-18-2021.pdf

Janine:

I have attached the Notice of Applications with the SEPA Checklist and the Preliminary Plat maps for the project. The comment period for the project will end on July 2, 2021.

Tami Merriman started last week as our new Permit Manager and will be the contact on the project going forward.

Thanks.

Brad Medrud, AICP | Acting Permit Manager/Planning Manager

From: Janine Beaudry <janine@janinebeaudry.com>
Sent: Friday, June 18, 2021 3:53 PM
To: Chris Carlson <CCarlson@ci.tumwater.wa.us>
Cc: Eileen Swarthout <ESwarthout@ci.tumwater.wa.us>; John Ryan <jjryanlaw@gmail.com>; Greg Knight <hilosilverawaylem@outlook.com>
Subject: Re: Exhibit 14 on Sunrise Hills

Hi Chris,

Just saw the public notice on Sunrise Hills Development again so it looks like he's making another run at it. Do you have any information on where the project stands right now? We have not yet received anything in the mail. Looks like he is applying for 31 or 34 homes and my understanding as zoning already won't allow the 34 homes so I don't know why he is trying this again.

But if I recall he could possibly get a plan for 31 homes approved. Not sure if there have been any further changes to zoning or anything that would impact this. With all the apartments and townhomes currently going in on the other end of our neighborhood (Somerset Hill) and hillside below Tumwater Hill Elementary, the urban development/traffic impact of this is even more disturbing than it was the last time he attempted this.

Seems like all of these new taxpayers in the area could sure use a nice park and I've heard the current seller has said he is just tired of paying property taxes on the land so it would sure be nice if the city of tumwater could purchase this land using some of the funds that were voted on by taxpayers for parks and be used to turn into a park just like Tumwater Hill Park that is just nature and trails. Just my two cents for what it's worth.

Sincerely,

The greatest compliment you can give me is the referral of a family member or friend.

Janine Meissner-Beaudry
Buyer/Seller Broker
Jet Realty
Cell (360)292-5515 (call or text)
http://www.jetrealtynw.com/
Get Your Free Mobile Home Search App Here

400 Union St Suite 200
Olympia, Wa 98501

From: Chris Carlson <CCarlson@ci.tumwater.wa.us>
Sent: Thursday, September 5, 2019 1:09 PM
To: Janine Beaudry <janine@janinebeaudry.com>
Subject: RE: Exhibit 14 on Sunrise Hills

Hi Janine –

OK, now I understand. I'm not sure what the distribution figures on pages 173 and 174 are doing in this report. Those figures were from when the project was previously approved in 2005 when Woodland Drive was going to be a through street connecting from Sapp Road all the way to Brookside.

Those figures are irrelevant to the current proposal since Woodland is not proposed to be connected through.

Thanks.

Chris Carlson, AICP | Permit Manager
City of Tumwater Community Development Department
555 Israel Road SW | Tumwater, WA 98501
(360) 754-4180
E-mail: ccarlson@ci.tumwater.wa.us
Web: www.ci.tumwater.wa.us

From: Janine Beaudry [mailto:janine@janinebeaudry.com]
Sent: Thursday, September 5, 2019 11:58 AM
To: Chris Carlson
Subject: Re: Exhibit 14 on Sunrise Hills

This attached diagram is correct but page 173 and 174 are incorrect. The blown up diagrams showing the entrances that Mr Kim was referencing last night. They show Woodland being used 30% of the time and Sapp 70% of the time. But that is inconsistant with the other studies and common sense. At least if I am reading them right. But John was reading them the same as I was and there was a notation on one of the pages that even said that the statistics were incorrect, but that it would not impact traffic patterns. Our argument is that if the statistics are incorrect, how can it not affect the traffic impact?

Really hoping it won't matter anyway and this gets denied.

Olympia, Wa. 98501 Suite 200

WARNING...Online banking fraud is real. REMAX Professionals will never ask for financial information. If you receive an email containing WIRE TRANSFER INSTRUCTIONS call your escrow officer immediately to verify. **DO NOT** use the phone number in the email. **DO NOT** send funds until verified.

From: Chris Carlson <CCarlson@ci.tumwater.wa.us>
Sent: Thursday, September 5, 2019 8:57 AM
To: Janine Beaudry <janine@janinebeaudry.com>
Subject: RE: Exhibit 14 on Sunrise Hills

Hi Janine –

I'm not sure what you are talking about?

I've marked up the trip distribution diagram submitted by the traffic engineer to try and clarify for you the distribution of trips from the 22 lots served by the north cul-de-sac.

Chris Carlson, AICP | Permit Manager
City of Tumwater Community Development Department
555 Israel Road SW | Tumwater, WA 98501
(360) 754-4180
E-mail: ccarlson@ci.tumwater.wa.us
Web: www.ci.tumwater.wa.us

From: Janine Beaudry [mailto:janine@janinebeaudry.com]
Sent: Thursday, September 5, 2019 7:03 AM
To: Chris Carlson
Cc: John Ryan
Subject: Re: Exhibit 14 on Sunrise Hills

So based on last nights meeting, 61.11% of the homes planned HAVE to enter from Woodland, which clearly makes it the main entrance. So the trip distribution traffic report stating that it would only be used about 30% of the time is NOT correct. And having all the focus on improvements on Sapp, which actually will only be used by 14 homes, would be mostly ineffective to the significant impact it will have in Somerset Hill.

This doesn't need to be on the record but it would be nice if that trip distribution report was thrown out or corrected for the record.

Janine Meissner Beaudry
RE/MAX Northwest
Cell 360-292-5515
Fax 360-918-7667
Your dreams are my priority.
Oh, and by the way, I am never too busy for your referrals of family and friends.

On Sep 3, 2019, at 8:38 AM, Chris Carlson <CCarlson@ci.tumwater.wa.us> wrote:

Janine –

Your additional comments will be submitted into the record.

The trip distribution (i.e. which way cars are entering and existing the site) from the traffic generated by the subdivision is a result of the professional traffic engineer putting the trip generation data into the regional traffic model produced by the Thurston Regional Planning Council (TRPC). This is the traffic model used by all jurisdictions and traffic engineers in the Thurston County region. He didn't just pull the data out of a "hat".

Let me know if you have further questions.

Chris Carlson, AICP | Permit Manager
City of Tumwater Community Development Department
555 Israel Road SW | Tumwater, WA 98501
(360) 754-4180
E-mail: ccarlson@ci.tumwater.wa.us
Web: www.ci.tumwater.wa.us

From: Janine Beaudry [mailto:janine@janinebeaudry.com]
Sent: Tuesday, September 3, 2019 12:52 AM
To: Chris Carlson
Cc: John Ryan
Subject: Exhibit 14 on Sunrise Hills

Chris,

I have been reading through all the documents in regards to the Sunrise Hills project in prepartation for the hearing on Sept 4th. So far, the plan seems to be in violation of the current zoning plan and they keep trying to find a different way to work around that every few years without ever doing what is really necessary and changing the plan to include only 30 houses to comply with the current zoning laws.

One of our major concerns in the Somerset Hill neighborhood is how Brookside and Woodland traffic would be affected by the use of that entrance into the new neighborhood. Exibit 14 states that 30% of residents would use the Woodland entrance and 70% would use Sapp. But I think that is completely false. I say 80% of the traffic will enter through Woodland as it is the closest entrance to the freeway and downtown Olympia area. Most people would have to drive past Brookside to get to the Sapp entrance. Why would they do that? They will use Woodland and come in through Brookside, which will significantly increase the traffic on Brookside and into our currently sefl contained neighborhood. So I don't know what hat they pulled these statistics from, but as someone who actually lives adjacent to this proposed development, I know the quickest ways to get to my house and can assure you that unless they are coming from shopping/dining in the vicinity of Trosper Rd, all traffic will come through the north end of the neighborhood and Brookside will turn into a thoroughfare.

We do not want there to be an entrance on Woodland except for maybe emergency services, but since the fire station is closest to the Sapp entrance, it doesn't make sense that they would need the secondary entrance. We don't want construction trucks idling and staging in our neighborhood. We have a quiet, low traffic and safe neighborhood for kids to play outside currently. If this plan is approved it will change the entire dynamic for our very family friendly neighborhood. It will more than double the amount of traffic currently coming up and down

Brookside Rd. The reason why we bought are house in this neighborhood was partially due to how safe it was and the only cars traveling into our neighborhood lived within it or were visiting. We know when cars don't belong. We know our neighbors. Having this encroachment on our neighborhood will decrease the value of our homes because it will now turn our house into being located on a "busy" street, a turnoff to potential buyers.

The added impact to Crosby will also be even more significant with the new apartments going in at the bottom of Barnes, possibly another multi family above it and now another 36 homes all coming through that dangerous intersection with no adjustment to traffic patterns until it becomes unsafe first, with injuries or worse from even more car accidents, rather than addressing the problem proactively based on future housing development plans.

https://weblink.ci.tumwater.wa.us/public/0/doc/394684/Page1.aspx

Still hoping this development will never come to pass.

Thanks,

The greatest compliment you can give me is the referral of a family member or friend.

Janine Meissner-Beaudry
Buyer/Seller Broker
RE/MAX Northwest
Cell (360)292-5515 (call or text)
www.janinebeaudry.com
Get Your Free Mobile Home Search App Here

<image001.jpg>

3009 Pacific Ave SE (Exit 107)
Olympia, Wa. 98501 Suite 200

Tami Merriman

From: Jeff Parks <jvparks@mindspring.com>
Sent: Friday, July 2, 2021 10:53 AM
To: Tami Merriman
Subject: Response to Sunrise Hills Notice of Application

To the City of Tumwater Community Development Dept.:

This e-mail is in regard to the proposed Sunrise Hills development.

My wife and I have owned our house at 3848 Antsen Rd. for 15 years, and for 15 years we have dealt with the repeated threats to develop the sensitive land to our east. It is time for the city to finally put a stop to this nonsense.

With the continuing development of Tumwater Hill, local wildlife is being squeezed more and more. The land of the proposed Sunrise Hills development is home to deer, coyotes, raccoons, possums, red-tailed hawks, barred owls, flickers, quail, and numerous species of songbirds. Additionally, I personally have witnessed a significant uptick in bald eagle activity overhead in the past year. This land is an excellent example of our local flora and fauna and deserves to be encapsulated as such. At the last public hearing on this matter in 2019 I proposed that the city turn this parcel into park land with some hiking trails like those found on the southwest face of Tumwater Hill, and I reiterate that that is the appropriate use for this land, if it is used for anything.

The high level of engineering that would be required to develop Sunrise Hills is a testament to just how unsuitable this land is as a site for homes. The surrounding neighbors have over the years repeatedly voiced their very strong and well-founded concerns about the effects of the blasting that would have to occur. The property owners who border the parcel should have no confidence that Dr. Kim will take any measures to mitigate any damage that could occur to their homes or land as a result of blasting or other disruption. His margins are already very thin in this latest attempt to develop this unsuitable land, and I can personally attest to his unwillingness to spend money to ensure the safety of the neighboring properties. Several years ago I brought to his attention several large fir trees on his land bordering my property that showed signs of weakening and presented him with a certified arborist letter stating as much. This was after one of the firs had already fallen. I explained that these trees presented a threat to the safety of my family and our home. Rather than offering to spend the small amount of money that it would cost to fall the handful of trees, Dr. Kim's exact response to me was, "Well, that's why I have insurance." Other neighbors and the city should expect the same attitude from Dr. Kim when it comes to respecting the health and safety of the surrounding homes and their occupants.

The proposed Sunrise Hills plat includes an access road with no buffer on the west, other than possibly a fence, coming off of Sapp Rd. This is unacceptable. Homeowners who have always had woods on the other side of their property line would now instead have a road immediately across their boundary. Even if this unsuitable land were to be developed, any reasonable person would expect a greenbelt to be left along the entire boundary. Further, adding another intersection to Sapp Rd. at the proposed spot is dangerous. Crosby Blvd. is already a short distance away from where the proposed access road would be, on a sweeping 90-degree turn where already the majority of drivers going from Crosby to Sapp fail to come to a complete stop at the stop sign.

During a previous attempt to develop this unsuitable land the city's solution to this traffic safety issue was to make the Sapp Rd. access point right-turn-only. However, the city made this revision after sending out the original notice of application to neighbors and did not mail the affected neighboring property owners an update after the revision. I only discovered it myself by stumbling across it by looking for some other information on the city's website. That revision was extremely significant for the surrounding area because it was guaranteed to lead to drivers trying to turn around in the mouths of nearby streets (primarily Antsen Rd., Crosby Blvd., and Grotto Ct.), a major safety, traffic, and noise issue for

the surrounding neighbors. The city's failure to actively notify neighbors of this major revision was tantamount to a bait-and-switch by the city and must not be allowed to happen again.

At the last public hearing for the previous attempt to develop Sunrise Hills on Sept. 4, 2019, the hearing examiner Mr. Andrew Reeves noted that typically such hearings are rote affairs with very few interested parties but that the Sunrise Hills hearing was clearly a topic of high interest due to the attendance. I was present at this hearing and can attest that nearly all if not all seats were filled. The City of Tumwater would be well-advised to take note of how stridently opposed the neighboring properties are to this proposed development. This is not just another housing development being proposed -- it is invasive, unsuitable, and flies in the face of common sense and responsible stewardship of city land.

Sincerely,

Jeffery V. Parks
3848 Antsen Rd. SW
Tumwater, WA 98512

Tami Merriman

From: tette74@comcast.net
Sent: Thursday, June 24, 2021 1:08 PM
To: Tami Merriman
Subject: Sunrise Hills Development

My family and I have lived at 3848 Antsen Rd for 15 wonderful years and enjoyed the solitude and tranquility of the 11 acres of forest behind our property boundary. In this time, there has been a daily presence of assorted wildlife: deer, raccoons, possums, and at least a half dozen coyotes nest in those woods. Additionally, there is a vast bird habitat including bald eagles, barred owls, redheaded woodpeckers, gilded flickers, hawks, California quail, spotted towhees, Cedar waxwings, blue herons, Rufous and Anna's hummingbirds, and countless other migratory birds.

Certainly there is ecological impact as well. Building on this very steep forest land will require huge amounts of excavation and probably blasting of granite rock to make way for the road and foundation work for houses. This might cause structural damage to existing homes, and the run off from seasonal rains could cause landslides onto the Antsen road homes.
Aside from the enormous disruption to the wildlife and peaceful scenery, we, and all our neighbors will be quite bereft of our privacy if there is a noisy road added within a few feet of our fence line. Not only will it be intrusive, it poses significant traffic hazards in the "elbow" adjacent to the Sapp and Crosby intersection. Very few people come to a complete stop at that stop sign as it is, and few people regard the speed limit on Sapp, but adding another intersection just a few yards away is bound to cause frequent collisions and possible fatalities.

It is of my opinion that the City of Tumwater should continue to restrict, if not outright forbid, building on this land. If Dr. Chul Kim /Sunrise Hills LLC wants to recover some of his investment, he should sell his land to the City of Tumwater for hiking trails, or perhaps a benevolent private party could turn it into a wildlife refuge. His development would be detrimental to all parties involved, except himself. Please consider our plea against this.

Sincerely,

Jeanette Parks

Tami Merriman

From: Shaun Dinubilo <sdinubilo@squaxin.us>
Sent: Tuesday, June 22, 2021 9:14 AM
To: Tami Merriman
Subject: RE: NOA - Sunrise Hills LLC Preliminary Plat

Hello Tami,

Thank you for contacting the Squaxin Island Tribe Cultural Resources Department regarding the above listed project for our review and comment. We have no specific cultural resource concerns for this project. However, if DAHP recommends a survey, or any other additional recommendations, we concur with DAHP's recommendations. We would prefer to receive an electronic copy by email once completed. If any archaeological or cultural resources are uncovered during implementation, please halt work in the area of discovery and contact DAHP and the Squaxin Island Tribe's Archaeologist, Shaun Dinubilo via email at sdinubilo@squaxin.us.

Shaun Dinubilo
Archaeologist
Cultural Resource Department
Squaxin Island Tribe
200 S.E. Billy Frank Jr. Way
Shelton, WA 98584
Office Phone: 360-432-3998
Cell Phone: 360-870-6324
Email: sdinubilo@squaxin.us

From: Kelly Wallace <KWallace@ci.tumwater.wa.us>
Sent: Friday, June 18, 2021 8:24 AM
Subject: NOA - Sunrise Hills LLC Preliminary Plat

Please see attached.

Kelly Wallace, CPT | Permit & Planning Technician
City of Tumwater Community Development
555 Israel Rd SW | Tumwater, WA 98501
(360) 754-4180 | KWallace@ci.tumwater.wa.us
www.ci.tumwater.wa.us

Exhibit 16

Tami Merriman

From: David Smith <dsmith3@ci.olympia.wa.us>
Sent: Wednesday, March 8, 2023 3:44 PM
To: Tami Merriman; Nicole Floyd
Subject: RE: City of Tumwater - Amended Notice of Application - Sunrise Hills LLC - Preliminary Plat - TUM-21-0551 -

Tami-

Ok thanks – Just my two cents worth and curiosity.

Dave

From: Tami Merriman <TMerriman@ci.tumwater.wa.us>
Sent: Wednesday, March 8, 2023 3:20 PM
To: David Smith <dsmith3@ci.olympia.wa.us>; Nicole Floyd <nfloyd@ci.olympia.wa.us>
Subject: RE: City of Tumwater - Amended Notice of Application - Sunrise Hills LLC - Preliminary Plat - TUM-21-0551 -

David and Nicole
This subdivision has been around for a very long time, first in 2005, again in 2019, and now in 2023.
I was not here during those times, but saw that the original plan did call for the street connection north to south. Due to the grade, required blasting and it's after effects, and traffic onto Woodland, the through street was removed.

I saw a reference in old documents, but it would take a little research to locate those findings.

Tami Merriman | Permit Manager
City of Tumwater Community Development
555 Israel Rd SW | Tumwater, WA 98501
(360) 754-4180
tmerriman@ci.tumwater.wa.us | www.ci.tumwater.wa.us

From: David Smith <dsmith3@ci.olympia.wa.us>
Sent: Wednesday, March 8, 2023 8:59 AM
To: Nicole Floyd <nfloyd@ci.olympia.wa.us>; Tami Merriman <TMerriman@ci.tumwater.wa.us>
Subject: RE: City of Tumwater - Amended Notice of Application - Sunrise Hills LLC - Preliminary Plat - TUM-21-0551 -

Good Day Nicole:

This project generates less than 50 pm peak hour trips and will not significantly impact the City of Olympia street system.

Hello Tami:

There is a lack of street connectivity in this area!
I am recommending that Woodland Drive connect through to Sapp Road and create a new north-south street connection.

Can you tell me why this is not being required?

The current design will unnecessarily add additional traffic to Crosby Blvd hill area.

Thanks,

Dave S. Smith, P.E.
Transportation Engineer
Olympia, Public Works Dept. Transportation
360.753.8496
601 4th Avenue East
Olympia, WA 98501
dsmith3@ci.olympia.wa.us
www.olympiawa.gov

From: Nicole Floyd <nfloyd@ci.olympia.wa.us>
Sent: Tuesday, March 7, 2023 4:15 PM
To: David Smith <dsmith3@ci.olympia.wa.us>
Subject: FW: City of Tumwater - Amended Notice of Application - Sunrise Hills LLC - Preliminary Plat - TUM-21-0551

From: Brittaney Kelton <BKelton@ci.tumwater.wa.us>
Sent: Tuesday, March 07, 2023 2:59 PM
Subject: City of Tumwater - Amended Notice of Application - Sunrise Hills LLC - Preliminary Plat - TUM-21-0551

Good afternoon,

Click here to view the Amended Notice of Application for Sunrise Hills LLC Preliminary Plat, TUM-21-0551. If you have any questions or would like additional information, please contact Tami Merriman, Permit Manager, at 360-754-4180 or tmerriman@ci.tumwater.wa.us.

Thank you,

Brittaney Kelton | Department Assistant II
City of Tumwater Community Development
555 Israel Rd SW | Tumwater, WA 98501
(360) 754-4180
bkelton@ci.tumwater.wa.us | www.ci.tumwater.wa.us

Nisqually Indian Tribe
Tribal Historic Preservation Office
4820 She-Nah-Num Dr. S.E.
Olympia, WA 98513
(360) 456-5221

March 8, 2023

To: Tami Merriman, Permit Manager
City of Tumwater
Community Development
555 Israel Road SW
Tumwater, WA 98501

Re: TUM-21-0551

The Nisqually Indian Tribe's THPO has reviewed the notice of application and supplemental materials that you provided for the above-named project and has no specific comments or concerns at this time. Please keep us informed if there are any Inadvertent Discoveries of Archaeological Resources/Human Burials.

Although the Nisqually Indian Tribe has no specific concerns at this time, we respect the traditional cultural knowledge of affected tribes and support their opinions on this matter as well.

Sincerely,

Brad Beach, THPO
Nisqually Indian Tribe
360-528-1084
360-456-5221 ext. 1277
beach.brad@nisqually-nsn.gov

cc: Annette Bullchild, Director, Nisqually Indian Tribe

Tami Merriman

From: Kelly Wallace
Sent: Monday, April 3, 2023 8:07 AM
To: Al Christensen; Alex Baruch; Austin Ramirez; Brad Medrud; Brittaney McClanahan; Eric Heide; Erika Smith-Erickson; Jared Crews; Jeff Query; Kelly Wallace; Kerri Kinnaird; Mick Uffelman; Mike Matlock; Rodney Shea; Tami Merriman
Subject: FW: Sunrise Ridge

From: Emily Oberoi <emilyoberoi.realtor@gmail.com>
Sent: Sunday, April 2, 2023 9:16 AM
To: CDD DGroup <cdddgroup@ci.tumwater.wa.us>
Subject: Sunrise Ridge

Hi there,

I was told that I was supposed to get a letter from Sunrise Ridge with ample notice to write a letter to the City opposing the development.

I live at 3815 Cassie Drive southwest. The area of development is in direct view of all of my windows. I did not receive a letter in any shape or form in regards to this development and my neighbors did not either.

I found out about the March 24th deadline for opposing letters on the 28th.

I call for a redistribution of this letter and a pause on the development until all neighbors have been given a chance to speak.

Thank you please get back to me with confirmation of this email and your thoughts.

Emily Oberoi
Real Estate Broker
971-227-3308
emilyoberoi.realtor@gmail.com
Realty ONE Group Bold
5215 Corporate Center Ct SE, Suite A
Lacey, WA 98503

Tami Merriman

From: Tami Merriman
Sent: Tuesday, May 2, 2023 4:23 PM
To: Tami Merriman
Subject: FW: Sunrise Ridge Proposed Development

From: Swarthout, Eileen <Eileen.Swarthout@leg.wa.gov>
Sent: Monday, April 10, 2023 2:46 PM
To: CDD DGroup <cdddgroup@ci.tumwater.wa.us>
Subject: Sunrise Ridge Proposed Development

Good afternoon,

Our office received a phone call from a constituent asking about the preliminary plat approval for Sunrise Ridge (?) They saw the big yellow sign posted on Sapp Road. They remember this has come up before and thought it was a dead issue.

Where do I find this information about the preliminary plan on the Tumwater website?

Thank you.

Sincerely,

Eileen Swarthout
Senior Legislative Assistant for Rep.Beth Doglio
Washington State House of Representatives - 22nd Legislative District
318 John L O'Brien Building, Olympia, WA 98504
360-786-7940
Our office has gone paperless. Please provide all material electronically. Thank you!
Please be aware that any email or documents you provide this office may be subject to disclosure under RCW 42.56.

Tami Merriman

From: Brittaney Kelton
Sent: Tuesday, March 7, 2023 4:04 PM
To: Tami Merriman
Subject: FW: City of Tumwater - Amended Notice of Application - Sunrise Hills LLC - Preliminary Plat - TUM-21-0551

From: JJ Ryan Law <jjryanlaw@gmail.com>
Sent: Tuesday, March 7, 2023 4:03 PM
To: Brittaney Kelton <BKelton@ci.tumwater.wa.us>
Cc: Janine and April Messner-Beaudry <janine@janinebeaudry.com>
Subject: Re: City of Tumwater - Amended Notice of Application - Sunrise Hills LLC - Preliminary Plat - TUM-21-0551

Ms Kelton,
Please expect an appeal from our Somerset neighborhood association again. This is nearly the identical proposal that was previously rejected and there has been no effort on the part of the developer or the City of Tumwater to address and mitigate our signigficant concerns.
John
John J. Ryan
Attorney At Law
jjryanlaw@gmail.com
WSBA 14197
915 Trosper Rd SW, #101
Tumwater WA 98512
2066184212

> On Mar 7, 2023, at 2:59 PM, Brittaney Kelton <BKelton@ci.tumwater.wa.us> wrote:
>
> Good afternoon,
>
> Click here to view the Amended Notice of Application for Sunrise Hills LLC Preliminary Plat, TUM-21-0551. If you have any questions or would like additional information, please contact Tami Merriman, Permit Manager, at 360-754-4180 or tmerriman@ci.tumwater.wa.us.
>
> Thank you,
>
> **Brittaney Kelton | Department Assistant II**
> City of Tumwater Community Development
> 555 Israel Rd SW | Tumwater, WA 98501
> (360) 754-4180
> bkelton@ci.tumwater.wa.us | www.ci.tumwater.wa.us

Tami Merriman
Community Development Department
City of Tumwater

Dear Tami:

This is our comment on the proposed Sunrise Hill Preliminary Plat. We oppose the development of lots #33 and 32. These lots are located on top of a very steep and rocky hill on the east edge of the property. We suspect that developing these lots will require extensive rock removal by heavy machinery and/or blasting. While we recognize that this was done in other nearby developments, including ours in the 1990's and earlier, there were few residents and few existing homes nearby. Today blasting and other industrial rock removal could cause damage to many nearby homes and property. In some cases the damages caused might not appear for some years after the developer has sold the property and released their liability.

Additionally, by eliminating these lots and including them as part of the proposed open space tract, the City could provide a screen between two neighborhoods, preserve the tree scape that is visible throughout the area and foster a green corridor from Sapp Road to the top of top Tumwater Hill. Here is a photo of the beautiful, tall treescape as it now looks from Vista Loop:

Trimble / Cogburn Comments

Given the steepness of the slopes between the back of our house and these lots, there would be car headlights and direct views into our second story bedroom. If the lots are allowed, we respectfully request the following:

1. A required vegetative and fencing privacy screen between our property and the subject lots;
2. Preservation of at least some of the existing large evergreen trees.
3. Protection of all of the plants and trees near or on our property line bordering these lots. (I believe two evergreen are on or very near the property line and we want them protected at the root zone.) and
4. A prohibition on the use of heavy machinery such as rock drills or hammers and blasting in the construction of this development.

I would be glad to provide any additional information that you may need. Since we have lived here since 2005, I can provide information about the incredible variety of wildlife that live in these woods and frequent our property. If you or your staff would like to visit my property to get a feel for our concerns, just let me know.

Sincerely,

Eric Trimble Sydne Cogburn

Eric Trimble
Sydne Cogburn
1720 Crosby Court SW
Tumwater, WA 98512

Tami Merriman

From: DARIN RICE <darin.rice@comcast.net>
Sent: Friday, March 17, 2023 9:12 AM
To: Tami Merriman
Subject: Sunrise Hills proposal

Ms. Merriman,

We'd like be on the record about concerns with the Sunrise Hills LLC development proposal.

We live at 3860 Antsen St SW, Tumwater. Our property receives the lion's share of water runoff during the winter from the hill/slopes being proposed for development.

When we bought our house/property almost 25 years ago, the city required an engineered collection system in our yard, designed to capture and redirect that runoff. As we have experienced more extreme weather events over the years, that collection system cannot keep up with all the runoff that comes onto our property during a wet winter and/or extreme rain events.

If the proposed development proceeds, with a road right in front of our back property line, it is critical from our perspective that stormwater retention and stormwater systems are put in the place that alleviate our current problem of runoff coming onto our property.

We want to avoid situation where an under designed system/development makes our runoff problem worse.

Can you share the City's perspective on and awareness of the runoff issues that development would cause to adjacent/downhill properties like ours, and what requirements/specifications you'd require if the development moves forward?

Thank you for hearing our concern.

Darin and Denise Rice

Tami Merriman

From: Shaun Dinubilo <sdinubilo@squaxin.us>
Sent: Tuesday, March 14, 2023 1:32 PM
To: Tami Merriman
Subject: RE: City of Tumwater - Amended Notice of Application - Sunrise Hills LLC - Preliminary Plat - TUM-21-0551

Hello Tami,

Thank you for contacting the Squaxin Island Tribe Cultural Resources Department regarding the above listed project for our review and comment. We have no specific cultural resource concerns for this project. However, if DAHP recommends a survey, or any other additional recommendations, we concur with DAHP's recommendations. We would prefer to receive an electronic copy by email once completed. If any archaeological or cultural resources are uncovered during implementation, please halt work in the area of discovery and contact DAHP and the Squaxin Island Tribe's Archaeologist, Shaun Dinubilo via email at sdinubilo@squaxin.us.

Shaun Dinubilo
Archaeologist
Cultural Resource Department
Squaxin Island Tribe
200 S.E. Billy Frank Jr. Way
Shelton, WA 98584
Office Phone: 360-432-3998
Cell Phone: 360-870-6324
Email: sdinubilo@squaxin.us
Email is my perferred method of communication.

From: Brittaney Kelton <BKelton@ci.tumwater.wa.us>
Sent: Tuesday, March 7, 2023 2:59 PM
Subject: City of Tumwater - Amended Notice of Application - Sunrise Hills LLC - Preliminary Plat - TUM-21-0551

Good afternoon,

Click here to view the Amended Notice of Application for Sunrise Hills LLC Preliminary Plat, TUM-21-0551. If you have any questions or would like additional information, please contact Tami Merriman, Permit Manager, at 360-754-4180 or tmerriman@ci.tumwater.wa.us.

Thank you,

Brittaney Kelton | Department Assistant II
City of Tumwater Community Development
555 Israel Rd SW | Tumwater, WA 98501
(360) 754-4180

bkelton@ci.tumwater.wa.us | www.ci.tumwater.wa.us

Tami Merriman

From: kgsearles <kgsearles@comcast.net>
Sent: Thursday, March 23, 2023 3:57 PM
To: Tami Merriman
Subject: RE: Sunrise Hills TUM-21-0551

Hi Tami,
After reviewing the preliminary plat maps dated 11/17/22 for Sunrise Hills, there a three areas we would like changed to help clarify the intentions of the developer. The property my husband and I own is Lot 1 of plat #7138, Searles, Philip S, PN 1282844010, which is below TR G, TR F and TR E.
1. In the preliminary plat map that was attached to a city letter dated 6/18/21, our property line to the south (owned by Jeffrey Parks) did not show a space between the two properties. The 2022 preliminary plat map shows a space between the two properties (which doesn't exist), just below TR G and touching TR F. TR F is the Access Utilities track. According to the legend, this is a property line/right-of-way. Because of the change to our property line at that juncture, we want the space removed on future versions of this plat map and/or verbiage stating "No future access or right-of -way is intended between our property and Sunrise Hills subdivision."
2. Please remove the words "Access/Utilities" from our property and move it to TR F which is the track for accessing the utilities.
3. Below TR E, there is a thin, solid black line below the property line of the subdivision onto our property and our neighbors to the north, Scott and Julie Kincaid. The legend indicates this type of line is some kind of right-of-way. We would like this line removed on future versions of the plat maps and/or verbiage stating "No future access or right- of- way is intended between our property and Sunrise Hills subdivision." The 2021 preliminary plat map didn't show this line, just the slope contours.
We realize that our requested changes may seem petty but from our perspective, we feel it's better to address our concerns so there will be no questions as this project moves forward. We have been approached a couple of times over the last several years by the developer to purchase a right-of-way right where the space appears between our property and our neighbor to the south. It raised our eyebrows when we saw the inaccurate property lines placed where they are.
We respectfully request our concerns and proposed changes be presented to the developer and/or his representatives for further consideration and action.
Sincerely,
Kathy and Philip Searles
3808 Antsen ST SW
Tumwater, WA 98512

Sent from my T-Mobile 4G LTE Device

-------- Original message --------
From: Tami Merriman <TMerriman@ci.tumwater.wa.us>
Date: 3/14/23 11:19 AM (GMT-08:00)
To: kgsearles@comcast.net
Subject: Sunrise Hills TUM-21-0551

Good Morning Kathy

Here is the map that we spoke about. Please feel free to reply to this email with any comments you may have.

Thanks

Tami Merriman | Permit Manager

City of Tumwater Community Development

555 Israel Rd SW | Tumwater, WA 98501

(360) 754-4180 | TMerriman@ci.tumwater.wa.us

www.ci.tumwater.wa.us

AP CONSULTING ENGINEERS PLLC
CIVIL ENGINEERING

PRELIMINARY STORMWATER SITE PLAN

FEBRUARY 15, 2023
APCE PROJECT #2023007

PREPARED FOR:
SUNRISE HILLS SUBDIVISION
22XX SAPP ROAD SW
TUMWATER, WA 98512
PARCEL #12827330000

APCE@APConsultingEngineers.com (253) 737-4173 PO Box 162, Auburn, WA 98071

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PRELIMINARY SUNRISE HILLS SUBDIVISION STORMWATER SITE PLAN

SECTION 1 – PROPOSED PROJECT DESCRIPTION

This report accompanies the drainage review plan prepared for the Sunrise Hills Subdivision project on parcel number 12827330000 in Tumwater, Washington, at 22XX Sapp Road SW which has the following legal description: Lot 5 of Section 27, Township 18 North, Range 2 West, W.M., except the south 528 feet of the east 330 feet and except county road known as Sapp Road along the south boundary in Thurston County, Washington.

The project has been designed to meet the requirements of the 2022 City of Tumwater Drainage and Erosion Control Manual (TDECM).

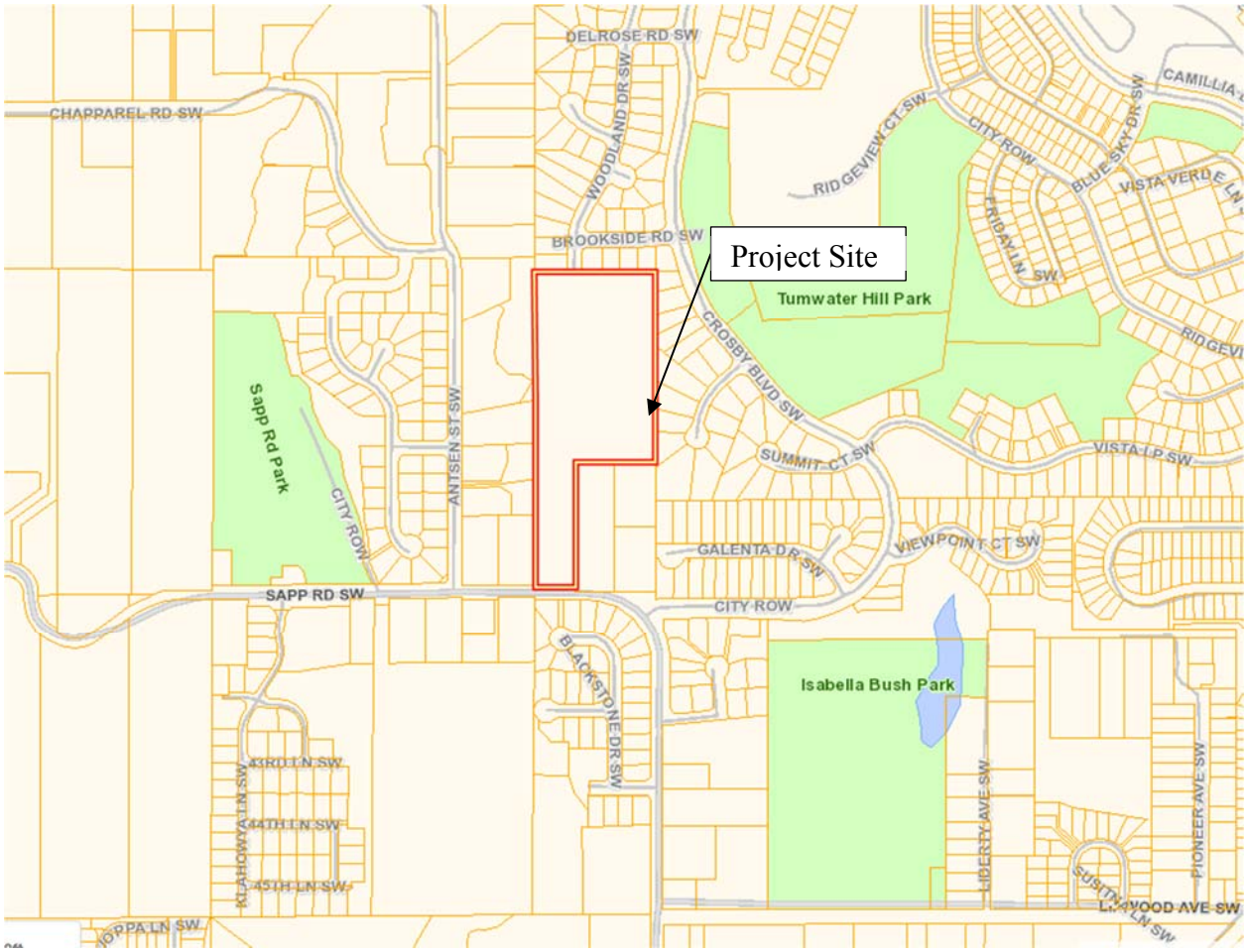


FIGURE 1 – Vicinity Map

The existing 10.7-acre site is a residential lot with no existing improvements. The neighboring parcels on all sides are residential lots, some of which are developed and some of which are not. The south edge of the property has frontage on Sapp Road SW and the north edge of the property is intersected by Woodland Drive SW.

The project will consist of the construction of infrastructure improvements to support a new 36-lot subdivision which is expected to include two new public roads, multiple shared private accesses, and utility improvements. Stormwater runoff from the proposed project will be infiltrated on-site in an infiltration pond.

All minimum requirements will need to be applied to all new and replaced hard surfaces and converted vegetation areas for this project, given that this property does not contain 35% or more of existing impervious coverage, and will result in 5,000 square feet, or more, of new plus replaced hard surface area, based on Figure 2.1 of Volume I of the 2022 City of Tumwater Drainage and Erosion Control Manual. Discussion of project minimum requirements follows.

Minimum Requirement #1: Preparation of a Stormwater Site Plan
This document has been prepared in order to comply with the requirement to provide a Stormwater Site Plan.

Minimum Requirement #2: Construction Stormwater Pollution Prevention
This project results in greater than 2,000 square feet of new and replaced impervious surface and therefore, requires a Construction SWPPP. A Construction SWPPP will be prepared and included in Appendix B at the time of the final plat engineering permit application.

Minimum Requirement #3: Source Control of Pollution
All known, available, and reasonable source control BMPs will be included in Appendix A of this report at the time of the final plat engineering permit application as information for the property owners.

Minimum Requirement #4: Preservation of Natural Drainage Systems and Outfalls
Under existing conditions stormwater runoff sheet flows generally towards the southern and western edge of the property. Stormwater collected from the proposed improvements will be fully infiltrated on-site.

Minimum Requirement #5: On-Site Stormwater Management
This project proposes to infiltrate 100% of runoff in order to meet the LID performance standards outlined in Section 2.4.6 or the 2022 City of Tumwater Drainage and Erosion Control Manual.

Minimum Requirement #6: Runoff Treatment
The project will provide runoff treatment in compliance with Minimum Requirement #6 since there will be more than 5,000 square feet of effective pollution-generating impervious surface. A 12’x24’ Oldcastle BioPod will be installed upstream of infiltration and will treat all runoff.

Minimum Requirement #7: Flow Control
This project results in greater than 10,000 square feet of impervious surface and therefore, requires flow control. The project will provide flow control facilities that will be designed to infiltrate 100% of stormwater runoff.

Minimum Requirement #8: Wetlands Protection
There are no known wetlands on this project site or on any of the neighboring lots. Also, the project does not, to the best of our knowledge, discharge to a wetland.

Minimum Requirement #9: Operation and Maintenance
An operation & maintenance manual will be included in Appendix A of this report at the time of the final plat engineering permit application that meets the requirements of the City's stormwater manual.

Minimum Requirement #10: Financial Liability
Required bonds will be obtained prior to project approval during the site final plat engineering permit process.

Minimum Requirement #11: Off-Site Analysis
An off-site analysis has been completed and is included in Section 3 of this report.

SECTION 2 - EXISTING CONDITIONS DESCRIPTION

The existing cover on the site consists almost entirely of forested and vegetated land. Slopes vary across the site and range from around 5% to around 50% with a few small areas exceeding 50%, but predominantly slope southwest. It is possible that stormwater may enter the site from the neighboring parcels to the north and the east along the property line, but no concentrated points of discharge to this site are known to exist. Existing stormwater runoff from the site sheet flows across the existing vegetation and leaves the property across the western and southern property lines.

No utilities are known to exist on the property. Public water, sewer, and stormwater utilities exist immediately adjacent to the property.

On-site soils in the proposed infiltration area are identified by Parnell Engineering, LLC as Indianola loamy sand. A copy of the geotechnical report is included in Appendix D.

Based on surveyed topography steep slopes appear to be present on-site and publicly available GIS identifies potential landslide hazard areas on-site. No additional sensitive or critical areas are known to exist on or immediately adjacent to the property. No fuel tanks are known to exist on the property. No septic systems are known to exist on or within 100 feet of the property. No superfund areas are known to exist in the vicinity of the project. No basin plans are known to exist that would affect the property. No basin

plans, flood studies, groundwater studies, wetland designations, sensitive area designations, environmental impact statements, environmental checklists, lake restoration plans, or water quality reports are known to have impacts for this property, at this time. No 100-year flood hazard zones are known to impact the property. No wellhead protection areas are known to exist on the property.

The existing conditions for the basin are summarized in the table in Chapter 4 of this report.

SECTION 3 – VICINITY ANALYSIS & SUBBASIN DESCRIPTION

Downstream Basin of Threshold Discharge Area:

A downstream analysis has been prepared using information from Thurston County GIS.

Stormwater will be collected and infiltrated on-site. Runoff from small portions of the site that may not be possible to collect, or from the infiltration system in the event of an overflow, will discharge from the south and/or west edge of the site as it does under existing conditions. Runoff will continue to sheet flow until it reaches Sapp Road SW. From the southwest corner of the property runoff will flow in a series of ditches and culverts for about 820 feet along the north side of Sapp Road SW until it reaches Percival Creek. It will then flow north in Percival Creek until it has reached a point one-quarter of a mile downstream of the project site.

No existing or potential constrictions, capacity deficiencies, flooding problems, overtopping, scouring, bank sloughing, sedimentation, significant destruction of aquatic habitat (e.g., siltation, stream incision), public or private easements could be observed or are known to exist along the downstream drainage system.

A downstream map will be provided in Appendix F.

Upstream Tributary Basin:

Run-on from the undeveloped parcels to the east is proposed to be routed around site to the existing conveyance system in the right-of-way. Due to topography, run-on from the south and west is not expected. Run-on from the developed parcels to the north and east is not expected to be significant because the existing development was constructed with stormwater controls in place. There are no known concentrated run-on flows to the site from the adjacent properties.

CHAPTER 4 – FLOW CONTROL & WATER QUALITY FACILITY SIZING

Threshold Discharge Areas

There is one threshold discharge area for this project, which encompasses 466,977 square feet of the project site. A Threshold Discharge Area Table will be included in Appendix C of this report.

Predeveloped Site Hydrology

Cover characteristics for the existing and historic conditions of the project site are as summarized in the table below.

TABLE 1: PREDEVELOPED CONDITIONS

	Description	Area (ft^2)	Total (ft^2)
Pervious	Forest	466,977	466,977
		Total	466,977

Developed Site Hydrology

Project Summary

Site cover characteristics for the proposed improvements to the project site and all relevant basins, both on-site and off-site, are summarized in the tables below and a basin map will eventually be included in Appendix C.

TABLE 2: DEVELOPED CONDITIONS

	Description	Area (ft^2)	Total (ft^2)
Impervious	On-site Infrastructure	50,929	168,664
	On-site Residential	110,287	
	Pond	7,448	
Pervious	On-site Landscaping	165,440	165,440
		Total	334,104

The entire property is currently forested. On-site stormwater management BMPs will be applied, as feasible, to this project. This project contains no significant sub-basins.

Based on Section 2.4.6 of the TDECM, because the project triggers Minimum Requirements 1 through 11 and will meet the LID Performance Standard by infiltrating all runoff, this project will not be required to implement BMPs for on-site stormwater management.

On-Site Stormwater Management System – Minimum Requirement #5
BMP feasibility will be discussed at a later stage of this project. No BMP credits have currently been applied towards reducing the size of the proposed infiltration pond.

Water Quality System – Minimum Requirement #6
The project will provide water quality treatment since there will be more than 5,000 square feet of new or replaced effective pollution-generating impervious surfaces constructed as part of the project.

The project's receiving water is Percival Creek to the west of the property. There are no Category 5 - 303d-listed waterbodies within one quarter of a mile downstream of the property.

The proposed development is a single-family residential development and is, therefore, not included in the list of types of areas that "typically generate high concentrations of oil due to high traffic turnover or the frequent transfer of oil" which are required to provide oil control facilities.

Due to soil characteristics, it is not practicable to provide runoff treatment by infiltrating into the native soil. A 12'x24' Oldcastle BioPod will be installed upstream of infiltration to provide water quality treatment. The BioPod has a maximum treatment flowrate of 0.860 cfs, greater than the water quality flowrate calculated with WWHM, at 0.748 cfs.

The project is not known to be located in a watershed that has been determined to be sensitive to phosphorus or are being managed to control phosphorus and, therefore, no phosphorus treatment BMPs are required for this project.

Because the project is a single-family residential development, it is not included in the list of project types that require enhanced treatment BMPs.

Flow Control System – Minimum Requirement #7
This project has been designed to meet the Flow Control Performance Standard. Developed discharge durations will match predeveloped durations over the range of predeveloped discharge rates from 50% of the 2-year peak flow up to the full 50-year peak flow.

Under developed conditions, the site is anticipated to have the following proposed surfaces: the future residential lot impervious (110,287 square feet; 2.532 acres), on-site infrastructure improvements impervious (50,929 square feet; 1.169 acres), pond surface (7,448 square feet; 0.171 acres), and on-site landscaping area (165,440 square feet; 3.798 acres). The Post-Construction Soil Quality and Depth BMP (BMP T5.13), as detailed in Chapter 6 of Volume V of the TDECM, will be applied to all new lawn and landscaping areas and, therefore, these areas will be modeled as pasture in WWHM.

TABLE 3: WWHM INPUTS

WWHM Inputs	Total (ac)	Modeled as			
		Impervious (ac)	Lawn (ac)	Pasture (ac)	Forest (ac)
ON-SITE TO POND					
Residential Lot Impervious	2.532	2.532	0.000	0.000	0.000
On-site Infrastructure	1.169	0.193	0.000	0.000	0.000
On-site Landscaping	3.798	0.000	0.000	3.798	0.000
Pond Water Surface	0.171	0.171	0.000	0.000	0.000
TOTAL	**1.588**	**1.105**	**0.000**	**3.798**	**0.000**

The infiltration facility is designed to provide a live storage volume of 27,225 cubic feet (0.625-acre feet) at a storage depth of 4.5 feet. Detailed WWHM results are included in Appendix C.

The Geotechnical report prepared by Parnell Engineering, LLC identified the depths of un-infiltratable soils at several locations around the proposed pond. Soil log #1 is the only one located within the extents of the pond. This layer was found at an elevation of 165.83 feet. In order to maintain 3 feet of separation from the pond bottom to this layer, the infiltration pond was designed to have a bottom elevation of 168.85 feet. This was the highest elevation that un-infiltratable soils was observed at, which was similar to soil log #5, where the ground surface is two feet higher and which is just slightly north of where the pond will be installed. Based on this information, the entire pond bottom is expected to be above the impermeable layer. This report is included in Appendix D.

SECTION 5 – AESTHETIC CONSIDERATIONS FOR FACILITIES

A stormwater infiltration pond will be utilized for stormwater mitigation. All relevant City of Tumwater landscaping, setback, and screening requirements will be met. More detailed consideration of the aesthetics of the proposed facilities will be addressed that the time of the final plat engineering permit application.

SECTION 6 – CONVEYANCE SYSTEM ANALYSIS & DESIGN

All new conveyance pipe will have capacity to convey the on-site 100-year peak runoff rate through them. Detailed calculations using the current WWHM Model will be provided at the time of the final plat engineering permit application.

SECTION 7 – COVENANTS, DEDICATIONS, EASEMENTS

All applicable covenants, dedications, and easements will be finalized as part of the final plat engineering permit application.

SECTION 8 – AGREEMENTS & GUARANTEES

Maintenance, operation bonding, and other financial guarantees are required and will be provided at the time of the final plat engineering permit application.

SECTION 9 – OTHER PERMITS OR CONDITIONS PLACE ON THE PROJECT

No additional permits or conditions are known to have been placed on the project at this time.

APPENDIX C:
HYDRAULIC/HYDROLOGIC ANALYSIS AND MODELING RESULTS

WWHM2012

PROJECT REPORT

General Model Information

Project Name:	Sunrise Hills infiltration
Site Name:	
Site Address:	
City:	
Report Date:	2/15/2023
Gage:	Courthouse
Data Start:	1955/10/01
Data End:	2011/09/30
Timestep:	15 Minute
Precip Scale:	1.000
Version Date:	2019/09/13
Version:	4.2.17

POC Thresholds

Low Flow Threshold for POC1:	50 Percent of the 2 Year
High Flow Threshold for POC1:	50 Year

Landuse Basin Data

Predeveloped Land Use

Basin 1

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
A B, Forest, Mod	7.499
Pervious Total	7.499

Impervious Land Use	acre
Impervious Total	0
Basin Total	7.499

Element Flows To:

Surface	Interflow	Groundwater

Mitigated Land Use

Basin 1

Bypass:	No
GroundWater:	No

Pervious Land Use	acre
A B, Pasture, Mod	3.798
Pervious Total	3.798

Impervious Land Use	acre
ROADS MOD	2.013
ROOF TOPS FLAT	1.688
Impervious Total	3.701
Basin Total	7.499

Element Flows To:

Surface	Interflow	Groundwater
Trapezoidal Pond 1	Trapezoidal Pond 1	

Routing Elements

Predeveloped Routing

Mitigated Routing

Trapezoidal Pond 1

Bottom Length:	58.00 ft.	
Bottom Width:	80.00 ft.	
Depth:	6 ft.	
Volume at riser head:	0.6245 acre-feet.	
Infiltration On		
Infiltration rate:	8.64	
Infiltration safety factor:	1	
Total Volume Infiltrated (ac-ft.):		750.452
Total Volume Through Riser (ac-ft.):		0
Total Volume Through Facility (ac-ft.):		750.452
Percent Infiltrated:		100
Total Precip Applied to Facility:		0
Total Evap From Facility:		0
Side slope 1:	2 To 1	
Side slope 2:	2 To 1	
Side slope 3:	2 To 1	
Side slope 4:	2 To 1	
Discharge Structure		
Riser Height:	4.5 ft.	
Riser Diameter:	12 in.	
Element Flows To:		
Outlet 1	Outlet 2	

Pond Hydraulic Table

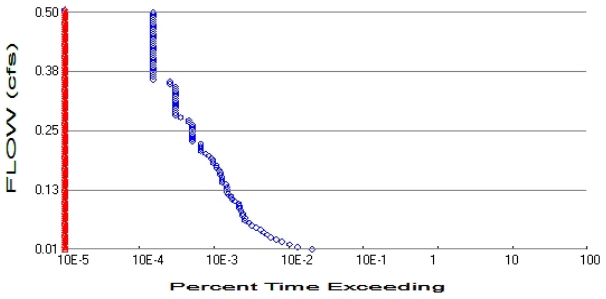
Stage(feet)	Area(ac.)	Volume(ac-ft.)	Discharge(cfs)	Infilt(cfs)
0.0000	0.106	0.000	0.000	0.000
0.0667	0.107	0.007	0.000	0.928
0.1333	0.108	0.014	0.000	0.928
0.2000	0.109	0.021	0.000	0.928
0.2667	0.109	0.028	0.000	0.928
0.3333	0.110	0.036	0.000	0.928
0.4000	0.111	0.043	0.000	0.928
0.4667	0.112	0.051	0.000	0.928
0.5333	0.113	0.058	0.000	0.928
0.6000	0.114	0.066	0.000	0.928
0.6667	0.115	0.073	0.000	0.928
0.7333	0.116	0.081	0.000	0.928
0.8000	0.116	0.089	0.000	0.928
0.8667	0.117	0.097	0.000	0.928
0.9333	0.118	0.105	0.000	0.928
1.0000	0.119	0.113	0.000	0.928
1.0667	0.120	0.121	0.000	0.928
1.1333	0.121	0.129	0.000	0.928
1.2000	0.122	0.137	0.000	0.928
1.2667	0.123	0.145	0.000	0.928
1.3333	0.124	0.153	0.000	0.928
1.4000	0.125	0.161	0.000	0.928
1.4667	0.125	0.170	0.000	0.928
1.5333	0.126	0.178	0.000	0.928
1.6000	0.127	0.187	0.000	0.928
1.6667	0.128	0.195	0.000	0.928
1.7333	0.129	0.204	0.000	0.928

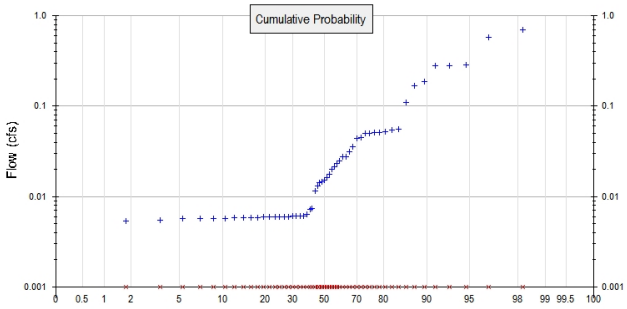
1.8000	0.130	0.213	0.000	0.928
1.8667	0.131	0.221	0.000	0.928
1.9333	0.132	0.230	0.000	0.928
2.0000	0.133	0.239	0.000	0.928
2.0667	0.134	0.248	0.000	0.928
2.1333	0.135	0.257	0.000	0.928
2.2000	0.136	0.266	0.000	0.928
2.2667	0.137	0.275	0.000	0.928
2.3333	0.138	0.284	0.000	0.928
2.4000	0.139	0.293	0.000	0.928
2.4667	0.140	0.303	0.000	0.928
2.5333	0.141	0.312	0.000	0.928
2.6000	0.142	0.321	0.000	0.928
2.6667	0.142	0.331	0.000	0.928
2.7333	0.143	0.341	0.000	0.928
2.8000	0.144	0.350	0.000	0.928
2.8667	0.145	0.360	0.000	0.928
2.9333	0.146	0.370	0.000	0.928
3.0000	0.147	0.379	0.000	0.928
3.0667	0.148	0.389	0.000	0.928
3.1333	0.149	0.399	0.000	0.928
3.2000	0.150	0.409	0.000	0.928
3.2667	0.151	0.419	0.000	0.928
3.3333	0.152	0.430	0.000	0.928
3.4000	0.153	0.440	0.000	0.928
3.4667	0.154	0.450	0.000	0.928
3.5333	0.155	0.460	0.000	0.928
3.6000	0.156	0.471	0.000	0.928
3.6667	0.157	0.481	0.000	0.928
3.7333	0.158	0.492	0.000	0.928
3.8000	0.160	0.503	0.000	0.928
3.8667	0.161	0.513	0.000	0.928
3.9333	0.162	0.524	0.000	0.928
4.0000	0.163	0.535	0.000	0.928
4.0667	0.164	0.546	0.000	0.928
4.1333	0.165	0.557	0.000	0.928
4.2000	0.166	0.568	0.000	0.928
4.2667	0.167	0.579	0.000	0.928
4.3333	0.168	0.590	0.000	0.928
4.4000	0.169	0.601	0.000	0.928
4.4667	0.170	0.613	0.000	0.928
4.5333	0.171	0.624	0.064	0.928
4.6000	0.172	0.636	0.333	0.928
4.6667	0.173	0.647	0.703	0.928
4.7333	0.174	0.659	1.115	0.928
4.8000	0.175	0.670	1.509	0.928
4.8667	0.176	0.682	1.834	0.928
4.9333	0.178	0.694	2.060	0.928
5.0000	0.179	0.706	2.227	0.928
5.0667	0.180	0.718	2.371	0.928
5.1333	0.181	0.730	2.506	0.928
5.2000	0.182	0.742	2.635	0.928
5.2667	0.183	0.754	2.757	0.928
5.3333	0.184	0.766	2.875	0.928
5.4000	0.185	0.779	2.988	0.928
5.4667	0.186	0.791	3.096	0.928
5.5333	0.187	0.804	3.201	0.928
5.6000	0.189	0.816	3.303	0.928

5.6667	0.190	0.829	3.402	0.928
5.7333	0.191	0.842	3.497	0.928
5.8000	0.192	0.854	3.591	0.928
5.8667	0.193	0.867	3.682	0.928
5.9333	0.194	0.880	3.770	0.928
6.0000	0.195	0.893	3.857	0.928
6.0667	0.196	0.906	3.942	0.928

Analysis Results

POC 1





\+ Predeveloped x Mitigated

Predeveloped Landuse Totals for POC #1
Total Pervious Area: 7.499
Total Impervious Area: 0

Mitigated Landuse Totals for POC #1
Total Pervious Area: 3.798
Total Impervious Area: 3.701

Flow Frequency Method: Log Pearson Type III 17B

Flow Frequency Return Periods for Predeveloped. POC #1

Return Period	**Flow(cfs)**
2 year	0.017446
5 year	0.059517
10 year	0.122538
25 year	0.281964
50 year	0.500502
100 year	0.859172

Flow Frequency Return Periods for Mitigated. POC #1

Return Period	**Flow(cfs)**
2 year	0
5 year	0
10 year	0
25 year	0
50 year	0
100 year	0

Annual Peaks

Annual Peaks for Predeveloped and Mitigated. POC #1

Year	**Predeveloped**	**Mitigated**
1956	0.028	0.000
1957	0.007	0.000
1958	0.023	0.000
1959	0.016	0.000
1960	0.053	0.000
1961	0.044	0.000
1962	0.006	0.000
1963	0.050	0.000
1964	0.050	0.000
1965	0.051	0.000

1966	0.006	0.000
1967	0.280	0.000
1968	0.045	0.000
1969	0.006	0.000
1970	0.007	0.000
1971	0.056	0.000
1972	0.581	0.000
1973	0.006	0.000
1974	0.169	0.000
1975	0.006	0.000
1976	0.027	0.000
1977	0.006	0.000
1978	0.015	0.000
1979	0.006	0.000
1980	0.013	0.000
1981	0.035	0.000
1982	0.025	0.000
1983	0.021	0.000
1984	0.187	0.000
1985	0.006	0.000
1986	0.012	0.000
1987	0.052	0.000
1988	0.006	0.000
1989	0.006	0.000
1990	0.054	0.000
1991	0.286	0.000
1992	0.006	0.000
1993	0.015	0.000
1994	0.005	0.000
1995	0.006	0.000
1996	0.707	0.000
1997	0.006	0.000
1998	0.006	0.000
1999	0.018	0.000
2000	0.006	0.000
2001	0.005	0.000
2002	0.020	0.000
2003	0.014	0.000
2004	0.281	0.000
2005	0.005	0.000
2006	0.006	0.000
2007	0.111	0.000
2008	0.006	0.000
2009	0.006	0.000
2010	0.006	0.000
2011	0.031	0.000

Ranked Annual Peaks

Ranked Annual Peaks for Predeveloped and Mitigated. POC #1

Rank	Predeveloped	Mitigated
1	0.7068	0.0000
2	0.5811	0.0000
3	0.2863	0.0000
4	0.2807	0.0000
5	0.2797	0.0000
6	0.1867	0.0000
7	0.1691	0.0000
8	0.1107	0.0000

9	0.0558	0.0000
10	0.0543	0.0000
11	0.0527	0.0000
12	0.0516	0.0000
13	0.0511	0.0000
14	0.0502	0.0000
15	0.0498	0.0000
16	0.0455	0.0000
17	0.0437	0.0000
18	0.0354	0.0000
19	0.0315	0.0000
20	0.0278	0.0000
21	0.0274	0.0000
22	0.0246	0.0000
23	0.0233	0.0000
24	0.0213	0.0000
25	0.0200	0.0000
26	0.0175	0.0000
27	0.0161	0.0000
28	0.0150	0.0000
29	0.0145	0.0000
30	0.0144	0.0000
31	0.0132	0.0000
32	0.0116	0.0000
33	0.0073	0.0000
34	0.0072	0.0000
35	0.0064	0.0000
36	0.0060	0.0000
37	0.0060	0.0000
38	0.0060	0.0000
39	0.0060	0.0000
40	0.0060	0.0000
41	0.0060	0.0000
42	0.0059	0.0000
43	0.0059	0.0000
44	0.0059	0.0000
45	0.0059	0.0000
46	0.0059	0.0000
47	0.0058	0.0000
48	0.0058	0.0000
49	0.0058	0.0000
50	0.0058	0.0000
51	0.0058	0.0000
52	0.0057	0.0000
53	0.0057	0.0000
54	0.0055	0.0000
55	0.0053	0.0000
56	0.0051	0.0000

Duration Flows

The Facility PASSED

Flow(cfs)	Predev	Mit	Percentage	Pass/Fail
0.0087	405	0	0	Pass
0.0137	256	0	0	Pass
0.0187	200	0	0	Pass
0.0236	160	0	0	Pass
0.0286	132	0	0	Pass
0.0336	113	0	0	Pass
0.0385	102	0	0	Pass
0.0435	91	0	0	Pass
0.0485	83	0	0	Pass
0.0534	72	0	0	Pass
0.0584	63	0	0	Pass
0.0634	58	0	0	Pass
0.0683	51	0	0	Pass
0.0733	51	0	0	Pass
0.0783	47	0	0	Pass
0.0832	47	0	0	Pass
0.0882	45	0	0	Pass
0.0932	43	0	0	Pass
0.0981	43	0	0	Pass
0.1031	42	0	0	Pass
0.1081	37	0	0	Pass
0.1130	34	0	0	Pass
0.1180	33	0	0	Pass
0.1230	30	0	0	Pass
0.1279	29	0	0	Pass
0.1329	29	0	0	Pass
0.1379	29	0	0	Pass
0.1428	28	0	0	Pass
0.1478	25	0	0	Pass
0.1528	25	0	0	Pass
0.1577	25	0	0	Pass
0.1627	24	0	0	Pass
0.1677	24	0	0	Pass
0.1726	23	0	0	Pass
0.1776	21	0	0	Pass
0.1826	21	0	0	Pass
0.1876	19	0	0	Pass
0.1925	19	0	0	Pass
0.1975	18	0	0	Pass
0.2025	17	0	0	Pass
0.2074	15	0	0	Pass
0.2124	13	0	0	Pass
0.2174	13	0	0	Pass
0.2223	13	0	0	Pass
0.2273	13	0	0	Pass
0.2323	10	0	0	Pass
0.2372	10	0	0	Pass
0.2422	10	0	0	Pass
0.2472	10	0	0	Pass
0.2521	10	0	0	Pass
0.2571	10	0	0	Pass
0.2621	10	0	0	Pass
0.2670	10	0	0	Pass

0.2720	9	0	0	Pass
0.2770	9	0	0	Pass
0.2819	7	0	0	Pass
0.2869	6	0	0	Pass
0.2919	6	0	0	Pass
0.2968	6	0	0	Pass
0.3018	6	0	0	Pass
0.3068	6	0	0	Pass
0.3117	6	0	0	Pass
0.3167	6	0	0	Pass
0.3217	6	0	0	Pass
0.3266	6	0	0	Pass
0.3316	6	0	0	Pass
0.3366	6	0	0	Pass
0.3415	6	0	0	Pass
0.3465	6	0	0	Pass
0.3515	5	0	0	Pass
0.3564	5	0	0	Pass
0.3614	3	0	0	Pass
0.3664	3	0	0	Pass
0.3713	3	0	0	Pass
0.3763	3	0	0	Pass
0.3813	3	0	0	Pass
0.3863	3	0	0	Pass
0.3912	3	0	0	Pass
0.3962	3	0	0	Pass
0.4012	3	0	0	Pass
0.4061	3	0	0	Pass
0.4111	3	0	0	Pass
0.4161	3	0	0	Pass
0.4210	3	0	0	Pass
0.4260	3	0	0	Pass
0.4310	3	0	0	Pass
0.4359	3	0	0	Pass
0.4409	3	0	0	Pass
0.4459	3	0	0	Pass
0.4508	3	0	0	Pass
0.4558	3	0	0	Pass
0.4608	3	0	0	Pass
0.4657	3	0	0	Pass
0.4707	3	0	0	Pass
0.4757	3	0	0	Pass
0.4806	3	0	0	Pass
0.4856	3	0	0	Pass
0.4906	3	0	0	Pass
0.4955	3	0	0	Pass
0.5005	3	0	0	Pass

Water Quality

Water Quality BMP Flow and Volume for POC #1

On-line facility volume:	0.6403 acre-feet
On-line facility target flow:	0.7971 cfs.
Adjusted for 15 min:	0.7971 cfs.
Off-line facility target flow:	0.4467 cfs.
Adjusted for 15 min:	0.4467 cfs.

LID Report

LID Technique	Used for Treatment ?	Total Volume Needs Treatment (ac-ft)	Volume Through Facility (ac-ft)	Infiltration Volume (ac-ft)	Cumulative Volume Infiltration Credit	Percent Volume Infiltrated	Water Quality	Percent Water Quality Treated	Comment
Trapezoidal Pond 1 POC	☐	682.91			☐	100.00			
Total Volume Infiltrated		682.91	0.00	0.00		100.00	0.00	0%	No Treat. Credit
Compliance with LID Standard 8% of 2-yr to 50% of 2-yr									Duration Analysis Result = Passed

Model Default Modifications

Total of 0 changes have been made.

PERLND Changes

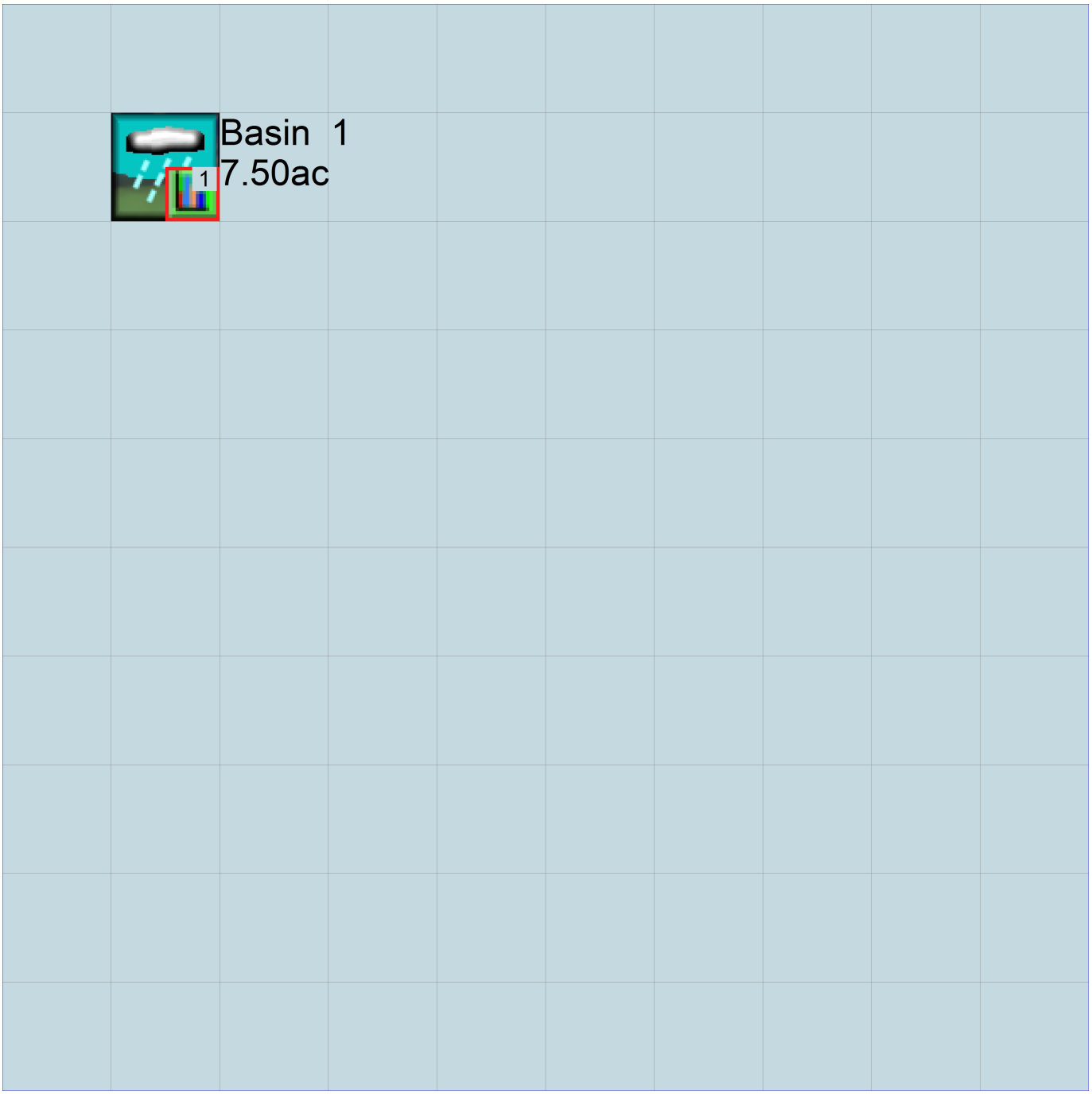
No PERLND changes have been made.

IMPLND Changes

No IMPLND changes have been made.

Appendix

Predeveloped Schematic



Mitigated Schematic

Predeveloped UCI File

```
RUN

GLOBAL
  WWHM4 model simulation
  START       1955 10 01        END    2011 09 30
  RUN INTERP OUTPUT LEVEL    3    0
  RESUME     0 RUN     1                   UNIT SYSTEM     1
END GLOBAL

FILES
<File>  <Un#>   <-----------File Name------------------------------>***
<-ID->                                                              ***
WDM         26   Sunrise Hills infiltration.wdm
MESSU       25   PreSunrise Hills infiltration.MES
            27   PreSunrise Hills infiltration.L61
            28   PreSunrise Hills infiltration.L62
            30   POCSunrise Hills infiltration1.dat
END FILES

OPN SEQUENCE
    INGRP              INDELT 00:15
      PERLND       2
      COPY       501
      DISPLY       1
    END INGRP
END OPN SEQUENCE
DISPLY
  DISPLY-INFO1
    # -  #<----------Title----------->***TRAN PIVL DIG1 FIL1  PYR DIG2 FIL2 YRND
    1        Basin  1                   MAX                     1    2   30    9
  END DISPLY-INFO1
END DISPLY
COPY
  TIMESERIES
    # -  #  NPT  NMN ***
    1         1    1
  501         1    1
  END TIMESERIES
END COPY
GENER
  OPCODE
    #    # OPCD ***
  END OPCODE
  PARM
    #    #         K ***
  END PARM
END GENER
PERLND
  GEN-INFO
    <PLS ><-------Name------->NBLKS   Unit-systems   Printer ***
    # -  #                          User  t-series Engl Metr ***
                                       in  out           ***
    2     A/B, Forest, Mod        1    1    1    1   27    0
  END GEN-INFO
  *** Section PWATER***

  ACTIVITY
    <PLS > ************ Active Sections ******************************
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC ***
    2         0    0    1    0    0    0    0    0    0    0    0    0
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags **************************** PIVL  PYR
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC  *********
    2         0    0    4    0    0    0    0    0    0    0    0    0    1    9
  END PRINT-INFO
```

```
  PWAT-PARM1
    <PLS >  PWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP UZFG  VCS  VUZ  VNN VIFW VIRC  VLE INFC  HWT ***
    2         0    0    0    0    0    0    0    0    0    0    0
  END PWAT-PARM1

  PWAT-PARM2
    <PLS >      PWATER input info: Part 2         ***
    # -  # ***FOREST      LZSN    INFILT      LSUR     SLSUR     KVARY     AGWRC
    2              0         5         2       400       0.1       0.3     0.996
  END PWAT-PARM2

  PWAT-PARM3
    <PLS >      PWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN    INFEXP    INFILD    DEEPFR    BASETP    AGWETP
    2              0         0         2         2         0         0         0
  END PWAT-PARM3
  PWAT-PARM4
    <PLS >     PWATER input info: Part 4                              ***
    # -  #     CEPSC      UZSN      NSUR     INTFW       IRC     LZETP ***
    2          0.2       0.5      0.35         0       0.7       0.7
  END PWAT-PARM4

  PWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
             ran from 1990 to end of 1992 (pat 1-11-95) RUN 21 ***
    # -  # ***  CEPS      SURS       UZS      IFWS       LZS      AGWS      GWVS
    2              0         0         0         0         3         1         0
  END PWAT-STATE1

END PERLND

IMPLND
  GEN-INFO
    <PLS ><-------Name------->   Unit-systems   Printer ***
    # -  #                     User  t-series Engl Metr ***
                                      in  out           ***
  END GEN-INFO
  *** Section IWATER***

  ACTIVITY
    <PLS > ************ Active Sections ******************************
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL   ***
  END ACTIVITY

  PRINT-INFO
    <ILS > ******** Print-flags ******** PIVL  PYR
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL    *********
  END PRINT-INFO

  IWAT-PARM1
    <PLS >  IWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP  VRS  VNN RTLI     ***
  END IWAT-PARM1

  IWAT-PARM2
    <PLS >      IWATER input info: Part 2         ***
    # -  # ***  LSUR     SLSUR      NSUR     RETSC
  END IWAT-PARM2

  IWAT-PARM3
    <PLS >      IWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN
  END IWAT-PARM3

  IWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
    # -  # ***  RETS      SURS
  END IWAT-STATE1
```

```
END IMPLND

SCHEMATIC
<-Source->                  <--Area-->     <-Target->   MBLK   ***
<Name>   #                  <-factor->     <Name>   #   Tbl#   ***
Basin  1***
PERLND   2                       7.499     COPY   501     12
PERLND   2                       7.499     COPY   501     13

******Routing******
END SCHEMATIC

NETWORK
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***
COPY   501 OUTPUT MEAN   1 1   48.4        DISPLY   1     INPUT  TIMSER 1



<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***
END NETWORK

RCHRES
  GEN-INFO
    RCHRES       Name        Nexits   Unit Systems   Printer                 ***
    # -  #<------------------><---> User T-series  Engl Metr LKFG            ***
                                          in  out                            ***
  END GEN-INFO
  *** Section RCHRES***

  ACTIVITY
    <PLS > ************* Active Sections *****************************
    # -  # HYFG ADFG CNFG HTFG SDFG GQFG OXFG NUFG PKFG PHFG ***
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags ******************* PIVL  PYR
    # -  # HYDR ADCA CONS HEAT  SED  GQL OXRX NUTR PLNK PHCB PIVL  PYR  *********
  END PRINT-INFO

  HYDR-PARM1
    RCHRES  Flags for each HYDR Section                                      ***
    # -  #  VC A1 A2 A3  ODFVFG for each *** ODGTFG for each     FUNCT  for each
            FG FG FG FG  possible  exit  *** possible  exit      possible  exit
             *  *  *  *    *  *  *  *  *       *  *  *  *  *         ***
  END HYDR-PARM1

  HYDR-PARM2
    # -  #    FTABNO       LEN     DELTH     STCOR        KS      DB50       ***
  <------><--------><--------><--------><--------><--------><-------->       ***
  END HYDR-PARM2
  HYDR-INIT
    RCHRES  Initial conditions for each HYDR section                         ***
    # -  # ***   VOL     Initial  value  of COLIND     Initial  value  of OUTDGT
          *** ac-ft     for each possible exit        for each possible exit
  <------><-------->     <---><---><---><---><---> *** <---><---><---><---><--->
  END HYDR-INIT
END RCHRES

SPEC-ACTIONS
END SPEC-ACTIONS
FTABLES
END FTABLES

EXT SOURCES
<-Volume-> <Member> SsysSgap<--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   # <Name> # tem strg<-factor->strg <Name>   #   #        <Name> # #  ***
WDM      2 PREC     ENGL    1              PERLND   1 999 EXTNL  PREC
WDM      2 PREC     ENGL    1              IMPLND   1 999 EXTNL  PREC
```

```
WDM      1 EVAP     ENGL    0.76           PERLND   1 999 EXTNL  PETINP
WDM      1 EVAP     ENGL    0.76           IMPLND   1 999 EXTNL  PETINP

END EXT SOURCES

EXT TARGETS
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Volume-> <Member> Tsys Tgap Amd ***
<Name>   #        <Name> # #<-factor->strg <Name>   # <Name>    tem strg strg***
COPY   501 OUTPUT MEAN   1 1     48.4      WDM    501 FLOW     ENGL      REPL
END EXT TARGETS

MASS-LINK
<Volume>   <-Grp> <-Member-><--Mult-->     <Target>       <-Grp> <-Member->***
<Name>            <Name> # #<-factor->     <Name>                <Name> # #***
  MASS-LINK       12
PERLND     PWATER SURO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   12

  MASS-LINK       13
PERLND     PWATER IFWO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   13


END MASS-LINK

END RUN
```

Mitigated UCI File

```
RUN

GLOBAL
  WWHM4 model simulation
  START       1955 10 01        END    2011 09 30
  RUN INTERP OUTPUT LEVEL    3    0
  RESUME     0 RUN     1                   UNIT SYSTEM     1
END GLOBAL

FILES
<File>  <Un#>   <-----------File Name------------------------------>***
<-ID->                                                              ***
WDM        26   Sunrise Hills infiltration.wdm
MESSU      25   MitSunrise Hills infiltration.MES
           27   MitSunrise Hills infiltration.L61
           28   MitSunrise Hills infiltration.L62
           30   POCSunrise Hills infiltration1.dat
END FILES

OPN SEQUENCE
    INGRP              INDELT 00:15
      PERLND       5
      IMPLND       2
      IMPLND       4
      RCHRES       1
      COPY         1
      COPY       501
      DISPLY       1
    END INGRP
END OPN SEQUENCE
DISPLY
  DISPLY-INFO1
    # -  #<----------Title----------->***TRAN PIVL DIG1 FIL1  PYR DIG2 FIL2 YRND
    1        Trapezoidal Pond  1         MAX                    1    2   30    9
  END DISPLY-INFO1
END DISPLY
COPY
  TIMESERIES
    # -  #  NPT  NMN ***
    1         1    1
  501         1    1
  END TIMESERIES
END COPY
GENER
  OPCODE
    #    # OPCD ***
  END OPCODE
  PARM
    #    #         K ***
  END PARM
END GENER
PERLND
  GEN-INFO
    <PLS ><-------Name------->NBLKS   Unit-systems   Printer ***
    # -  #                          User  t-series Engl Metr ***
                                          in  out           ***
    5     A/B, Pasture, Mod       1    1    1    1   27    0
  END GEN-INFO
  *** Section PWATER***

  ACTIVITY
    <PLS > ************ Active Sections ******************************
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC ***
    5         0    0    1    0    0    0    0    0    0    0    0    0
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags **************************** PIVL  PYR
```

```
    # -  # ATMP SNOW PWAT  SED  PST  PWG PQAL MSTL PEST NITR PHOS TRAC  *********
    5         0    0    4    0    0    0    0    0    0    0    0    0    1    9
  END PRINT-INFO

  PWAT-PARM1
    <PLS >  PWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP UZFG  VCS  VUZ  VNN VIFW VIRC  VLE INFC  HWT ***
    5         0    0    0    0    0    0    0    0    0    0    0
  END PWAT-PARM1

  PWAT-PARM2
    <PLS >      PWATER input info: Part 2         ***
    # -  # ***FOREST      LZSN    INFILT      LSUR     SLSUR     KVARY     AGWRC
    5             0         5       1.5       400       0.1       0.3     0.996
  END PWAT-PARM2

  PWAT-PARM3
    <PLS >      PWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN    INFEXP    INFILD    DEEPFR    BASETP    AGWETP
    5             0         0         2         2         0         0         0
  END PWAT-PARM3
  PWAT-PARM4
    <PLS >     PWATER input info: Part 4                              ***
    # -  #     CEPSC      UZSN      NSUR     INTFW       IRC     LZETP ***
    5          0.15       0.5       0.3         0       0.7       0.4
  END PWAT-PARM4

  PWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
             ran from 1990 to end of 1992 (pat 1-11-95) RUN 21 ***
    # -  # ***  CEPS      SURS       UZS      IFWS       LZS      AGWS      GWVS
    5             0         0         0         0         3         1         0
  END PWAT-STATE1

END PERLND

IMPLND
  GEN-INFO
    <PLS ><-------Name------->   Unit-systems   Printer ***
    # -  #                     User  t-series Engl Metr ***
                                     in  out           ***
    2      ROADS/MOD              1    1    1   27    0
    4      ROOF TOPS/FLAT         1    1    1   27    0
  END GEN-INFO
  *** Section IWATER***

  ACTIVITY
    <PLS > ************* Active Sections ******************************
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL   ***
    2         0    0    1    0    0    0
    4         0    0    1    0    0    0
  END ACTIVITY

  PRINT-INFO
    <ILS > ******** Print-flags ******** PIVL  PYR
    # -  # ATMP SNOW IWAT  SLD  IWG IQAL    *********
    2         0    0    4    0    0    0    1    9
    4         0    0    4    0    0    0    1    9
  END PRINT-INFO

  IWAT-PARM1
    <PLS >  IWATER variable monthly parameter value flags  ***
    # -  # CSNO RTOP  VRS  VNN RTLI     ***
    2         0    0    0    0    0
    4         0    0    0    0    0
  END IWAT-PARM1

  IWAT-PARM2
    <PLS >      IWATER input info: Part 2         ***
    # -  # ***  LSUR     SLSUR      NSUR     RETSC
```

```
    2            400      0.05       0.1      0.08
    4            400      0.01       0.1       0.1
  END IWAT-PARM2

  IWAT-PARM3
    <PLS >      IWATER input info: Part 3         ***
    # -  # ***PETMAX    PETMIN
    2              0         0
    4              0         0
  END IWAT-PARM3

  IWAT-STATE1
    <PLS > *** Initial conditions at start of simulation
    # -  # ***  RETS      SURS
    2              0         0
    4              0         0
  END IWAT-STATE1

END IMPLND

SCHEMATIC
<-Source->                 <--Area-->     <-Target->   MBLK   ***
<Name>   #                 <-factor->     <Name>   #   Tbl#   ***
Basin  1***
PERLND   5                      3.798     RCHRES   1      2
PERLND   5                      3.798     RCHRES   1      3
IMPLND   2                      2.013     RCHRES   1      5
IMPLND   4                      1.688     RCHRES   1      5

******Routing******
PERLND   5                      3.798     COPY     1     12
IMPLND   2                      2.013     COPY     1     15
IMPLND   4                      1.688     COPY     1     15
PERLND   5                      3.798     COPY     1     13
RCHRES   1                          1     COPY   501     17
END SCHEMATIC

NETWORK
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***
COPY   501 OUTPUT MEAN   1 1   48.4        DISPLY   1     INPUT  TIMSER 1



<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   #        <Name> # #<-factor->strg <Name>   #   #        <Name> # #  ***
END NETWORK

RCHRES
  GEN-INFO
    RCHRES       Name        Nexits   Unit Systems   Printer                ***
    # -  #<------------------><---> User T-series  Engl Metr LKFG           ***
                                       in  out                              ***
    1     Trapezoidal Pond-007    2    1    1    1   28    0    1
  END GEN-INFO
  *** Section RCHRES***

  ACTIVITY
    <PLS > ************ Active Sections ******************************
    # -  # HYFG ADFG CNFG HTFG SDFG GQFG OXFG NUFG PKFG PHFG ***
    1         1    0    0    0    0    0    0    0    0    0
  END ACTIVITY

  PRINT-INFO
    <PLS > ***************** Print-flags ******************* PIVL  PYR
    # -  # HYDR ADCA CONS HEAT  SED  GQL OXRX NUTR PLNK PHCB PIVL  PYR  *********
    1         4    0    0    0    0    0    0    0    0    0    1    9
  END PRINT-INFO

  HYDR-PARM1
```

```
    RCHRES  Flags for each HYDR Section                                    ***
    # -  #  VC A1 A2 A3  ODFVFG for each *** ODGTFG for each     FUNCT  for each
           FG FG FG FG  possible  exit  *** possible  exit      possible  exit
            *  *  *  *    *  *  *  *  *      *  *  *  *  *         ***
    1       0  1  0  0    4  5  0  0  0       0  0  0  0  0        2  2  2  2  2
  END HYDR-PARM1

  HYDR-PARM2
    # -  #    FTABNO       LEN     DELTH     STCOR        KS      DB50       ***
  <------><--------><--------><--------><--------><--------><-------->       ***
    1              1      0.01       0.0       0.0       0.5       0.0
  END HYDR-PARM2
  HYDR-INIT
    RCHRES  Initial conditions for each HYDR section                       ***
    # -  # ***   VOL     Initial  value  of COLIND     Initial  value  of OUTDGT
         *** ac-ft     for each possible exit        for each possible exit
  <------><-------->     <---><---><---><---><---> *** <---><---><---><---><--->
    1            0         4.0  5.0  0.0  0.0  0.0       0.0  0.0  0.0  0.0  0.0
  END HYDR-INIT
END RCHRES

SPEC-ACTIONS
END SPEC-ACTIONS
FTABLES
  FTABLE      1
   91    5
     Depth      Area    Volume  Outflow1  Outflow2  Velocity  Travel Time***
      (ft)   (acres) (acre-ft)   (cfs)     (cfs)   (ft/sec)    (Minutes)***
  0.000000  0.106520  0.000000  0.000000  0.000000
  0.066667  0.107366  0.007130  0.000000  0.928000
  0.133333  0.108216  0.014316  0.000000  0.928000
  0.200000  0.109069  0.021558  0.000000  0.928000
  0.266667  0.109925  0.028858  0.000000  0.928000
  0.333333  0.110785  0.036215  0.000000  0.928000
  0.400000  0.111647  0.043630  0.000000  0.928000
  0.466667  0.112513  0.051102  0.000000  0.928000
  0.533333  0.113383  0.058632  0.000000  0.928000
  0.600000  0.114255  0.066219  0.000000  0.928000
  0.666667  0.115131  0.073866  0.000000  0.928000
  0.733333  0.116010  0.081570  0.000000  0.928000
  0.800000  0.116893  0.089334  0.000000  0.928000
  0.866667  0.117778  0.097156  0.000000  0.928000
  0.933333  0.118667  0.105038  0.000000  0.928000
  1.000000  0.119559  0.112979  0.000000  0.928000
  1.066667  0.120455  0.120979  0.000000  0.928000
  1.133333  0.121353  0.129039  0.000000  0.928000
  1.200000  0.122255  0.137160  0.000000  0.928000
  1.266667  0.123160  0.145340  0.000000  0.928000
  1.333333  0.124069  0.153581  0.000000  0.928000
  1.400000  0.124981  0.161883  0.000000  0.928000
  1.466667  0.125896  0.170245  0.000000  0.928000
  1.533333  0.126814  0.178669  0.000000  0.928000
  1.600000  0.127736  0.187154  0.000000  0.928000
  1.666667  0.128660  0.195700  0.000000  0.928000
  1.733333  0.129588  0.204309  0.000000  0.928000
  1.800000  0.130520  0.212979  0.000000  0.928000
  1.866667  0.131454  0.221711  0.000000  0.928000
  1.933333  0.132392  0.230506  0.000000  0.928000
  2.000000  0.133333  0.239364  0.000000  0.928000
  2.066667  0.134278  0.248284  0.000000  0.928000
  2.133333  0.135225  0.257268  0.000000  0.928000
  2.200000  0.136176  0.266314  0.000000  0.928000
  2.266667  0.137130  0.275425  0.000000  0.928000
  2.333333  0.138088  0.284599  0.000000  0.928000
  2.400000  0.139049  0.293836  0.000000  0.928000
  2.466667  0.140013  0.303139  0.000000  0.928000
  2.533333  0.140980  0.312505  0.000000  0.928000
  2.600000  0.141950  0.321936  0.000000  0.928000
  2.666667  0.142924  0.331432  0.000000  0.928000
  2.733333  0.143901  0.340993  0.000000  0.928000
```

```
  2.800000  0.144882  0.350619  0.000000  0.928000
  2.866667  0.145865  0.360310  0.000000  0.928000
  2.933333  0.146852  0.370067  0.000000  0.928000
  3.000000  0.147842  0.379891  0.000000  0.928000
  3.066667  0.148835  0.389780  0.000000  0.928000
  3.133333  0.149832  0.399735  0.000000  0.928000
  3.200000  0.150832  0.409758  0.000000  0.928000
  3.266667  0.151835  0.419846  0.000000  0.928000
  3.333333  0.152842  0.430002  0.000000  0.928000
  3.400000  0.153851  0.440225  0.000000  0.928000
  3.466667  0.154864  0.450516  0.000000  0.928000
  3.533333  0.155880  0.460874  0.000000  0.928000
  3.600000  0.156900  0.471300  0.000000  0.928000
  3.666667  0.157923  0.481794  0.000000  0.928000
  3.733333  0.158949  0.492357  0.000000  0.928000
  3.800000  0.159978  0.502988  0.000000  0.928000
  3.866667  0.161011  0.513687  0.000000  0.928000
  3.933333  0.162046  0.524456  0.000000  0.928000
  4.000000  0.163085  0.535293  0.000000  0.928000
  4.066667  0.164128  0.546201  0.000000  0.928000
  4.133333  0.165173  0.557177  0.000000  0.928000
  4.200000  0.166222  0.568224  0.000000  0.928000
  4.266667  0.167274  0.579340  0.000000  0.928000
  4.333333  0.168330  0.590527  0.000000  0.928000
  4.400000  0.169388  0.601784  0.000000  0.928000
  4.466667  0.170450  0.613112  0.000000  0.928000
  4.533333  0.171516  0.624511  0.064540  0.928000
  4.600000  0.172584  0.635981  0.333520  0.928000
  4.666667  0.173656  0.647522  0.703432  0.928000
  4.733333  0.174731  0.659135  1.115035  0.928000
  4.800000  0.175809  0.670820  1.509672  0.928000
  4.866667  0.176891  0.682577  1.834531  0.928000
  4.933333  0.177975  0.694406  2.060036  0.928000
  5.000000  0.179063  0.706307  2.227125  0.928000
  5.066667  0.180155  0.718281  2.370955  0.928000
  5.133333  0.181249  0.730328  2.506546  0.928000
  5.200000  0.182347  0.742447  2.635170  0.928000
  5.266667  0.183448  0.754641  2.757800  0.928000
  5.333333  0.184553  0.766907  2.875206  0.928000
  5.400000  0.185660  0.779248  2.988001  0.928000
  5.466667  0.186771  0.791662  3.096691  0.928000
  5.533333  0.187885  0.804151  3.201694  0.928000
  5.600000  0.189003  0.816714  3.303360  0.928000
  5.666667  0.190123  0.829351  3.401989  0.928000
  5.733333  0.191247  0.842064  3.497839  0.928000
  5.800000  0.192375  0.854851  3.591131  0.928000
  5.866667  0.193505  0.867714  3.682060  0.928000
  5.933333  0.194639  0.880652  3.770797  0.928000
  6.000000  0.195776  0.893666  3.857493  0.928000
  END FTABLE  1
END FTABLES

EXT SOURCES
<-Volume-> <Member> SsysSgap<--Mult-->Tran <-Target vols> <-Grp> <-Member->  ***
<Name>   # <Name> # tem strg<-factor->strg <Name>   #   #        <Name> # #  ***
WDM      2 PREC     ENGL    1             PERLND   1 999 EXTNL  PREC
WDM      2 PREC     ENGL    1             IMPLND   1 999 EXTNL  PREC
WDM      1 EVAP     ENGL    0.76          PERLND   1 999 EXTNL  PETINP
WDM      1 EVAP     ENGL    0.76          IMPLND   1 999 EXTNL  PETINP

END EXT SOURCES

EXT TARGETS
<-Volume-> <-Grp> <-Member-><--Mult-->Tran <-Volume-> <Member> Tsys Tgap Amd ***
<Name>   #        <Name> # #<-factor->strg <Name>   # <Name>    tem strg strg***
RCHRES   1 HYDR   RO     1 1        1      WDM   1000 FLOW     ENGL      REPL
RCHRES   1 HYDR   O      1 1        1      WDM   1001 FLOW     ENGL      REPL
RCHRES   1 HYDR   O      2 1        1      WDM   1002 FLOW     ENGL      REPL
RCHRES   1 HYDR   STAGE  1 1        1      WDM   1003 STAG     ENGL      REPL
COPY     1 OUTPUT MEAN   1 1     48.4      WDM    701 FLOW     ENGL      REPL
```

```
COPY   501 OUTPUT MEAN   1 1     48.4      WDM    801 FLOW     ENGL      REPL
END EXT TARGETS

MASS-LINK
<Volume>   <-Grp> <-Member-><--Mult-->     <Target>       <-Grp> <-Member->***
<Name>            <Name> # #<-factor->     <Name>                <Name> # #***
  MASS-LINK        2
PERLND     PWATER SURO       0.083333      RCHRES         INFLOW IVOL
  END MASS-LINK    2

  MASS-LINK        3
PERLND     PWATER IFWO       0.083333      RCHRES         INFLOW IVOL
  END MASS-LINK    3

  MASS-LINK        5
IMPLND     IWATER SURO       0.083333      RCHRES         INFLOW IVOL
  END MASS-LINK    5

  MASS-LINK       12
PERLND     PWATER SURO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   12

  MASS-LINK       13
PERLND     PWATER IFWO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   13

  MASS-LINK       15
IMPLND     IWATER SURO       0.083333      COPY           INPUT  MEAN
  END MASS-LINK   15

  MASS-LINK       17
RCHRES     OFLOW  OVOL   1                 COPY           INPUT  MEAN
  END MASS-LINK   17


END MASS-LINK

END RUN
```

Predeveloped HSPF Message File

Mitigated HSPF Message File

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Clear Creek Solutions, Inc.
6200 Capitol Blvd. Ste F
Olympia, WA. 98501
Toll Free 1(866)943-0304
Local (360)943-0304

www.clearcreeksolutions.com

APPENDIX D:
OTHER SPECIAL REPORTS

Sunrise Hills

Soils Report For Drainage Purposes

Site Address: Sapp Road SW, Tumwater, WA 98501
TPN: 12827330000

Prepared For: Chul Kim
454 Southwest 297th St.
Federal Way, WA 98023
206-835-6300
Contact: Chul Kim

Prepared By: Parnell Engineering,LLC
10623 Hunters Lane S.E.
Olympia, WA 98513
(360) 491-3243
Contact: William Parnell, P.E.

PE

PARNELL ENGINEERING,LLC

SOIL EVALUATION REPORT
FORM 1: GENERAL SITE INFORMATION

PROJECT TITLE: Sunrise Hills
PE PROJECT NO.:15112
PREPARED BY: William Parnell, P.E.

SHEET: 1 OF 2
DATE: 8/1/15

1. SITE ADDRESS: Sapp Road, Tumwater, WA 98501 TPN: 12827330000

2. PROJECT DESCRIPTION: Final Plat for 35 lot residential subdivision.

3. SITE DESCRIPTION: The 11~ acre project site is currently undeveloped. Site topography is nearly level to slightly sloping on the southwest portion of the site in the area of a proposed stormwater facility. Overall site relief varies in elevation from a low of 162 feet at the southwest property corner to a high of 300 feet along the northeastern property line with a general overall slope direction of northeast to southwest.

Site vegetation consists of a moderate density scotch bloom growth and field grass understory on the southern portion of the site with a conifer and deciduous forest covering the remaining site to the north.

The project site is bounded by developed residential property to the west, north and northeast, an undeveloped parcel to the southeast and Sapp Road SW to the south.

The on-site soils are mapped by the NRCS as a combination of Indianola loamy sand on the southern portion, an Everett very gravelly sandy loam on the central and northern portion and a Schneider very gravelly loam on the northeastern portion of the project site. The Indianola series soils mapped in the area of the proposed stormwater infiltration facility are generally very deep, somewhat excessively well drained soils formed in sandy glacial drift.

4. SUMMARY OF SOILS WORK PERFORMED: Six test pits were excavated by backhoe to a maximum depth of 234" below existing grade in the vicinity of a proposed stormwater infiltration facility. Soils were inspected by entering and visually logging each test pit to a depth of four feet. Soils beyond four feet were inspected by examining backhoe tailings. Falling head percolation tests were completed adjacent to test pits # 2, #3, #4 and #6. Test pit soil log data sheets and infiltration test results are included in this report.

5. ADDITIONAL SOILS WORK RECOMMENDED: Additional soils work should not be necessary unless drainage infiltration facilities are located outside the general area encompassed by the soil test pits.

6. FINDINGS: The Natural Resource Conservation Service soil survey for Thurston County mapped the on-site soils in the area of the proposed stormwater facility as an Indianola loamy sand (47). All test pits generally confirmed the Indianola series designation generally profiling a loamy fine sand surface soil overlying a fine to medium sand substratum. The substratum sands were slightly loose. Variations in the substratum soils consisted of silt loam horizons which will tend to impede infiltration rates when encountered.

Winter water table was not present and obvious indicators were not visible. A soils report completed by Pacific Rim Soil & Water in March 2004 indicated no presence of a long duration water table in the same general area to a depth of 168" below grade.

Falling head percolation tests completed adjacent to test pits #2 (85" below existing grade), #3 (85" below existing grade), #4 (82" below existing grade) and #6 (80" below existing grade) yielded infiltration rates of 57.6 in/hr, 65.45 in/hr, 12.41 in/hr and 102.9 in/hr respectively.

7. RECOMMENDATIONS: The Indianola soil series is a somewhat excessively drained soil that formed in sandy glacial drift. Infiltration rates are generally rapid in the substratum soils. The specified substratum C-horizon soils should be targeted for all stormwater point discharge infiltration facilities as noted in the attached soil log data sheets. Design infiltration rate calculations using adjusted infiltration rate formulas for I_{design} resulted in calculated I_{design} values of 8.35 in/hr for test pit #2, 9.49 in/hr for test pit #3, 1.8 in/hr for test pit #4 and 14.9 in/hr for test pit

#6. For stormwater infiltration facility design purposes, use a recommended average of the four test results for an $I_{design\text{-}ave} \leq 8.64$ in/hr.
I_{design} calculations assumed a separation depth of 3 feet above any underlying silt loam horizon, a facility width of 50 feet and an infiltration facility preceded by a specific water quality facility. Please refer to the attached soil logs, soil log location map and falling head percolation test results with I_{design} calculations.
During construction, care must be taken to prevent the erosion of exposed soils. Drainage facility infiltration surfaces must be properly protected from contamination by the fine-grained upper horizon soils and from compaction by construction site activities. Soils not properly protected will cause stormwater infiltration facilities to prematurely fail.

I hereby certify that I prepared this report, and conducted or supervised the performance of related work. I certify that I am qualified to do this work. I represent my work to be complete an accurate within the bounds of uncertainty inherent to the practice of soils science, and to be suitable for its intended use.

SIGNED: William Parnell

DATE: 8/1/15

SOIL EVALUATION REPORT
FORM 2: SOIL LOG INFORMATION

PROJECT TITLE: Sunrise Hills PE PROJECT NO.:15112 PREPARED BY: William Parnell, P.E.			SHEET: 1 OF 6 DATE: 7/27/15	
SOIL LOG: #1 LOCATION: 50 ft. north and 35 ft. west of the southwest property corner				
1. TYPES OF TEST DONE: None	2. NRCS SOILS SERIES: Indianola (47)	3. LAND FORM: Terrace		
4. DEPOSITION HISTORY: Sandy Glacial Drift	5. HYDROLOGIC SOIL GROUP: A	6. DEPTH OF SEASONAL HW: Unknown		
7. CURRENT WATER DEPTH: Greater Than Bottom of Hole	8. DEPTH TO IMPERVIOUS LAYER: Greater than bottom of hole	9. MISCELLANEOUS: Gently Sloping		
10. POTENTIAL FOR:		Erosion	Runoff	Ponding
		Minimal	Slow	Minimal
11. SOIL STRATA DESCRIPTION: See Following chart				
12. SITE PERCOLATION RATE: See FSP				
13. FINDINGS & RECOMMENDATIONS: The horizons from 129"-234" were 0.5' – 1.0' thick lenses alternating between a massive silt loam and a massive fine sand. Infiltration will be restricted in the C3, C4, C5, C6 and C7+ horizons to 234".				

Soils Strata Description
Soil Log #1

Horz	Depth	Color	Texture	%CL	%ORG	CF	STR	MOT	IND	CEM	ROO	<X>	FSP
A	0"- 3"	10YR4/2	LmFSa	<6	<3	<1	SG	-	-	-	mf	2-6	4
Bw	3"- 16"	10YR4/3	LmFSa	<6	<1	<1	SG	-	-	-	mf	2-6	6
BC	16"- 28"	10YR5/3	LmFSa	<6	-	<1	SG	-	-	-	ff	6-20	6
C1	28"- 38"	10YR5/1	FSa	<1	-	<1	SG	-	-	-	ff	6-20	20
C2	38"- 68"	10YR5/1	MSa	<1	-	<1	SG	-	-	-	-	>20	20
C3	68"- 73"	10YR6/2	Lm	<25	-	<1	2SBK	-	-	-	-	.6-2.0	1
C4	73"-105"	10YR5/1	FSa	<1	-	<1	SG	-	-	-	-	6-20	20
C5	105"-121"	10YR5/2	SiLm	<28	-	<1	Mas	-	-	-	-	.6-2.0	0.6
C6	121"-129"	10YR5/1	FSa	<4	-	<1	SG	-	-	-	-	6-20	0.6
C7+	129"-234"	10YR5/2- 10YR5/1	SiLm FSa	<28 <5	- -	<1 <1	Mas Mas	- -	- -	- -	- -	.6-2.0 .6-2.0	0.6 0.6

SOIL EVALUATION REPORT
FORM 2: SOIL LOG INFORMATION

PROJECT TITLE: Sunrise Hills
PE PROJECT NO.:15112
PREPARED BY: William Parnell, P.E.

SHEET: 2 OF 6
DATE: 7/27/15

SOIL LOG: #2
LOCATION: 130 ft. north and 25 ft. west of the southwest property corner

1. TYPES OF TEST DONE:	2. NRCS SOILS SERIES:	3. LAND FORM:
Falling Head Percolation	Indianola (47)	Terrace
4. DEPOSITION HISTORY:	5. HYDROLOGIC SOIL GROUP:	6. DEPTH OF SEASONAL HW:
Sandy Glacial Drift	A	Unknown
7. CURRENT WATER DEPTH:	8. DEPTH TO IMPERVIOUS LAYER:	9. MISCELLANEOUS:
Greater Than Bottom of Hole	Greater than bottom of hole	Gently Sloping

10. POTENTIAL FOR:	Erosion	Runoff	Ponding
	Minimal	Slow	Minimal

11. SOIL STRATA DESCRIPTION: See Following chart

12. SITE PERCOLATION RATE: See FSP

13. FINDINGS & RECOMMENDATIONS: A falling head percolation test completed at 85" below the existing grade yielded an infiltration rate of 57.6 in/hr. Design infiltration rate calculations using adjusted infiltration rate formulas for Idesign resulted in a calculated Idesign = 8.35 in/hr. Use an average Idesign infiltration rate less than or equal to 8.64 in/hr for drainage infiltration facilities located in the C3 horizon soils (Idesign average for test pits #2, #3, #4 and #6). Infiltration will be restricted in the BC, C2, C4, C5 and C6 horizons.

Soils Strata Description
Soil Log #2

Horz	Depth	Color	Texture	%CL	%ORG	CF	STR	MOT	IND	CEM	ROO	<X>	FSP
A	0"- 8"	10YR4/2	LmVFSa	<12	<3	<1	1SBK	-	-	-	fm	2-6	2
Bw	8"- 21"	10YR5/2	LmVFSa	<12	<1	<1	1SBK	-	-	-	fm	2-6	3
BC	21"- 38"	10YR6/4	Lm	<25	-	<1	2SBK	-	-	-	fm	2-6	2
C1	38"- 67"	10YR5/2	LmFSa	<12	-	<1	1SBK	-	-	-	fm	2-6	3
C2	67"- 77"	10YR5/4	SiLm	<28	-	<1	3SBK	F1F	-	-	fm	.6-2.0	0.6
C3	77"-146"	10YR5/1	FSa	<1	-	<1	SG	-	-	-	-	6-20	Idesign = 8.35
C4	146"-168"	10YR5/2	SiLm	<28	-	<1	Mas	-	-	-	=	.6-2.0	0.1
C5	168"-174"	10YR5/1	FSa	<4	-	<1	Mas	-	-	-	-	6-20	0.1
C6	174"-192"	10YR5/2	SiLm	<28	-	<1	Mas	-	-	-	=	.6-2.0	0.1

SOIL EVALUATION REPORT
FORM 2: SOIL LOG INFORMATION

PROJECT TITLE: Sunrise Hills PE PROJECT NO.:15112 PREPARED BY: William Parnell, P.E.				SHEET: 3 OF 6 DATE: 7/27/15
SOIL LOG: #3 LOCATION: 125 ft. north and 100 ft. west of the southwest property corner				
1. TYPES OF TEST DONE: Falling Head Percolation	2. NRCS SOILS SERIES: Indianola (47)	3. LAND FORM: Terrace		
4. DEPOSITION HISTORY: Sandy Glacial Drift	5. HYDROLOGIC SOIL GROUP: A	6. DEPTH OF SEASONAL HW: Unknown		
7. CURRENT WATER DEPTH: Greater Than Bottom of Hole	8. DEPTH TO IMPERVIOUS LAYER: Greater than bottom of hole	9. MISCELLANEOUS: Gently Sloping		
10. POTENTIAL FOR:		Erosion	Runoff	Ponding
		Minimal	Slow	Minimal
11. SOIL STRATA DESCRIPTION: See Following chart				
12. SITE PERCOLATION RATE: See FSP				
13. FINDINGS & RECOMMENDATIONS: A falling head percolation test completed at 85" below the existing grade yielded an infiltration rate of 65.45 in/hr. Design infiltration rate calculations using adjusted infiltration rate formulas for Idesign resulted in a calculated Idesign = 9.49 in/hr. Use an average Idesign infiltration rate less than or equal to 8.64 in/hr for drainage infiltration facilities located in the C3, C4 and C5 horizon soils (Idesign average for test pits #2, #3, #4 and #6). The C2 horizon consisted of alternating lenses of VFSa and SiLm. Infiltration will be restricted in the C1, C2 and C6 horizons.				

Soils Strata Description
Soil Log #3

Horz	Depth	Color	Texture	%CL	%ORG	CF	STR	MOT	IND	CEM	ROO	<X>	FSP
A	0"- 12"	10YR4/2	LmVFSa	<12	<3	<1	1SBK	-	-	-	mf	2-6	3
Bw	12"- 17"	10YR5/3	LmVFSa	<12	<1	<1	2SBK	-	-	-	ff	2-6	2
BC	17"- 36"	10YR5/2	LmVFSa	<12	-	<1	2SBK	-	-	-	ff	2-6	2
C1	36"- 55"	10YR6/2	Lm	<25	-	<1	2SBK	-	-	-	ff	.6-2.0	1
C2	55"- 75"	10YR5/1 10YR5/2	VFSa SiLm	<5 <25	- -	<1 <1	SG Mas	- -	- -	- -	- -	2-6 .6-2.0	1 0.6
C3	75"- 90"	10YR5/1	FSa	<1	-	<1	SG	-	-	-	-	6-20	Idesign = 9.49
C4	90"-132"	10YR5/1	MSa	<1	-	<1	SG	-	-	-	-	>20	Idesign = 9.49
C5	132"-174"	10YR5/1	M-FSa	<1	-	<1	SG	-	-	-	-	6-20	Idesign = 9.49
C6	174"-192"	10YR5/2	SiLm	<28	-	<1	Mas	-	-	-	=	.6-2.0	0.1

Too Far North of TRACK A

SOIL EVALUATION REPORT
FORM 2: SOIL LOG INFORMATION

PROJECT TITLE: Sunrise Hills PE PROJECT NO.:15112 PREPARED BY: William Parnell, P.E.			SHEET: 4 OF 6 DATE: 7/27/15	
SOIL LOG: #4 LOCATION: 40 ft. north and 110 ft. west of the southwest property corner				
1. TYPES OF TEST DONE: Falling Head Percolation	2. NRCS SOILS SERIES: Indianola (47)	3. LAND FORM: Terrace		
4. DEPOSITION HISTORY: Sandy Glacial Drift	5. HYDROLOGIC SOIL GROUP: A	6. DEPTH OF SEASONAL HW: Unknown		
7. CURRENT WATER DEPTH: Greater Than Bottom of Hole	8. DEPTH TO IMPERVIOUS LAYER: Greater than bottom of hole	9. MISCELLANEOUS: Gently Sloping		
10. POTENTIAL FOR:		Erosion	Runoff	Ponding
		Minimal	Slow	Minimal
11. SOIL STRATA DESCRIPTION: See Following chart				
12. SITE PERCOLATION RATE: See FSP				
13. FINDINGS & RECOMMENDATIONS: A falling head percolation test completed at 82" below the existing grade yielded an infiltration rate of 12.41 in/hr. Design infiltration rate calculations using adjusted infiltration rate formulas for Idesign resulted in a calculated Idesign = 1.8 in/hr. Use an average Idesign infiltration rate less than or equal to 8.64 in/hr for drainage infiltration facilities located in the C4 horizon soils (Idesign average for test pits #2, #3, #4 and #6). Infiltration will be restricted in the C1, C3 and C5 horizons.				

Soils Strata Description
Soil Log #4

Horz	Depth	Color	Texture	%CL	%ORG	CF	STR	MOT	IND	CEM	ROO	<X>	FSP
A	0"- 12"	10YR4/2	LmVFSa	<12	<3	<1	1SBK	-	-	-	mf	2-6	3
Bw	12"- 27"	10YR5/3	LmVFSa	<12	<1	<1	2SBK	-	-	-	fm	2-6	2
BC	27"- 44"	10YR5/2	LmVFSa	<12	-	<1	2SBK	-	-	-	fm	2-6	2
C1	44"- 54"	10YR6/2	Lm	<25	-	<1	2SBK	-	-	-	fm	.6-2.0	1
C2	54"- 66"	10YR5/2	LmFSa	<12	-	<1	1SBK	-	-	-	fm	2-6	3
C3	66"- 78"	10YR5/3	SiLm	<28	-	<1	3SBK	-	-	-	-	.6-2.0	0.1
C4	78"-174"	10YR5/1	FSa	<1	-	<1	SG	-	-	-	-	6-20	Idesign = 1.8
C5	174"-192"	10YR5/2	SiLm	<28	-	<1	Mas	-	-	-	-	.6-2.0	0.1

SOIL EVALUATION REPORT
FORM 2: SOIL LOG INFORMATION

PROJECT TITLE: Sunrise Hills
PE PROJECT NO.:15112
PREPARED BY: William Parnell, P.E.

SHEET: 5 OF 6
DATE: 7/27/15

SOIL LOG: #5
LOCATION: 190 ft. north and 50 ft. west of the southwest property corner

1. TYPES OF TEST DONE: None	2. NRCS SOILS SERIES: Indianola (47)	3. LAND FORM: Terrace
4. DEPOSITION HISTORY: Sandy Glacial Drift	5. HYDROLOGIC SOIL GROUP: A	6. DEPTH OF SEASONAL HW: Unknown
7. CURRENT WATER DEPTH: Greater Than Bottom of Hole	8. DEPTH TO IMPERVIOUS LAYER: Greater than bottom of hole	9. MISCELLANEOUS: Gently Sloping

10. POTENTIAL FOR:	Erosion	Runoff	Ponding
	Minimal	Slow	Minimal

11. SOIL STRATA DESCRIPTION: See Following chart

12. SITE PERCOLATION RATE: See FSP

13. FINDINGS & RECOMMENDATIONS: Infiltration will be restricted in the C1, C4, C5 and C6 horizons.

Soils Strata Description
Soil Log #5

Horz	Depth	Color	Texture	%CL	%ORG	CF	STR	MOT	IND	CEM	ROO	<X>	FSP
A	0"- 6"	10YR3/2	LmVFSa	<12	<3	<1	1SBK	-	-	-	mf	2-6	3
Bw	6"- 22"	10YR4/3	LmVFSa	<12	<1	<1	1SBK	-	-	-	ff	2-6	6
BC	22"- 32"	10YR4/4	LmVFSa	<12	-	<1	1SBK	-	-	-	ff	2-6	6
C1	32"- 42"	10YR6/2	SiLm	<28	-	<1	3SBK	-	-	-	ff	.6-2.0	0.6
C2	42"- 55"	10YR5/3	FSa	<1	-	<1	SG	-	-	-	-	6-20	20
C3	55"- 96"	10YR5/3	MSa	<1	-	<1	SG	-	-	-	-	>20	20
C4	96"-115"	10YR5/2	SiLm	<28	-	<1	Mas	F1F	-	-	-	.6-2.0	0.1
C5	115"-156"	10YR5/2	LmVFSa	<12	-	<1	Mas	-	-	-	-	.6-2.0	0.6
C6	156"-176"	10YR5/2	SiLm	<28	-	<1	Mas	-	-	-	-	.6-2.0	0.1

SOIL EVALUATION REPORT
FORM 2: SOIL LOG INFORMATION

PROJECT TITLE: Sunrise Hills PE PROJECT NO.:15112 PREPARED BY: William Parnell, P.E.				SHEET: 6 OF 6 DATE: 7/27/15
SOIL LOG: #6 LOCATION: 80 ft. north and 60 ft. west of the southwest property corner				
1. TYPES OF TEST DONE: Falling Head Percolation	2. NRCS SOILS SERIES: Indianola (47)	3. LAND FORM: Terrace		
4. DEPOSITION HISTORY: Sandy Glacial Drift	5. HYDROLOGIC SOIL GROUP: A	6. DEPTH OF SEASONAL HW: Unknown		
7. CURRENT WATER DEPTH: Greater Than Bottom of Hole	8. DEPTH TO IMPERVIOUS LAYER: Greater than bottom of hole	9. MISCELLANEOUS: Gently Sloping		
10. POTENTIAL FOR:		Erosion	Runoff	Ponding
		Minimal	Slow	Minimal
11. SOIL STRATA DESCRIPTION: See Following chart				
12. SITE PERCOLATION RATE: See FSP				
13. FINDINGS & RECOMMENDATIONS: A falling head percolation test completed at 80" below the existing grade yielded an infiltration rate of 102.9 in/hr. Design infiltration rate calculations using adjusted infiltration rate formulas for Idesign resulted in a calculated Idesign = 14.9 in/hr. Use an average Idesign infiltration rate less than or equal to 8.64 in/hr for drainage infiltration facilities located in the C2 horizon soils (Idesign average for test pits #2, #3, #4 and #6). Infiltration will be restricted in the C3, C5, and C7 horizons.				

Soils Strata Description
Soil Log #6

Horz	Depth	Color	Texture	%CL	%ORG	CF	STR	MOT	IND	CEM	ROO	<X>	FSP
A	0"- 8"	10YR3/2	LmVFSa	<12	<3	<1	1SBK	-	-	-	mf	2-6	3
Bw	8"- 18"	10YR4/3	LmVFSa	<12	<1	<1	1SBK	-	-	-	ff	2-6	6
BC	18"- 36"	10YR4/4	LmVFSa	<12	-	<1	1SBK	-	-	-	ff	2-6	6
C1	36"- 62"	10YR5/1	FSa	<1	-	<1	SG	-	-	-	-	6-20	20
C2	62"-119"	10YR5/1	M-FSa	<1	-	<1	SG	-	-	-	-	>20	Idesign = 14.9
C3	119"-144"	10YR5/2	SiLm	<28	-	<1	3SBK	-	-	-	-	.6-2.0	0.6
C4	144"-153"	10YR5/1	VFSa	<10	-	<1	SG	-	-	-	-	2-6	0.6
C5	153"-162"	10YR5/2	SiLm	<28	-	<1	Mas	-	-	-	-	.6-2.0	0.1
C6	162"-174"	10YR5/1	VFSa	<10	-	<1	SG	-	-	-	-	2-6	1.0
C7	174"-192"	10YR5/2	SiLm	<28	-	<1	Mas	-	-	-	-	.6-2.0	0.1

Abbreviations

Textural Class (Texture)	Structure (STR)	Grades of Structure
Cobbley -Cob	Granular - Gr	Strong - 3
Stoney - St	Blocky - Blky	Moderate - 2
Gravelly - Gr	Platy - Pl	Weak - 1
Sandy - Sa	Massive - Mas	
Loamy - Lm	Single Grained - SG	
Silty - Si	Sub-Angular Blocky - SBK	
Clayey - Cl		
Coarse - C		
Very - V		
Extremely - Ex		
Fine - F		
Medium - M		

Induration & Cementation (IND) (CEM)
Weak - Wk
Moderate - Mod
Strong - Str

Mottles (MOT)		
1 Letter Abundance	1st Number Size	2nd Letter Contrast
Few - F	Fine - 1	Faint - F
Common - C	Medium - 2	Distinct - D
Many - M	Coarse - 3	Prominent - P

Roots (ROO)	
1st Letter Abundance	2nd Letter Size
Few - f	Fine - f
Common - c	Medium - m
Many - m	Coarse - c

<X> - Generalized range of infiltration rates from SCS soil survey (<X>)

FSP - **Estimated Field Saturated Percolation rate based on horizon specific factors.**

Disregard this data - too far North of Track A

Falling Head Percolation Test

Sunrise Hills

Completed By : William Parnell, P.E.
Test Date : 7/27/2015
PE Job : #15112

Test Pit # **4** (completed @ 82" below existing ground surface)

Start (Min)	Stop (Min)	Elapsed Time (Min)	Total Drop (Inches)	Infiltration Rate (In/Hr)
0: 00' 00"	0: 16' 00"	0: 16' 00"	6	
0: 16' 30"	0: 38' 30"	0: 22' 00"	6	
Soaking Period				
1: 35' 30"	2: 01' 30"	0: 26' 00"	6	
2: 02' 30"	2: 30' 30"	0: 28' 00"	6	
2: 31' 00"	3: 00' 00"	0: 29' 00"	6	
3: 01' 00"	3: 30' 00"	0: 29' 00"	6	
3: 31' 30"	4: 00' 30"	0: 29' 00"	6	**12.41**

Design Infiltration Rate Calculation : Idesign

$I_{design} = I_{measured} \times F_{testing} \times F_{geometry} \times F_{plugging}$

$I_{measured}$ = 12.41 In/Hr

$F_{testing}$ = 0.50

$F_{geometry} = 4D/W + 0.05$ Where: D= Depth from the bottom of the proposed facility to the maximum wet season water table or nearest impervious layer, whichever is less. Assume D=3.0 feet.
W= Width of facility. Assume W=50.0 feet

$0.25 \leq F_{geometry} \leq 1.0$

$F_{geometry}=4(3/50)+0.05$
$F_{geometry}=0.29$ Use $F_{geometry}=0.29$

$F_{plugging}$= 0.7 for loams and sandy loams, 0.8 for loamy sands or fine sands, 0.9 for medium sands, 1.0 for coarse sands or cobbles or any soil type with infiltration facility preceded by a specific water quality facility.
Assume pre-treatment : Use $F_{plugging}=1.0$

I_{design} = 12.41 x 0.5 x 0.29 x 1.0 = 1.8 in/hr

For stormwater facility design purposes, use an average $I_{design} \leq$ **8.64 in/hr.**

Falling Head Percolation Test
Sunrise Hills

Completed By : William Parnell, P.E.
Test Date : 7/27/2015
PE Job : #15112

Test Pit # **2** (completed @ 85" below existing ground surface)

Start (Min)	Stop (Min)	Elapsed Time (Min)	Total Drop (Inches)	Infiltration Rate (In/Hr)
0: 00' 00"	0: 04' 30"	0: 04' 30"	6	
0: 05' 00"	0: 10' 45"	0: 05' 45"	6	
0: 11' 00"	0: 17' 30"	0: 06' 30"	6	
		Soaking Period		
2: 11' 00"	2: 17' 45"	0: 06' 45"	6	
		Soaking Period		
3: 04' 15"	3: 10' 15"	0: 06' 00"	6	
		Soaking Period		
3: 45' 30"	3: 52' 15"	0: 06' 15"	6	
3: 53' 00"	3: 59' 15"	0: 06' 15"	6	**57.6**

Design Infiltration Rate Calculation : Idesign

$I_{design} = I_{measured} \times F_{testing} \times F_{geometry} \times F_{plugging}$

$I_{measured}$ = 57.6 In/Hr

$F_{testing}$ = 0.50

$F_{geometry} = 4D/W + 0.05$ Where: D= Depth from the bottom of the proposed facility to the maximum wet season water table or nearest impervious layer, whichever is less. Assume D=3.0 feet.
$0.25 \leq F_{geometry} \leq 1.0$
W= Width of facility. Assume W=50.0 feet

$F_{geometry}=4(3/50)+0.05$
$F_{geometry}=0.29$ Use $F_{geometry}=0.29$

$F_{plugging}$= 0.7 for loams and sandy loams, 0.8 for loamy sands or fine sands, 0.9 for medium sands, 1.0 for coarse sands or cobbles or any soil type with infiltration facility preceded by a specific water quality facility.
Assume pre-treatment : Use $F_{plugging}=1.0$

I_{design} = 57.6 x 0.5 x 0.29 x 1.0 = 8.35 in/hr

For stormwater facility design purposes, use an average $I_{design} \leq$ **8.64 in/hr.**

Falling Head Percolation Test
Sunrise Hills

Completed By : William Parnell, P.E.
Test Date : 7/27/2015
PE Job : #15112

Test Pit # **3** (completed @ 85" below existing ground surface)

Start (Min)	Stop (Min)	Elapsed Time (Min)	Total Drop (Inches)	Infiltration Rate (In/Hr)
0: 00' 00"	0: 03' 30"	0: 03' 30"	6	
0: 04' 00"	0: 08' 45"	0: 04' 45"	6	
		Soaking Period		
0: 37' 15"	0: 41' 45"	0: 04' 30"	6	
		Soaking Period		
1: 12' 30"	1: 17' 15"	0: 04' 45"	6	
		Soaking Period		
2: 34' 00"	2: 38' 15"	0: 04' 15"	6	
		Soaking Period		
3: 10' 30"	3: 15' 45"	0: 05' 15"	6	
		Soaking Period		
3: 52' 30"	3: 58' 00"	0: 05' 30"	6	
3: 58' 30"	4: 04' 00"	0: 05' 30"	6	**65.45**

Design Infiltration Rate Calculation : Idesign

$I_{design} = I_{measured} \times F_{testing} \times F_{geometry} \times F_{plugging}$

$I_{measured}$ = 65.45 In/Hr $F_{testing}$ = 0.50

$F_{geometry}$ = 4D/W + 0.05 Where: D= Depth from the bottom of the proposed facility to the maximum wet season water table or nearest impervious layer, whichever is less. Assume D=3.0 feet.

$0.25 \leq F_{geometry} \leq 1.0$ W= Width of facility. Assume W=50.0 feet

$F_{geometry}$=4(3/50)+0.05
$F_{geometry}$=0.29 Use $F_{geometry}$=0.29

$F_{plugging}$= 0.7 for loams and sandy loams, 0.8 for loamy sands or fine sands, 0.9 for medium sands, 1.0 for coarse sands or cobbles or any soil type with infiltration facility preceded by a specific water quality facility.
Assume pre-treatment : Use $F_{plugging}$=1.0

I_{design} = 65.45 x 0.5 x 0.29 x 1.0 = 9.49 in/hr

For stormwater facility design purposes, use an average $I_{design} \leq$ **8.64 in/hr.**

Falling Head Percolation Test
Sunrise Hills

Completed By : William Parnell, P.E.
Test Date : 7/27/2015
PE Job : #15112

Test Pit # **6** (completed @ 80" below existing ground surface)

Start (Min)	Stop (Min)	Elapsed Time (Min)	Total Drop (Inches)	Infiltration Rate (In/Hr)
0: 00' 00"	0: 02' 00"	0: 02' 00"	6	
0: 02' 30"	0: 05' 00"	0: 02' 30"	6	
0: 05' 15"	0: 08' 00"	0: 02' 45"	6	
0: 08' 15"	0: 11' 00"	0: 02' 45"	6	
		Soaking Period		
1: 07' 45"	1: 11' 00"	0: 03' 15"	6	
		Soaking Period		
2: 19' 15"	2: 22' 30"	0: 03' 15"	6	
		Soaking Period		
2: 54' 45"	2: 58' 00"	0: 03' 15"	6	
		Soaking Period		
3: 54' 45"	3: 58' 15"	0: 03' 30"	6	
3: 58' 30"	4: 02' 00"	0: 03' 30"	6	**102.9**

Design Infiltration Rate Calculation : Idesign

$I_{design} = I_{measured} \times F_{testing} \times F_{geometry} \times F_{plugging}$

$I_{measured}$ = 102.9 In/Hr

$F_{testing}$ = 0.50

$F_{geometry} = 4D/W + 0.05$ Where: D= Depth from the bottom of the proposed facility to the maximum wet season water table or nearest impervious layer, whichever is less. Assume D=3.0 feet.
W= Width of facility. Assume W=50.0 feet

$0.25 \leq F_{geometry} \leq 1.0$

$F_{geometry}=4(3/50)+0.05$
$F_{geometry}=0.29$ Use $F_{geometry}=0.29$

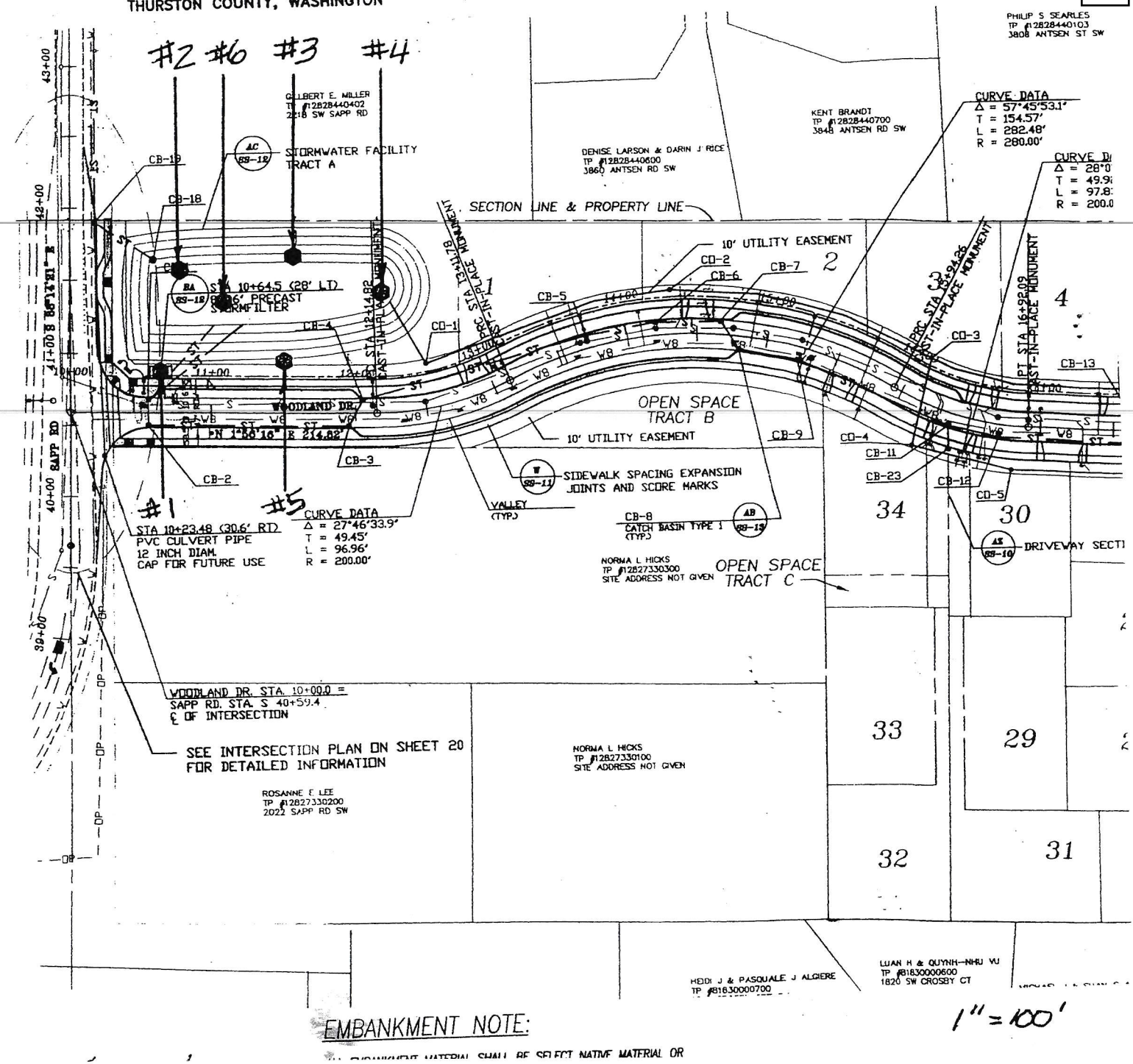
$F_{plugging}$= 0.7 for loams and sandy loams, 0.8 for loamy sands or fine sands, 0.9 for medium sands, 1.0 for coarse sands or cobbles or any soil type with infiltration facility preceded by a specific water quality facility.
Assume pre-treatment : Use $F_{plugging}=1.0$

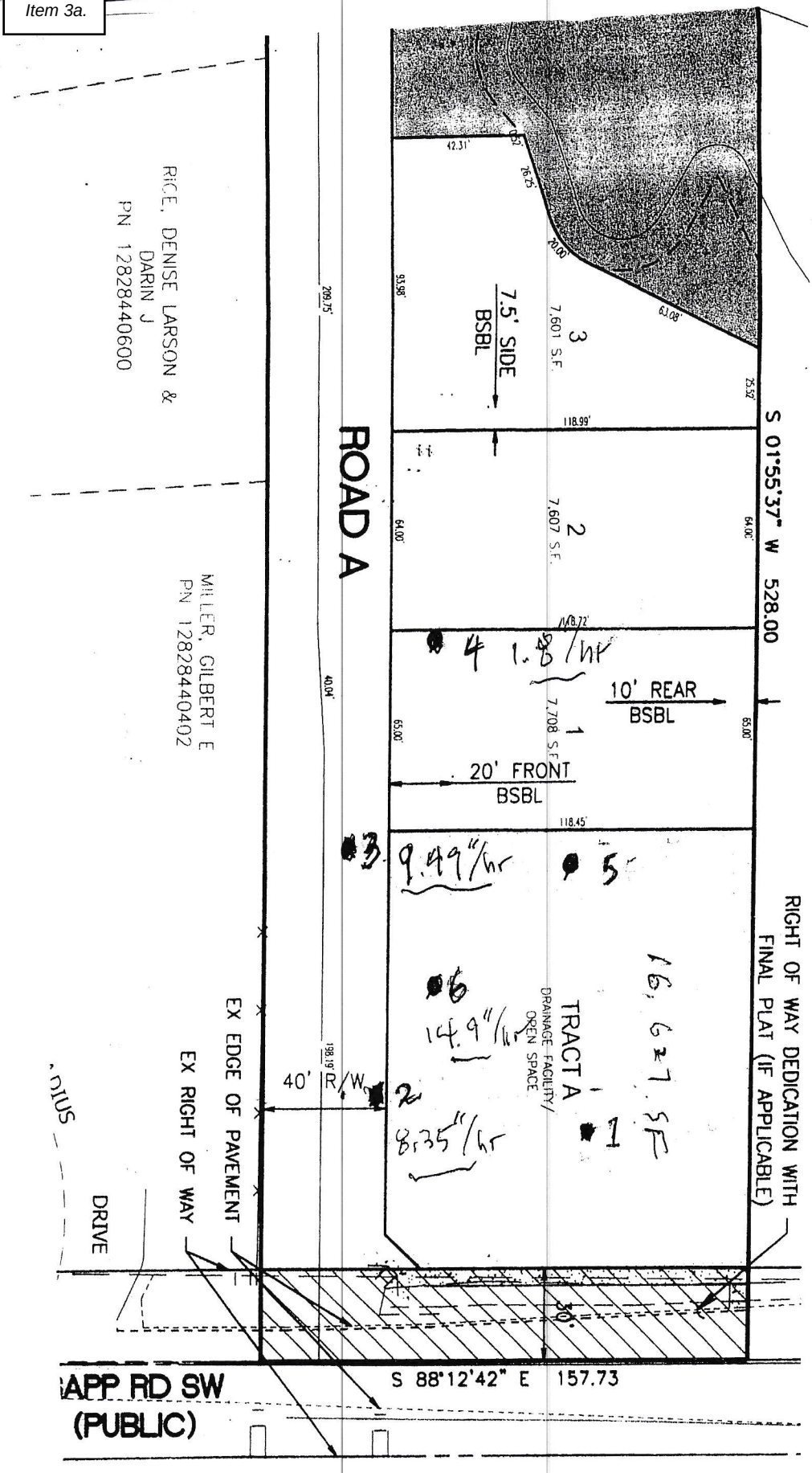
I_{design} = 102.9 x 0.5 x 0.29 x 1.0 = 14.9 in/hr

For stormwater facility design purposes, use an average $I_{design} \leq$ **8.64 in/hr.**

PORTION OF THE SW 1/4 OF SW 1/4 OF SECTION 27, TOWNSHIP 18N, RAN

THURSTON COUNTY, WASHINGTON





4 = 1.8"/hr — Too Far

3 = 9.49"/hr — 9.49"/hr

6 = 14.9"/hr — 14.9"/hr

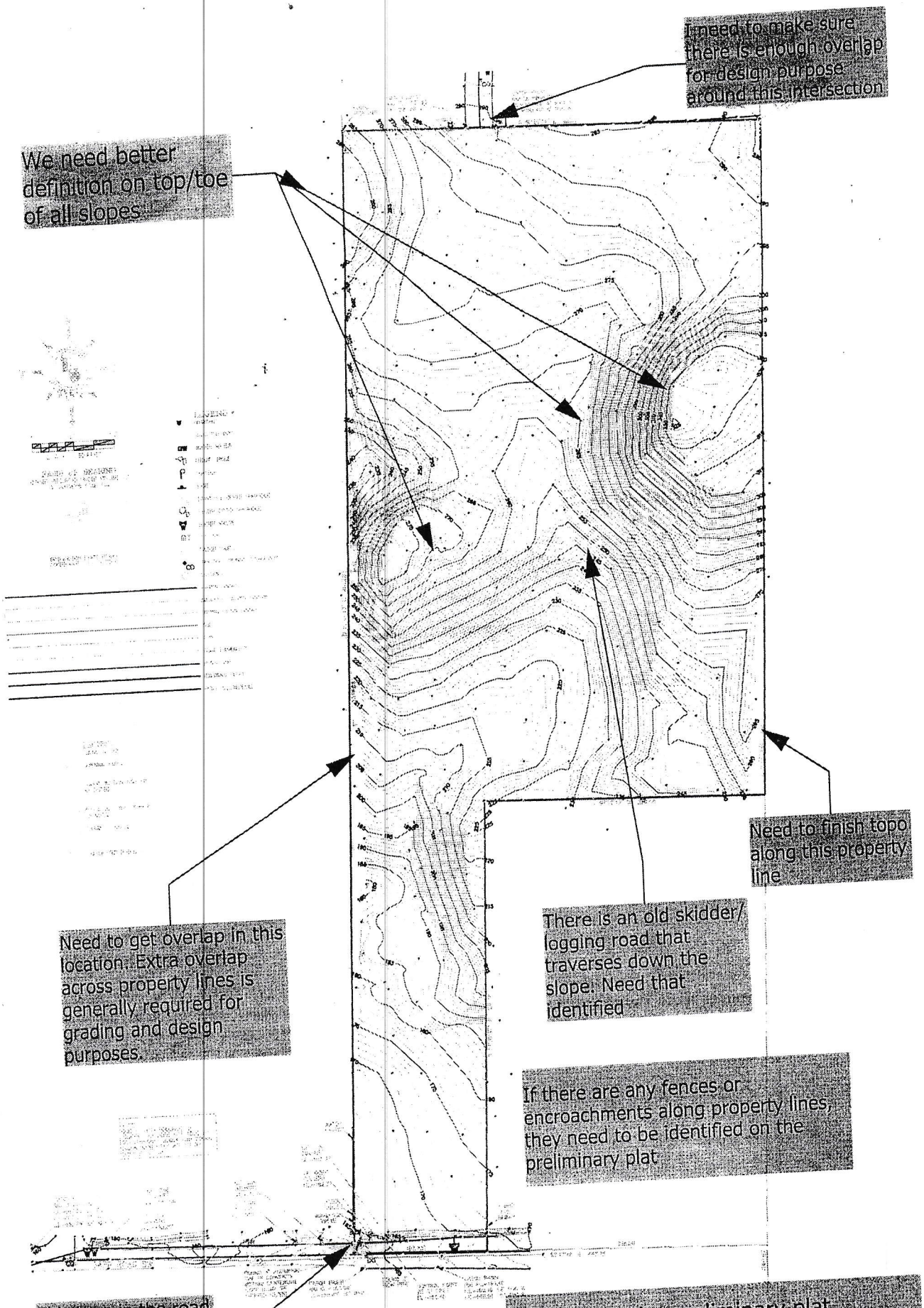
2 = 8.35"/hr — 8.35"/hr

34.54"/hr — 32.74"/hr

AV = 8.635"/hr — 10.91"/hr

Recommend: 8.64"/hr

SHEET TITLE: PRELIMINARY PLAT EXHI


I need to make sure there is enough overlap for design purpose around this intersection
We need better definition on top/toe of all slopes.
Need to finish topo along this property line
There is an old skidder/ logging road that traverses down the slope. Need that identified
Need to get overlap in this location. Extra overlap across property lines is generally required for grading and design purposes.
If there are any fences or encroachments along property lines, they need to be identified on the preliminary plat
This topo in the road doesnt look like enough detail to design frontage improvements to.
All items on the preliminary plat checklist need to be surveyed including, but not limited to significant trees.

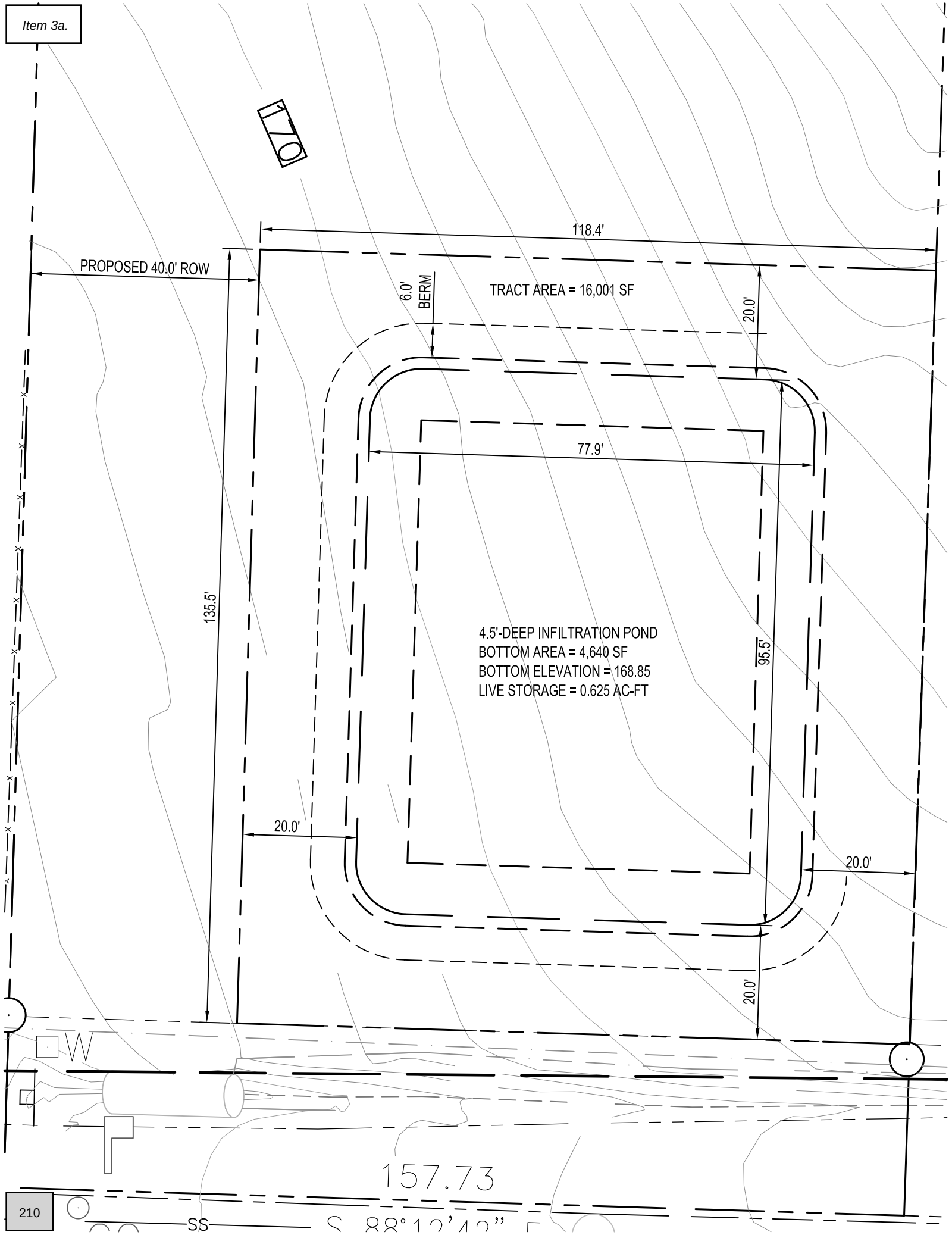

170
118.4'
PROPOSED 40.0' ROW
6.0'
BERM
TRACT AREA = 16,001 SF
20.0'
77.9'
135.5'
4.5'-DEEP INFILTRATION POND
BOTTOM AREA = 4,640 SF
BOTTOM ELEVATION = 168.85
LIVE STORAGE = 0.625 AC-FT
95.5'
20.0'
20.0'
20.0'
W
157.73
SS
S 88°12'42" E

Exhibit 18

City Hall
555 Israel Road SW
Tumwater, WA 98501-6515
Phone: 360-754-5855
Fax: 360-754-4138

May 10, 2023

Chul M Kim
454 SW 297th St
Federal Way, WA 98023

RE: Water and Sewer Availability – Parcels #12827330000

Dear Chul M Kim,

The City of Tumwater, WA PWSID #89700Q, is pleased to accommodate your request for water and sewer connection and service to the above parcel sited at 1000 SW Woodland Drive. The parcel is zoned Residential/Sensitive Resource. The requested services can be accommodated by the City under the following conditions:

1. Sewer and water extensions to serve the development will be per the City of Tumwater's comprehensive plans.
2. Easements necessary for utility maintenance shall be dedicated to the City of Tumwater in advance of making the physical connection to the water and sewer systems.
3. All connection/latecomer fees, if any, are due at time of building permit issuance or subdivision occurs.
4. Existing water wells or septic systems, if any, will be legally decommissioned.
5. Follow and comply with all standard city requirements.

This letter serves as the City's Certificate of Water and Sewer Availability for the proposed development of up to 34 single-family units, including domestic and irrigation uses. The project has been approved for **34 Water ERUs and 34 Wastewater ERUs**, per TMC 13.08 and TMC 13.04. If additional consumptive needs for the project are identified, please notify us as soon as possible.

This agreement will expire 180 days after the date shown above. This agreement will remain valid for the duration of permit approval coverage, including extensions. Additional information may be required to accurately determine wastewater connection fees. If you have further questions, please contact Jeff Query at 360-754-4140.

Regards,

Carrie Gillum

Carrie Gillum
Water Resources Specialist

cc: Dan Smith, Water Resources & Sustainability Director
Jared Crews, Engineer II
Jeff Query, Engineer II

EXHIBIT 19

Tumwater School District

Dr. Sean Dotson
Superintendent

621 Linwood Avenue SW Tumwater, WA 98512-6847
(360) 709-7000 www.tumwater.k12.wa.us

Capital Projects: (360) 709-7005
Financial Services: (360) 709-7010
Human Resources: (360) 709-7020
Payroll/Benefits: (360) 709-7029
Student Learning: (360) 709-7030
Special Services: (360) 709-7040

August 22, 2019

Mr. Chris Carlson
City of Tumwater Community Development Department
555 Israel Road SW
Tumwater, WA 98501

RE: Sunrise Hill Preliminary Plat
Safe Walking Conditions & School Bus Stops

Dear Mr. Carlson:

Thank you for the opportunity to comment on the Sunrise Hill Plat proposed on Sapp Road SW and east of Antsen Street SE.

This new development is currently in the *Tumwater Hill Elementary, Tumwater Middle* and *Black Hills High School* attendance zones. These may be subject to future changes to attendance boundaries. Each school is further than one mile from this proposed development and students will be offered bus transportation per District policy.

Students living in the northern portion of the development will walk to the current elementary bus stop on Woodland Drive SW and middle/high school students will walk to the current stop on Crosby Boulevard. Students in the southern portion will walk to new stop provided by the developer by tract 'D' on Sapp Road (shown in the attached site plan). The developer will also need to install a "School Bus Stop Ahead" sign on the corner near the Sapp Road/Crosby Boulevard intersection. The exact location for sign will be as directed by City.

Please contact me with any questions.

Sincerely,

Mel Murray
Director of Facilities
(360) 709-7004

Attachment

"Continuous Student Learning in a Caring, Engaging Environment"

Item 3a.

GRAPHIC SCALE

0 50 100

1 INCH = 50 FEET (22"x34")
1 INCH = 100 FEET (11"x17")

SUNRISE HILL PLAT

A PORTION SW 1/4 OF THE SW 1/4 OF SECTION 27, TOWNSHIP 18 NORTH, RANGE 2 WEST, W.M.,
CITY OF TUMWATER, THURSTON COUNTY, WASHINGTON
PRELIMINARY PLAT MAP

School Bus Stop Location

PROJECT INFORMATION

PARCEL#:	12827330000
	R/SR (RESIDENTIAL/SENSITIVE RESOURCE)
MINIMUM LOT SIZE:	9,500 SQ. FT.
BUILDING SETBACKS:	FRONT: 20 FEET
	REAR: 20 FEET
	INTERIOR: 10 FEET
NUMBER OF LOTS:	36 (SFR - SINGLE FAMILY RESIDENCE)
PARKING SPACES:	2 PER DWELLING UNIT (GARAGE/DRIVEWAY)
IMPERVIOUS SURFACE:	30% COVERAGE
OPEN SPACE:	10% OF GROSS SITE
SMALLEST LOT SIZE:	9501 SQ. FT.
ZONING:	R/SR (RESIDENTIAL/SENSITIVE RESOURCE)
WATER PROVIDER:	CITY OF TUMWATER
SEWER PROVIDER:	CITY OF TUMWATER (LOTT CLEAN WATER ALLIANCE)
ELECTRICITY PROVIDER:	PUGET SOUND ENERGY
TELEPHONE PROVIDER:	MULTIPLE PRIVATE
GAS PROVIDER:	PUGET SOUND ENERGY
REFUSE COLLECTION:	LEMAY PACIFIC DISPOSAL/WASTE CONNECTIONS, INC.
SCHOOL DISTRICT:	TUMWATER
CABLE/TV PROVIDER:	COMCAST

APPLICANT

SUNRISE HILLS, LLC
454 SW 987TH STREET
FEDERAL WAY, WA 98023
(206) 835-6300
EVERGREEN278@YAHOO.COM

SURVEYOR

LENHERR SURVEYING PLLC
209 SOUTH 3RD STREET
ELMA, WA 98541
(360) 482-8750

DENSITY CALC

GROSS SITE AREA	= 466,977 SQ FT (10.72 ACRES)
ROAD A	= 36,016 SQ FT
ROAD B	= 20,798 SQ FT
ACCESS A	= 3,019 SQ FT
ACCESS B	= 10,141 SQ FT
ACCESS C	= 4,564 SQ FT

NET USEABLE AREA = GROSS AREA - ROAD AREA
466,967 SQ FT - (36,016 SQ FT + 20,798 SQ FT + 3,019 SQ FT + 10,141 SQ FT + 4,564 SQ FT)
TOTAL NET USABLE AREA = 392,439 SQ FT (9.009 ACRES)

DENSITY 4 UNITS PER NET USEABLE ACRE = 36.04 UNITS

TRACT INFORMATION

TRACT A: OPEN SPACE TRACT	23,092 SF (0.53 AC)
TRACT B: UTILITY TRACT	3,335 SF (0.077 AC)
TRACT C: PARK TRACT	4,749 SF (0.11 AC)
TRACT D: STORM TRACT	18,992 SF (0.44 AC)
TRACT E: OPEN SPACE TRACT	832 SF (0.019 AC)
TRACT F: ACCESS C	4,564 SF (0.10 AC)

LEGAL DESCRIPTION

AS PER THURSTON COUNTY POLICY NUMBER: SGW 08002968

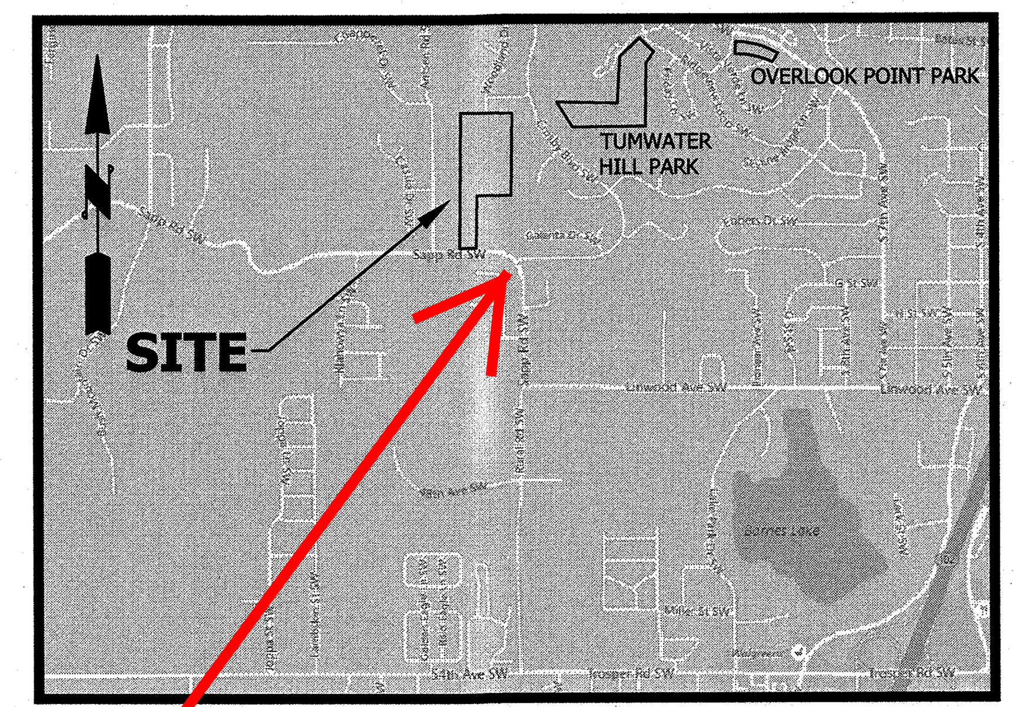
LOT 5 OF SECTION 27, TOWNSHIP 18 NORTH, RANGE 2 WEST, W.M.; EXCEPT THE SOUTH 528 FEET OF THE EAST 330 FEET AND EXCEPT COUNTY ROAD KNOWN AS SAPP ROAD ALONG THE SOUTH BOUNDARY.

ACCESS NOTE

LOTS 18, 20, 21 & 22 ARE REQUIRED TO ACCESS FROM ACCESS B.

LOTS 23, 24, 25, & 26 ARE REQUIRED TO ACCESS FROM ACCESS A.

NO OTHER LOTS ARE PERMITTED TO ACCESS THROUGH ACCESS A & B.



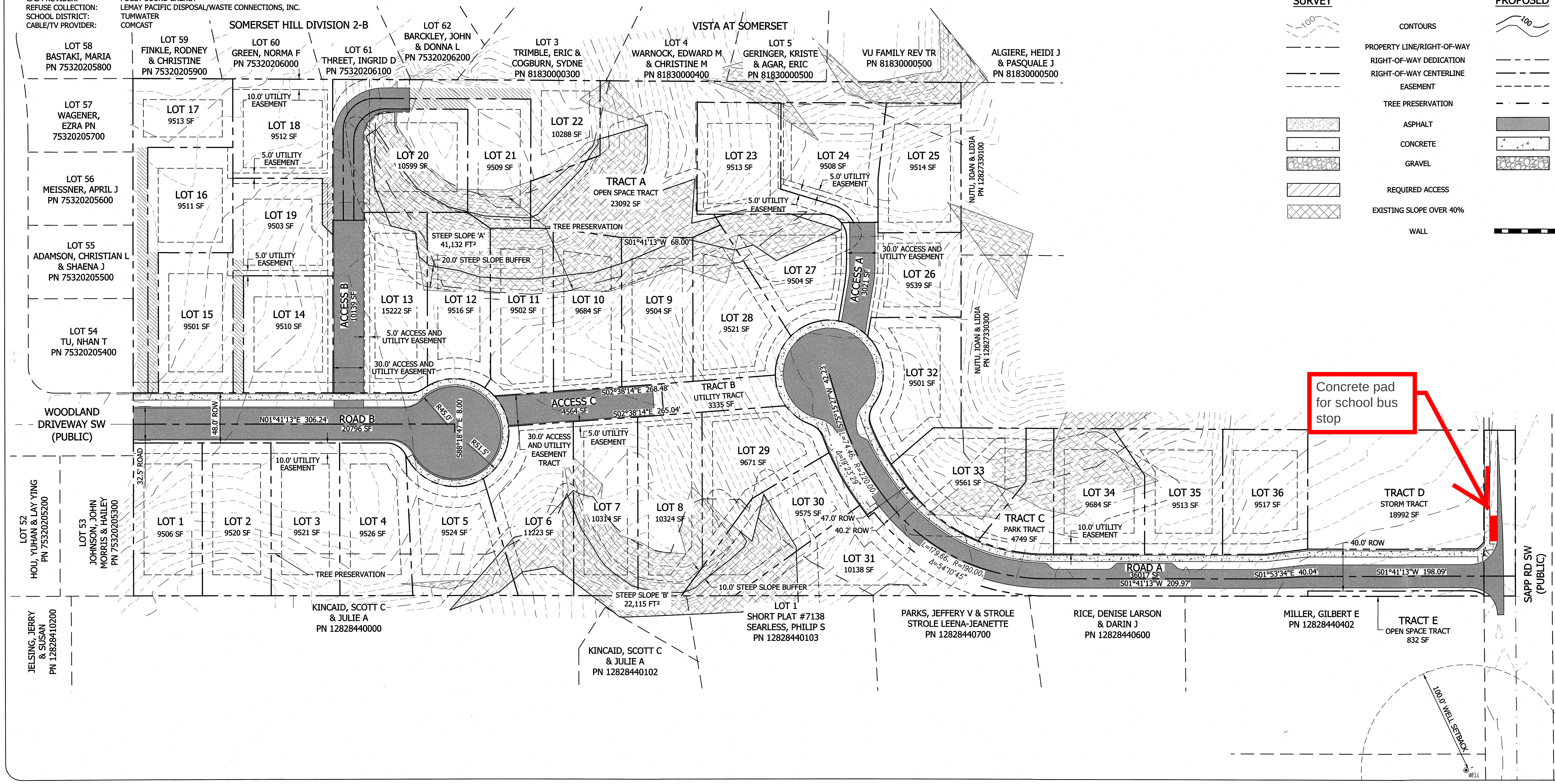
VICINITY MAP

NOT TO SCALE

"School Bus Stop Ahead" sign

LEGEND

SURVEY		PROPOSED
	CONTOURS	
	PROPERTY LINE/RIGHT-OF-WAY	
	RIGHT-OF-WAY DEDICATION	
	RIGHT-OF-WAY CENTERLINE	
	EASEMENT	
	TREE PRESERVATION	
	ASPHALT	
	CONCRETE	
	GRAVEL	
	REQUIRED ACCESS	
	EXISTING SLOPE OVER 40%	
	WALL	



REVISION	DESCRIPTION	DATE	BY

CONTOUR
ENGINEERING • LLC
CIVIL ENGINEERS ~ SURVEYORS ~ LAND PLANNERS
Phone: 253-857-5454 ~ Fax: 253-509-0044 ~ info@contourpllc.com
Mailing Address: P.O. Box 949, Gig Harbor, WA 98335
Physical Address: 4706 97th Street NW, Suite 100, Gig Harbor, WA 98332

BRETT M. ALLEN
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY

SHEET TITLE: PRELIMINARY PLAT MAP

CLIENT: CHUL M. KIM
454 SW 297TH STREET
FEDERAL WAY, WA 98023

CONTACT: CHUL M. KIM PHONE: (206) 835-6300

DESIGNER: K. ROSE
ENGINEER: B. ALLEN
DRAWN: J. CHOY
S 27 T 18 N R 02 WWM
DATE: 2019-03-15
REVISED:

PROJECT: 17-226
DWG NAME: 17-226-PP

SHEET	REV.
PP1 1 OF 3	△