CPZ2021-00006 Chelatchie Bluff

Applicant Submittal

*Click on the text to quickly access that section of the document. Please note that there is no back button in the PDF to return to this page. You will need to scroll back to return or hit the **Home** button on your keyboard.*

TABLE OF CONTENTS

02 Application

10 Narrative

20 SEPA Checklist

39 EXHIBIT A - Preapplication Conference Report

48 EXHIBIT B -Developer's Packet

72 EXHIBIT C – Wetland Habitat Review

79 EXHIBIT D – Geologic Analysis

88 EXHIBIT E – Vicinity Map

90 EXHIBIT F – Hypothetical Mine Plan

95 EXHIBIT G – Transportation Impact Analysis

150 EXHIBIT H – DNR Aggregate Resource Potential Letter

154 EXHIBIT I - DNR Aggregate Inventory Map

156 EXHIBIT J – Study of Permitted Aggregate Reserves

For other formats, contact the Clark County ADA Office
Voice 564.397.2322 / **Relay** 711 or 800.833.6388
Fax 360.397.6165 / **Email** ADA@clark.wa.gov

CPZ2021-00006 Chelatchie Bluff

167 EXHIBIT K – Legal Description & Deeds

256 EXHIBIT L – Chelatchie Prairie Railroad Potential Letter

258 EXHIBIT M – Chelatchie Prairie Railroad Technical Memo

281 EXHIBIT N – Memorandum of License

288 EXHIBIT O – Chelatchie Bluff Parcel Map

290 Letter clarifying ownership

For other formats, contact the Clark County ADA Office
Voice 564.397.2322 / **Relay** 711 or 800.833.6388
Fax 360.397.6165 / **Email** ADA@clark.wa.gov

Chelatchie Bluff Surface Mine Overlay Annual Review Application

Submission Date:

January 28, 2021

Prepared by:
Granite Construction Company
James Essig, Resource Development Manger
Steve Hitzel, Environmental Engineer

2317082

COUNTY OF CLARK
PO BOX 9810
VANCOUVER WA 98666-9810

GRANITE CONSTRUCTION COMPANY
P.O. BOX 50085
WATSONVILLE, CA 95077

CHECK NO. 03504163
CHECK DATE 01142021

INVOICE NUMBER	DATE	DESCRIPTION	GROSS AMOUNT	DEDUCTIONS	AMOUNT PAID
WA01132021	01132021	WA01132021	10,247.00		10,247.00
			10,247.00		10,247.00

DETACH STATEMENT BEFORE DEPOSITING

WARNING - BACKGROUND CONTAINS THERMOSAFE ANTI COPY TECHNOLOGY

Bank of America
Controlled Disbursement Account
Northbrook, IL

70-2328/719 IL

No. 03504163

GRANITE CONSTRUCTION COMPANY
P.O. BOX 50085
WATSONVILLE, CA 95077
A GCI COMPANY

VENDOR NUMBER
159919

Date 01142021

PAY $****10,247.00

TEN THOUSAND TWO HUNDRED FORTY SEVEN AND 00/100**********

TO THE ORDER OF
COUNTY OF CLARK
PO BOX 9810
VANCOUVER WA 98666-9810

PRESIDENT
SVP & CFO

[redacted]

Fees Due at Time of Application

Permit Number:CPZ2021-00006

Permit Number	Account Code	Fee Description	Amount Due
CPZ2021-00006	0001,CC194,R0292	Comp Plan Chg/Rezone	$8,113.00
CPZ2021-00006	1011,CC187,R0042	Planning Issuance Fee	$94.00
		Fees Due at Time of Application	**$8,207.00**

Prepared By: Michelle Monaghan

CPZ2021-00006

Fees Due at Time of Application

Permit Number:SEP2021-00004

Permit Number	Account Code	Fee Description	Amount Due
SEP2021-00004	1011,CC187,R0042	Planning Issuance Fee	$53.00
SEP2021-00004	0001,CC194,R0292	Annual Review/Text Amendment	$1,987.00
		Fees Due at Time of Application	**$2,040.00**

Prepared By: Michelle Monaghan

SEP2021-00004

Table of Contents

Clark County Application

Project Narrative

SEPA Checklist

Clark County Pre-Application Staff Report……Exhibit A

Clark County Developer's Packet……Exhibit B

Clark County Wetland Habitat Review……Exhibit C

Geologic Analysis……Exhibit D

Vicinity Map……Exhibit E

Hypothetical Mine Plan Maps……Exhibit F

Transportation Impact Analysis……Exhibit G

DNR Aggregate Resource Potential Letter……Exhibit H

DNR Aggregate Inventory Map……Exhibit I

Study of Permitted Aggregate Reserves……Exhibit J

Legal Description & Deeds……Exhibit K

Chelatchie Prairie Railroad Potential Letter……Exhibit L

Chelatchie Prairie Railroad Technical Memo……Exhibit M

Memorandum of License……Exhibit N

Chelatchie Bluff Parcel Map……Exhibit O

Clark County Application

APPLICATION SUMMARY

Comp Plan Change/Rezone/Text Change/Docket I

Status: **REC**
Entered By: **MLM2**

P.O. Box 9810
Vancouver, Wa
98666-9810
1300 Franklin Street
Phone: 360-397-2375

CPZ2021-00006

Received: 1/26/2021
TC/FC:
HE/Pln Comm Hrng:
BOCC/Council Hrng:
Decision:

Team: **LGRNG** Project Name: **CHELATCHIE BLUFF MINERAL LANDS** Project #: **DEV2020-00005**

Site Address: **00000** Parcel #: **2743460000**

Scope of Work: **COMP PLAN** Review Type: Cross Reference #: **PAC2020-00004**

Work Order#:

Sect/Twnshp/Range: **12 / 5 / 31**
Est. Parcel Area (Acre): **10.60**
Est. Parcel Area (Sq. Ft.): **461,736.00**

School Imp Fee Dist: **BG**
Transp Imp Fee Dist: **~**
Park Imp Fee Dist: **~**
Transp Overlay Fee Dist:

Description:
Annual Review to apply Surface Mine Overlay designation to 4 parcels currently zoned FR-80

First Line Legal:
FOR ASSESSOR USE ONLY #7 SEC 12 T5N R3EWM 10.60A

Applicant:
JAMES ESSIG
1525 E MARINE VIEW DR
EVERETT WA 98201

Phone: **360-410-8117**

Owner:

Phone:

Today's Activities:	Activity Date:	Assigned To:	Done By:	Notes:
1.) Print Application Summary	**1/26/2021**		**MLM2**	
2.) Print Fees Due at Application	**1/26/2021**		**MLM2**	

Fee Description	Amount Due	Amount Paid	Receipt Number
Comp Plan Chg/Rezone	8,113.00	0.00	
Planning Issuance Fee	94.00	0.00	
Totals	**8,207.00**	**0.00**	**Balance Due 8,207.00**

Fee amounts are subject to change.

CONDITIONS:

Printed: 1/26/2021 6:19:27AM

Development Application

Project name: Chelatchie Bluff Mineral Lands	
Type(s) of application (see reverse side): Annual Review	
Description of proposal: Annual Review to apply Surface Mine Overlay designation to 4 parcels	
Applicant name: Granite Construction Company	Address: 1525 E. Marine View Dr. Everett, WA 98201
E-mail address: james.essig@gcinc.com	Phone and fax: P:425-551-3147 F:425-551-3116
Property owner name (list multiple owners on a separate sheet): BRP,LLC.	Address: 5260 Irwin Road Huntington, WA 25705
E-mail address: aclark@wpplp.com	Phone and fax: P:304-302-2368 F:304-522-5401
Contact person name (list if not same as applicant): James Essig	Address: 1525 E. Marine View Drive Everett, WA 98201
E-mail address: james.essig@gcinc.com	Phone and fax: 360-410-8117
Project site information: Site address:	Comp plan designation: FR-1

Cross street: Healy Rd.	Zoning: FR-80	Parcel numbers: 274346000, 283421000 283422000, 283420000
Overlay zones:	Legal:	Acreage of original parcels: 330.95
Township: 5N	Range: R3E/R4E	¼ of section: SE S12, NE S18, NW S18

Authorization

The undersigned hereby certifies that this application has been made with the consent of the lawful property owner(s) and that all information submitted with this application is complete and correct. False statements, errors, and/or omissions may be sufficient cause for denial of the request. This application gives consent to the county to enter the properties listed above.

Applicant's signature — Date 1/18/2021

Property owner or authorized representative's signature — Date 1/18/2021

For staff use only	Case number:		Work order number:	

Revised 6/14/12

Application types

If you have any questions regarding the type of application being requested, our Permit Technicians will be happy to assist you.

- ■ Annual Review
- ❒ Appeal
- ❒ Boundary Line Adjustment and Lot Reconfiguration
- ❒ Conditional Use

Environmental/Critical Areas

- ❒ Critical Aquifer Recharge Area (CARA)
- ❒ Columbia River Gorge
- ❒ Forestry + (Moratorium Waiver, Moratorium Removal, Class I, Class IVG or COHP)
- ❒ Floodplain
- ❒ Geological
- ❒ Habitat
- ❒ Habitat Monitoring
- ❒ Historic
- ■ SEPA
- ❒ Shoreline
- ❒ Wetland
- ❒ Wetland Monitoring

Land Division

- ❒ Binding Site Plan
- ❒ Final Plat
- ❒ Plat Alteration
- ❒ Short Plat (___ Infill)
- ❒ Subdivision (___ Infill)

Miscellaneous

- ❒ Addressing
- ❒ Accessory Dwelling
- ❒ Covenant Release
- ❒ Home Business
- ❒ Legal Lot Determination and Innocent Purchasers Determination
- ❒ Non-Conforming Use Determination
- ❒ Sewer Waiver
- ❒ Shooting Range
- ❒ Sign

Planning Director Review

- ❒ Post Decision
- ❒ Pre-Application Conference
- ❒ Pre-Application Waiver
- ❒ Public Interest Exception
- ❒ Similar Use
- ❒ Temporary Use
- ❒ Planned Unit Develop/Master Plan
- ❒ Road Modification
- ❒ Site Plan
- ❒ Variance
- ❒ Zone Change

Project Narrative

Cheltachie Bluff Surface Mine Overlay Annual Review Application Narrative

I.
Description of Existing Conditions

Site Description
The Property contains four (4) tax parcels; 274346000, 283421000, 283422000, and 283420000 which are located within the following Quarter Sections; SE 1/4,S12,T5N,R3E; NE 1/4,S18,T5N,R4E; NW 1/4,S18,T5N,R4E; located in Northeast Clark County in the vicinity of Chelatchie Prairie (the "Property").[1] The Property is approximately 330.95 acres in size and is located in the Forest 80 (FR-80) zoning district and the FR-1 comprehensive plan designation. The Property borders SMO and Heavy Industrial (IH) zoning to the north, and FR-80 to the east, west and south.[2]

The Property is currently forested land with forest roads built into the hillside. The slopes range from 0 – 100 percent, with the majority (25.3%) being in the 15 – 25 percent range. Wetlands are known to exist in the southwest portion of the Property. Please refer to the Developer's GIS Packet, and supplemental materials submitted with this application, for additional information regarding existing conditions. There are no known current land use cases affecting the parcels.

Existing Transportation
The Property is currently accessed from NE 424th Street, which provides adequate vehicle, fire and haul truck access. It is anticipated that truck traffic will utilize State Route 503 to bring materials to the Vancouver market. The Property is adjacent to the Clark County Railroad, which would allow for bulk transportation of materials into the market and reduce impacts to the county roads and local communities along the haul route.

Existing Soils
Soils consist of CrE on 67.4% of the Property, CrG on 32.1% of the Property, and BpB on 0.5% of the Property.

Existing Utilities
No electrical, domestic water or natural gas service is in place on the Property. The Property has water storage tanks on-site filled by a natural spring. The Property is not served by sewer service due to its Rural/Resource designation. No septic systems are known to exist. Existing Three Phase Industrial capacity electrical service can be extended onto the Property from the adjacent old mill site. The existing utilities are adequate for a variety of future uses.

II.
Description of Proposed Amendment

Proposal Description
Granite Construction Company (Granite) requests to apply the Surface Mine Overlay (SMO) to four (4) individual parcels comprising the Property (the "Proposal"). Three (3) of the four (4) parcels in the Proposal are adjacent to Parcel# 281134000, which is currently designated within the SMO. Granite has since conducted sub-surface exploration efforts to confirm that hard rock resources do exist and are of the quality and quantity to support a mineral lands designation and surface mining overlay.

1. See Exhibit E, Vicinity Map
2. See Exhibit B, Pg 6 of 21 in Clark County Developer's Packet

Applicant's Interest in the Proposal
Granite, in conjunction with mineral rights owner BRP, LLC. (a subsidiary of Natural Resource Partners, a diversified natural resource company), has interest in designating the subsurface hard rock mineral deposit as a resource of long-term commercial significance.[3] In 1985 International Paper Corporation (IPCO) severed the mineral rights from the surface rights. These mineral rights were subsequently granted to BRP, LLC. from IPCO in year 2010. Additional property title research in the last 18 months resulted in one additional Quit Claim Deed. These recorded documents[4] clarify the ownership of subsurface hard rock mineral rights on the subject property.

The parcels are better suited to be placed within the SMO for the following reasons:

- Mineral resources are limited in Clark County and they must be protected from competing land uses to ensure availability into the future.
- The proposed site is approximately 331 acres and contains a significant amount of recoverable hard rock resources that have potential to support development and maintenance of Clark County's transportation infrastructure.
- The proposed site is adjacent to a historic sawmill property which is zoned heavy industrial under the Clark County zoning code. Heavy industrial uses continue to be active on the adjacent property.
- The Clark County Railroad lies between these properties and terminates near the existing proposed surface mine overlay parcel.

III.
Clark County Code 40.560.010.G – Approval Criteria for Plan Amendment

Applicant meets the criteria for comprehensive plan amendment. Pursuant to CCC 40.560.010, the Applicant for a comprehensive plan amendment must demonstrate all the following criteria (Applicant response is below quoted provision):

> ***CCC 40.560.010(G)(1)***
> *The proponent shall demonstrate that the proposed amendment is consistent with the Growth Management Act and requirements, the countywide planning policies, the Community Framework Plan, the Comprehensive Plan, applicable city comprehensive plans, applicable capital facilities plans and official population growth forecasts; (CCC 40.560.010(G)(1))*

Growth Management Act Goals

The proposed amendment to include the four parcels within the SMO is consistent with and in furtherance of numerous Growth Management Act goals and Clark County planning policies.

Foremost, this Proposal will help to enhance urban growth in communities throughout Clark County by providing an alternative option to the existing aggregate resources that are forecast to be depleted within the next 20 years. Usage of the existing Clark County Railroad will provide high quality aggregate for building materials in an efficient way and supply the expansion and maintenance of infrastructure and new commercial and residential buildings. RCW 36.70A.020(1) (Urban Growth). Similarly, this Proposal

3. See Exhibit N, Memorandum of License
4. See Exhibit K, Legal Description and Deeds

will enhance the County's ability to provide affordable housing by expanding on the limited reserve of aggregate resource currently permitted in the county. Increasing the supply of local aggregates for building materials sourced within the county will be a benefit for the end user/buyer of new housing. *Id.* at (4) (Housing).

The existing rural transportation network, including freight rail and county roadways, will be utilized to bring aggregate resources to market efficiently and within the intended uses of the current comprehensive plans. RCW 36.70A.020(3) (Transportation). This Proposal will not contribute to urban sprawl. There is no low-density development planned in this Proposal. RCW 37.70A.020(2) (Reduce Sprawl).

With respect to economic development, this Proposal will allow for development of future aggregate mining operations at this project location and will encourage positive economic growth throughout the county. The National Sand, Stone and Gravel Association (NSSGA) estimates that each quarry job provides an additional 4.87 additional jobs throughout the local economy and generates $4.19 in other sectors for every $1 earned in the aggregate industry.[5] This project will provide locally sourced, economically viable construction materials that will support infrastructure projects throughout the county, including new bridges, roads, schools, public facilities, and enhancements to recreational areas. RCW 36.70A.020(5) (Economic Development).

Along those same lines, this Proposal ensures that mineral resources within the County are protected from incompatible uses. Mineral resources are vital to the sustainable growth of every community. Clark County is facing an aggregate shortage within the next 20 years, based on conservative per capita usage projections. By including these parcels within the SMO, this finite resource will be preserved and serve as a growth mechanism for Clark County. The alternative to local sources of aggregates would be to transport aggregates from longer distances, therefore contributing to higher costs, increased carbon emissions and less jobs within the county and local economies. This project is in a forested area and will be reclaimed to a forested state following exhaustion of mineral resources. The process of reclamation is governed by the Department of Natural Resources (DNR) and allows for a mine site to be returned to its previous state, compatible with the local environment and county zoning code. In this case, topsoil would be conserved for replanting of Douglas-fir seedlings to return the site back to a working forest. RCW 36.70A.020(8) (Natural Resource Industries). The Chelatchie Bluff Surface Mine Overlay Proposal will help maintain and enhance a natural resource-based industry and increase access to mineral resource lands in the area.

Besides GMA goals, the Act also requires Clark County to designate mineral resource lands and to adopt development regulations conserving those resource lands from which extraction of minerals occurs or can be anticipated. The SMO ensures that commercially significant mineral deposits throughout the County are in proximity to markets to avoid construction aggregate shortages, higher transport costs, future land use conflicts, and environmental degradation. Expansion of the SMO, particularly to these parcels, will balance MRL with other competing land uses and resources and will protect and enhance a finite and commercially significant natural resource industry.

RCW 36.70A.060 requires counties planning under the GMA to adopt development regulations to assure that the use of lands adjacent to mineral resource lands shall not interfere with the continued use, in accordance with best management practices, of designated lands for the extraction of minerals, and also to assure conservation of MRLs designated under RCW 36.70A.170.

5. https://www.nssga.org/aggregatesmatter/

RCW 36.70A.070(5)(c)(v) requires the County to protect against conflicts with the use of mineral resource lands. Expanding the existing surface mine overlay will protect against such conflicts.

RCW 36.70A.170 requires counties to designate mineral resource lands of long-term commercial significance in accordance with guidelines found in RCW 36.70A.050.

Application of the SMO to the three parcels in this Proposal furthers and accomplishes all of these GMA goals and requirements.

Countywide Planning Policies and Community Framework Plan

This Proposal is consistent with the applicable Countywide Planning Policies, as outlined in the Comprehensive Plan, for the same reasons as outlined above (GMA Goals) and below (Comprehensive Plan Policies). Several countywide planning policies identified in specific elements of the Comprehensive Plan are identified otherwise previously or later herein. Under the Community Framework Planning Process, a primary goal of the plan is to ensure the conservation of mineral resource lands and protect these lands from interference by adjacent uses which affect the continued use, in the accustomed manner, of these lands for the extraction of minerals. Policy 3.0, Community Framework Plan. This Proposal will do that, by protecting a land of high mineral resource value from interference, while taking advantage of compatible uses that currently exist on adjacent parcels (Heavy Industrial, Freight Line Rail, Forestry).

Comprehensive Plan Goals and Policies

As an initial matter, a couple of Land Use Element policies are relevant to this Proposal. Foremost, Policy 1.1.5 seeks to distinguish urban growth, specifically buildings, structures, and impermeable surfaces, from those uses such as production of agricultural products or extraction of mineral resources. Similarly, with respect to Urban areas, Policy 1.1.15 seeks to define urban growth areas in a manner that, in part, conserves designated agriculture, forest, and mineral resource lands. The Property is zoned and surrounded by F-80 land and dozens of miles from any urban growth center.

Chapter 3 of the Clark County Comprehensive Plan, the Rural and Natural Resource Element, describes the designation and proposed level of development for rural and natural resource lands in the county. The following policies are applicable and supportive of this Proposal.

> *3.0.1 The county shall recognize existing development and provide lands, which allow rural development in areas, which are developed or committed to development of a rural character.*

The Property is adjacent to a parcel that is already designated under the SMO. In addition, the parcel to the north of the Property is zoned heavy industrial. Other parcels surrounding the project are zoned Forest 80 and all parcels are compatible with designating this project under the SMO. Mining is a part of the rural community's economy and maintains the rural character of the area. Mining is a type of rural development that the GMA encourages to provide jobs and take advantage of economically feasible resource extraction.

3.0.2 The county and each municipality shall cooperate to ensure the preservation and protection of natural resources, critical areas, open space and recreational lands within and near the urban area through adequate and compatible policies and regulations

Natural resources, including mineral lands, must be conserved and protected from incompatible uses, such as residential and commercial development. A study[6] performed in January of 2018 projects that aggregate reserves (permitted and operating mining operations) in Clark County have less than 20 years of aggregate supply remaining for the county, using the most conservative projections in the calculation (Geo Design report). The potential to utilize the existing rail line adjacent to the project area would add a productive use to an existing Clark County asset, while minimizing truck traffic to transport mineral resources to a market that will be depleted of reserves in the near term.[7] The opportunity enables Clark County to partner in the distribution of aggregates to sustain economic development and transportation infrastructure within the county.

Rural Areas – General Policies
Goal: Compatible with maintaining rural character and rural (levels of service) (services), ensure that lands outside of urban growth areas are viable places to live and work.

3.1.1 Clark County shall maintain and protect the character of rural lands defined as those lands outside of urban growth areas by promoting:

- *Large lot residential development compatible with adjacent farming, forestry and mining and not needing urban facilities and services;*
- *Non-residential development in Rural Centers;*
- *Economic development activities consistent with the preservation of rural character;*
- *Agriculture, forestry and mining activities; …*

3.1.2 Land use designations shown on [Comp Plan Map] include areas that are rural in character and meet . . . the following criteria: . . .

This Proposal conforms to the maintenance of rural lands. The parcels included in this Property for designation are large—four total parcels for a total area of 331 acres—and they are adjacent to a parcel that is currently designated under the SMO.[8] This proposal will encourage economic development by generating jobs and supporting local businesses through the people who will be employed by the mining operations. This Proposal protects the rural character of the area by maintaining activities that fit within the plan for rural development.

Further, this Proposal meets several of the criteria listed under Policy 3.1.2 in this policy. The Property is characterized by larger lot sizes (parcels sizes are 10, 80, 80 & 160 acres); is within an area contiguous with other rural lands; is surrounded by forest uses, SMO, heavy industrial uses and freight rail line. Moreover, this area is not identified as necessary to provide capacity for population growth and will provide employment opportunities for local residents and businesses. The opportunity exists for mineral activities at the project location to contribute valuable mineral resources to the local economy and significant environmental benefits by utilizing the Clark County Chelatchie Prairie Railroad to minimize truck miles.

6. See Exhibit J, Study of Permitted Aggregate Reserves
7. See Exhibit L, Chelatchie Prairie Potential Letter
8. See Exhibit O, Chelatchie Bluff Parcel Map

3.1.5 Encourage cooperative resource management among farmland and timberland owners, farm foresters, rural residents, environmental groups and local, state and federal resource agencies for managing private and public farm and forestlands and public resources.

The Proposal to designate these parcels under the Surface Mining Overlay would provide cooperative resource management among farmland and timberland owners to manage private lands and public resources. The public and public agencies will be involved in this process and will have a voice in subsequent uses following reclamation. These uses could include open space, forestry, agriculture or a combination of these options.

Mineral Lands
Goal: To protect mineral resources of the county and minimize conflict between surface mining and surrounding uses.

3.6.1 Support the conservation of mineral lands for productive economic use by identifying and designating lands that have long-term commercial significance for mineral extraction and that are not already characterized by urban growth.

3.6.2 *Designate mineral resource lands based on the following:*
- *geological, environmental and economic factors;*
- *surrounding land uses, zoning and parcel size; and,*
- *the suitability of public access roads to be used as haul roads.*

3.6.4 Ensure that the use of adjacent lands will not interfere with the continued use of designated Mineral Resources lands for the extraction of minerals in the accustomed manner and in accordance with best management practices.

Subsurface geologic investigation has identified mineral resources of long-term commercial significance at the Property.[9] Investigation has shown that high quality hard rock resources are present in the project location in sufficient quantities to justify the development of a commercial mining operation. The Chelatchie Prairie area has not yet been characterized by urban growth and the conservation of these significant resources would result in higher economic productivity in the area. Adding a new reserve of mineral resources will support long-term growth in Clark County.

Surrounding land uses to the Property include large lot sizes (greater than 5 acres), heavy industrial lands, and forest lands. Additionally, one of the parcels is already within the SMO. Moreover, as described further below, proximity to the adjacent railroad for bulk transport of aggregate makes this an economically viable project to pursue. Ease of access to the rail line will reduce truck trips as well.

Freight Rail Dependent Uses
Goal: Support freight rail dependent uses where the use is dependent on and makes use of the short line railroad, as defined by the Surface Transportation Board.

3.8.1 Support freight rail dependent uses in rural lands, as well as agriculture, forest and mineral resource lands, where the use is dependent on and makes use of the short line railroad within the county.

9. See Exhibit D, Geologic Analysis

Freight rail line adjacent to the Property provides the opportunity to utilize the rail for bulk transport of construction aggregate products into the urban market. Bulk transport provides a net benefit to the freight line operator, mining operator, and Clark County.[10] Improved mobility and efficiency of the short line railroad would also generate opportunities to revive the transportation of forest products by rail from east Clark County. The short line railroad has a history of mobilizing workers and natural resources from the Chelatchie Prairie and should be promoted to stimulate utilization of an underutilized Clark County asset. Moreover, utilizing the existing rail infrastructure diminishes truck and vehicular trips associated with mineral extraction and processing uses, which would then reduce potential adverse impacts to natural resources and other land uses impacted by traffic.

Chapters 5 and 9 of the Comprehensive Plan also contain relevant policies that are supportive and achieved with this Proposal.

> *[System Mobility Policies]*
> *Goal: Ensure mobility throughout the transportation system*
>
> *Policy 5.4.5 Improve mobility and access for the movement of goods and services on the short line railroad to enhance and promote economic opportunity throughout the county.*

This Proposal would provide an opportunity to improve mobility and access for the movement of aggregate resources on the short line railroad. It will also enhance and stimulate economic opportunities throughout Clark County through an increased supply of construction materials in the rural and urban marketplaces.

> *[Unincorporated County]*
> *Goal: Promote long-term economic development that will improve environmental quality and accommodate job generating activities.*
>
> *Policy 9.6.2 Develop compatible land uses that promote the long-term economic viability of the county railroad.*

By approving this Proposal and designating the Chelatchie Bluff under the SMO, the County would be promoting the long-term economic viability of the county railroad by providing an opportunity for a surface mining operation that could utilize the rail for transporting aggregates to market via rail. Approval of this Proposal will, ideally, lead to the development of a surface mining operation at the Chelatchie Bluff. This new surface mining operation will create new, long term jobs for the railroad from the transportation of aggregates, and will improve environmental quality by encouraging the bulk transport of materials which will reduce the number of trucks hauling construction aggregates from remote locations in Clark County. Bulk transport of goods, in this case of aggregates, results in lower costs for the public when investing in projects to improve and enhance the county's infrastructure.

For the above reasons, the Applicant Proposal is consistent with the Growth Management Act and local comprehensive plan policies and goals. Accordingly, Applicant meets criterion CCC 40.560.010(G)(1).

> ***CCC 40.560.010(G)(2)***
> *The proponent shall demonstrate that the designation is in conformance with the appropriate locational criteria identified in the plan.*

10. See Exhibit M, Chelatchie Prairie Railroad Technical Memo

The Property is zoned F-80, and one of the parcels is already within the SMO. The Forest Tier I (FR-80) designation is applied to lands that are capable of and intended for production of natural resources, such as minerals. Land Use Element, *Id.* at 37. The Surface Mining Overlay is implemented to recognize existing mining areas and allow for the future mining of minerals. *Id.* at 38. The Property is ideal and situated for application of the SMO. Granite has conducted subsurface investigation to confirm that hard rock resources do exist and are of the quality and quantity to support a mineral lands designation and surface mining overlay. Application of the SMO to the Property would conform with the locational criteria identified under the Comprehensive Plan. Accordingly, Applicant meets criterion CCC 40.560.010(G)(2).

CCC 40.560.010(G)(3)
The map amendment or site is suitable for the proposed designation and there is a lack of appropriately designated alternative sites within the vicinity.

Foremost, as stated previously, given this Property's location, zoning, and surrounding area, application of the SMO to the three remaining parcels is appropriate. In fact, given the County's lack of aggregate resources and potential new mining sites, this Proposal is critical for the County's future aggregate supply, especially with respect to sustaining projected population growth in Clark County.

Clark County is the 5th most populous county in the State of Washington with the fourth-fastest population growth rate. The Washington State Office of Financial Management estimated that the population of Clark County was 499,200 in April 2020 and the City of Vancouver was the state's second fastest-growing city in WA from April 2019 to April 2020. Several aggregate sources in Clark County are either depleted or are projected to be depleted within the next five years. Fewer options to source mineral aggregate leads to accelerated depletion rates and concentrated impacts at the remaining permitted facilities. Deficits in locally sourced aggregate reserves increase the price of construction materials, which negatively impacts housing, infrastructure and development within the County.

Geo Design Inc. (mine consulting firm) prepared a "Study of Permitted Aggregate Reserves of Clark County, Washington" in January of 2018 (Exhibit J). This report indicated that the County had approximately 38 million cubic yards of aggregate reserves that are permitted and available for extraction. Yet, 88% of the reserves in this report are at a single permitted facility. Based on market demand using state and industry data, the study projected the remaining reserves to be depleted between 8 and 21 years. The Vancouver and Clark County construction market has remained strong over the last 3 years and this trend of high demand is expected to continue.

For many years the leading supplier of construction material grade aggregates used to produce asphalt, concrete and top/base course in Clark County was the Fisher Quarry and English Pit located in East Vancouver. In addition, these quarries are both in the process of being reclaimed and will be converted into new commercial and light industrial uses.[11] Quarries throughout East Vancouver have been surrounded by incompatible uses and continued urban sprawl has essentially eliminated much of the identified sand and gravel reserves in the "Rock Aggregate Resource Lands Inventory Map for Clark County" from potential extraction.[12] Upon review of public records and consultation with the WA DNR, only one permit for a new mine has been issued in Clark County since 2005. This scarcity of locally sourced aggregates puts extreme strain on existing transportation infrastructure as aggregate users must travel outside the County to obtain quality aggregates specified for development and transportation infrastructure projects. In addition, the WA DNR estimates that the cost of transport for aggregate doubles every 25 miles travelled by truck from the mine source.[13]

11. See Exhibit H, DNR Aggregate Resource Potential Letter
12. See Exhibit I, DNR Aggregate Inventory Map
13. https://www.dnr.wa.gov/programs-and-services/geology/energy-mining-and-minerals/aggregate-resources

The Chelatchie Bluff Surface Mine Overlay would designate and protect mineral resources that are in high demand and low in supply. These mineral resources are crucial to supporting the continued growth and development experienced in Clark County. Transporting these resources via rail to the center of the market will fulfill demand while reducing traffic impacts. This Proposal is a step forward to provide a long-term sustainable mineral resource option to support existing and future infrastructure projects and continued growth in Clark County's thriving economy.

For the above reasons, Applicant meets criterion CCC 40.560.010(G)(3).

> ***CCC 40.560.010(G)(4)***
> *The plan map amendment either (a) responds to a substantial change in conditions applicable to the area within which the subject property lies; (b) better implements applicable comprehensive plan policies than the current map designation; or (c) corrects an obvious mapping error.*

This Proposal—specifically, an application of the SMO to the Property—"better implements" and furthers all of the comprehensive plan policies specifically identified and discussed above. *See supra discussion* CCC 40.560.010(G)(1). For those aforementioned reasons, Applicant meets criterion CCC 40.560.010(G)(4).

> ***CCC 40.560.010(G)(5)***
> *Where applicable, the proponent shall demonstrate that the full range of urban public facilities and services can be adequately provided in an efficient and timely manner to serve the proposed designation. Such services may include water, sewage, storm drainage, transportation, fire protection, and schools. Adequacy of services applies only to the specific change site.*

There is no electrical, domestic water or natural gas service on the property. The subject property has water storage tanks on-site filled by a natural spring. The site is not served by sewer service due to its Rural/Resource designation. No septic systems are known to exist on site. Existing Three Phase Industrial capacity electrical service can be extended from the old mill site adjacent to the property. The existing utilities are adequate to serve the site for a variety of future uses.

SEPA Checklist

APPLICATION SUMMARY

State Envir.Policy Act & Envir.Impact Stmt.R

Status: **REC**
Entered By: **MLM2**

P.O. Box 9810
Vancouver, Wa
98666-9810
1300 Franklin Street
Phone: 360-397-2375

SEP2021-00004

Received: 1/26/2021
TC/FC:
Decision:
Finaled:
Expired:

Team:
Project Name: **CHELATCHIE BLUFF MINERAL LANDS**
Project #: **DEV2020-00005**
Site Address: **00000**
Parcel #: **2743460000**
Scope of Work:
Review Type:
Cross Reference #: **PAC2020-00004**
Work Order#:

Sect/Twnshp/Range: **12 / 5 / 31**
Est. Parcel Area (Acre): **10.60**
Est. Parcel Area (Sq. Ft.): **461,736.00**
School Imp Fee Dist: **BG**
Transp Imp Fee Dist: **~**
Park Imp Fee Dist: **~**
Transp Overlay Fee Dist:

Description:
Annual Review to apply Surface Mine Overlay designation to 4 parcels currently zoned FR-80

First Line Legal:
FOR ASSESSOR USE ONLY #7 SEC 12 T5N R3EWM 10.60A

Applicant:
JAMES ESSIG
1525 E MARINE VIEW DR
EVERETT WA 98201

Phone: **360-410-8117**

Owner:

Phone:

Today's Activities:	Activity Date:	Assigned To:	Done By:	Notes:
1.) Print Application Summary	**1/26/2021**		**MLM2**	
2.) Print Fees Due at Application	**1/26/2021**		**MLM2**	

Fee Description	Amount Due	Amount Paid	Receipt Number
Planning Issuance Fee	53.00	0.00	
Annual Review/Text Amendment	1,987.00	0.00	
Totals	**2,040.00**	**0.00**	**Balance Due 2,040.00**

Fee amounts are subject to change.

CONDITIONS:

Printed: 1/26/2021 6:23:59AM

CLARK COUNTY
WASHINGTON

COMMUNITY DEVELOPMENT
LAND USE REVIEW

SEPA Environmental Checklist

WAC 197-11-960

Rev 12.3.18

Working together. Securing your safety. Protecting your investment.

Purpose of checklist:

The State Environmental Policy Act (SEPA), Revised Code of Washington (RCW), Chapter 43.21C, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An environmental impact statement (EIS) must be prepared for all proposals with significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and agencies identify impacts from your proposal and to help agencies decide whether or not an EIS is required.

Instructions for applicants:

This environmental checklist asks you to describe basic information about your proposal. Governmental agencies use this checklist to determine whether or not the environmental impacts of your proposal are significant. Please answer the questions briefly, giving the most precise information or best description known. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply."

Some questions pertain to governmental regulations such as zoning, shoreline, and landmark designations. If you have problems answering these questions, please contact the Clark County Permit Center for assistance.

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

Use of checklist for non-project proposals:

Complete this checklist for non-project proposals (e.g., county plans and codes), even if the answer is "does not apply." In addition, complete the supplemental sheet for non-project actions (Part D).

For non-project actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

A. Background [HELP]

1. Name of proposed project, if applicable:

Chelatchie Bluff Surface Mine Overlay Annual Review

2. Name of applicant:

Granite Construction Company (Granite)

3. Address and phone number of applicant and contact person:

James Essig, Resource Development Project Manager, 425-551-3147

4. Date checklist prepared:

January 27, 2021

5. Agency requesting checklist:

Clark County Community Planning

6. Proposed timing or schedule (including phasing, if applicable):

The amendment to the Comprehensive plan and zoning maps to apply the Surface Mining Overlay (SMO) to approximately 330.95 acres on four parcels (the "Proposal") will be completed in late 2021 or early 2022.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Yes, the designation of the SMO to these parcels will be followed by an application for a mining permit with the county, upon approval of the Proposal. The future development or land use application is not associated with the present request for amendment to the comprehensive plan.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

A Transportation Impact Analysis, Clark County Developer's Packet, Geologic Exploration Memo and other materials related to the existence of aggregate resources at the project location will be prepared as part of this Proposal.

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.

None known at this time.

10. List any government approvals or permits that will be needed for your proposal, if known.

The Proposal will need to be approved by Clark County.

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.)

Granite requests to apply the SMO to four (4) individual parcels located in Northeast Clark County in the vicinity of Chelatchie Prairie. 3 of the 4 parcels proposed parcels are adjacent to Parcel# 281134000 which is currently designated within the SMO. Granite has conducted sub-surface exploration efforts to confirm that hard rock resources do exist and are of the quality and quantity to support mineral lands designation and inclusion in the SMO.

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 project is located south of the old Chelatchie Mill Property in Amboy, Washington.
Quarter Sections: SE 1/4,S12,T5N,R3E; NE 1/4,S18,T5N,R4E; NW 1/4,S18,T5N,R4E

B. Environmental Elements [HELP]

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)?

40-100 percent, 17.0% of project area, per Clark County Developer's Packet.

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.

BpB, 0.5% of parcel; CrE, 67.8%; CrG, 32.1%; Fn, 0.0%

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

Slopes > 15% are considered Areas of Potential Instability by Clark County.

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.

N/A, filling, excavation, and grading will be addressed with future development or use proposal.

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

N/A, erosion potential will be addressed with future development or use proposal.

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

N/A, no impervious surfaces proposed as part of this Proposal.

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

N/A, erosion potential will be addressed with future development or use proposal.

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.

N/A, no emissions to the air will result from this project.

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

No.

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

N/A.

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.

There are several surface waters featured within the Proposal site. Please refer to the Attachment A – PAC2020-0004 SR Wetland Habitat Report by Lance Watt of Clark County for more details.

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.

No.

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.

N/A.

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

No.

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

Properties are outside of the flood zone designation per the Clark County Developer's Packet.

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

No.

b. 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.

No.

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.

N/A, will be addressed, as necessary, with future development or use proposal.

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.

Site will remain in its current form pending approval of this Proposal. Currently, stormwater flows naturally across the landscape.

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

No.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

No.

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

N/A, will be addressed, as necessary, with future development or use proposal.

4. ***Plants*** [help]

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

Based on site observations, there are deciduous trees, evergreen trees, shrubs, grass, wet soil plants on 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.
__X__ 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?

No vegetation will be removed with this Proposal.

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

None known of at this time.

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

None with this Proposal.

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

None known of at this time.

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.

Based on site observations, there are various animals including birds, mammals and possibly fish are native to the surrounding forested lands on 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.

Proposal is within the priority species overlays for Western Pond Turtles and Northern Spotted Owls.

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

Unknown.

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

No habitat will be altered with this Proposal.

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

None known of at this time.

6. Energy and Natural Resources [help]

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.

N/A with this Proposal.

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

No.

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:

None.

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.

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

None known at this time.

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 at this time.

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 with this Proposal.

4) Describe special emergency services that might be required.

No additional emergency services will be required with this Proposal.

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

N/A with this Proposal.

b. Noise

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

Old mill site with heavy equipment adjacent to project site, logging operations in the vicinity, traffic from WA State Route 503.

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.

No noise associated with this Proposal. Noise will be addressed, as necessary, with future development or use proposal.

3) Proposed measures to reduce or control noise impacts, if any:

N/A with this Proposal.

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 a working forest with logging operations having occurred in the past. Adjacent properties include additional logging operations, former aggregate quarries, and the old Chelatchie Mill Industrial Property to the north. Nearby properties will not be affected by this Proposal.

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?

The Proposal site has been used as working forest lands. The entire 330-acre site in the Proposal has forested lands. It is unknown at this time how much, if any, forest land of long-term commercial significant will be converted to other uses with a future development or use proposal. No forested lands are being converted with this Proposal.

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:

The proposal will not affect or be affected by surrounding forest land business operations.

c. Describe any structures on the site.

No structures on site.

d. Will any structures be demolished? If so, what?

No.

e. What is the current zoning classification of the site?

FR-80

f. What is the current comprehensive plan designation of the site?

Forest Tier 1 (FR-1)

g. If applicable, what is the current shoreline master program designation of the site?

N/A, not within Shoreline designated area.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

There are some wetland and stream features. Refer to the Attachment A – PAC2020-0004 SR Wetland Habitat report by Lance Watt of Clark County for more details.

i. Approximately how many people would reside or work in the completed project?

None with this Proposal.

j. Approximately how many people would the completed project displace?

None.

k. Proposed measures to avoid or reduce displacement impacts, if any:

N/A with this Proposal.

L. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

Current Proposal seeks to bring the property within the Surface mining Overlay via comprehensive plan amendment, which is consistent with existing land uses and plans.

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

N/A with this Proposal.

9. Housing [help]

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

None.

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

None.

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

N/A with this Proposal.

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?

No proposed structures as a part of this Proposal.

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

No views would be obstructed or altered as a part of this Proposal.

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

N/A with this Proposal.

11. Light and Glare [help]

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

None with this Proposal.

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

N/A with this Proposal.

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

None.

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

N/A with this Proposal.

12. Recreation [help]

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

No recreational opportunities currently in the immediate vicinity.

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

No.

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

N/A with this Proposal.

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.

None known at this time.

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.

None known at this time.

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.

Site observation, review of County GIS data.

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.

N/A with this Proposal.

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 can be accessed vie NE 424th Street and NE Healy Rd and via NE Belvins Rd and NE Healy Rd. which lead out to WA State 503 for access to the Vancouver Market.

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?

Site is not served by public transportation.

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

None with this Proposal.

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).

None are anticipated at this time.

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

The property is adjacent to the Chelatchie Prairie Railroad. Applicant anticipates using the railroad as a means for transport with a future development or use proposal.

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?

Approval of this Proposal will not generate any vehicular trips per day. Please refer to the supplemental Transportation Impact Analysis for a more detailed analysis of transportation impacts of a future development or use proposal.

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.

The Proposal will not interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets in the area.

h. Proposed measures to reduce or control transportation impacts, if any:

N/A with this Proposal.

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.

No.

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

N/A with this Proposal.

16. Utilities [help]

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

The property has water storage tanks on-site filled by a natural spring. Additional utility services may be obtained with a future development or use proposal.

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.

N/A with this Proposal.

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: .....

Name of signee ..... James Essig

Position and Agency/Organization ..... Resource Development Mgr.

Date Submitted: 1/28/2021

D. Supplemental sheet for nonproject actions [HELP]

(**IT IS NOT NECESSARY** to use this sheet for project actions)

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

Approval of this Proposal will not cause any of these impacts. Pursuit and subsequent approval of a mining permit may lead to increases of discharges to water, emissions to air, production, storage, or release of toxic or hazardous substances, or production of. Those potential impacts and measures to reduce those impacts will be addressed with the future development or use proposal.

Proposed measures to avoid or reduce such increases are:

N/A.

2. How would the proposal be likely to affect plants, animals, fish, or marine life?

Approval of this Proposal will not cause any of these impacts. Pursuit and subsequent approval of a mining permit may impact plants, animals, fish or marine life. Those potential impacts and measures to reduce those impacts will be addressed with the future development or use proposal.

Proposed measures to protect or conserve plants, animals, fish, or marine life are:

N/A.

3. How would the proposal be likely to deplete energy or natural resources?

Approval of this Proposal will not cause any of these impacts. This Proposal will conserve and protect mineral resources from incompatible uses. Pursuit and subsequent approval of a mining permit may lead to the depletion of the natural resource of aggregate used for construction materials. Those potential impacts and measures to reduce those impacts will be addressed with the future development or use proposal.

Proposed measures to protect or conserve energy and natural resources are:

N/A.

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection; such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

Approval of this Proposal will not cause any of these impacts. Pursuit and subsequent approval of a mining permit may affect some environmentally sensitive areas. Those potential impacts and measures to reduce those impacts will be addressed with the future development or use proposal.

Proposed measures to protect such resources or to avoid or reduce impacts are:

N/A.

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

This Proposal would not allow or encourage land uses that are incompatible with existing plans. Approval of this Proposal would apply the Surface Mining Overlay to the properties, making the land suitable for future mining activity subject to future development or use application. This Proposal will protect mineral resources from incompatible uses.

Proposed measures to avoid or reduce shoreline and land use impacts are:

N/A.

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

   Approval of this Proposal will not cause any of these impacts. Pursuit and subsequent approval of a mining permit may increase usage of roadways from the project site to the Vancouver market. Those potential impacts and measures to reduce those impacts will be addressed with the future development or use proposal. However, the anticipated use of the railroad for transport will reduce the demands on local transportation.

   Proposed measures to reduce or respond to such demand(s) are:

   N/A.

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

   This Proposal does not conflict with local, state, or federal laws or requirements and meets the intended goals of the Growth Management Act to preserve long term commercially significant natural resources and associated industries in the county.

Exhibit A

Clark County Pre-Application Staff Report

December 2020

Pre-Application Conference
FINAL Report

Project Name:	Chelatchie Bluff Mineral Lands
Case Number:	PAC 2020-00004
Location:	No site address(es) Southeast Quarter of Section 12 Township 5 North Range 3 East of the Willamette Meridian, Northeast Quarter of Section 18 Township 5 North Range 4 East of the Willamette Meridian Northwest Quarter of Section 18 Township 5 North Range 4 East of the Willamette Meridian
Parcel Number(s):	274346000, 283421000, 283422000, 283420000
Site Size:	330.95 acres
Request:	A request to amend the comprehensive plan and zoning maps to apply the Surface Mining Overlay (SMO) to approximately 330.95 acres on four parcels in the Forest 80 (FR-80) zoning district and Forest Tier 1 (FR-1) comprehensive plan designation.
Applicant:	Granite Construction Company Attn: James Essig 1525 E. Marine View Drive, Everett, WA 98201 james.essig@gcinc.com 425-551-3147
Contact Person:	Same as applicant
Property Owner:	BRP LLC (Mineral Rights) 5260 Irwin Road, Huntington, WV 25705 aclark@wpplp.com 304-302-2368 and Holten-Anderson Per (Surface Rights) PO Box 1864, Oregon City, OR 97205

DATE OF CONFERENCE: December 4, 2020

STAFF CONTACTS:

Jenna Kay, Clark County Annual Review Coordinator
Jenna.Kay@clark.wa.gov or 564.397.4968

Jose Alvarez, Clark County Annual Review Lead
Jose.Alvarez@clark.wa.gov or 564.397.4898

PRESENT AT CONFERENCE:

Name	Organization/Contact Information
Jenna Kay	Community Planning (see above)
Jose Alvarez	Community Planning, (see above)
Gary Albrecht	Public Works Transportation, 564.397.4318
Michael Sallis	Community Planning and Public Works Transportation, 564.397.4544

Hunter Decker	Public Works Forestry, 564.397.4852
Lance Watt	Community Development Wetland/Habitat, 564.397.5601
Christine Cook	Clark County Sr. Deputy Prosecuting Attorney, 564.397.2478
Taylor Halvik	Clark County Sr. Deputy Prosecuting Attorney, 564.397.2478
Laurie Lebowsky	Washington State Department of Transportation, leblowsl@wsdot.wa.gov
Logan Cullums	Washington State Department of Transportation, culluml@wsdot.wa.gov
Isaac Holowatz	Washington Department of Fish & Wildlife, Isaac.holowatz@dfw.wa.gov
James Essig	Granite Construction, james.essig@gcinc.com
Steve Hitzel	Granite Construction, steven.hitzel@gcinc.com
Adam Clark	BRP, aclark@wpplp.com

Disclaimer: The following is a brief summary of issues and requirements that were identified at the pre-application conference based on the information provided by the applicant. This summary may contain supplemental information which was not discussed in the conference and is intended to aid the applicant in preparing a complete Annual Review application and/or to provide the applicant with additional information regarding the subject site. Staff responses and information contained in this pre-application report are preliminary in nature, and do not constitute an approval or denial. The determinations contained in this report were based upon information submitted by the applicant and may be subject to change upon further examination or in light of new or revised information contained in the formal application.

APPLICATIONS REQUIRED

The requested Comprehensive Plan map and concurrent zone map amendments require an Annual Review/Zone Change Application to be completed. The application will be processed through the Type IV Review process. A SEPA checklist is required to be completed as a part of the Annual Review application.

Estimated fees: CCC Chapter 6.110A*

Combined Annual Review/Rezone…….$8,113.00
Issuance Fee……..$94.00

Environmental Checklist Review (SEPA)…… $1,987.00
Issuance Fee……..$53.00

***Fees cited are estimated and based upon the fee schedule in effect at the time of pre-application conference and are subject to change.**

APPLICABLE POLICIES, CODES and CRITERIA

The following list is not exhaustive of all county, state or federal regulations that may govern development of the site but is inclusive of those addressed by the county in this comprehensive plan/zone amendment review process.

- WAC 365-190-070 Mineral resource lands
  WAC 365-196-480 Natural resource lands

- Clark County Comprehensive Growth Management Plan 2015-2035 (2020 amendment)
  - ✓ Chapter 1 – Land Use Element
  - ✓ Chapter 3 – Rural and Natural Resource Element

- Title 40: Clark County Unified Development Code
  - ✓ 40.210 (Resource and Rural Districts)
  - ✓ 40.250.022 (Surface Mining Overlay District)
  - ✓ 40.500.010 (Procedures)
  - ✓ 40.510.040 (Type IV Process)
  - ✓ 40.560.010 (Plan Amendment Procedures)
  - ✓ Section 40.570 (SEPA)

Clark County Criteria for Map Changes

- ✓ Section 40.560.010(F) (Criteria for all Map Changes)
- ✓ Section 40.560.010(O) (Additional Criteria for Surface Mining Overlay Changes)
- ✓ Section 40.560.020 (Changes to Zoning Districts and Code Amendments)
- ✓ Section 40.560.020(F) (Approval Criteria)

Comprehensive Plan Designation Map Change Criteria

Comprehensive plan designation changes may only be approved if **all** the following criteria are met CCC 40.560.010(F):

1. *The proponent shall demonstrate that the proposed amendment is consistent with the Growth Management Act and requirements, the Countywide Planning Policies, the Community Framework Plan, the Comprehensive Growth Management Plan, applicable city comprehensive Plans, and including applicable capital facilities plans and official population growth forecasts; and*
2. *The proponent shall demonstrate that the designation is in conformance with the appropriate location criteria identified in the plan; and*
3. *The map amendment or site is suitable for the proposed designation and there is a lack of appropriately designated alternative sites within the vicinity; and*
4. *The plan map amendment either: (a) responds to a substantial change in conditions applicable to the area within which the subject property lies; (b) better implements applicable Comprehensive Plan policies than the current map designation; or (c) corrects an obvious mapping error; and*
5. *Where applicable, the proponent shall demonstrate that the full range of urban public facilities and services can be adequately provided in an efficient and timely manner to serve the proposed designation. Such services may include water, sewage, storm drainage, transportation, fire protection and schools. Adequacy of services applies only to the specific change site.*

Surface Mining Change Criteria

Additional criteria for surface mining overlay changes per CCC 40.560.010(O):

1. *The county may designate additional areas with the surface mining overlay only if:*
    a. *The designation criteria in the comprehensive plan have been met;*
    b. *The quantity and characteristics of the resource, including the size of the deposit, the depth of overburden, the distance to market, the cost of transport, and resource availability in the region, suggest that mining is economically viable; and*
    c. *At least sixty percent (60%) of the area within one thousand (1,000) feet of the proposed mineral resource land is characterized by parcels of five (5) acres or larger.*
2. *The county may remove the surface mining overlay only if at least one (1) of the following conditions is met:*
    a. *The mineral resources have been depleted;*
    b. *There is evidence that the mining of the mineral resource is not economically feasible based on the factors listed in Section 40.560.010(O)(1)(b);*
    c. *Environmental or access constraints make it impractical to mine the resource; or*
    d. *The area has been brought into an urban growth boundary or adjacent land uses or developments are incompatible with mineral extraction.*

Zone Change Criteria

The concurrent zone change may only be approved if **all** the following criteria are met in CCC 40.560.020(F):

1. *Requested zone change is consistent with the comprehensive plan map designation.*

2. *The requested zone change is consistent with the plan policies and location criteria and the purpose statement of the zoning district.*

3. *The zone change either:*
   a. *Responds to a substantial change in conditions applicable to the area within which the subject property lies;*
   b. *Better implements applicable comprehensive plan policies than the current map designation; or*
   c. *Corrects an obvious mapping error.*

4. *There are adequate public facilities and services to serve the requested zone change.*

SUBMITTED MATERIALS REVIEWED

The following materials were provided by the applicant and were reviewed in advance of the pre-application conference:

- Application forms
- Narrative
- GIS Packet

BACKGROUND

A proposal to amend the comprehensive plan and zoning maps to apply the Surface Mining Overlay (SMO) to approximately 330.95 acres on four parcels (274346000, 283421000, 283422000, 283420000) in the Forest 80 (FR-80) zoning district and Forest Tier 1 (FR-1) comprehensive plan designation.

SUMMARY

The following comments and issues were discussed or identified during the pre-application virtual meeting held on December 4, 2020.

Land Use

Comments provided by Community Planning, Jenna Kay:

Staff provided the applicant with a brief overview of how the pre-application conference would be conducted, including a summary of what information would be covered. Staff stated that a final staff report will be sent to the applicant within a week following the pre-app meeting. Staff stated that January 31 is the deadline to submit an annual review application.

CCC 40.560.040(B) Preapplication Review states:

1. *The purposes of preapplication review are:*

   a. *To acquaint county staff with a sufficient level of detail about the proposed development to enable staff to advise the applicant accordingly;*

   b. *To acquaint the applicant with the applicable requirements of this code and other law. However, the preapplication conference is not intended to provide an exhaustive review of all the potential issues that a given application could raise. The preapplication review*

does not prevent the county from applying all relevant laws to the application; and

c. *To provide an opportunity for other agency staff and the public to be acquainted with the proposed application and applicable law. Although members of the public may attend a preapplication conference, it is not a public hearing, and there is no obligation to receive public testimony or evidence.*

Staff provided information regarding Clark County's obligation to plan under the State's Growth Management Act and the long-range, comprehensive planning exercise that concluded with the adoption of the 1994 Comprehensive Growth Management Plan and corresponding zone map. In 2016, the county adopted an updated 20-Year Comprehensive Plan and zone map.

The proposal to add the surface mining overlay comprehensive plan designation will need to be consistent with the applicable requirements of the Growth Management Act and WAC, the county-wide planning policies in the Comprehensive Growth Management Plan, and the county code. Staff reviewed the applicable policies, codes and criteria that the applicant will need to address in an application (see section above titled Applicable Policies, Codes and Criteria).

As with all applications for site-specific requests, the burden is on the applicant to make their case and demonstrate compliance with Growth Management Act, WACs, comprehensive plan policies and code provisions. For instance, WAC 365-190-070(3) includes mineral resource lands classification criteria. It is the applicant's burden to show compliance with these criteria. An application should provide the specific details that address **all** of the additional criteria for surface mining overlay changes in CCC 40.560.010(O)(1) in addition to **all** of the criteria required for comprehensive plan map changes in CCC 40.560.010(F). The applicant must demonstrate compliance with each criterion to demonstrate compliance with county code laws. In CCC 40.560.010O(1), for example, the applicant needs to demonstrate the quantity and characteristics of the resource, including the size of the deposit, the depth of the overburden, the distance to market, the cost of transport, and resource availability in the region, suggest that mining is economically viable, and show that at least sixty percent of the area within one thousand feet of the proposed mineral resource land is characterized by parcels of five acres or larger.

In October 2005, the Washington Dept. of Natural Resources (DNR) Division of Geology & Earth Resources produced an aggregate resource inventory map for Clark County using the best data available. Resources were classified and mapped as "Identified" where the distribution, grade, and quality could be confidently estimated based on specific geologic evidence, limited sampling, and laboratory testing. Areas were mapped as "Hypothetical" where available data appear to satisfy most, but not all, of the threshold criteria. Resources were classified as "Speculative" where geologic and production information is sparse, but where inferences can be made from existing geologic mapping or data to suggest that these rock units might potentially meet the threshold criteria for aggregate resources. The properties included in this pre-application include areas classified as a hypothetical bedrock resource according to the 2005 DNR aggregate resource inventory map.

The 2005 DNR aggregate resource inventory map is recommended as a resource for the factual basis for the request, however, additional supplemental information needs to be provided to demonstrate the requested overlay area meets all of the criteria in CCC 40.560.010(O)(1) and the classification criteria in WAC 365-190-070(3). When addressing the additional surface mining overlay criteria in CCC 40.560.010(O) please provide more specificity with regards to (1b) than was provided in the pre-application. A much more detailed analysis needs to be included with your submittal to address those criteria.

In a final application, the proposed area for the expansion needs to be specific in terms of acreage and where the overlay would apply. There are two parcels where the proposed overlay exceeds the areas designated on the DNR maps for a large portion of the parcel. Please submit

a revised map that limits the overlay to areas designated on the DNR maps unless there is more specific information that demonstrates those areas meet the criteria above.

Since the proposed area has separate property owners for the mineral rights and surface rights, a fully complete application would need the authorization of both property owners. CCC 40.560.040(D) provides details on a fully complete application.

When addressing the criteria in CCC 40.560.010(F)(1), please consider Chapter 3 of the Clark County Comprehensive Plan which states "mineral resource lands consist of areas that appear to contain the resource, based on the best available geological information, are primarily not within environmentally sensitive areas (e.g., 100-year floodplain, high quality wetland areas)." The properties in this proposal have environmental constraints (per discussion during the pre-application conference and as documented in the wetland and habitat comments attached to this report). The applicant should address the environmental constraints in their application narrative.

Transportation

Comments provided by Public Works Transportation Planning, Gary Albrecht and Mike Sallis:

Subject site is near NE Healy Road that is classified as a 2-lane Rural Minor Collector.
SR 503 is a state facility. Significant regional intersection is at SR 503 & NE Healy Road.

Staff reviewed the 2020-2025 Transportation Improvement Program and found no existing projects that would impact the area immediately around the site of the proposed comprehensive plan amendment and zone change.

Criteria for annual review transportation analysis

Transportation analysis

A transportation analysis is required per Clark County Code (CCC) 40.560.040.A.2.c.6.

Transportation analysis is defined in CCC 40.100.070 (Definitions) as a study done by a licensed engineer that compares a build-out scenario under the existing and proposed designations for a twenty (20) year horizon.

For the proposed comprehensive plan amendment application, the transportation analysis must include the following:

Existing and proposed comprehensive plan designation:

- Trip generation-present day
- Trip generation-projected 20-years
- Modal split-present day
- Modal split-projected 20-years
- Trip distribution-present day
- Trip distribution-projected 20-years

The analysis needs to include volume to capacity ratio on NE Healy Road at NE 424th St to SR 503. A level of service analysis for the unsignalized intersection at NE Healy Rd and SR 503 is needed.

Net comparison (proposed comprehensive plan designation-existing comprehensive plan designation)

The applicant must show the Level-of-Service standards, per CCC 40.350.020.G.1.a-d, under the existing and proposed land use designations for both current and projected 20 years out.

Access

The applicant needs to show how the subject site will have access to the transportation network.

Comments provided by Washington State Department of Transportation (WSDOT), Laurie Lebowsky and Logan Cullums:

WSDOT staff had questions about use of the Chelatchie Prairie Railroad for transport of rock, as use of rail would impact the extent of the impact on SR 503. WSDOT is interested in reviewing an intersection analysis and safety analysis with Healy Road under a range of possible truck scenarios.

County railroad contact:

If the applicant has any railroad questions for the county, they can be sent to Tom Grange, Public Works Engineering and Division Manager: 564.397.4449 or tom.grange@clark.wa.gov.

The following comments are primarily related to future potential projects if this annual review is approved.

Wetlands and Habitat

Comments provided by Community Development Wetland/Habitat Review, Lance Watt:

Please see attachment A for comments on wetlands and habitat in the proposal area.

Department of Fish & Wildlife

Comments provided by Washington Department of Fish & Wildlife (WDFW), Isaac Holowatz:

WDFW staff were curious about water management on site. The applicant explained they would do a drainage analysis in the future and strive to discharge the water into the ground.

Forestry

Comments provided by Public Works County Forester, Hunter Decker:

The development moratorium is in place on parcels 283421000, 283422000, 283420000 on all harvested areas that were approved under the Department of Natural Resources (DNR) Forest Practice Application (FPA) permit #2933748 until 8/31/2023 date. This applies to any development applications including those in support of future mining operations, and that a type III moratorium waiver would be required prior to the county accepting an application for mining or other development on the property.

Department of Natural Resources

Comments provided by Washington Geological Survey Surface Mining Reclamation Program, Bryan Massey:

Along with local and other permitting this project will require a Surface Mine Reclamation Permit under RCW78.44.

NEIGHBORHOOD ASSOCIATION CONTACT

While not required of a complete application for a comprehensive plan amendment, staff recommended that the applicant talk to the neighborhood association chair for their area, or, particularly if the association is not active, to discuss the proposed land use designation change with neighbors. For the pre-application area, there is not an active neighborhood association.

The Neighborhood Association of Clark County (NACCC) Chair is Stephan Abramson. Contact at abramson@lifescipartners.net or (360) 574-3363.

TIME FRAMES

January 1 through January 31 - Submit Final Annual Review Application. Per discussion during the pre-application conference, if there is a study or analysis that will not be ready by the January 31 due date, please submit everything you have by the 31st. The application cannot be deemed fully complete until all materials are submitted. March 15, 2021 is the latest supplementary materials may be submitted for the 2021 annual reviews.

February 1 through to April 1 – Clark County staff will review and prepare a recommendation to the Planning Commission (**this period may be extended depending on staff workload**)

Fourth Quarter or sooner - Planning Commission will recommend approval or denial of request. Staff forwards all recommendations to the County Council for final resolution of the requests.

ADDITIONAL MATERIALS

A complete list of required documents is contained in the Annual Review application packet. A Completed SEPA checklist is required for the final application. **NOTE: Submit a copy of this summary with your final application.**

COVID-19 APPLICATION SUBMITTAL PROCEDURES

For the final annual review application submittal (due January 31, 2021), applications will need to be submitted in-person at the Clark County Permit Center. Applications should not be submitted online through LMS.

You will need to email the permit center to schedule an appointment: PermitSvcsPCApptsCal@clark.wa.gov.

When you email the permit center for your appointment, attach a copy of the completed 2-page application form. This will help staff get your project set-up in the county system before you arrive.

Once your appointment is scheduled, the Permit Center will provide more detailed directions on how the appointment will work. Please follow those instructions.

Exhibit B

Clark County Developer's Packet

September 2020

DEVELOPER'S PACKET

Produced By:

Clark County Geographic Information System (GIS)

For:

Granite Construction Company

Subject Property Account Number(s):

274346000
283421000
283422000
283420000

PDF # 253961

Printed: September 24, 2020
Expires: September 24, 2021

Table of Contents

General Location 1

Property Information Fact Sheet 2

Elevation Contours 3

2018 Aerial Photography 4

2018 Aerial Photography with Elevation Contours 5

Zoning Designations 6

Comprehensive Plan Designations 7

Arterials, C-Tran Bus Routes, Parks & Trails 8

Water, Sewer, and Storm Systems 9

Water Systems 10

Hydrant Fire Flow Details 11

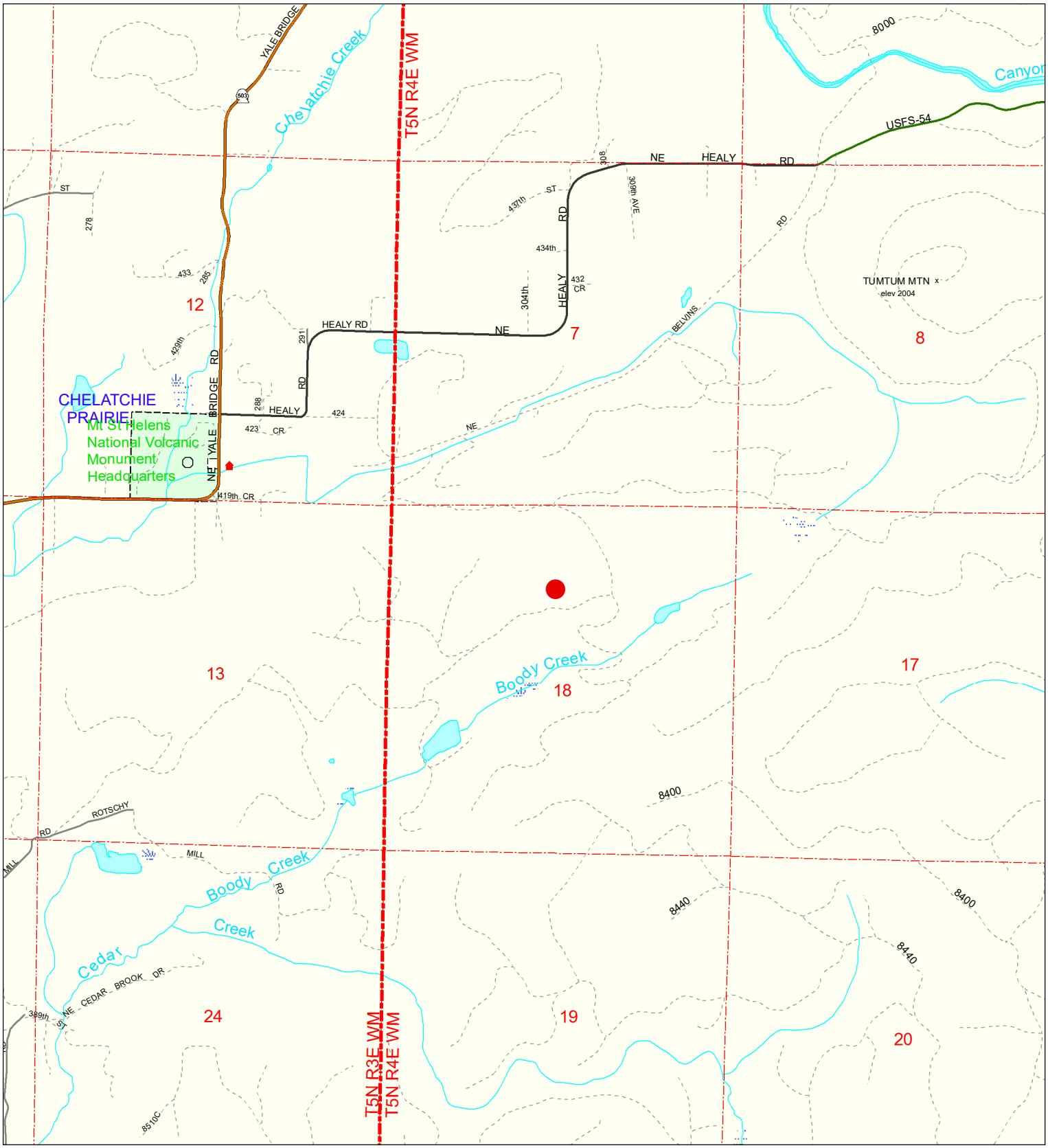
Soil Types 12

Environmental Constraints I 13

Environmental Constraints II 14

Adjacent Development 15

Quarter Section Parcels 16



General Location

Printed on: September 24, 2020

Account: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

Location of Subject Property(s)

Geographic Information System

0 1,000 2,000 Feet

Information shown on this map was collected from several sources. Clark County accepts no responsibility for any inaccuracies that may be present.

Property Information Fact Sheet

Mailing Information:

Account No.: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

Assessed Parcel Size: 330.95 Ac
Property Type: Multiple Property Types

PARCEL LOCATION FINDINGS:

Quarter Section(s): SE 1/4,S12,T5N,R3E,
NE 1/4,S18,T5N,R4E,
NW 1/4,S18,T5N,R4E
Municipal Jurisdiction: Clark County
Urban Growth Area: County
Zoning: FR-80
Zoning Overlay: No Mapping Indicators
Comprehensive Plan Designation: FR-1
Columbia River Gorge NSA: No Mapping Indicators
Late-Comer Area: No Mapping Indicators
Trans. Impact Fee Area: Rural: End Date Dec. 31, 9999
Park Impact Fee District: No Mapping Indicators

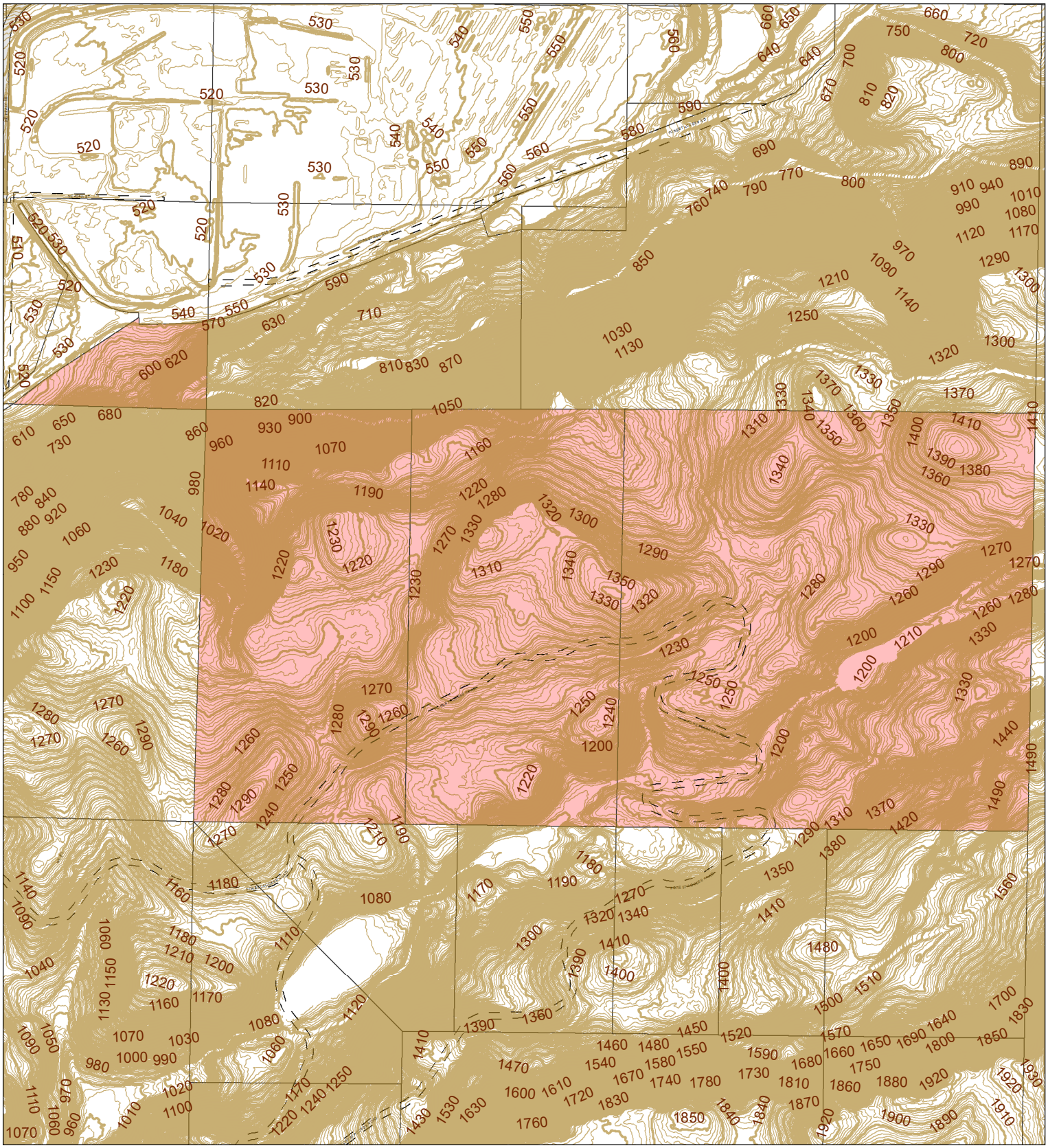
Neighborhood Association: No Mapping Indicators
School District: Battle Ground
Elementary School: Yacolt
Junior High School: Amboy
Senior High School: Battle Ground
Fire District: FD 10 , No District
Sewer District: Rural/Resource
Water District: Clark Public Utilities
Wildfire Danger Area: Meets code criteria,
Over 500ft need further review

ENVIRONMENTAL CONSTRAINTS:

Soil Type(s): BpB, 0.5% of parcel
CrE, 67.4%
CrG, 32.1%
Fn, 0.0%
Hydric Soils: Non-Hydric, 100.0% of parcel
Flood Zone Designation: Outside Flood Area
CARA: Category 2 Recharge Areas
Forest Moratorium Area: 6 Year FPA Parcel Hold
Liquefaction Susceptibility: Very Low, Bedrock
NEHRP: B, C
Slope: 0 - 5 percent, 7.8% of parcel
10 - 15 percent, 17.9%
15 - 25 percent, 25.3%
25 - 40 percent, 17.2%
40 - 100 percent, 14.7%
5 - 10 percent, 17.0%
greater than 100 percent, 0.1%
Landslide Hazards: Slopes > 15%,
Areas of Potential Instability
Slope Stability: Severe Erosion Hazard Area

Habitat and Species Resources:
Habitat and Species Impacts: Mapping Indicators Found
Riparian Habitat Area: Fish Habitat Stream
Seasonal Stream
Cultural Resources:
Archeological Predictive: High, 25.0% of parcel
Low, 13.2%
Low-Moderate, 14.0%
Moderate, 10.5%
Moderate-High, 37.3%
Archeological Site Buffers: Mapping Indicators Found
Historic Sites: No Mapping Indicators

Information shown on this page was collected from several sources. Clark County accepts no responsibility for any inaccuracies that may be present.



Elevation Contours

Printed on: September 24, 2020

Account: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

Geographic Information System

0 200 400 Feet

Subject Property(s)
Public Road
Transportation or Major Utility Easement
10' Elevation Contours
2' Elevation Contours

53112	54107	54108
53113	54118	54117
53124	54119	54120

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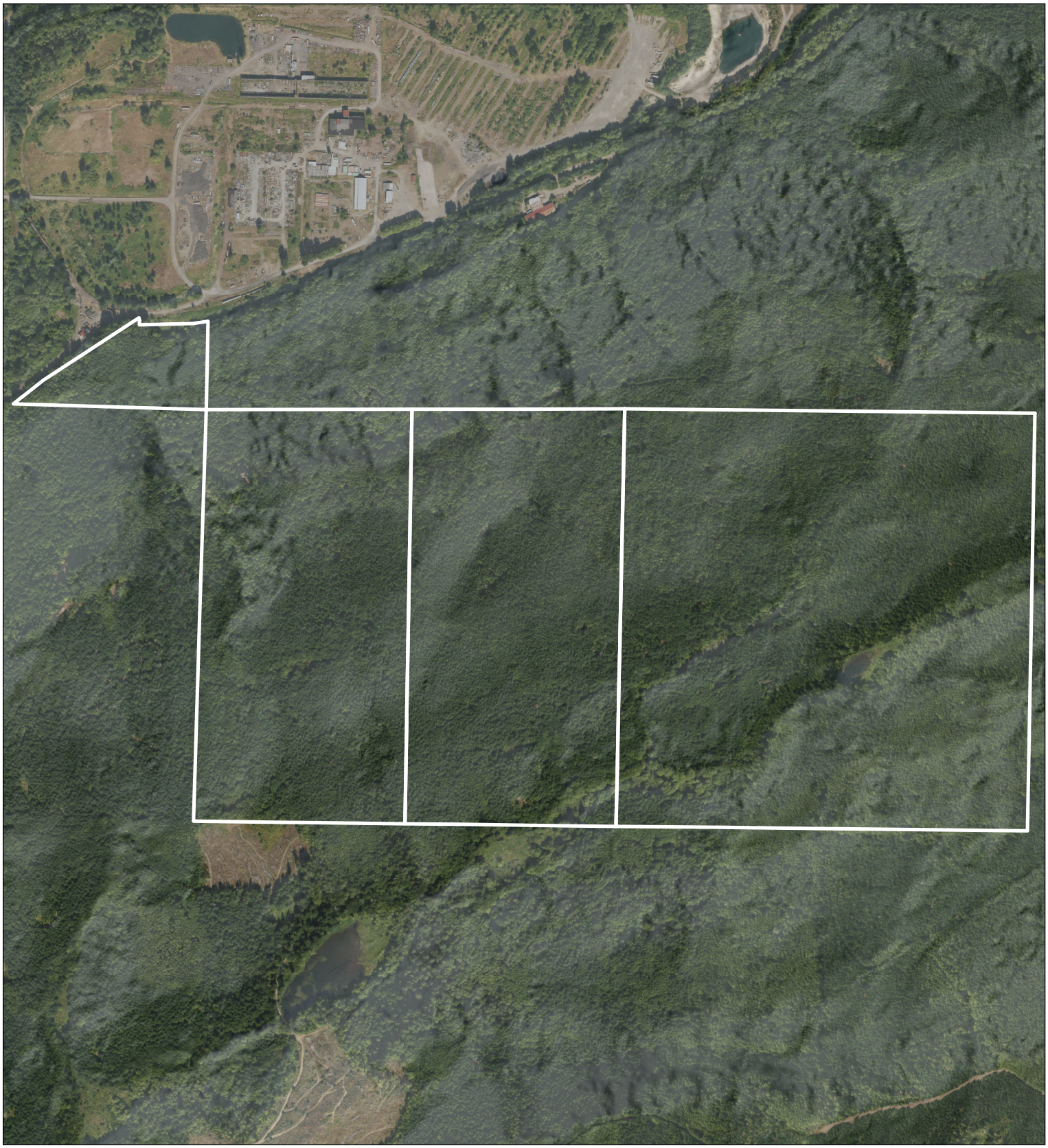


2018 Aerial Photography

Account: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

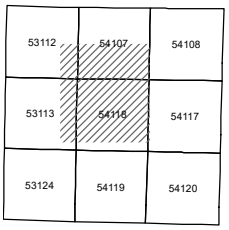
Printed on: September 24, 2020

CLARK COUNTY, WASHINGTON
Geographic Information System

N

0 200 400
Feet

Subject Property(s)



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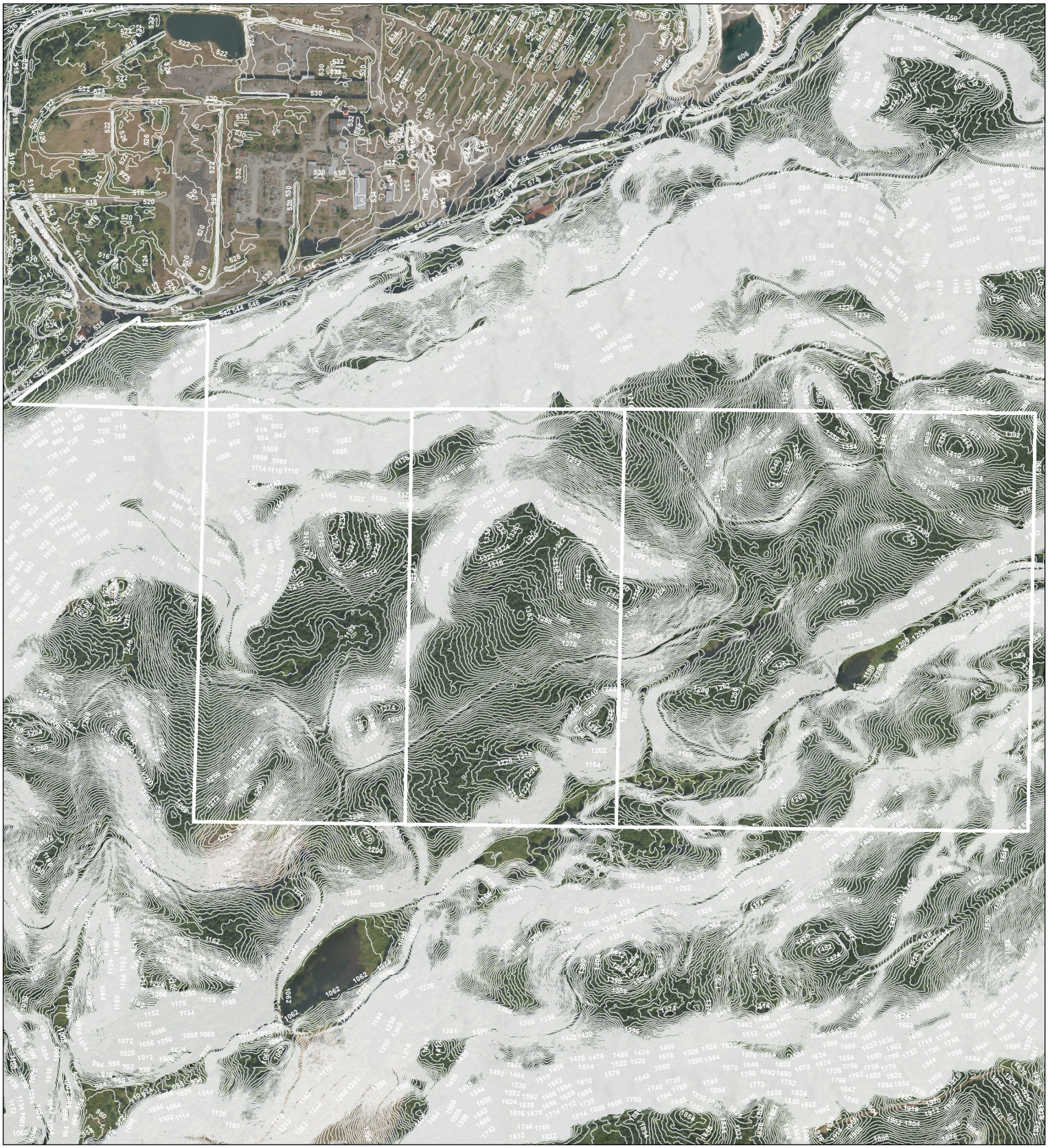

2018 Aerial Photography with Elevation Contours

Printed on: September 24, 2020

Account: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

CLARK COUNTY, WASHINGTON
Geographic Information System

N

0 100 200
Feet

Subject Property(s)
2' Elevation Contours

53112	54107	54108
53113	54116	54117
53124	54119	54120

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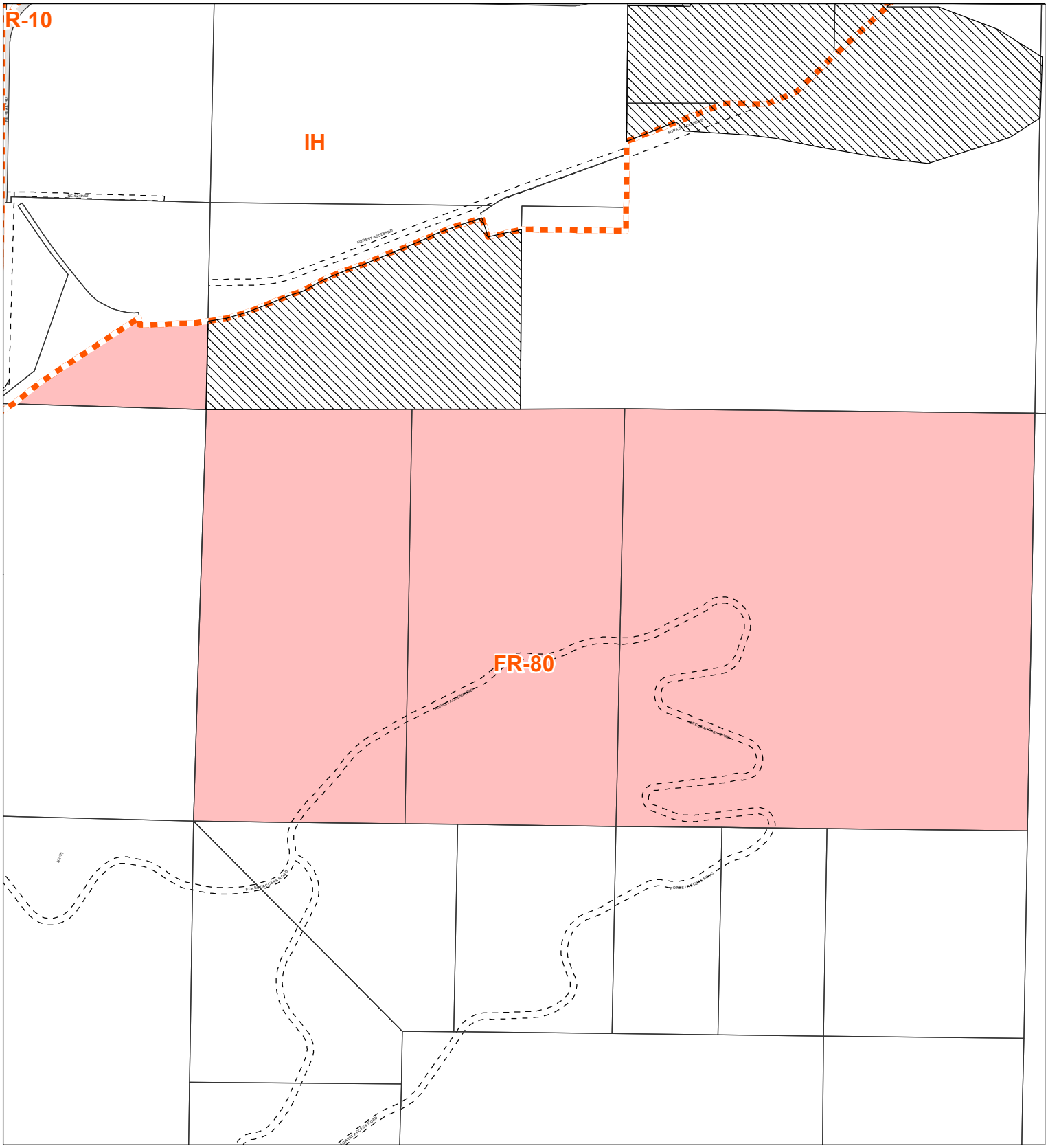

Zoning Designations

Printed on: September 24, 2020

Account: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

CLARK COUNTY, WASHINGTON
Geographic Information System

0 200 400
Feet

Subject Property(s)
Public Road
Transportation or Major Utility Easement
Zoning Boundary
Urban Holding - 10 (UH-10)
Urban Holding - 20 (UH-20)
Urban Holding - 40 (UH-40)
Surface Mining Overlay District

53112	54107	54108
53113	54118	54117
53124	54119	54120

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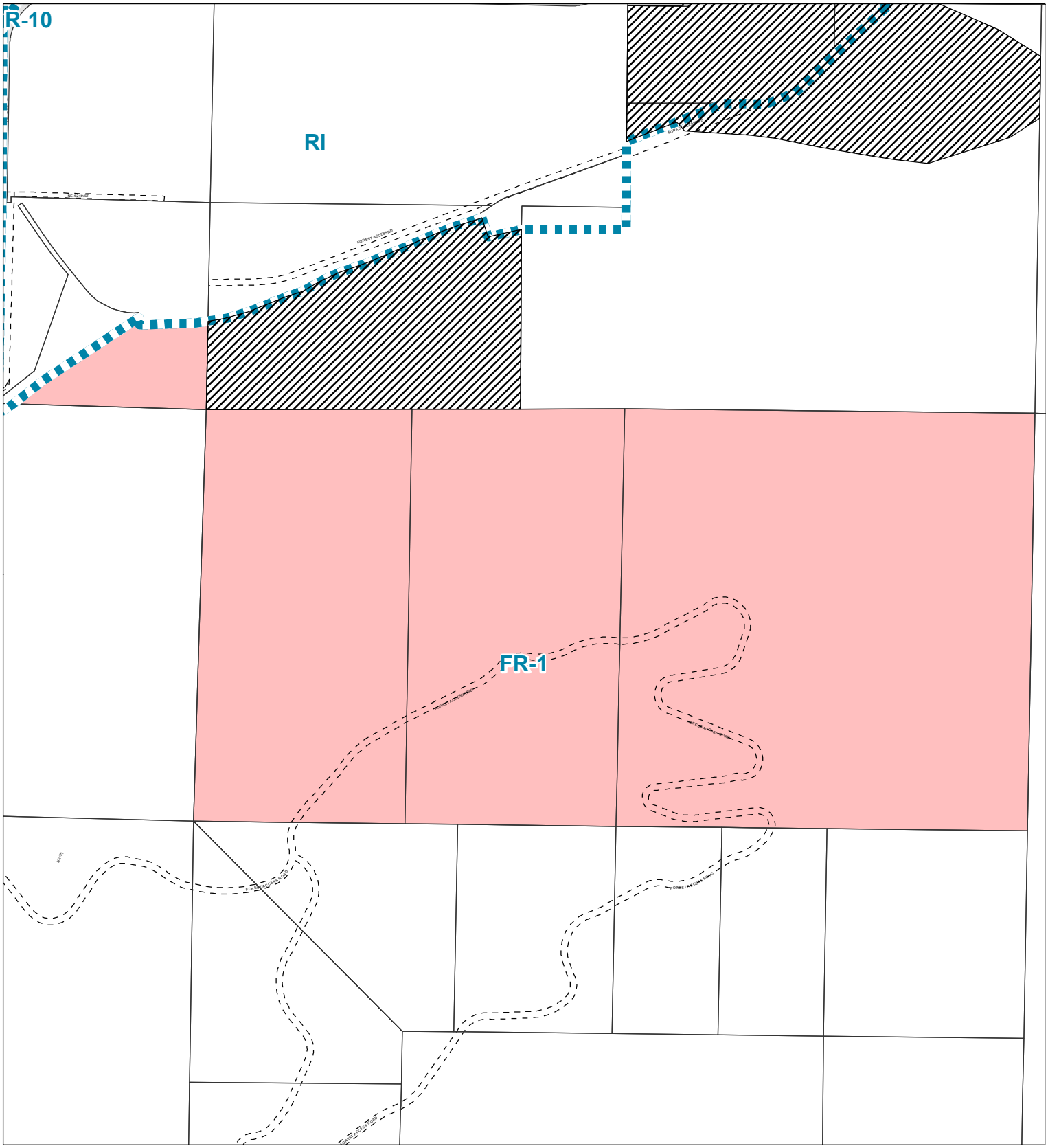


Comprehensive Plan Designations

Printed on: September 24, 2020

Account: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

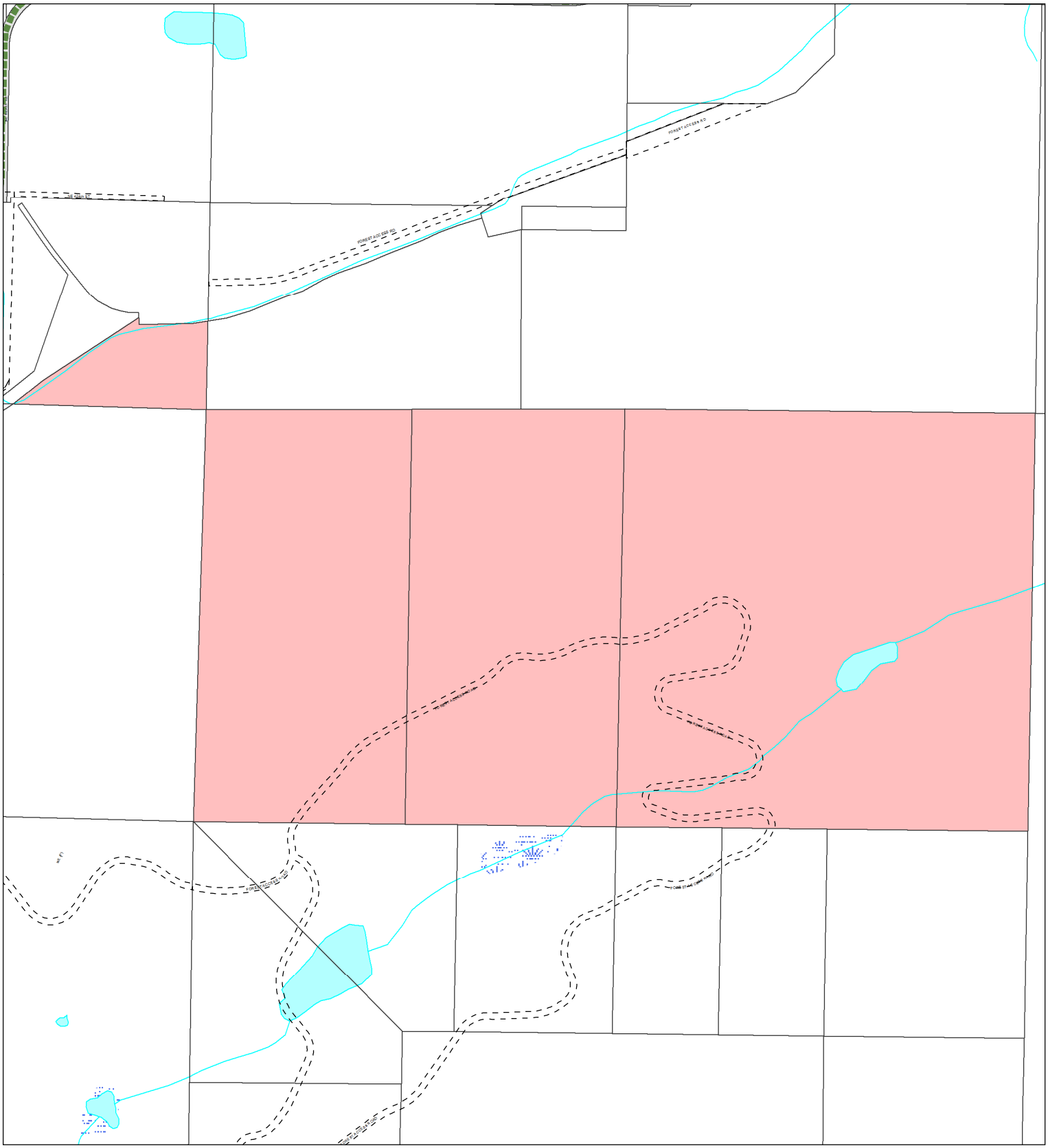
CLARK COUNTY, WASHINGTON
Geographic Information System

0 200 400
Feet

Information shown on this map was collected from several sources. Clark County accepts no responsibility for any inaccuracies that may be present.

- Subject Property(s)
- Public Road
- Transportation or Major Utility Easement
- Comprehensive Plan Boundary
- Urban Reserve
- Industrial Reserve
- Railroad Industrial Reserve
- Mining
- Rural Center Mixed Use
- Columbia River Gorge Scenic Area

53112	54107	54108
53113	54118	54117
53124	54119	54120



Arterials, C-Tran Bus Routes, Parks & Trails

Printed on: September 24, 2020

Account: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

CLARK COUNTY, WASHINGTON
Geographic Information System

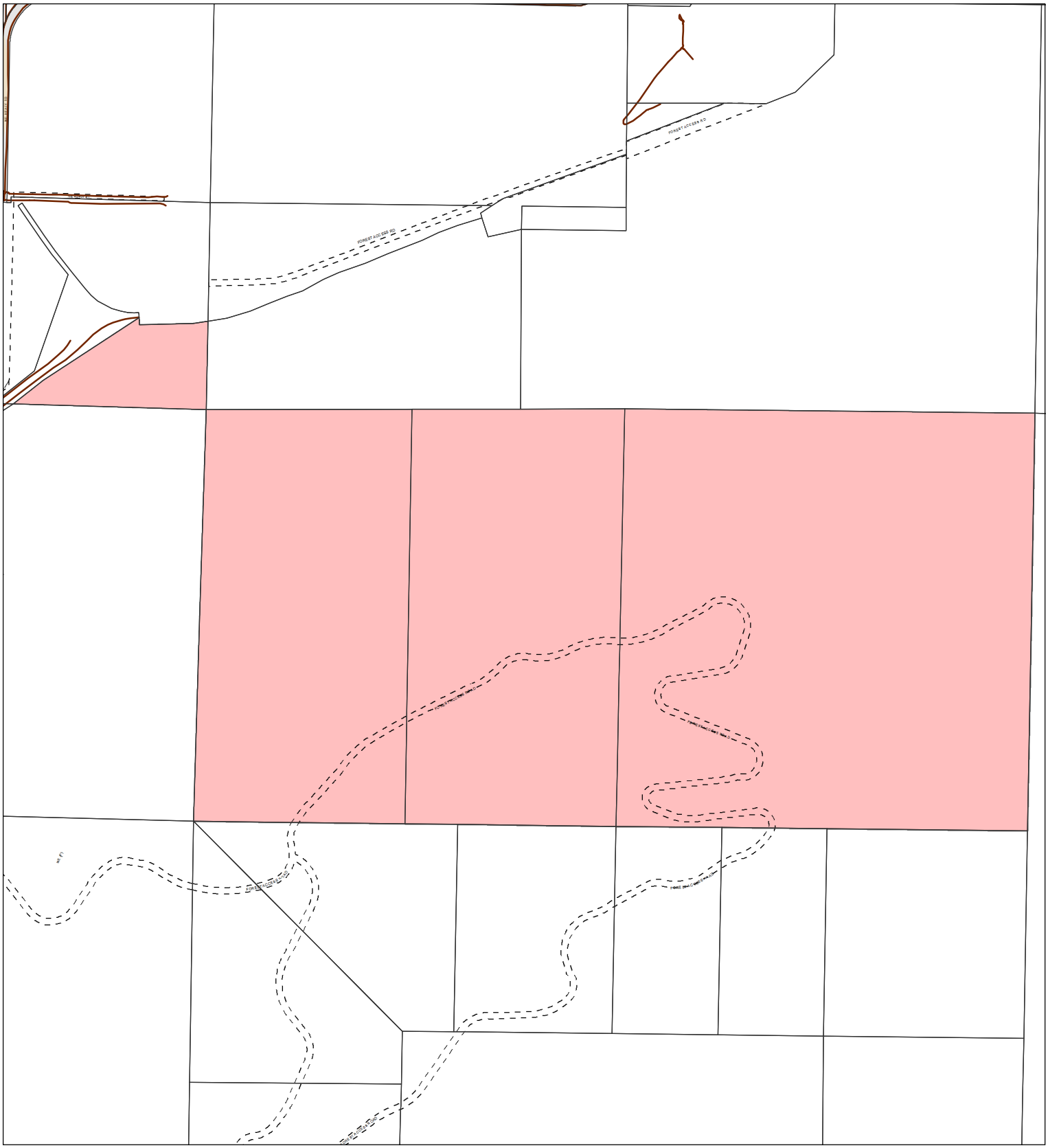
N

0 200 400
Feet

Information shown on this map was collected from several sources. Clark County accepts no responsibility for any inaccuracies that may be present.

- Subject Property(s)
- Public Road
- Transportation or Major Utility Easement
- Parks
- Trail
- C-Tran Route
- Principal Arterial
- Minor Arterial
- Collector
- Rural Major Collector
- Rural Minor Collector
- State Route
- Other
- Proposed Arterial
- Scenic Highway

53112	54107	54108
53113	54118	54117
53124	54119	54120



Water, Sewer, and Storm Systems

Printed on: September 24, 2020

Account: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

CLARK COUNTY, WASHINGTON
Geographic Information System

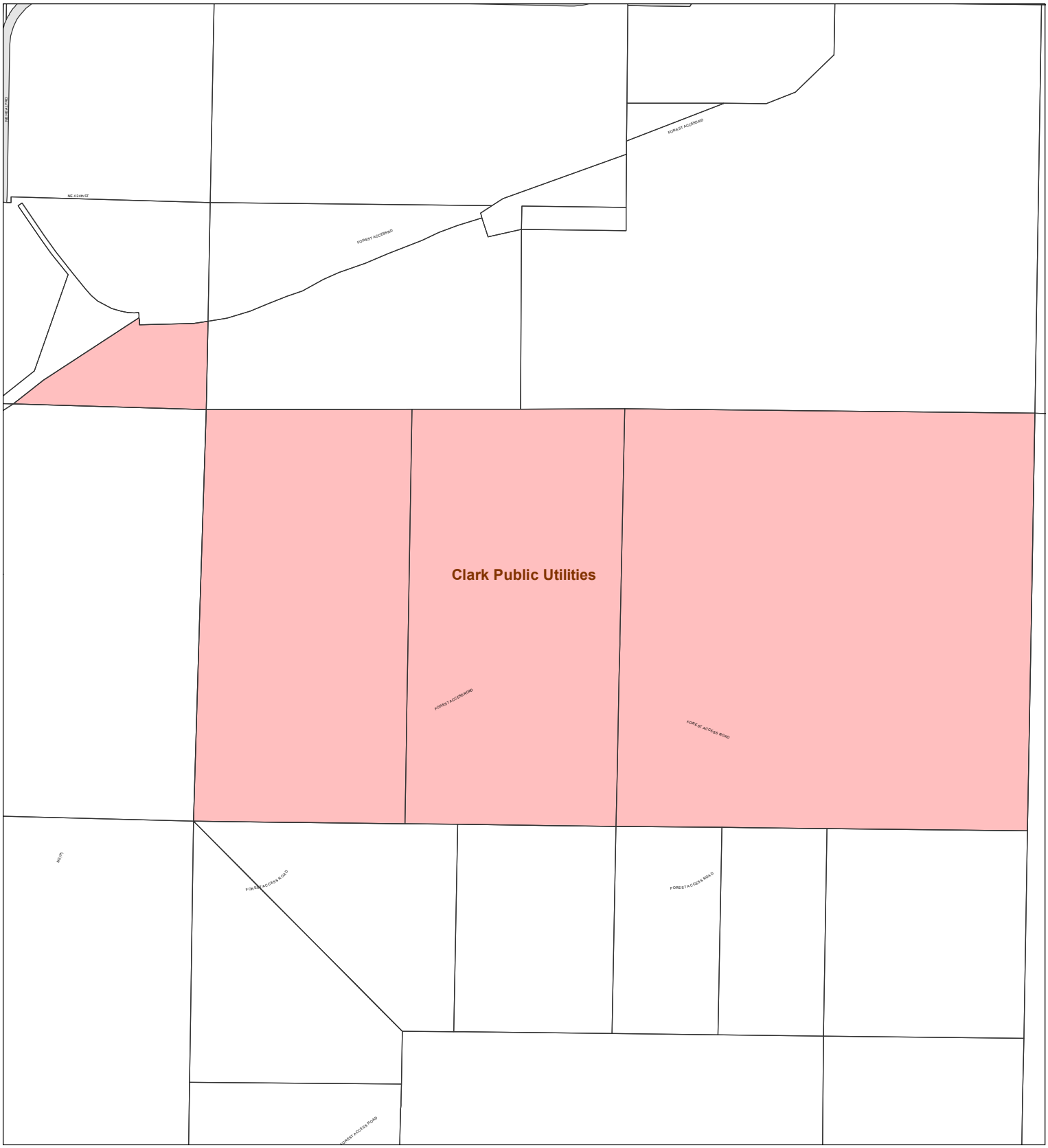
N

0 200 400
Feet

- Subject Property(s)
- Public Road
- Transportation or Major Utility Easement
- Water Lines
- Sewer Lines
- Storm Water Lines
- 1-year Wellhead ZOC
- 5-year Wellhead ZOC
- 10-year Wellhead ZOC
- Hydrants

53112	54107	54108
53113	54118	54117
53124	54119	54120

Information shown on this map was collected from several sources. Clark County accepts no responsibility for any inaccuracies that may be present.



Water Systems

Printed on: September 24, 2020

Account: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

Geographic Information System

0 200 400 Feet

Subject Property(s)
Public Road
Water District Boundary
Unknown Size Water Line
< 10" Water LIne
10-20" Water Line
> 20" Water Line
No Flow Data Hydrant
0 - 499 GPM at 20 PSI
500 - 999 GPM at 20 PSI
> 1000 - 1749 GPM at 20 PSI
> 1750 GPM at 20 PSI
Hydrant > 500' from parcel(s)

53112	54107	54108
53113	54116	54117
53124	54119	54120

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Hydrant Fire Flow Details

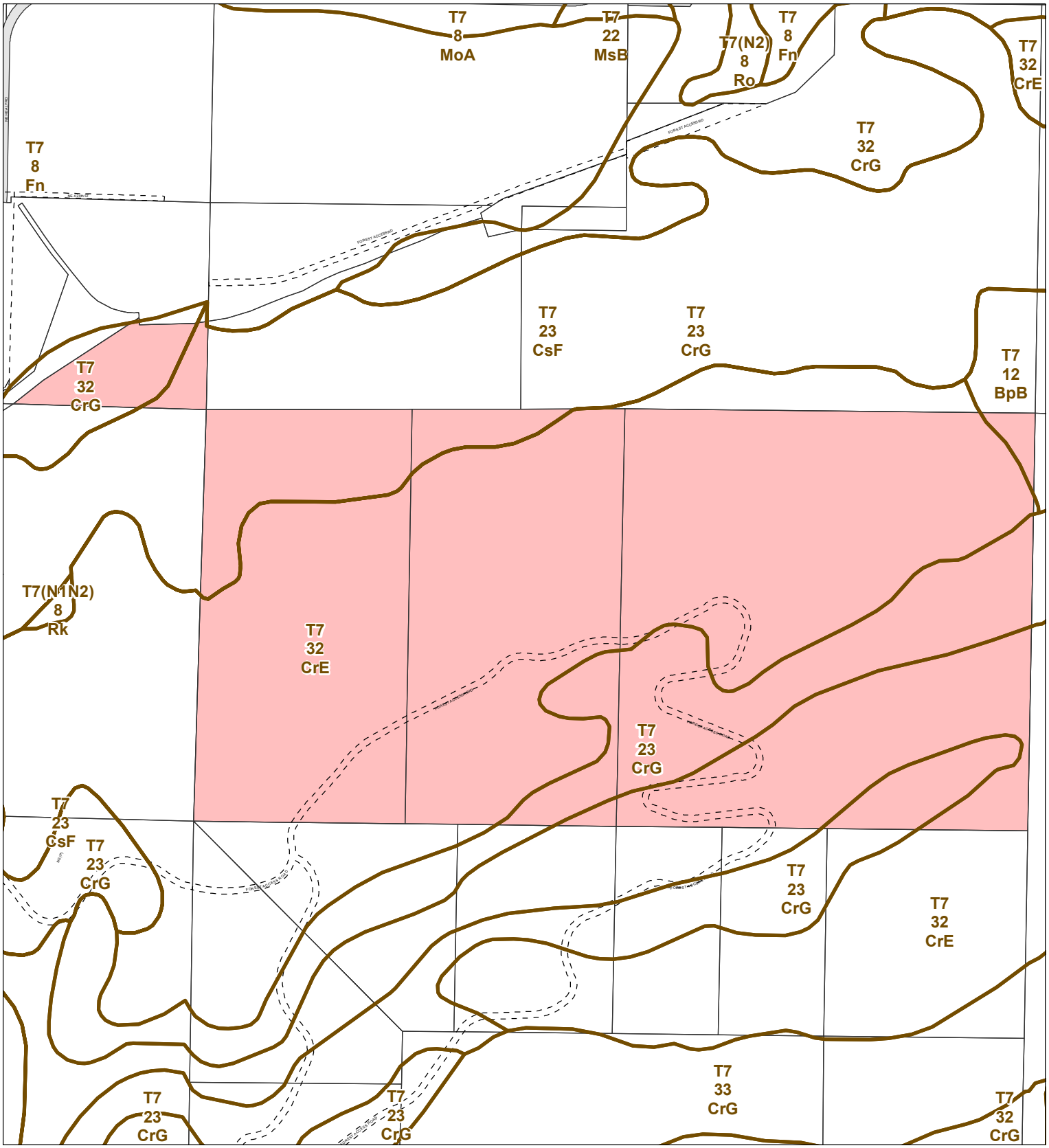
Account No.: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

Water District(s)	Hydrant Data Update	Project Site Provider
Clark Public Utilities	January 1, 2017	Service Provider

HYDRANT INFORMATION:

No hydrants found.

Information shown on this page was collected from several sources. Clark County accepts no responsibility for any inaccuracies that may be present.



Soil Types

Printed on: September 24, 2020

Account: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

CLARK COUNTY, WASHINGTON
Geographic Information System

N

0 200 400
Feet

Subject Property(s)
Public Road
Transportation or Major Utility Easement
Soil Type Boundary

53112	54107	54108
53113	54118	54117
53124	54119	54120

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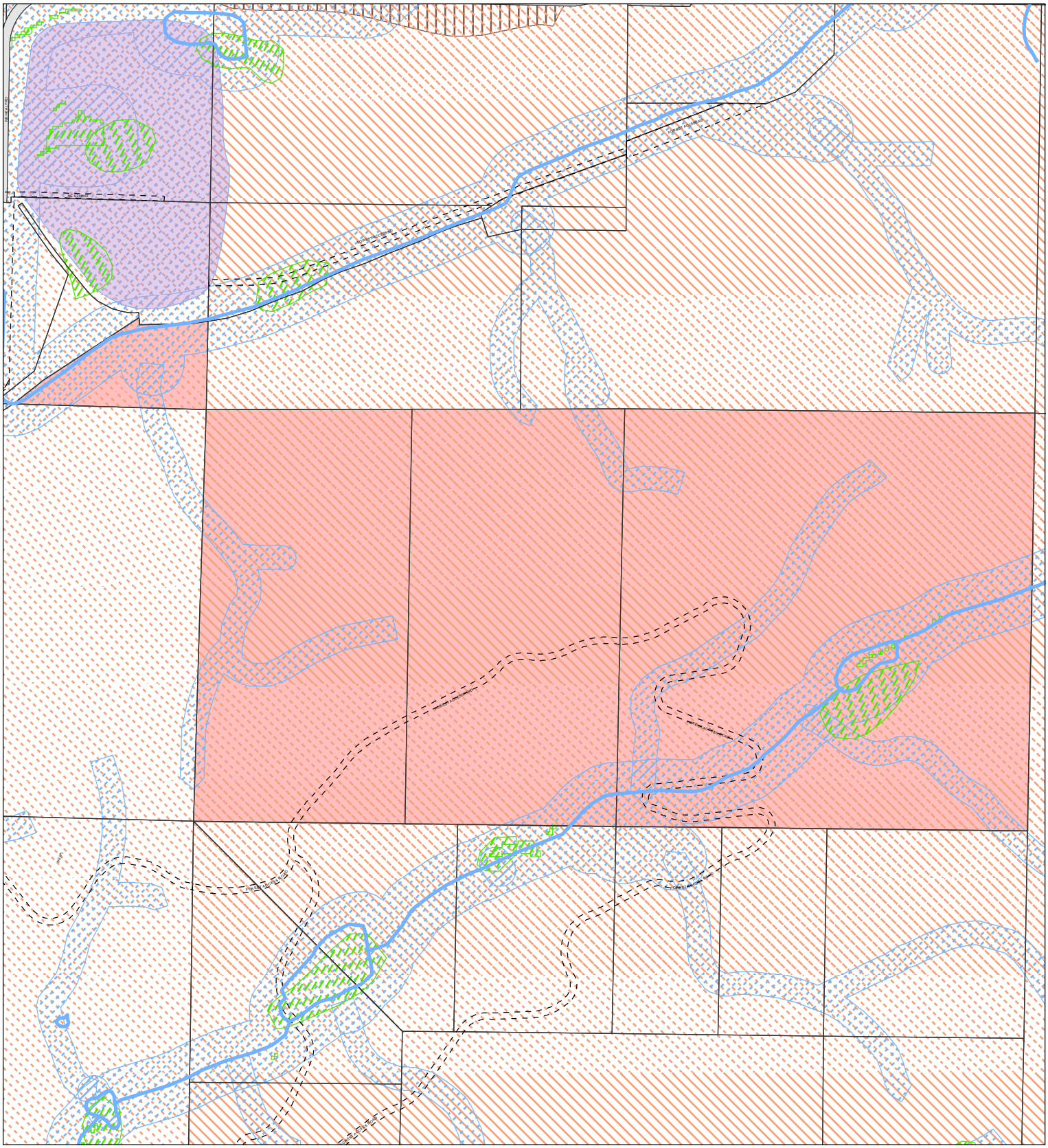


Environmental Constraints I

Printed on: September 24, 2020

Account: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

CLARK COUNTY, WASHINGTON
Geographic Information System

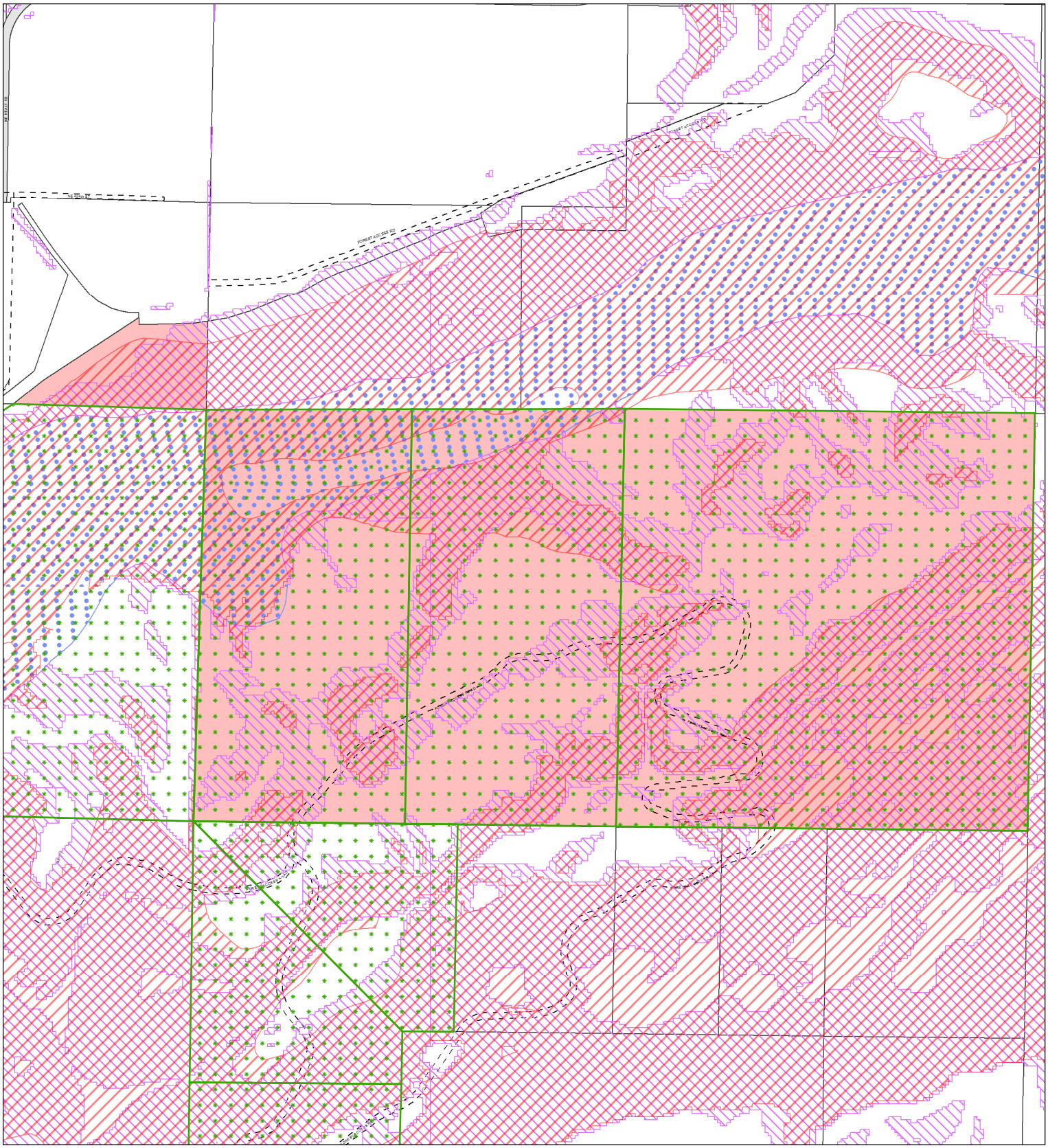
N

0 200 400
Feet

Information shown on this map was collected from several sources. Clark County accepts no responsibility for any inaccuracies that may be present.

- Subject Property(s)
- Public Road
- Transportation or Major Utility Easement
- Hydric Soils
- Wetland Inventory
- CARA Category 1
- Riparian Habitat or Species Area
- Non-Riparian Habitat or Species Area
- 100 year Floodplains
- Floodway
- Shorelines
- Stream

53112	54107	54108
53113	54118	54117
53124	54119	54120



Environmental Constraints II

Printed on: September 24, 2020

Account: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

CLARK COUNTY, WASHINGTON
Geographic Information System

N

0 200 400
Feet

- Subject Property(s)
- Public Road
- Transportation or Major Utility Easement
- Slopes > 15%
- Potentially Unstable Slope
- Historic or Active Landslide
- Severe Erosion Hazard Area
- Forest Moratorium Area
- CCHR Historic Site
- NRHP Historic Site
- INV Historic Site

53112	54107	54108
53113	54118	54117
53124	54119	54120

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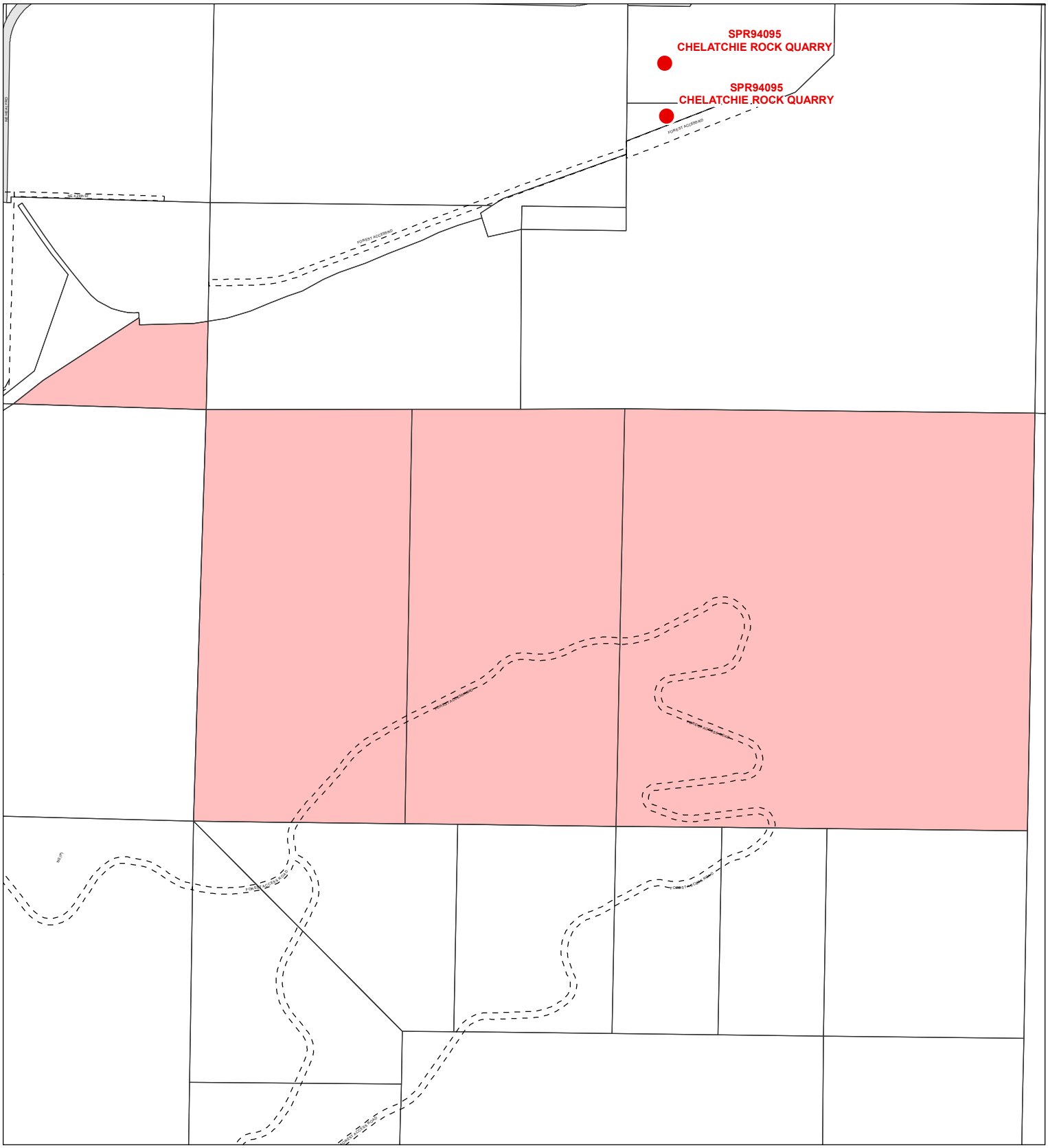

Adjacent Development

Printed on: September 24, 2020

Account: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

CLARK COUNTY, WASHINGTON
Geographic Information System

N

0 200 400
Feet

Subject Property(s)
Public Road
Transportation or Major Utility Easement
Adjacent Development

53112	54107	54108
53113	54118	54117
53124	54119	54120

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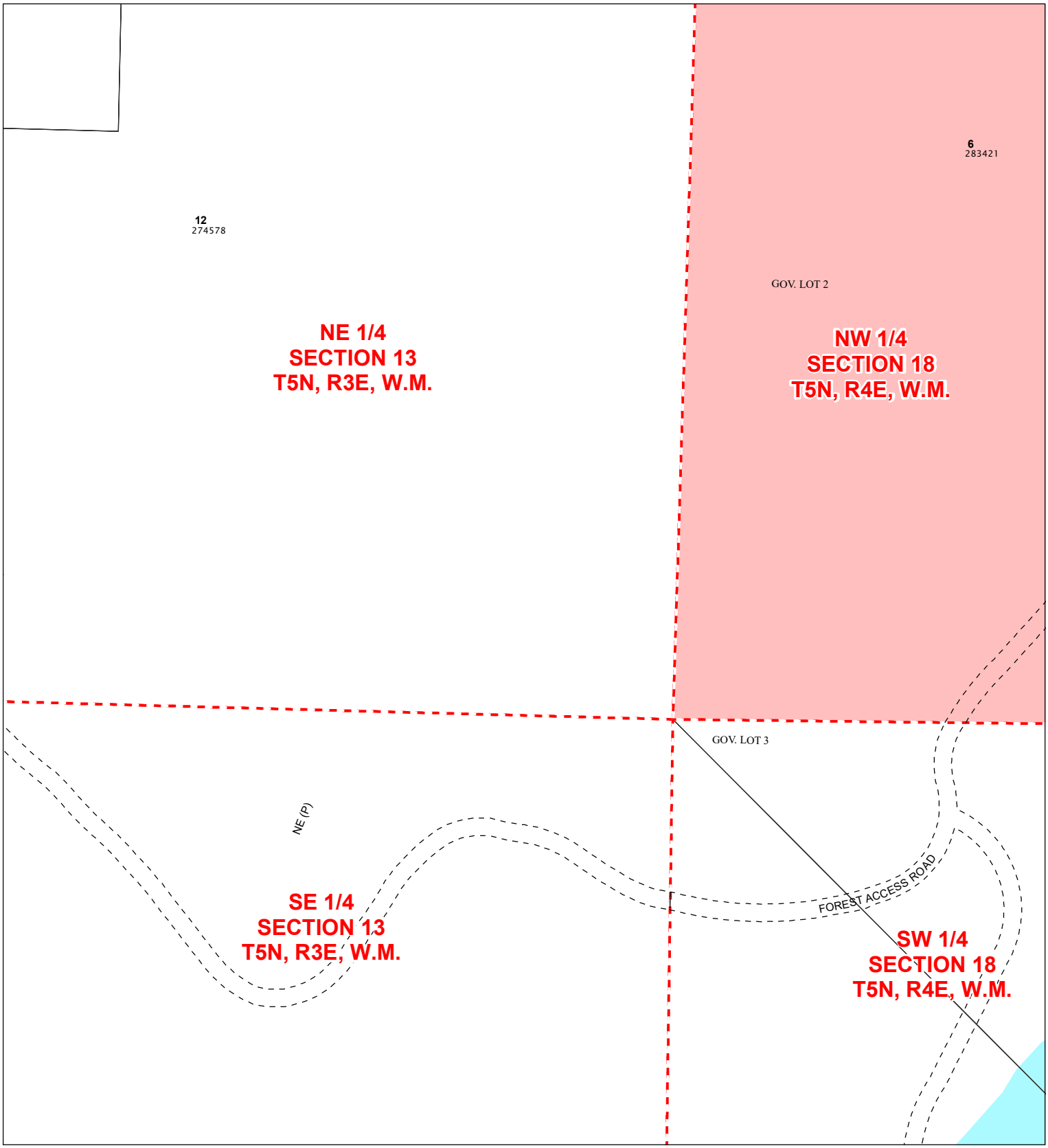

CLARK COUNTY, WASHINGTON
Geographic Information System

0 150 300 Feet

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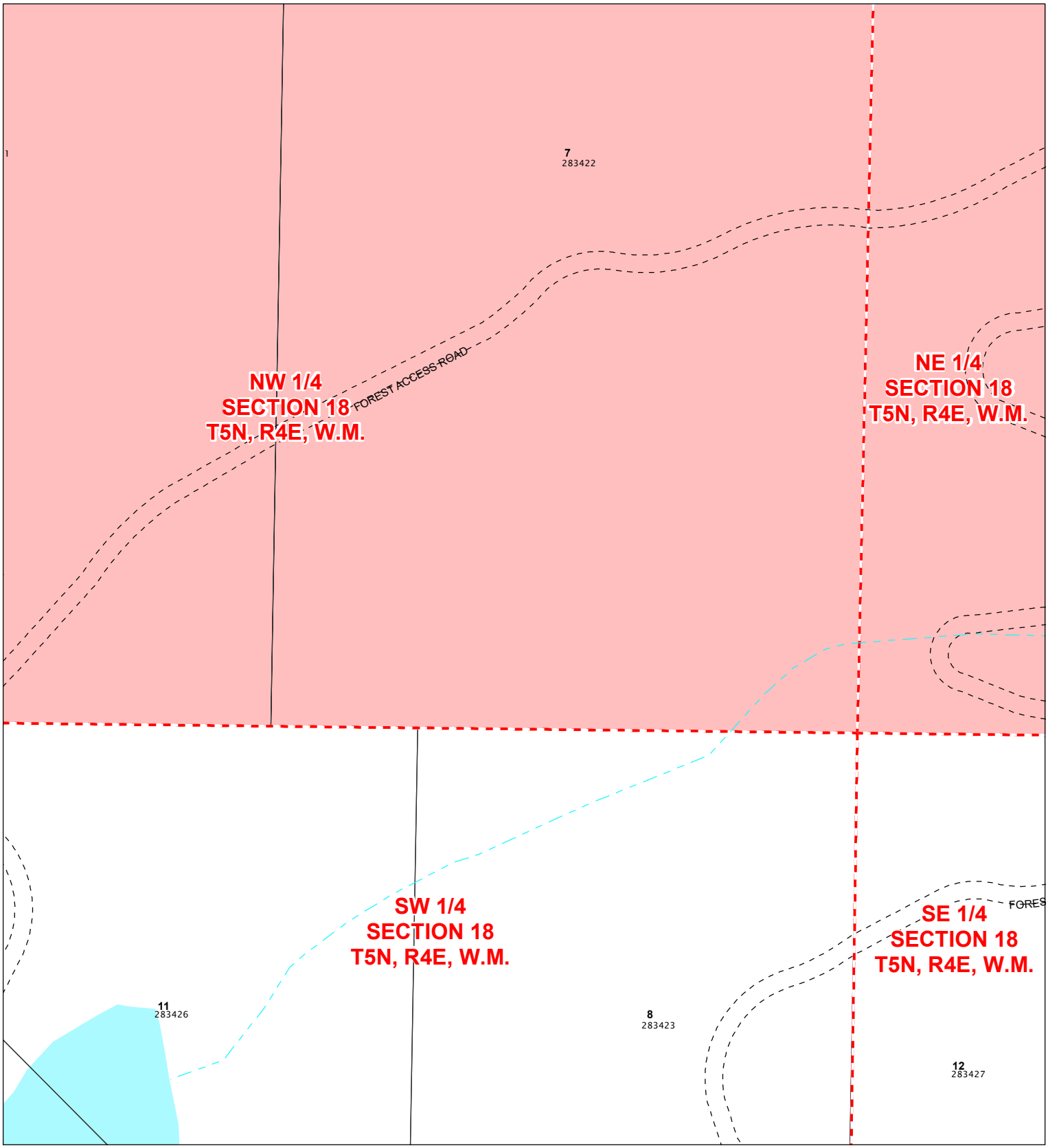
Quarter Section Parcels

Account: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

Subdivision Lines
Donation Land Claim
Section Quarters
City Boundaries
Subject Property(s)
Road Right of Way - Actual Road May not Exist
Transportation or Major Utility Easement

Printed on: September 24, 2020

53112	54107	54108
53113	54118	54117
53124	54119	54120



Quarter Section Parcels

Printed on: September 24, 2020

Account: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

CLARK COUNTY, WASHINGTON
Geographic Information System

N

0 150 300 Feet

Subdivision Lines
Donation Land Claim
Section Quarters
City Boundaries
Subject Property(s)
Road Right of Way - Actual Road May not Exist
Transportation or Major Utility Easement

53112	54107	54108
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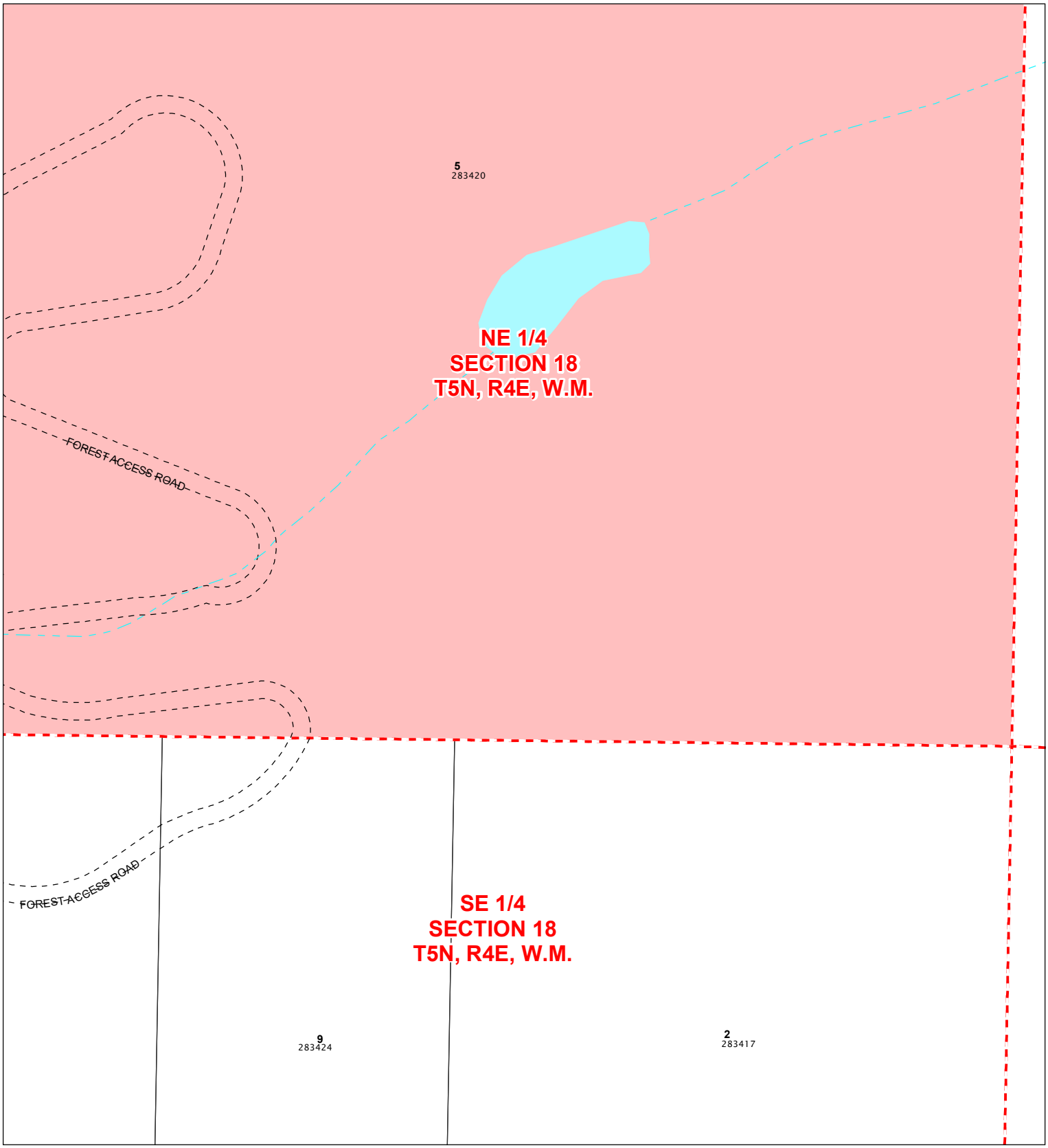

Quarter Section Parcels

Printed on: September 24, 2020

Account: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

CLARK COUNTY, WASHINGTON
Geographic Information System

N

0 150 300 Feet

Subdivision Lines
Donation Land Claim
Section Quarters
City Boundaries
Subject Property(s)
Road Right of Way - Actual Road May not Exist
Transportation or Major Utility Easement

53112	54107	54108
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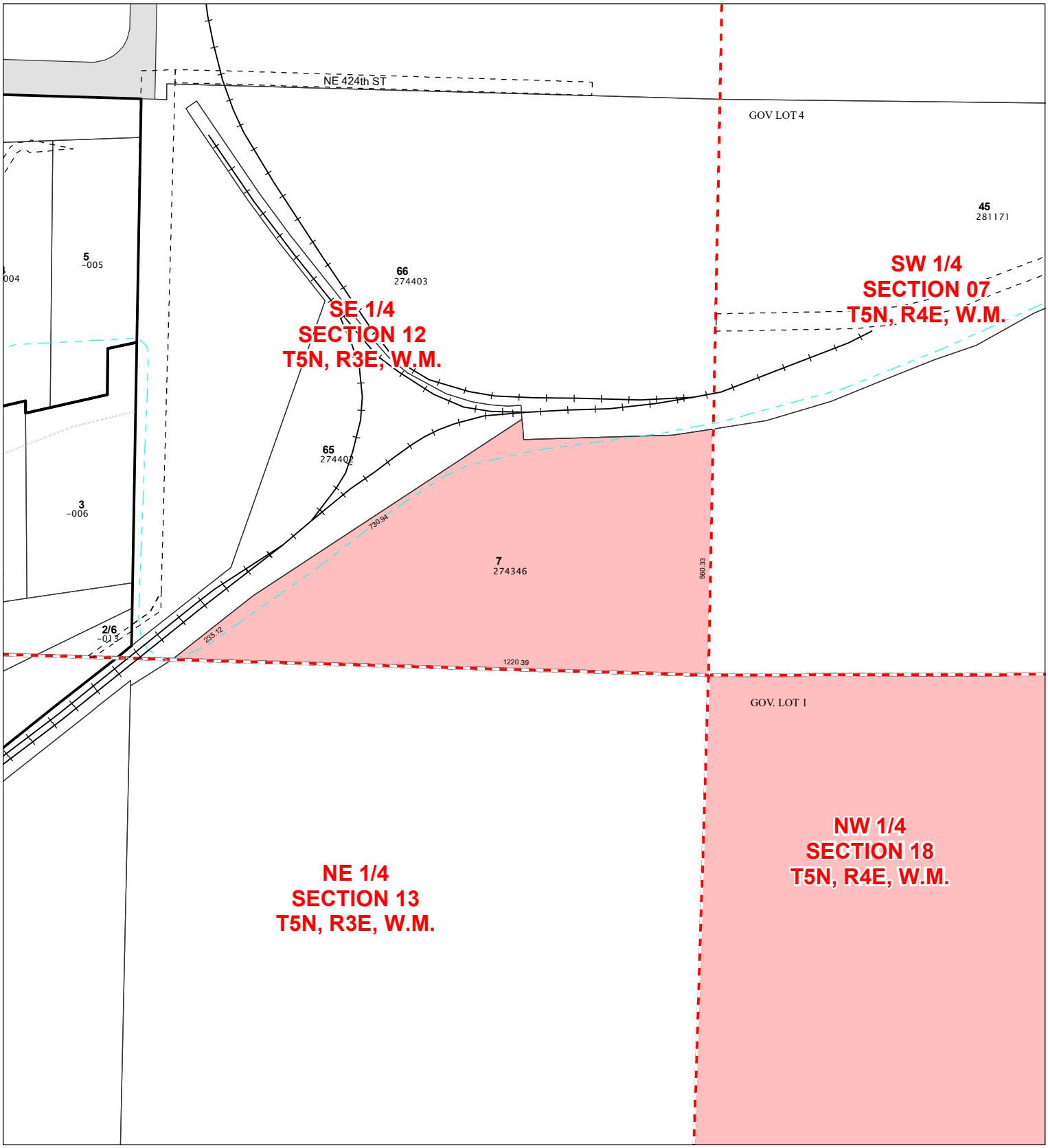

CLARK COUNTY, WASHINGTON
Geographic Information System

N

0 150 300 Feet

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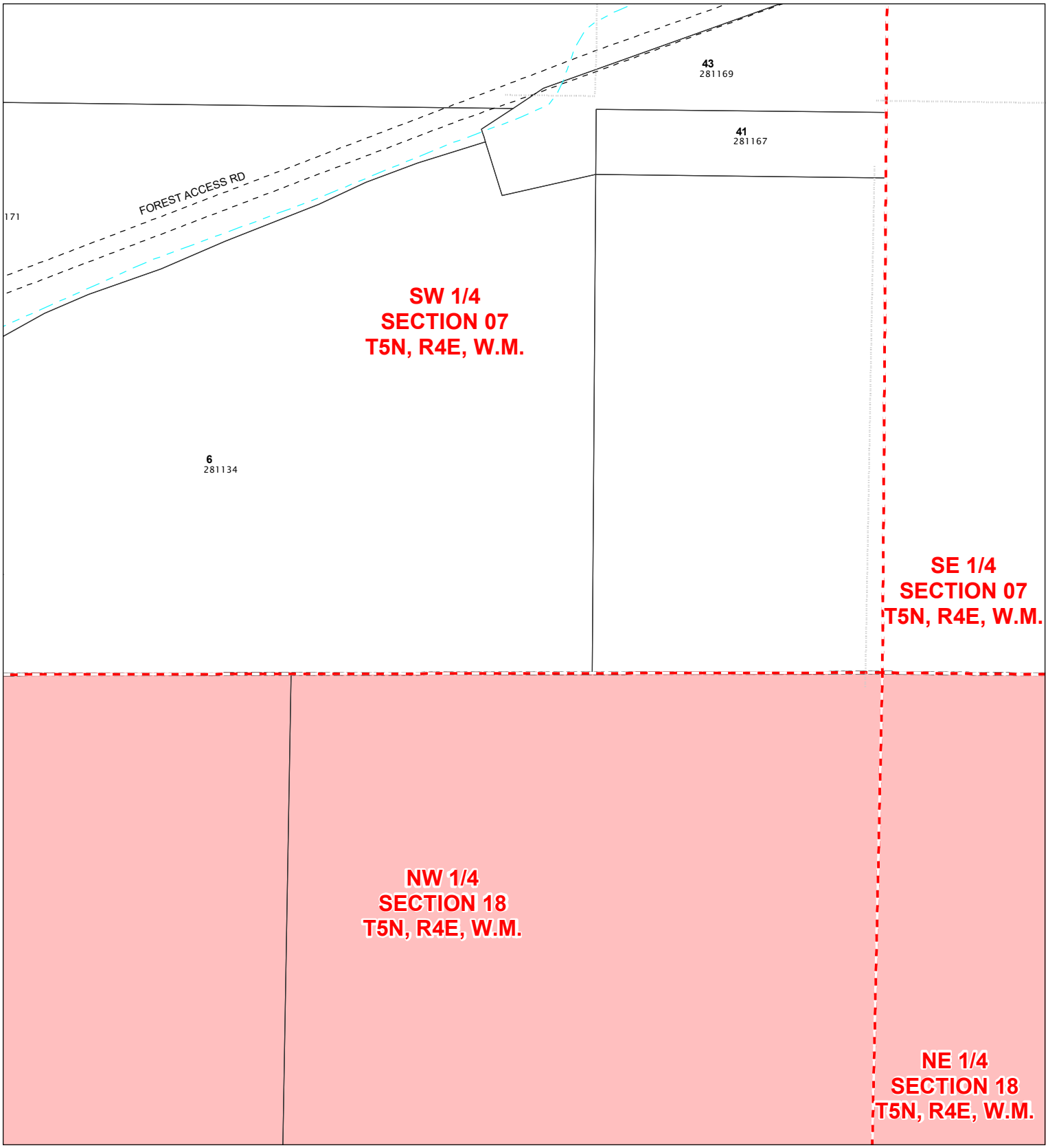
Quarter Section Parcels

Account: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

Printed on: September 24, 2020

53112	54107	54108
53113	54118	54117
53124	54119	54120

Subdivision Lines
Donation Land Claim
Section Quarters
City Boundaries
Subject Property(s)
Road Right of Way - Actual Road May not Exist
Transportation or Major Utility Easement



CLARK COUNTY, WASHINGTON

Geographic Information System

N

0 150 300 Feet

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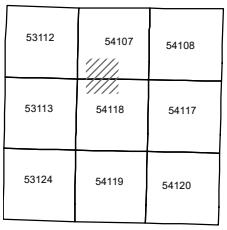
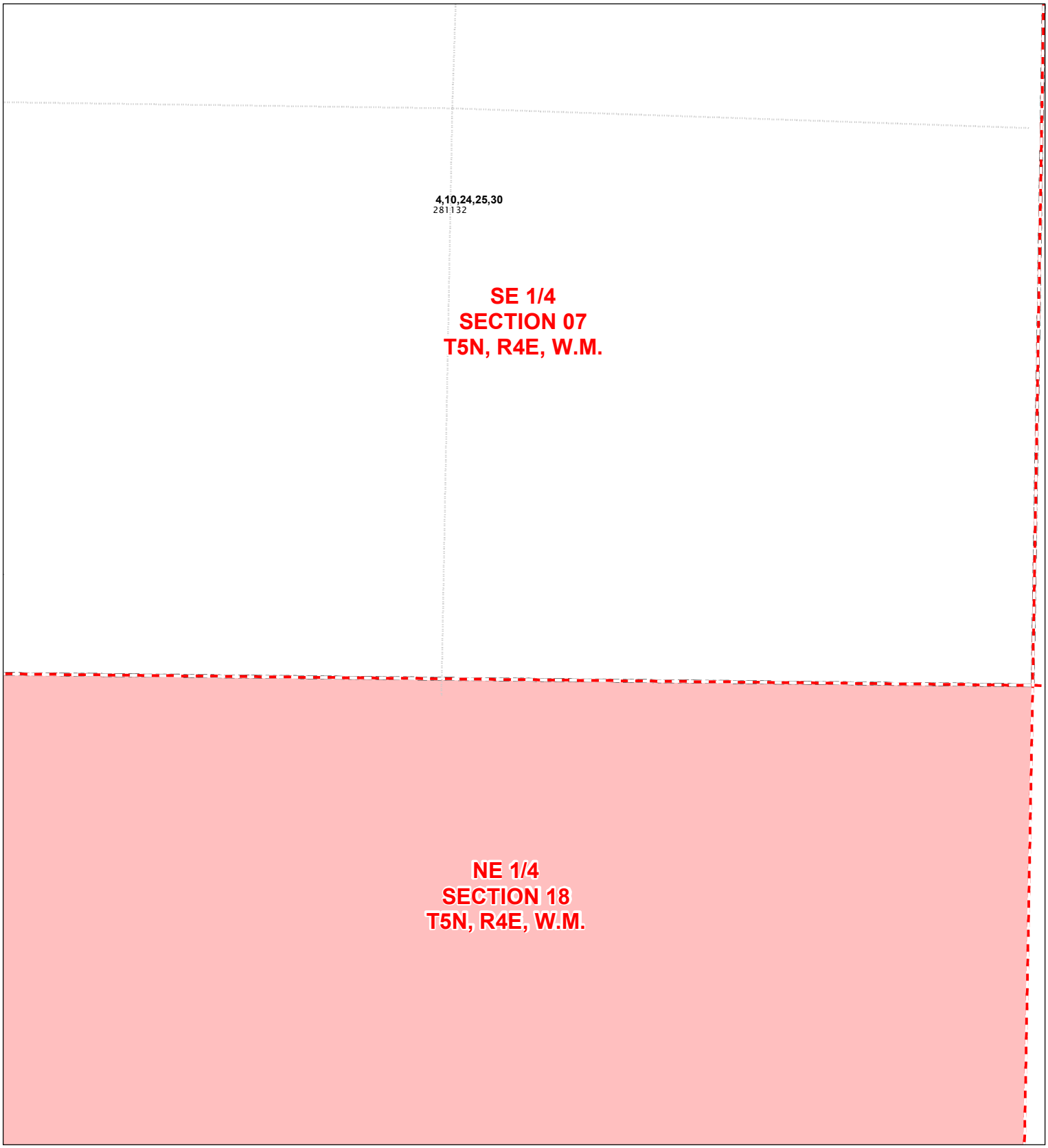
Quarter Section Parcels

Printed on: September 24, 2020

Account: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

- Subdivision Lines
- Donation Land Claim
- Section Quarters
- City Boundaries
- Subject Property(s)
- Road Right of Way - Actual Road May not Exist
- Transportation or Major Utility Easement





CLARK COUNTY, WASHINGTON
Geographic Information System

0 150 300 Feet

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Quarter Section Parcels

Printed on: September 24, 2020

Account: 274346000, 283421000, 283422000, 283420000
Owner: HOLTEN-ANDERSEN PER
Address: PO BOX 1864
C/S/Z: OREGON CITY, OR 97045

Subdivision Lines
Donation Land Claim
Section Quarters
City Boundaries
Subject Property(s)
Road Right of Way - Actual Road May not Exist
Transportation or Major Utility Easement

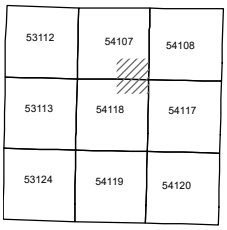


Exhibit C

Clark County Wetland Habitat Review

November 2020

Pre-Application Conference Report

Project Name: Chelatchie Bluff Mineral Resources re-zone

Case Number: PAC2020-00004

Request: Request to rezone 4 parcels totaling 16.47 acres from R1-7.5 Low-density residential to CC Community Commercial.

Applicant:	Granite Construction Company	☐ **Urban Area**
Site Location:	NE 78th Street at Padden Parkway	☑ **Rural Area**

☐ **Subdivision** ☐ **Short Plat** ☐ **Site Plan** ☐ **Shoreline** ☑ **Other:** Planning; rezone

☑ **Wetland Review:** All development applications must comply with the standards of Clark County's Wetlands Protection Ordinance (WPO, CCC 40.450). The WPO regulates both wetlands and wetland buffers, so wetlands located on adjacent properties may affect a site due to extension of wetland buffers across property boundaries. The WPO doesn't apply to streams and riparian areas regulated under the Shoreline Program or Habitat Conservation Ordinance.

☑ **Habitat Review:** All clearing and/or development proposals within defined habitat areas must comply with the Habitat Conservation Ordinance (HCO, CCC 40.440). The HCO regulates priority habitats and species areas as defined in the current the Washington Department of Fish and Wildlife (WDF&W) Priority Habitats and Species (PHS) list.

Wetland Indicators or Data Provided by the Applicant

☑ Wetland inventory	☑ Hydric soils
☐ Wetland determination or delineation	☐ Aerial photo analysis
☑ Other: National Wetland Inventory mapping	

Habitat Indicators or Data Provided by the Applicant

☑ Riparian Habitat Conservation Zone (HCZ)	☑ Priority species area: Overlays for Western Pond Turtle and Northern Spotted Owl
☑ Non-riparian habitat area: Caves/Cave-rich area	☐ Point species buffer
☐ Other:	

Fully Complete Requirements:

☑ Determination of wetland or habitat presence (or)	☑ Development/building/clearing envelopes (or)
☑ Wetland Delineation Report and Survey (or)	☑ Habitat Permit application
☑ Preliminary Wetland Permit Application	☑ Habitat Analysis & Mitigation Plan
☐ Other:	

Wetland Comments **Review Biologist: Lance Watt**

County GIS indicates mapped hydric soils and modeled National Wetland Inventory wetlands within the defined project area.

County GIS indicates many potential wetland indicators including mapped hydric soils and modeled National Inventory Wetlands within the defined project area. First, there are modeled National Wetland Inventory wetland identified as seasonally flooded palustrine emergent wetlands on the central portion of parcel 283420-000; there is also another modeled wetland with this classification just offsite to the south of parcel 283422-000. There is a National wetland inventory wetland identified as semi-permanently flooded palustrine wetland with an unconsolidated bottom on the northern end of parcel 281134-000 which continues offsite to the north. There are mapped hydric soils on the northern end of parcels 274360-000 and 281134-000 which continue offsite to the north, east, and west. In reviewing historic aerial imagery there are wetland signatures associated with the ponds/lakes and streams onsite.

Community Development
1300 Franklin Street, Vancouver, Washington
Phone: (360) 397-2375 Fax: (360) 397-2011
www.clark.wa.gov/development

For an alternate format, contact the Clark County ADA Compliance Office.
Phone: (360)397-2322
Relay: 711 or (800) 833-6384
E-mail: ADA@clark.wa.gov

The mapped wetlands shown would be a starting point in the site evaluation. A wetland determination shall be required to ascertain if wetlands are present onsite and to assess their quality. Large sites over 40 acres would have a determination conducted with a cost recovery basis.

Per the Wetland Protection Ordinance (CCC 40.450.030.D) wetland delineation is required for any wetlands and/or wetland buffers which may be impacted by the proposed project. A partial delineation may be appropriate in this case which identifies the extent of the wetland onsite and provides a wetland rating which will determine the quality of the wetland which will affect the buffers required to adequately protect wetland habitat and water quality functions per the Wetland Protection Ordinance (40.450.030.E). Per the Wetland Protection Ordinance, wetlands are afforded a buffer in order to protect water quality and habitat functions for the wetland. For the Wetland Protection Ordinance, the wetland buffers are based on the land use intensities indicated in Table 40.450.030-5 which are proposed to occur and the quality of the wetland which would be rated using the state's Wetland Rating form for Western Washington (2014 update). Surface mining would qualify as a High Intensity Use. No plans were provided. A change in zone would not adversely impact the wetlands/buffers, however any future development/mining would need to be evaluated for potential wetland/buffer impacts.

The Wetland Protection Ordinance follows a hierarchy of impacts with the first being avoidance of all impacts within a wetland or wetland buffer, if possible. In the event that avoidance is not possible, County staff shall determine if the proposed development meets the Avoidance and Minimization standards in the Wetland Protection Ordinance. The applicant shall provide documentation that the any impacts have been minimized. Any unavoidable adverse wetland or wetland buffer impacts shall require a wetland permit with applicable mitigation. Impacts within the water quality buffer or those buffer impacts which cannot be mitigated onsite may be considered indirect wetland impacts (CCC 40.450.040.D.5) and would be mitigated at the appropriate wetland mitigation ratios (Table 40.450.040-3). The responsible official may waive the requirements of Sections 40.450.030 (D) and (F) in certain cases where it is determined that all development is clearly separated from the wetlands and wetland buffers.

a. Development envelopes shall be required for a fully complete preliminary application:

b. Development envelopes shall be shown on future plans; and

c. A note referencing the development envelopes shall be placed on any future plans.

Stormwater facilities are discussed under section C.4 of the Wetland Protection Ordinance (CCC 40.450.040.C.4). Stormwater dispersion facilities that comply with the standards of Chapter 40.386 shall be allowed in all wetland buffers per the Wetland Protection Ordinance provided the outfalls comply with the standards of subsection C.4.b of the wetland protection ordinance. Enhancement of wetland buffer vegetation to meet dispersion requirements may also be considered as buffer enhancement for the purpose of meeting the buffer averaging or buffer reduction standards. Other stormwater facilities are only allowed in buffers of wetlands with low habitat function (5 points or less on the habitat section of the rating form), provided that the facilities shall be built on the outer edge of the buffer and not degrade the existing buffer function and are designed to blend with the natural landscape. Any proposed stormwater impacts to wetlands and wetland buffers should be accounted for and indicated on any future plans. There were no plans provided for the re-zone. Wetland fills less than 1/10th of an acre and wetland buffer impacts would require a Type I wetland buffer permit with applicable mitigation; wetland fills greater than 1/10th of an acre require a Type II wetland permit with applicable mitigation.

The Department of Ecology and the U.S. Army Corps of Engineers regulate wetland impacts at the state and federal levels, respectively through the 401 water quality certification process and/or a 404 Clean Water permit.

Habitat Comments

County GIS indicates multiple priority riparian and non-riparian habitats throughout the project area. County GIS and the Washington Department of Natural Resources indicate multiple Type F (fish bearing)

streams on parcels 281134-000, 274146-000, 283420-000 and 283422-000. There is one Type F stream mapped on the northern end of parcels 281134-000 and 274346000 which begins offsite to the east and continues offsite to the west. There is one Type F stream on parcel 283420-000 which begins offsite to the east and flows to the west onto parcel 283422-000. There are 2 Type F streams in the southeast corner of parcel 283422-000 which converge and continue offsite to the southwest.

There are multiple Type Ns (non-fish bearing, seasonal) streams mapped throughout the project area as well. There are 3 Type Ns streams on parcel 283420-000. The first is in the northwest portion of the parcel and flows offsite to the west onto parcel 283422-000. The second is on the north and western side of the parcel and generally flows to the southwest where it has a confluence with the mapped Type F stream. The third Ns stream is in the southeast corner of the parcel. It begins offsite to the southeast and generally flows to the northwest towards a confluence with the Type F stream. On parcel 283422-000 there is one Type Ns stream in the northeast portion of the parcel which begins offsite to the east and generally flows offsite to the north. On parcel 283421-000 there are 3 Type Ns streams as well, all on the central and western portion of the parcel. They combine into one Type Ns stream which flows offsite to the Northwest towards parcel 274346-000. On parcel 274346-000 there is one Type Ns stream which bisects the parcel; it begins offsite to the south and continues north where it has a confluence with the Type F stream. There is one Type Ns stream on the east side of parcel 281134-000 which continues offsite to the east.

There are multiple mapped unknown streams as well within the project area. These streams would need to have a stream assessment completed to verify the stream typing. The first Unknown stream is on parcel 281134-000 on the north and central portion of the parcel. They begin offsite to the south on parcel 283421-000 and 283422-000 and continue to the north towards the Type F stream. There is a second unknown stream on the southeast portion of parcel 283421-000 which continues offsite to the south. On parcel 283422-000 there are 2 unknown streams. The first is in the Norwest corner and generally flows offsite to the north. The second is in the southeast portion of the parcel and flows to the southeast towards the Type F stream. On parcel 283420-000 there are a pair of unknown streams. The first is on the western portion of the parcel and flows to the east towards the mapped Type Ns stream. The second is on the eastern end of the parcel and generally flows to the northwest towards the Type F stream; it begins offsite to the east.

Per the Habitat Protection Ordinance, streams are considered priority riparian habitat and are afforded a riparian conservation zone (HCZ) to protect ecological habitat and water quality values for the stream resource. The riparian HCZ for a Type F stream extends outward from the Ordinary High Water Mark to the edge of the 100 year floodplain or 200 feet, whichever is greater. In this instance the 200 foot mark likely greater. The riparian HCZ for a Type Ns stream extends outward from the Ordinary High Water Mark to the edge of the 100 year floodplain or 75 feet, whichever is greater. In this instance the 75 foot mark likely greater. The unknown streams would need to be assessed in the field. A habitat determination and site visit would be required to verify these stream features; a riparian habitat conservation zone for the unknown streams would be assigned with the determination. For water typing, County staff would confer with the Washington Department of Natural Resources since this is forest land.

Due to the unstable steep slopes, the potential for landslides to affect area streams may be an issue as well.

The project area has a priority non-riparian habitat overlay identified by the Washington Department of Fish and Wildlife as caves/cave-rich area. These features are mapped at a township scale in order to protect the resource. There are a lot of steep slopes and topography in the project area which could potentially harbor caves. If caves are identified then these features should be avoided. County Wetland/Habitat Review staff will need to confer with WDFW on avoidance and minimization measures to help protect these resources.

Parcels 281134-000, 283420-000, 283421-000, and 283422-000 also have species overlays identified by the Washington Department of Fish and Wildlife for Western pond turtle and Northern spotted owl. These features are also mapped at a township scale in order to protect the resource. County Wetland/Habitat Review staff will need to confer with WDFW on interpretation of these species overlays as well as for any potential avoidance/minimization or mitigation measures.

The applicant is responsible for the identification of priority habitat on the parcel in future plans and reviews to help ascertain impacts. All proposed impacts will need to be accounted for in the habitat permit, including any offsite impacts associated with haul roads.

The Habitat Conservation Ordinance follows a hierarchy of impacts with the first being avoidance of all impacts within a priority habitat area. The responsible official may waive the requirements of the Habitat Ordinance in certain cases where it is determined that all development is clearly separated from the priority habitat area by establishing building and clearing envelopes outside of established habitat areas in future plans, including a note referencing the development envelopes shall be placed on any future plans. In the event that avoidance is not possible, County staff shall determine if the proposed development meets the Avoidance and Minimization criteria identified in the Habitat Conservation Ordinance. The applicant shall provide documentation that the any impacts have been minimized in order to justify their purpose and need for the impact. Any adverse priority habitat impacts shall require justification for the impact as well as a Type II habitat permit with applicable mitigation; Impacts, minimization measures, and mitigation involving WDFW non-riparian habitats/species shall be coordinated with WDFW staff. If the coordinates with WDFW for an opinion on the mapped habitat types in advance then a copy of this correspondence should be included with the Fully Complete materials. Storm water designs and outflows also need to avoid adverse impacts to priority habitat areas. All proposed impacts will need to be accounted for in the habitat permit.

Shoreline Process Comments
None. Not within Shoreline.

☑ General Wetland Information

Wetland Buffer Requirements: Wetland buffers will be based on the wetland rating, the habitat score in the rating form, and the "intensity" of the proposed land use. Refer to CCC 40.450.030 Tables 2-5.

☑ Development envelopes may be proposed. Development envelopes must be clearly labeled on the plat or site plan and a note must be included on the face of the plat indicating that no construction will occur outside of development envelope areas.

Wetland Determination: County biologists can confirm a wetland determination, delineation, or the location of development envelopes prior to a primary application through a Wetland Predetermination Request. The pre-determination request can also be used to get the County conduct a wetland determination or establish development envelopes on the site. If you don't request a pre-determination, the County will make a determination when you submit your primary application (the same fee will be applied to your application).

Digital Submittal: Wetland and buffer boundary data must be submitted in digital form (refer to CCC 40.450.030.D.3 for requirements and file specifications) in order to update the wetland layers in the county's GIS database.

Wetland Permit Requirements: You will need a wetland permit for any activity proposed within wetlands or their buffers (except those that are explicitly exempt under 40.450.010.C), including buffer reduction, stormwater facilities within buffers, and utility crossings. You must avoid and minimize

impacts to wetlands and buffers as much as possible. You must also mitigate any impacts that cannot be avoided. State and Federal permits may also be required.

Wetland Permit Process and Timing: A wetland permit application will not be considered a fully complete item for vesting purposes. However, if you need a wetland permit, all associated applications will be placed on hold until you submit a Fully Complete preliminary wetland permit application.

Federal Jurisdiction: The US Army Corps of Engineers (USACE) has jurisdiction over discharges to streams and hydrologically connected wetlands under Section 404 of the Federal Clean Water Act. Because several fish species in Clark County are listed as threatened or endangered under the Federal Endangered Species Act (ESA), the USACE must review all proposed wetland impacts for potential "takings". ESA review may take a considerable amount of time because the Corps must consult the National Marine Fisheries Service (NMFS) and/or the U.S. Fish and Wildlife Service (USFWS).

The applicant has the responsibility to comply with State and Federal regulations. Questions regarding Federal jurisdiction should be addressed to the Regulatory Branch of the Seattle District US Army Corps of Engineers at (206) 316-3047; James.h.carsner@usace.army.mil. State wetland regulatory questions should be addressed to Miranda Adams at (360) 210-2783; miranda.adams@ecy.wa.gov. State Fish and Wildlife questions should be addressed to Isaac Holowatz at 360.773.8943; Isaac.Holowatz@dfw.wa.gov

☑ General Habitat Information

Riparian Habitat Conservation Zone Requirements (Title 40.440.010(C)(1)(a)):

☐ Type S stream:	two hundred fifty (250) feet or 100-yr. floodplain
☑ Type F stream:	two hundred (200) feet or 100-yr. floodplain
☐ Type Np stream:	one hundred (100) feet
☑ Type Ns stream:	seventy-five (75) feet

Priority Habitat and Species Buffer Requirements (Title 40.440.010(B)(2)&(C)(b)):

☑ Priority species area buffer:	three-hundred (300) feet
☑ Non-riparian priority habitat buffer:	one-hundred (100) feet
☐ Point species buffer:	one-thousand (1000) feet

Approval Criteria: Excluding applicable reasonable use assurances or public interest exceptions, defined habitats are to be protected through an avoidance or reduction of activities (Title 40.440.020). All proposed clearing or development within a habitat area shall substantially maintain the habitat functions found on the site (Title 40.440.020(A)(2)(a)). If all avoidance options have been exhausted, acceptable habitat impacts need to be limited to the immediate project area and no more (Title 40.440.020(A)(2)(b)). Assuming the applicant has made every effort to avoid and minimize impacts, mitigation measures may be established to offset remaining habitat impacts (Title 40.440.020(A)(3)(a)). It is important to emphasize avoidance of impacts to existing forested habitat areas, as no mitigation can compensate for the loss of habitat functionality associated with mature tree removal.

☑ Clearing/building envelopes for land divisions must be clearly labeled on the plat/plans.

☑ All habitat areas, including streams and their associated riparian zones, must be clearly labeled on the face of the plat/plans.

Habitat Predetermination Request: The applicant can apply for a Habitat Predetermination request to have a county Biologist determine the type and extent of habitat on the property; the Ordinary High Water Mark of a stream; and identify appropriate levels of habitat encroachment and impact to help guide the future design of the proposal.

Habitat Permit Requirements: Any non-exempt clearing or development activities will require a Habitat Permit application as a Fully Complete item. The Habitat Permit application needs to be accompanied with a delineation of the habitat area in relation to the proposed project and a mitigation plan. The

applicant is encouraged, but not required to hire a professional biological consultant to produce the habitat report and mitigation plan.

Habitat Permit Process and Timing: Development proposals requiring a Habitat Permit which involve other county permits shall be reviewed under the timelines of the existing reviews; provided, all requisite information is submitted and applicable approval criteria addressed (Title 40.440.030(A)).

Existing Agriculture: Existing agriculture within habitat areas is regulated under Title 40.440.040(B). Existing agricultural activities need to setback certain distances from creeks or comply with an agricultural/habitat protection plan for the property created by a certified ag/habitat technician. For a list of certified ag/habitat technicians, please contact Denise Smee (Clark County Conservation District) at (360) 883-1987 ext. 110. New agricultural activities within habitat areas are subject to the normal permitting requirements of the Habitat Ordinance.

State Jurisdiction: Any work within or above waters of the state may require a Hydraulic Project Approval (HPA) from the Washington Department of Fish and Wildlife (WDF&W). Your staff contact is Isaac Horowatz (360) 773-8943; Isaac.Holowatz@dfw.wa.gov.

Mitigation Monitoring

Wetland or habitat mitigation triggers the need for yearly monitoring for up to 10 years to ensure mitigation success, which includes applying for monitoring permits and paying the appropriate inspection fees.

CONTACT:
Clark County Community Development **(360) 397-2375**
PO Box 9810, Vancouver, WA 98666-9810
Lance Watt, Biologist *lance.watt@clark.wa.gov*, x5601

Exhibit D

Geologic Analysis by Granite Construction Company Geologist, Dustin Christianson

January 2021

INTRODUCTION

The Chelatchie Bluff Surface Mine Overlay Project is located approximately 33 miles northeast of Vancouver, WA and less than 1 mile southeast of the town of Chelatchie in Clark County Washington. The subject property consists of 4 parcels totaling 330.95 acres. The parcels are adjacent to a Surface Mine Overlay (SMO) zone containing the historically excavated Chelatchie Quarry.

Outcrop inspection, aerial photo interpretation, subsurface drill hole advancement, and 3-D geologic modeling was conducted. In addition, AASHTO and WSDOT certified construction material testing has been used in a high-level phase 1 exploration for the use in high quality construction aggregates.

Three (3) boreholes using HQ diamond bit coring were advanced in June 2020 totaling 919' total feet of core. The limited subsurface exploration program was conducted to assess if competent rock exists and does so in potential quantities to pursue entitlement and development. Initial indications suggest a resource volume of

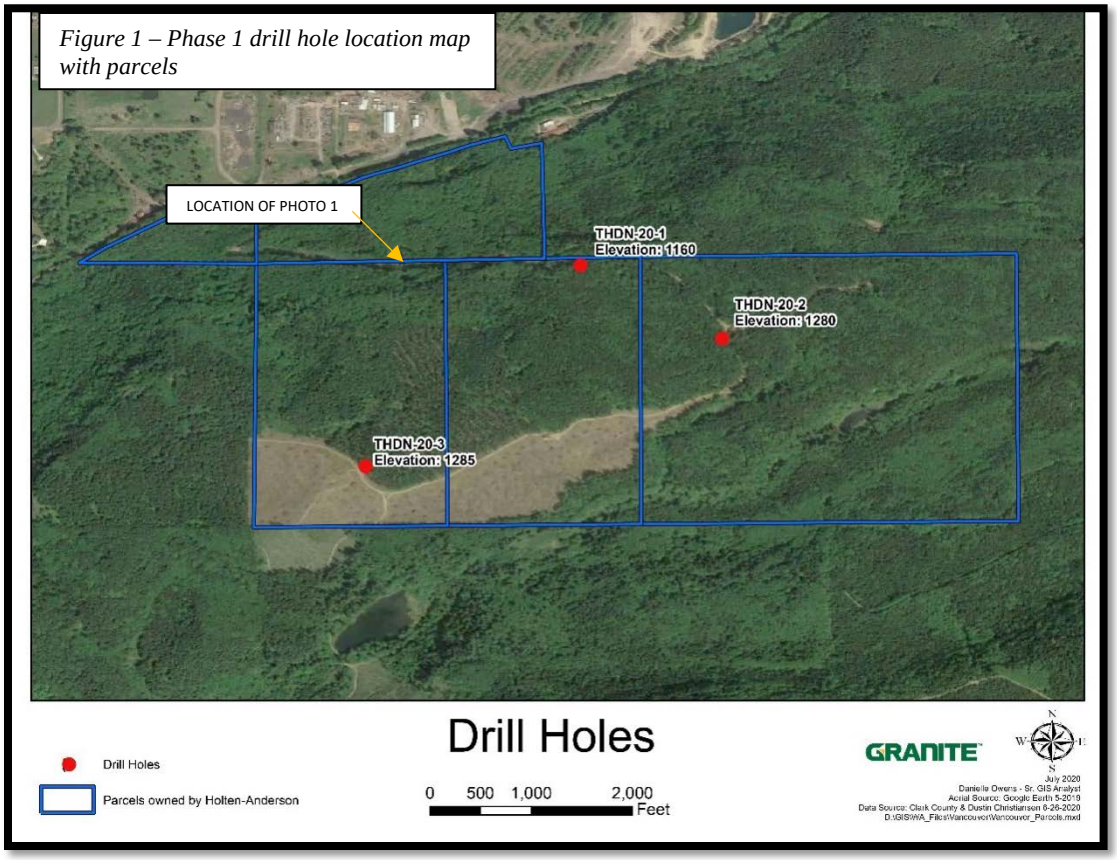


Figure 1 – Phase 1 drill hole location map with parcels

approximately 200 million tons of construction grade aggregate that can safely and reasonably be extracted.

GEOLOGY

The subject property is situated in the western foothills of the Cascade Range. This area consists mainly of intermediate to mafic lava flows, pyroclastic and volcaniclastic rocks and younger glacial deposits.

The site ranges in elevation from approximately 535 feet above mean sea level (AMSL) to 1,560 feet AMSL in the far southeast corner of the property. It is bound between two northeast trending normal fault scarps. This series of faults are mapped on the 7.5-minute Amboy geologic quadrangle and known as the Chelatchie Prairie Fault Zone. The northern fault separates Chelatchie Bluff Property from the lower flat valley where the old International Paper mill resides. The southern fault contains wetland areas. Figure 2 shows these known mapped normal fault structures. Surface outcrop and core recovered from drilling indicates the deposit on the property mainly consists of bluish gray to dark gray andesite and basaltic andesite. The texture of the rock varies slightly from aphanitic to porphyritic with feldspar phenocrysts ranging from less than 1mm to 3 mm common along with pyroxene minerals. The rock

Photo 1 – Outcrop along logging road toward the NW side of the property showing competent cliff forming basaltic andesite cropping out

looks comparable to the nearby Chelatchie Quarry. Although outcrop with evident bedding was sparse, the average orientation from two locations is striking 046 degrees and dipping between 14 and 18 degrees.

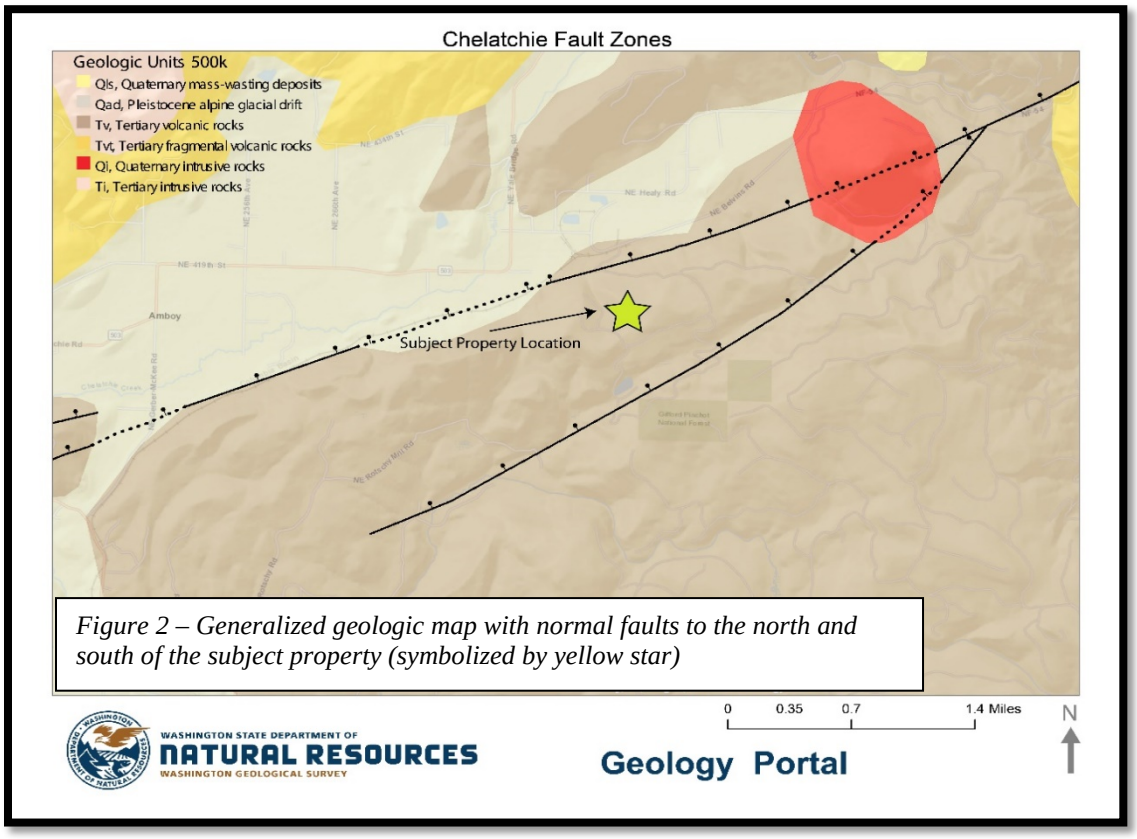


Figure 2 – Generalized geologic map with normal faults to the north and south of the subject property (symbolized by yellow star)

DRILLING

The Phase I drill plan was intended to be minimally invasive and require no additional or unnecessary pioneering of access roads and drill pads. The three drill hole locations for the phase 1 exploration were conducted on or directly adjacent to existing logging roads. Drilling was conducted by a track mounted LF-90 core drill using a wireline recovered HQ sized core barrel. All three were drilled vertical. Total depths of the 3 holes were 360’, 280’ and 279’ respectively. All were abandoned with grout.

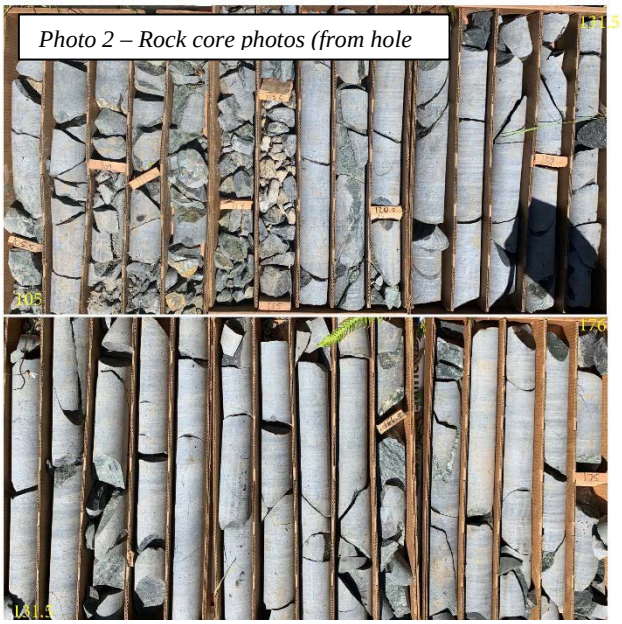


Photo 2 – Rock core photos (from hole

Overburden thickness based on the data available ranges from 17 feet to 23 feet. Overburden consisted of loose silts and fine grain sands with clay that would often be washed out in the core drilling process. Below the overburden, weathered bedrock was encountered that varied from 15 to over 30 feet thick before fresh competent rock. Small intervals of brecciated or slightly altered basalt and basaltic andesite were present in hole 1 and hole 3. Hole 2 was competent to 147 feet where less competent, slightly altered rock dark gray to black rock was encountered and continued to the terminus of the drill hole at 280 feet.

Groundwater

The exploratory drilling method utilizes a water-based drilling fluid. This method makes it very difficult to determine if groundwater is encountered in the borehole. However, no indications were observed of groundwater like artesian water at the borehole.

TESTING

The material was sampled based on internal exploration sampling protocols. Specifically, in this case, the material was sampled in roughly 30-foot sections to best represent a typical blast bench and subsequent muck pile. This is based on high level future proposed mine design scenarios. If a significant geologic change occurred that required target sampling for proper characterization, then that sampling method was employed. For example, if a hole encountered a particular material type for the first 20 feet, and the next 20 feet was significantly different, then those two intervals would be sampled separately. The entirety of all core boxes that comprised one of the approximate 30-foot representative samples was submitted to the laboratory for processing. The core was crushed in a lab jaw crusher and reduced into minus 1” material. This minus 1” material was subject to several AASHTO and WSDOT certified construction aggregate tests. These tests qualify the material as having the potential to produce base, asphalt, and concrete quality aggregates. Included below is a table documenting the certified test methods utilized in testing the material from the Chelatchie Bluff core. The fresh rock intervals appear to perform well in tests for base, and Hot Mix Asphalt (HMA). It is more than likely the fresh rock will meet specifications for Portland Cement Concrete (PCC). The rock would need to be subjected to Alkali Silica Reactivity testing (ASR). Failing ASR results can typically be mitigated with fly-ash thus making the material more than likely to meet all PCC specifications. Weathered rock intervals, along with sparse brecciated, altered or paleosol intervals can be used in base and fill products, along with small portions of low plasticity overburden. Especially if they can be blended with more competent rock in the mining process.

Test Methods Utilized in this Report				
TEST TYPE	Method	Base Spec	AC Aggregate Spec	PCC Aggregate Spec
Specific Gravity/Absorption	AASHTO T85		X[1]	X
Sand Equivalence	WSDOT FOP AASHTO T176	X	X	
Degradation Factor	WSDOT T113		X	X
Los Angeles Rattler	AASHTO T96		X	X
Soundness ($NaSO_4$) [2]	ASTM C88			

Table 1 – Various tests Chelatchie Bluff core was subjected to

1 No specific specification. If specific gravity is too low and absorption too high, making HMA can be uneconomic

2 For specialty project owners such as FAA and Army Corps of Engineers

Fifteen (15) samples were submitted for testing. All material types, sans overburden was represented in the sampling program. Table 2 shows the average of all samples for each

COARSE CRUSHED						MANUFACTURED SAND						
LAR-B (500)	SG (DRY)	SG (SSD)	SG (APP)	ABS	Soundness	SG (DRY)	SG (SSD)	SG (APP)	ABS	SE	Soundness	DEG. FAC.
24.5	2.50	2.60	2.76	4.01	18.6	2.46	2.56	2.77	4.75	76.9	18.0	29.0

COARSE CRUSHED						MANUFACTURED SAND						
LAR-B (500)	SG (DRY)	SG (SSD)	SG (APP)	ABS	Soundness	SG (DRY)	SG (SSD)	SG (APP)	ABS	SE	Soundness	DEG. FAC.
19.3	2.71	2.75	2.84	1.8	12.5	2.68	2.72	2.88	2.93	82.0	16.5	39.3

Table 2 (upper) and Table 3 (lower) average test results where SG = Specific Gravity, ABS = Water absorption and SE = Sand Equivalent

test. Table 3 shows the average of high-quality rock only. This 'high graded' version of testing is assumed to be reasonable to achieve in optimized mine planning and mine design scenarios based on the available data.

VOLUME ESTIMATES

An initial, conservative proposed quarry outline is shown in Figure 3. The preliminary quarry design has 45-degree overall slopes (1:1) down to a final floor elevation of 600 feet AMSL. This design yields an estimated bulk cut volume of 112 million cubic yards. Of the 112 million cubic yards, approximately 8,000,000 cubic yards is anticipated to be overburden. This equates to a stripping ratio of 0.07:1 assuming 100% of the overburden is waste. These volumes are gross. The mineable and saleable rock is anticipated to have a 5% - 10% waste factor. This considers fracture density and minimal

breakdown from blasting and processing. The volumes represented herein are to be categorized as indicated mineral resources by definition and are subject to change with

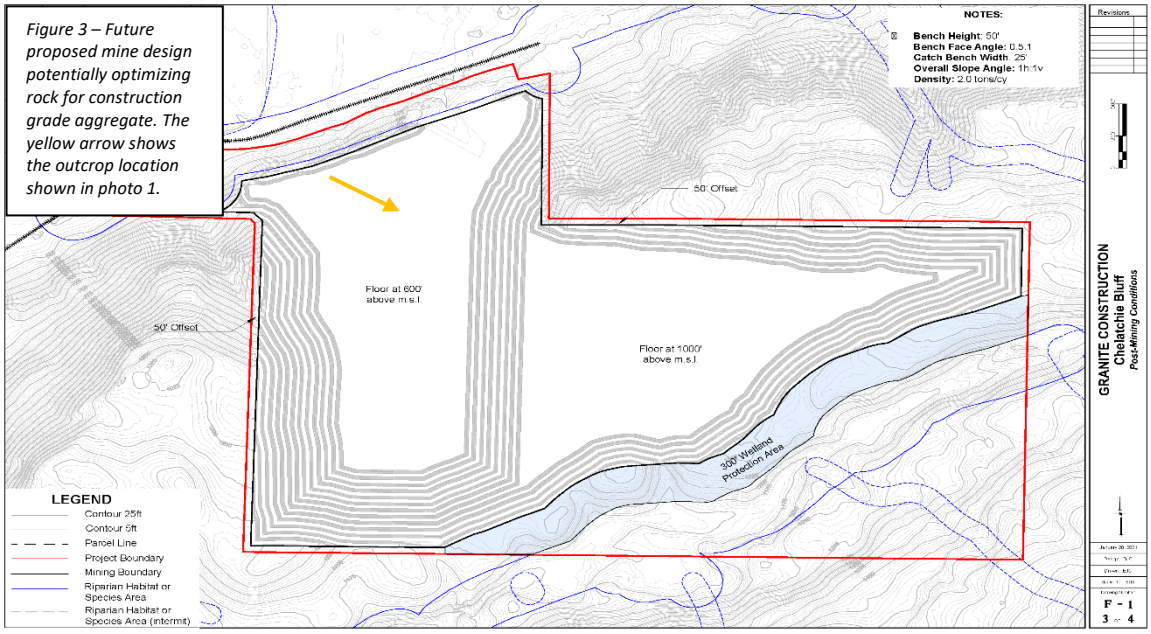


Figure 3 – Future proposed mine design potentially optimizing rock for construction grade aggregate. The yellow arrow shows the outcrop location shown in photo 1.

Resource Quality	Resource Classification	Volume (CY)	Density (tons/cy)	Bulk Tons
Overburden/Waste	Measured/Indicated	7,649,000	0.80	6,119,200
Higher Quality Construction Grade Material	Measured/Indicated	50,519,000	2.0	101,038,000
Higher Quality Construction Grade Material	Inferred	20,847,000	2.0	41,694,000
Lesser Quality Construction Grade Material	Measured/Indicated	12,614,000	1.8	22,705,200
Lesser Quality Construction Grade Material	Inferred	20,847,000	1.8	37,524,600
TOTAL		112,476,000		209,081,000

Table 4 - Resource volumes for the subject property based on design in figure 3

future data acquisition. Preliminary indications can presume approximately 200 million tons of an extractable resource is present based on limited interpreted geology, subsurface information, and outcrop investigation.

CONCLUSION

The proposed Chelatchie Bluff Surface Mine Overlay is a suitable opportunity to designate and preserve hard rock mineral resources of long-term commercial significance. Designating and protecting this mineral resource in the Clark County Comprehensive Plan is necessary to fulfill long term demand. The location and extent of this resource provides a substantial uplift to the potential aggregate reserves in Clark County and will support a growing economy into the future.

PROFESSIONAL STATEMENTS

Professional statements presented herein are based on evaluations of the technical data and information that is available at this time. This data and information represent a limited sample of the materials and conditions that may be encountered in the subsurface. The interpretation is based on this limited data and is in accordance with generally accepted principles and practices of the geologic construction material profession. Subsurface conditions will vary between points of observation and with depth as additional data is collected.

Dustin Christianson P.G.

Geology & Exploration Manager

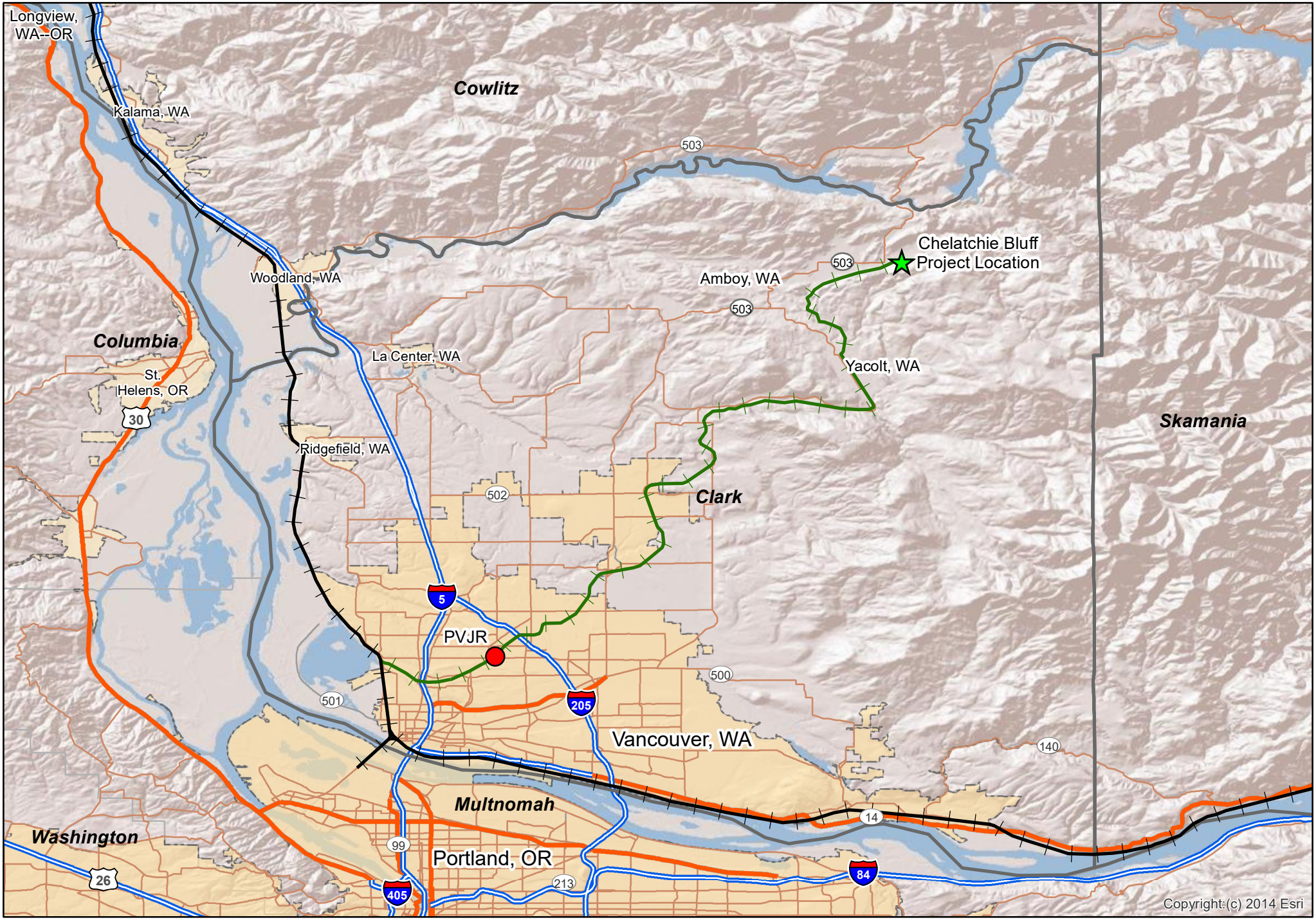
Granite Construction Inc.

Email: dustin.christianson@gcinc.com

Exhibit E

Vicinity Map

January 2021



PVJR Property
BNSF Mainline
Proposed Project Location
Clark County Shortline Railroad

Chelatchie Bluff SMO

0 7 14 Miles

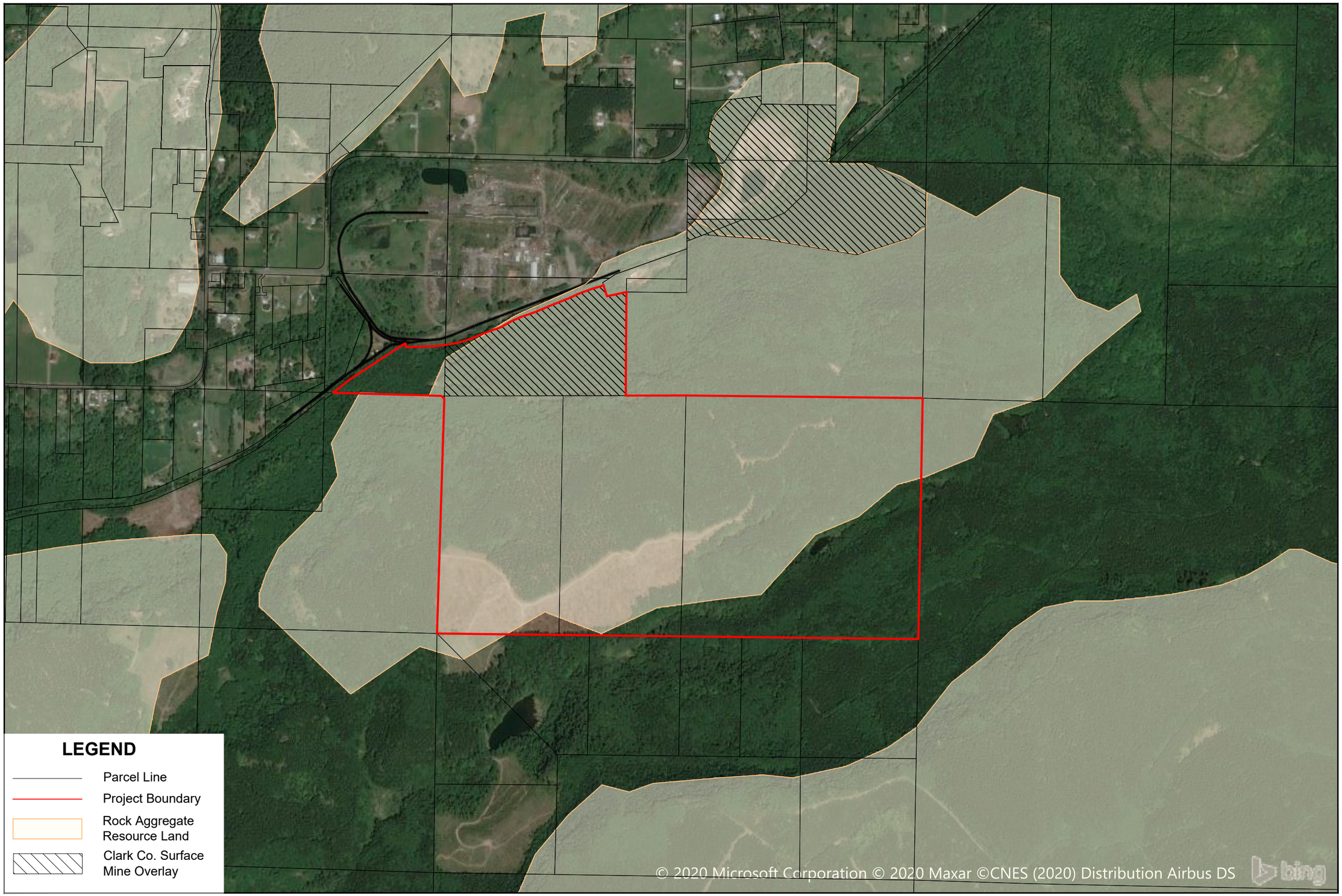
GRANITE™

January 2021
Brett Wong - Market Research Analyst
D:\GIS\WA_Files\MarketResearch2021\Clark\MXD\Clark.mxd

Exhibit F

Hypothetical Mine Plan Maps

January 2021



Revisions

0 500' 1000'

GRANITE CONSTRUCTION
Chelatchie Bluff
Rock Aggregate Resource Lands Inventory,
WA Division of Geology & Earth Resources

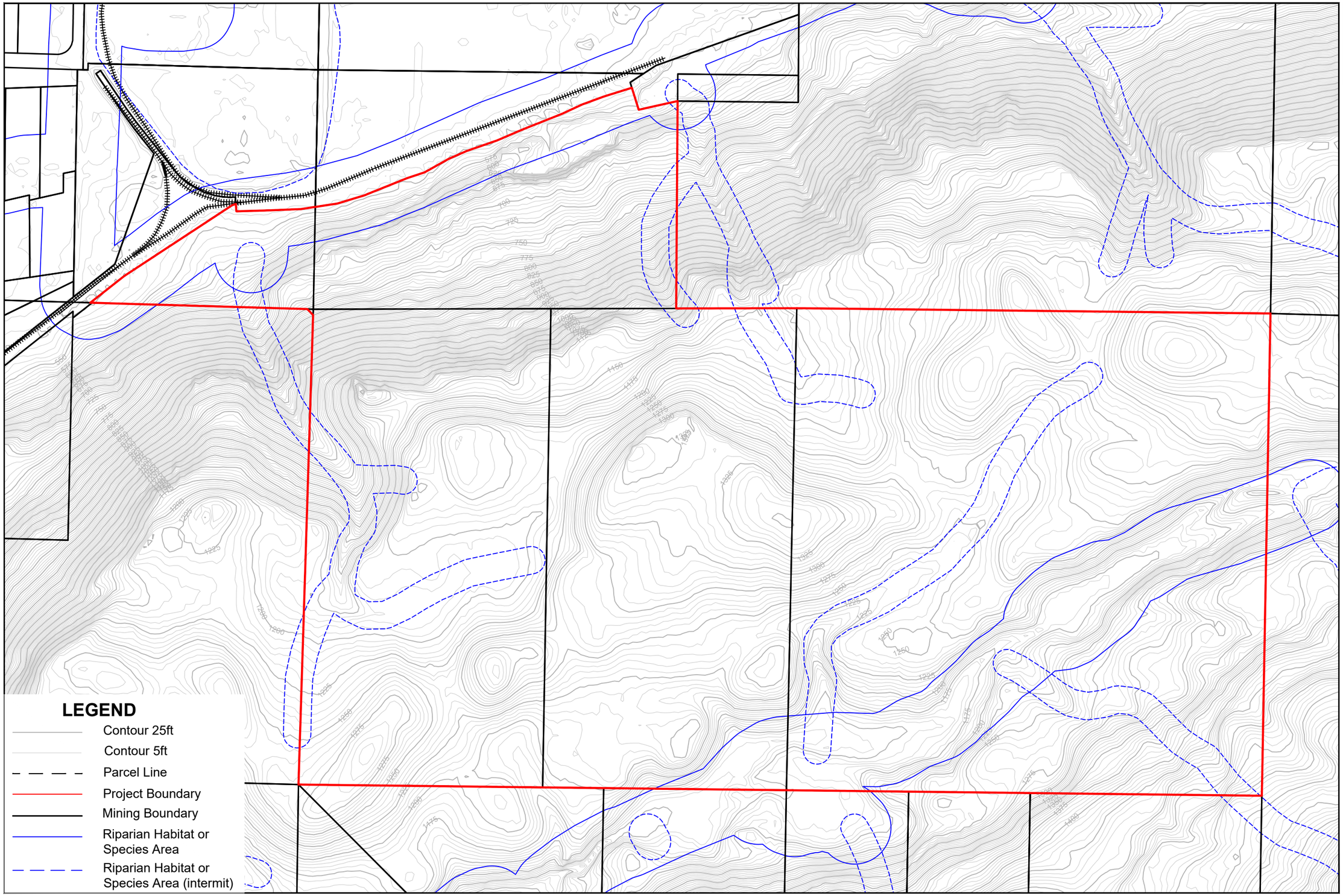
January 20, 2021

Design: BJC

Drawn: BJC

Scale: 1" = 1000'

Drawing Number:
F - 1
1 OF 4



Revisions

GRANITE CONSTRUCTION
Chelatchie Bluff
Current Conditions

January 20, 2021

Design: BJC

Drawn: BJC

Scale: 1" = 500'

Drawing Number:

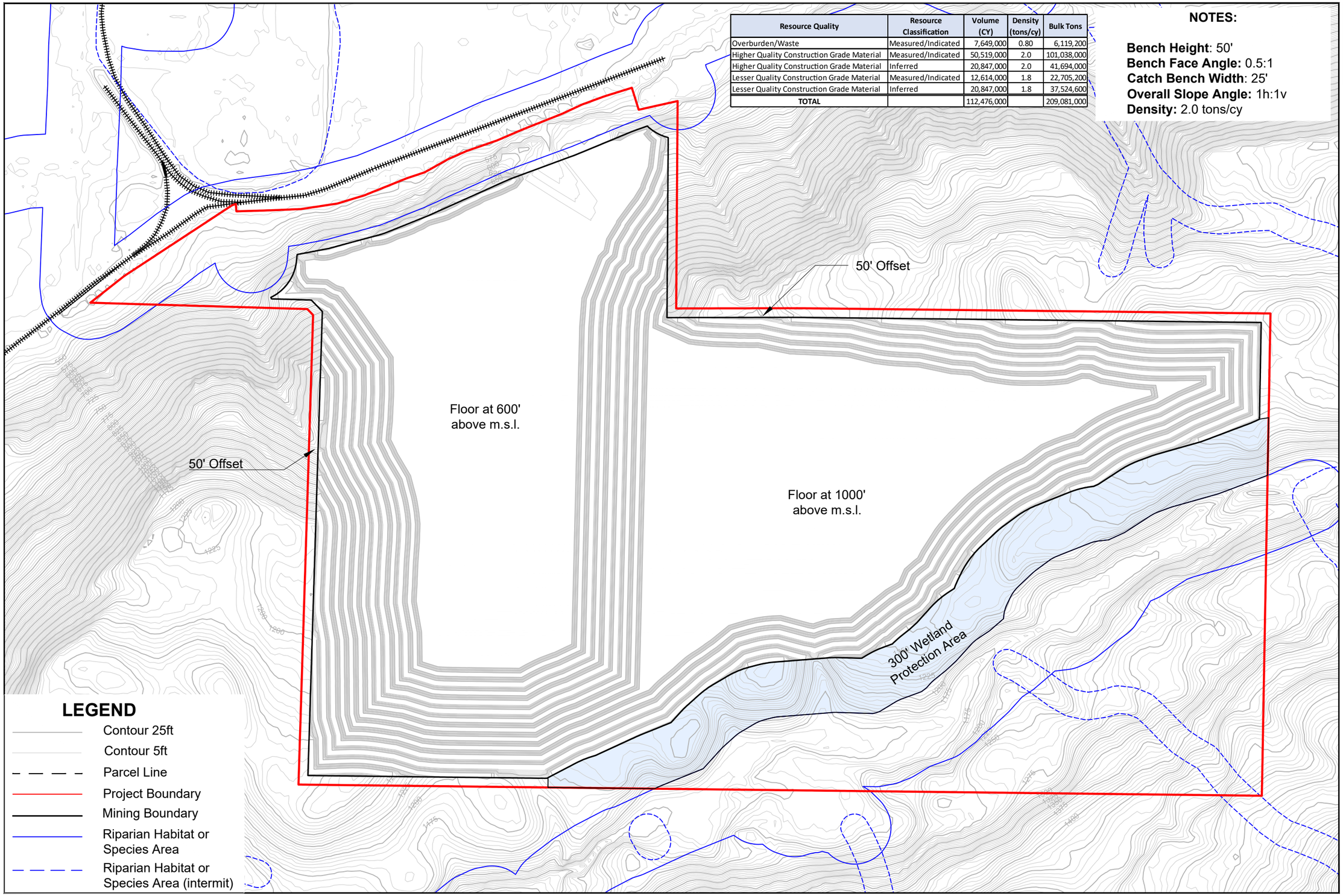
F - 1

2 OF 4

Resource Quality	Resource Classification	Volume (CY)	Density (tons/cy)	Bulk Tons
Overburden/Waste	Measured/Indicated	7,649,000	0.80	6,119,200
Higher Quality Construction Grade Material	Measured/Indicated	50,519,000	2.0	101,038,000
Higher Quality Construction Grade Material	Inferred	20,847,000	2.0	41,694,000
Lesser Quality Construction Grade Material	Measured/Indicated	12,614,000	1.8	22,705,200
Lesser Quality Construction Grade Material	Inferred	20,847,000	1.8	37,524,600
TOTAL		112,476,000		209,081,000

NOTES:

Bench Height: 50'
Bench Face Angle: 0.5:1
Catch Bench Width: 25'
Overall Slope Angle: 1h:1v
Density: 2.0 tons/cy

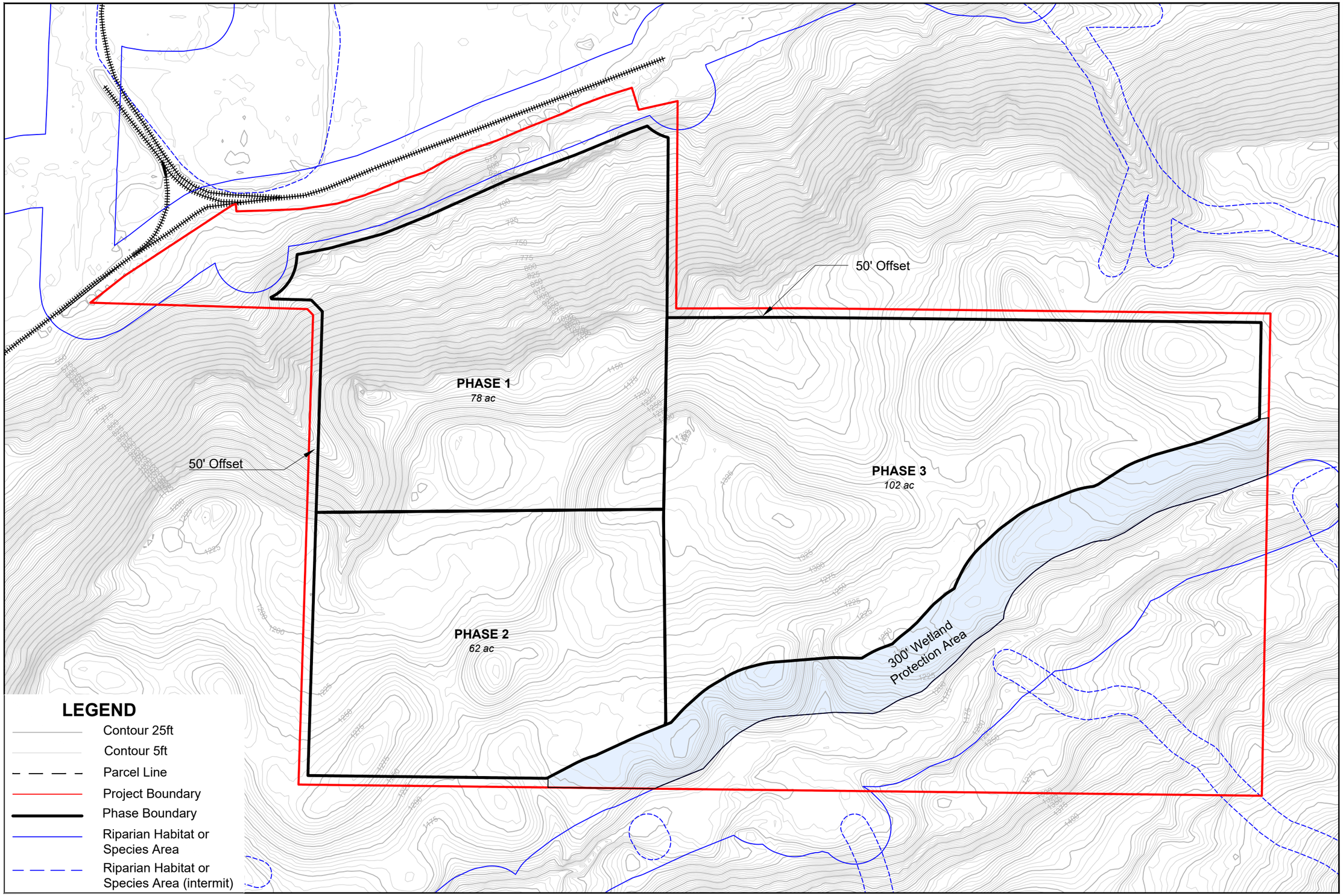


Revisions

0 250' 500'

GRANITE CONSTRUCTION
Chelatchie Bluff
Hypothetical Post-Mining Conditions

January 20, 2021
Design: BJC
Drawn: BJC
Scale: 1" = 500'
Drawing Number:
F - 1
3 OF **4**



Revisions

0 250' 500'

GRANITE CONSTRUCTION
Chelatchie Bluff
Hypothetical Mine Phasing Plan

January 20, 2021

Design: BJC

Drawn: BJC

Scale: 1" = 500'

Drawing Number:
F - 1
4 OF 4

Exhibit G

Transportation Impact Analysis by Kittelson & Associates

In Progress

Final to be submitted prior to March 15, 2021

KITTELSON & ASSOCIATES
851 SW 6th AVENUE, SUITE 600
PORTLAND, OR 97204
P 503.228.5230 F 503.273.8169

MEMORANDUM

Date:	March 15, 2021	Project #: 25979.0
To:	Gary Albrecht, Clark County	
From:	Matt Bell, Chris Brehmer, PE, and Russ Doubleday	
CC:	James Essig, Steven Hitzel, Granite Construction	
Project:	Chelatchie Bluff Mineral Lands Project (PAC 2020-00004)	
Subject:	Surface Mining Overlay Transportation Analysis	

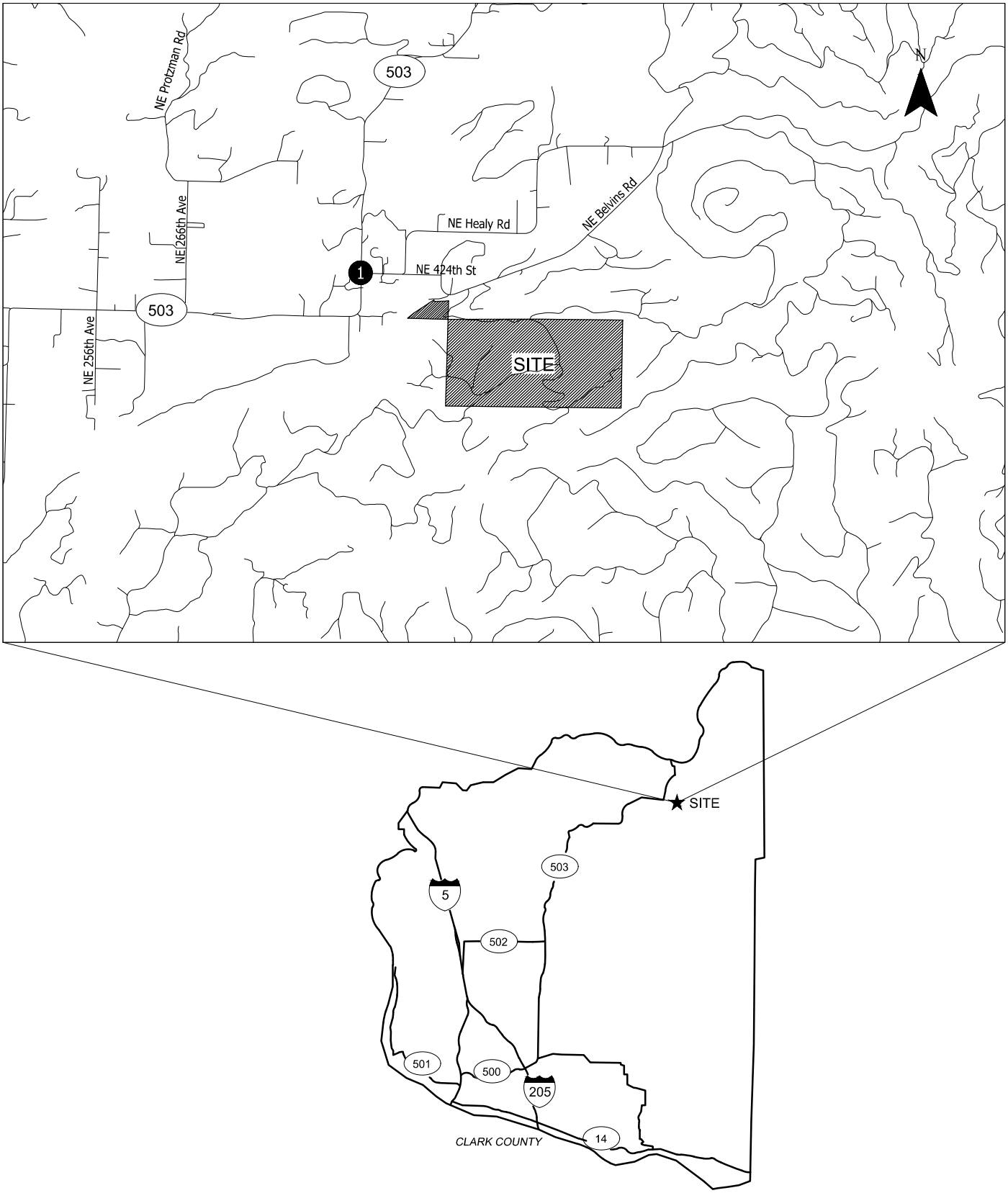
Granite Construction Company ("Granite") is proposing to amend the Clark County Comprehensive Plan and Zoning Map to apply the Surface Mining Overlay (SMO) to four individual parcels located in the vicinity of Chelatchie Prairie. The parcels include tax lots #274346000, #283421000, #283422000, and #283420000 and encompass a total area of approximately 330.95 acres. Figure 1 illustrates the site vicinity map. The parcels are located within the Forest 80 (FR-80) zoning district and currently have a Forest Tier 1 (FR-1) comprehensive plan designation. Per Clark County Code (CCC) 40.210.010, "the purpose of the FR-80 district is to maintain and enhance resource-based industries, encourage the conservation of productive forest lands and discourage incompatible uses consistent with the FR-1 policies of the comprehensive plan."

Granite is proposing application of the SMO to designate the subsurface hard rock mineral deposit within these four parcels as a resource of long-term commercial significance. Per CCC 40.250.022, "the purpose of the SMO district is to ensure the continued availability of rock, stone, gravel, sand, earth and mineral products without disrupting or endangering adjacent land uses, while safeguarding life, property and the public welfare." Granite seeks to extract hard rock mineral from the project site and transport the resource to off-site use via a combination of rail and roadway (truck) shipment.

The results of this analysis indicate that there is adequate capacity at the SR 503 / NE Healy Road intersection to support future land development with the proposed SMO in place. No capacity-based transportation mitigation needs were identified to support the proposed SMO change.

Additional transportation analysis may be required by Clark County (County) and/or the Washington State Department of Transportation (WSDOT) as part of a future site plan application and transportation concurrency review assuming approval of the proposed SMO. We recommend that future site development applications, if and when submitted, include plans to locate and maintain all future landscaping, above-ground utilities, and site signage to provide adequate sight-distance at the site driveway(s) in accordance with Clark County Code.

Additional details of the study methodology, findings, and recommendations are provided below.



- Study Intersection

Site Vicinity Map
Clark County, Washington

Figure
1

H:\25\25979 - Chelatchie Bluff Mineral Lands TA\report\figs\25979 figure set.dwg Mar 15, 2021 - 12:06pm - rdoubleday Layout Tab: Site Vicinity Map

KITTELSON & ASSOCIATES

SCOPE OF THE REPORT

This report determines the transportation-related impacts associated with reasonable worst case future site development under the existing zoning both without and with the SMO. The trip impacts of a fully operational mine on the project site as envisioned by Granite are also identified for comparison purposes. The scope of this project was determined by County and WSDOT staff and documented in the January 2021 final pre-application staff report. This study provides the transportation analysis required by CCC 40.560.040.A.2.c.6 and addresses the following transportation issues per County and WSDOT staff direction:

- Year 2021 existing land use and transportation system conditions at the SR 503 / NE Healy Road intersection during the weekday AM and PM peak hours;
- Planned/funded developments and transportation improvements in the site vicinity;
- Trip generation and distribution estimates for potential development scenarios under the existing (FR-80) zoning with and without the proposed SMO;
- Year 2041 background traffic conditions at the SR 503 / NE Healy Road intersection during the weekday AM and PM peak hours, assuming a reasonable worst-case development scenario under the existing (FR-80) zoning *without* the proposed SMO;
- Year 2041 total traffic conditions at the SR 503 / NE Healy Road intersection during the weekday AM and PM peak hours, assuming a reasonable worst-case development scenario under the existing (FR-80) zoning *with* the proposed SMO;
    - The year 2041 total traffic conditions analysis also assesses Granite's preferred development scenario under the existing (FR-80) zoning with the proposed SMO. Granite believes this scenario is the most likely to be developed and is consistent with the proposed SMO.
- Volume-to-capacity ratios for applicable Clark County concurrency roadway segments;
- Identification of potential deficiencies and mitigation measures.

Study Intersection

The operational analysis was performed at the following study intersection per pre-application conference direction provided by County and WSDOT staff:

- SR 503 / NE Healy Road

In addition, Clark County requested a volume-to-capacity ratio analysis for NE Healy Road between SR 503 and NE 424th Street.

ANALYSIS METHODOLOGY

All operations analyses described in this report were performed in accordance with the procedures stated in the *Highway Capacity Manual, 6th Edition* (HCM, Reference 1) using Synchro 10 software. All operations

analyses used the peak 15-minute flow rates that occurred during the weekday AM and PM peak hours to provide a reasonable worst-case scenario. For this reason, the analyses reflect conditions that are only likely to occur for 15 minutes out of each average peak hour.

Clark County Operating Standards

CCC 40.350.020.G defines the County's operating standards for roadway segments as well as signalized and unsignalized intersections.

Roadway Segments

Per CCC 40.350.020.G.1.a: *"The maximum volume to capacity ratio for each roadway segment shall not exceed nine-tenths (0.9), when measured independently for each direction of travel."*

Unsignalized Intersections

Per CCC 40.350.020.G.1.c: *"All unsignalized intersections of regional significance in the unincorporated county shall achieve LOS E standards or better (if warrants are not met). If warrants are met, unsignalized intersections of regional significance shall achieve LOS D standards or better. Intersection control or mitigation of unsignalized intersections shall be at the discretion of the Public Works Director and shall not obligate the County to meet this LOS standard. However, proposed developments shall not be required to mitigate their impacts in order to obtain a concurrency approval unless:*

(1) "The proposed development adds at least five (5) peak hour trips to a failing intersection approach; and
(2) "The worst movement on the failing approach is worsened by the proposed development. In determining whether the movement is worsened, the Public Works Director shall consider trip volume, delay, and any other relevant factors."

WSDOT Operating Standards

The SR 503/NE Healy Road intersection is maintained by WSDOT. WSDOT provides a table of LOS standards for state highways of statewide significance (HSS) based on Revised Code of Washington (RCW) 47.06.140(2). Table 1 presents the WSDOT standards for state facilities in Clark County.

Table 1. WSDOT Level of Service Standards for Washington State Highways

Regional Organization/County	LOS for Non-HSS[1]		LOS for HSS[1]	
	Urban	Rural	Urban	Rural
(RTC) Southwest Washington Regional Transportation Council – TMA/MP/RTPO - Clark County	E	C	D	C

[1] HSS = Highway of Statewide Significance

Chelatchie is a rural community, and SR 503 is not a highway of statewide significance. Therefore, the SR 503/NE Healy Road intersection will be evaluated to an LOS C standard.

EXISTING CONDITIONS

The existing conditions analysis identifies the site conditions and the current physical and operational characteristics of roadways within the study area. These conditions will be compared with future conditions later in this report.

Site Conditions and Adjacent Land Uses

The project site is located in the vicinity of Chelatchie Prairie in unincorporated Clark County and currently consists of undeveloped forest land. The project site is located within the FR-80 zoning district and currently has an FR-1 comprehensive plan designation. Parcels to the north, east, south and west are also located within the FR-80 zoning district and are undeveloped forest land. North of NE Belvins Road, several parcels are zoned Heavy Industrial (IH) and are occupied by a mix of industrial uses. Further north of NE Healy Road, several parcels are zoned Rural-10 (R-10) and Forest-40 (FR-40) and are occupied by single family homes.

Transportation Facilities

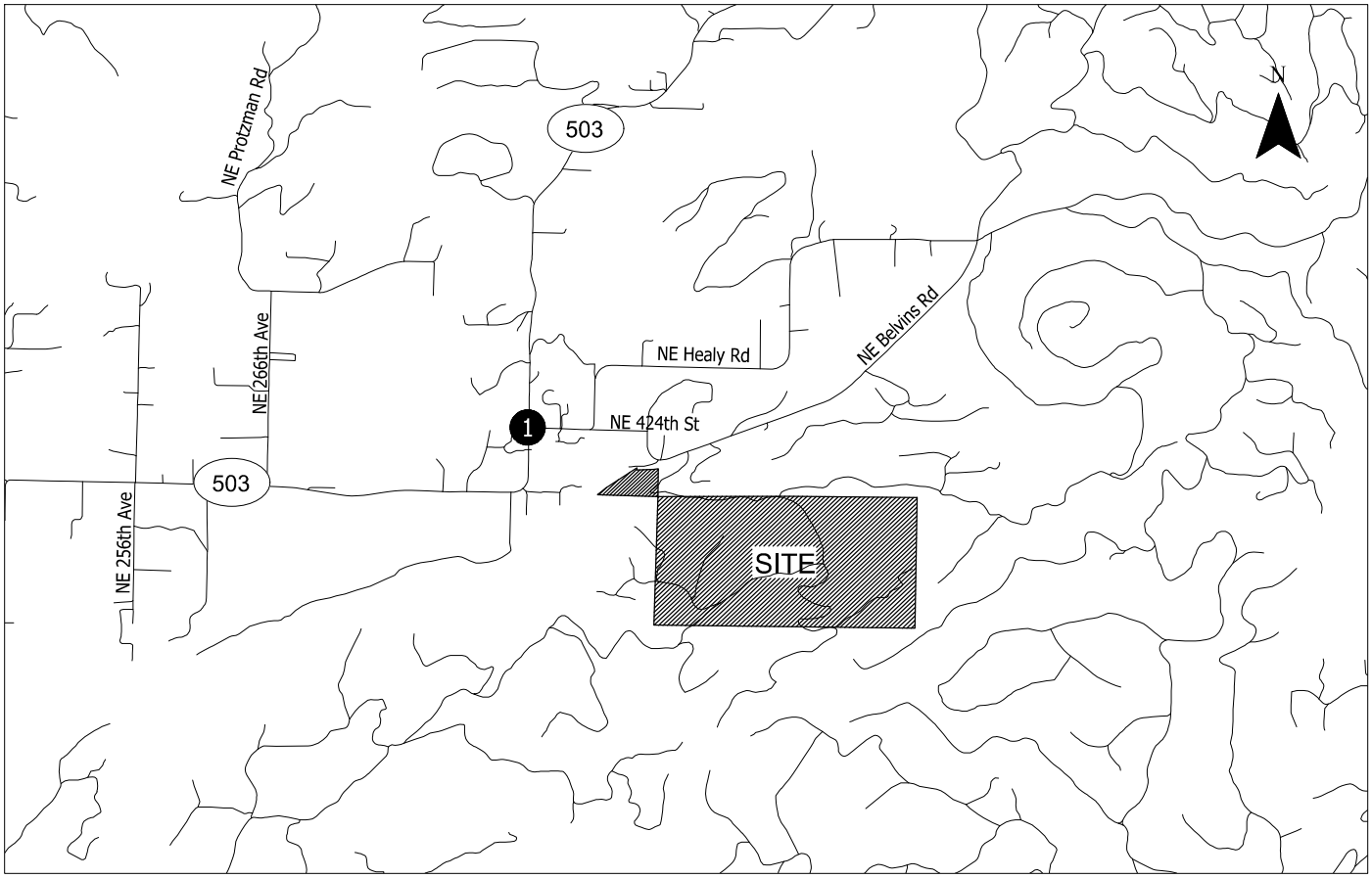
Table 2 summarizes the characteristics of the existing transportation facilities in the study area.

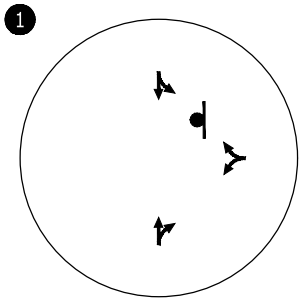
Table 2. Existing Transportation Facilities and Roadway Designations

Roadway	Functional Classification[1]	Number of Lanes	Posted Speed (MPH)	Sidewalks	Bicycle Lanes	On-Street Parking
SR 503 (NE Yale Bridge Road)	State Route	2	50	No	No	No
NE Healy Road	Rural Minor Collector	2	Not posted	No	No	No
NE 424th Street	Private Road	2	Not posted	No	No	No
NE Belvins Road	Private Road	2	Not posted	No	No	No

[1] Source: *Clark County Arterial Atlas* (Reference 2)

As shown in Figure 1, NE Healy Road provides access to the site via connections to NE 424th Street and NE Belvins Road. The west extent of NE Healy Road terminates at SR 503, which in turn provides vehicular connectivity to the broader transportation network of Clark County. All roadways in the site vicinity are two-lane facilities with no sidewalks, bike lanes, or on-street parking as listed in Table 2. Figure 2 illustrates the existing lane configurations and traffic control devices at the study intersection.





- Study Intersection

- Stop Sign

Existing Lane Configurations
& Traffic Control Devices
Clark County, Washington

Figure
2

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Traffic Volumes and Peak Hour Operations

Turning movement counts were conducted at the SR 503 / NE Healy Road intersection in February 2021. The counts were conducted on a typical mid-week day during the morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak time periods. The morning and evening peak hours were found to occur from 8:00 to 9:00 AM and 4:30 to 5:30 PM, respectively.

The traffic counts were adjusted to account for reduced traffic levels due to the COVID-19 pandemic based on data obtained from WSDOT's Traffic Data GeoPortal. The data includes 2019 Average Annual Daily Traffic (AADT) estimates for SR 503, north and south of NE Healy Road. The 2019 AADT estimates were used to develop adjustment factors for SR 503 and NE Healy Road. Ultimately, a factor of 1.40 was applied to all movements to/from the north of the SR 503/NE Healy Road intersection, and a factor of 1.51 was applied to all movements to/ from the south. Figure 3 summarizes the adjusted year 2021 turning movement volumes at the study intersection during the weekday AM and PM peak hours. *Appendix "A" contains the traffic count worksheets used in this study.*

Current Intersection Operations

Figure 3 summarizes the results of the year 2021 existing traffic conditions analysis at the SR 503 / NE Healy Road intersection during the weekday AM and PM peak hours. As shown, the study intersection currently operates acceptably. *Appendix "B" includes the existing traffic conditions worksheets.*

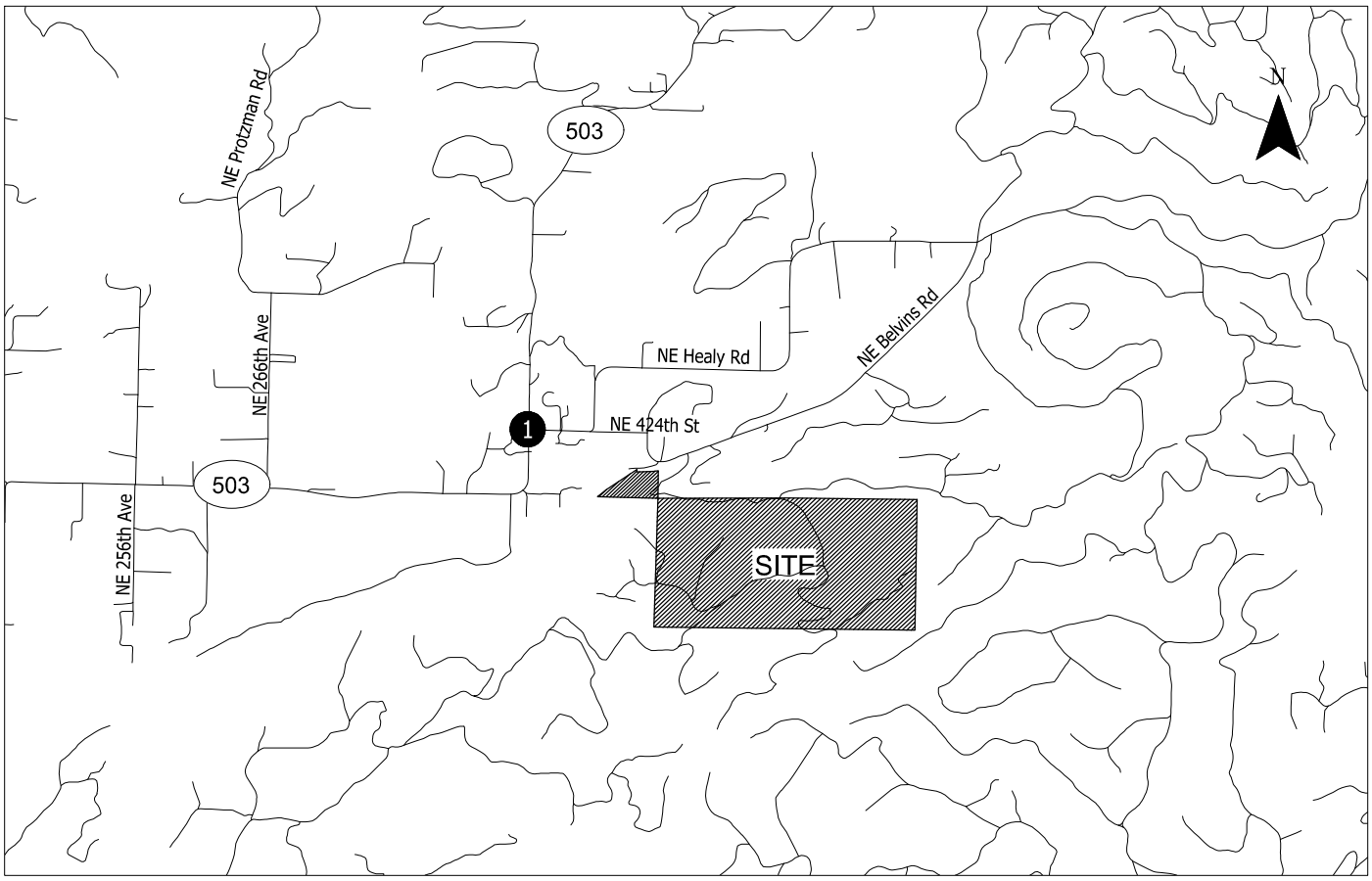
Current Segment Operations

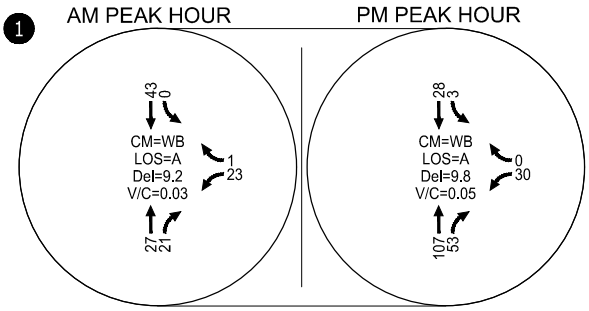
Existing traffic volumes were compared with adopted Clark County capacity thresholds for corridor segments to assess compliance with concurrency requirements. Table 3 summarizes the existing bi-direction traffic volumes on NE Healy Road during the weekday AM and PM peak hours and reports the V/C ratio with the single direction capacity as specified under Clark County Code 40.350.020, Transportation Concurrency Management, and Table 40.350.020-1. As shown, eastbound and westbound volumes on NE Healy Road, east of SR 503, meet the County's capacity thresholds.

Table 3. Existing Traffic Volumes and Roadway Capacities

Count Location	Road Classification[1]	Single Direction Capacity/Hour[2]	Maximum Volume (vph)[3]		V/C Ratio	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
NE Healy Road, east of SR 503 (WB)	Rural Minor Collector (Rm-2)	600[4]	24	30	0.04	0.05
NE Healy Road, east of SR 503 (EB)			21	56	0.04	0.09

[1] Source: *Clark County Arterial Atlas*
[2] Per Clark County Code: For roadways not fully built-out to county standards, the capacity shall be determined based on the current roadway condition. For roadways with lane widths twelve (12) feet and greater, and with paved shoulder widths two (2) feet and greater, the lane capacity shall be eight hundred (800) vehicles per hour. For roadways with lane widths between eleven (11) and twelve (12) feet and with paved shoulder widths two (2) feet and greater, the lane capacity shall be seven hundred (700) vehicles per hour. For roadways with lane widths less than eleven (11) feet, the lane capacity shall be six hundred (600) vehicles per hour.
[3] vph: vehicles per hour, based on turning movement counts collected at the SR 503 / NE Healy Road intersection.
[4] Based on existing 2-lane cross-section





CM = CRITICAL MOVEMENT
LOS = CRITICAL MOVEMENT LEVEL OF SERVICE
Del = CRITICAL MOVEMENT CONTROL DELAY
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

Existing Traffic Conditions
Weekday AM & PM Peak Hour
Clark County, Washington

Figure
3

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Traffic Safety

The reported crash history of the SR 503 / NE Healy Road intersection was reviewed in an effort to identify potential safety issues. WSDOT provided crash data for the intersection for the period from January 1, 2015, through December 31, 2019. Table 4 summarizes the crash data over the five-year period. Clark County generally considers a crash rate greater than 1.00 crashes/million entering vehicles (MEV) to be an indicator that a potential geometric or operational issue may exist and that further evaluations should be considered.

Table 4. Intersection Crash History (January 1, 2015 through December 31, 2019)

Intersection	Crash Type					Crash Severity			Total Crashes	Crash Rate (Crashes/ MEV)
	Angle	Turn	Rear-End	Fixed Object	Head-on	PDO[1]	Injury	Fatal		
SR 503/NE Healy Road	-	-	-	1	-	1	-	-	1	0.25

[1] Property Damage Only

As shown in Table 4, one reported crash was identified at the SR 503/NE Healy Road intersection over the five-year period. In December 2017, a truck was reported to have struck an earth bank or ledge while traveling north at the SR 503/NE Healy Road intersection. No injuries were reported. *Appendix "C" contains the crash data provide by WSDOT.*

Predictive Crash Analysis

The *Highway Safety Manual, 1st Edition* (HSM, Reference 3) provides predictive methods for rural, two-lane two-way roadways and intersections similar to the SR 503/NE Healy Road intersection. Based on the current physical and operational characteristics of SR 503 and NE Healy Road, the HSM predictive method suggests the potential for 0.8 total crashes per year at the intersection, including 0.3 fatal or injury crashes and 0.5 property damage only crashes. The single reported crash is less than the four crashes that HSM suggests could be anticipated at the SR 503/NE Healy Road intersection over a five-year analysis period based on other similar intersection experience. *Appendix "C" contains the HSM predictive method worksheet.*

TRANSPORTATION IMPACT ANALYSIS

The transportation impact analysis identifies how the SR 503 / NE Healy Road intersection will operate in in 2041 with and without the proposed SMO. The impact of traffic generated by reasonable worst-case development scenarios under the existing (FR-80) zoning with and without the proposed SMO was examined as follows:

- Planned/funded developments and transportation improvements in the site vicinity were identified and reviewed;
- Trip generation and distribution estimates were developed for potential development scenarios under the existing (FR-80) zoning with and without the proposed SMO;
- Year 2041 background traffic conditions were estimated at the intersection during the weekday AM and PM peak hours, assuming a reasonable worst-case development scenario under the existing (FR-80) zoning without the SMO;
- Year 2041 total traffic conditions were estimated at the intersection during the weekday AM and PM peak hours, assuming a reasonable worst-case development scenario under existing (FR-80) zoning with the proposed SMO;
    - The year 2041 total traffic conditions analysis also includes Granite's preferred development scenario under the existing (FR-80) zoning with the proposed SMO.
- Year 2041 link volumes were developed and volume-to-capacity ratios were reviewed on applicable Clark County concurrency roadway segments.
- Potential capacity and/or safety deficiencies were identified along with appropriate mitigation measures.

Planned Developments and Transportation Improvements

The Clark County 2021-2026 Transportation Improvement Program (TIP, Reference 4) and the 2019 Update of the Regional Transportation Plan (RTP, Reference 5) for Clark County were reviewed for transportation improvements that could impact the proposed development. Based on this review, there are no transportation improvements expected to be funded or complete in the site vicinity prior to the 2041 horizon year.

Year 2041 Background Traffic Volumes

The year 2041 background traffic volumes were developed for the SR 503 / NE Healy Road intersection by applying a two percent compound growth rate (as instructed by Clark County) to the existing traffic volumes shown in Figure 3. Use of the compound growth rate provides a conservative estimate of year 2041 traffic volumes at the intersection during the weekday AM and PM peak hours.[1]

[1] The Regional Transportation Council (RTC) travel demand model includes forecast traffic volumes for study area roadways during the weekday PM peak hour. Given that the weekday AM peak hour is more critical, in terms of trip generation, forecast traffic volumes were developed using an annual growth rate rather that the model. A review of the data for the weekday PM peak hour shows that the assumed annual growth rate provides a more conservative estimate than the model.

Figure 4 summarizes the year 2041 background traffic conditions at the SR 503 / NE Healy Road intersection during the weekday AM and PM peak periods. As shown, the intersection is projected to operate acceptably. *Appendix "D" includes the 2041 background traffic conditions worksheets.*

Year 2041 Background Segment Operations

Year 2041 background traffic volumes were compared with adopted Clark County capacity thresholds for corridor segments to assess compliance with concurrency requirements. Table 5 summarizes the year 2041 background bi-direction traffic volumes on NE Healy Road during the weekday AM and PM peak hours and reports the V/C ratio with the single direction roadway capacity. As shown, eastbound and westbound volumes on NE Healy Road, east of SR 503, meet the County's capacity thresholds.

Table 5. 2041 Background Traffic Volumes and Roadway Capacities

Count Location	Road Classification[1]	Single Direction Capacity/Hour[2]	Maximum Volume (vph)[3]		V/C Ratio	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
NE Healy Road, east of SR 503 (WB)	Rural Minor Collector (Rm-2)	600[4]	36	45	0.06	0.07
NE Healy Road, east of SR 503 (EB)			31	83	0.05	0.14

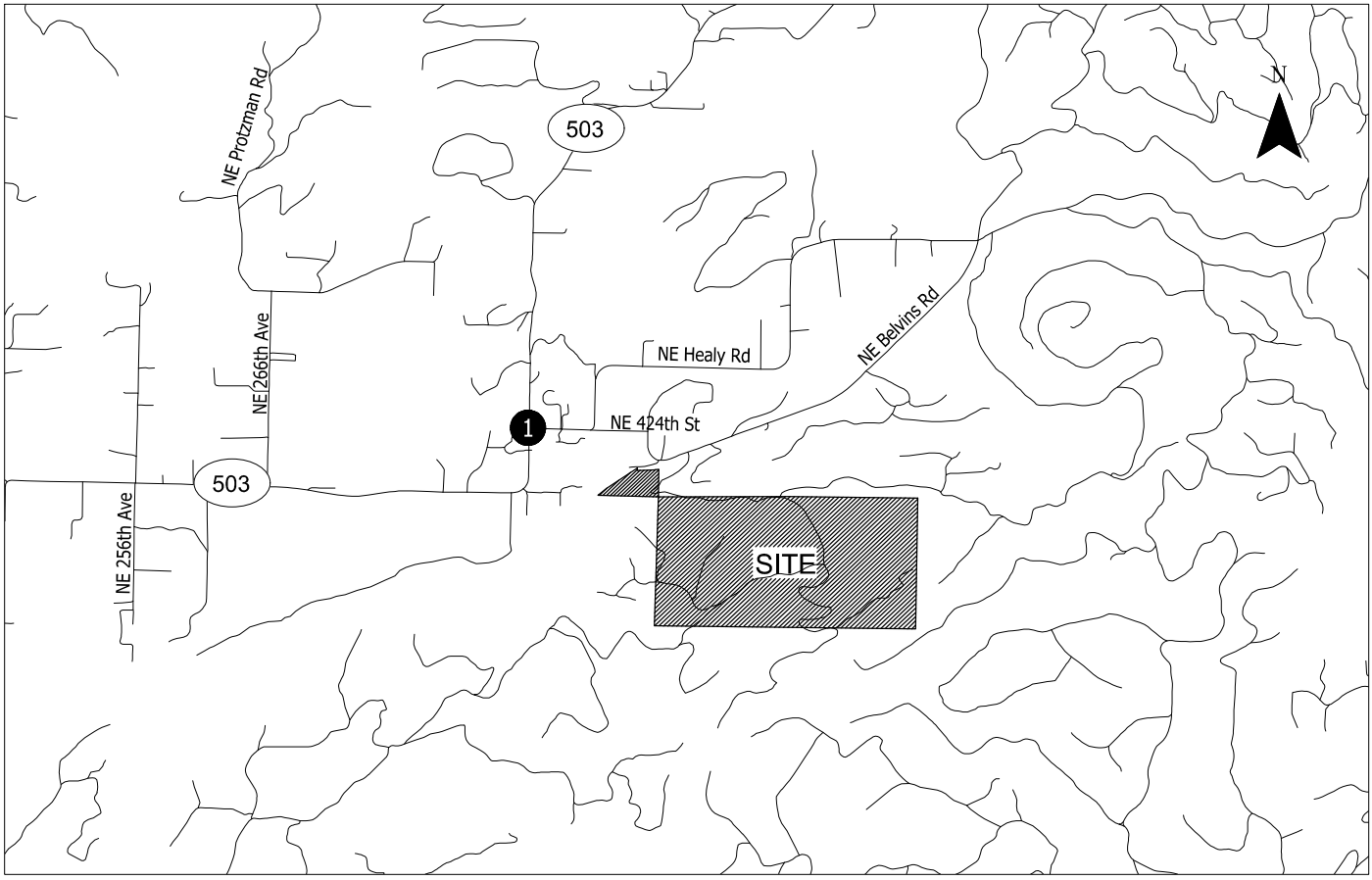
[1] Source: *Clark County Arterial Atlas*
[2] Per Clark County Code: For roadways not fully built-out to county standards, the capacity shall be determined based on the current roadway condition. For roadways with lane widths twelve (12) feet and greater, and with paved shoulder widths two (2) feet and greater, the lane capacity shall be eight hundred (800) vehicles per hour. For roadways with lane widths between eleven (11) and twelve (12) feet and with paved shoulder widths two (2) feet and greater, the lane capacity shall be seven hundred (700) vehicles per hour. For roadways with lane widths less than eleven (11) feet, the lane capacity shall be six hundred (600) vehicles per hour.
[3] vph: vehicles per hour, based on turning movement counts collected at the study intersection.
[4] Based on existing 2-lane cross-section

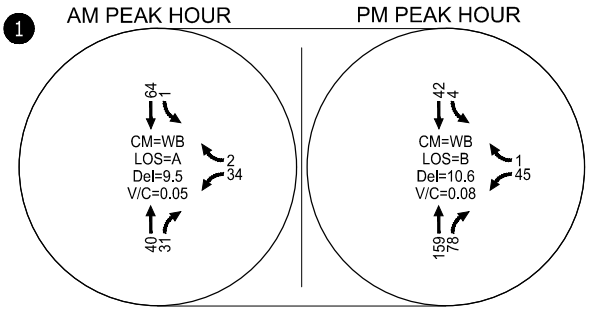
Land Use Scenarios

Reasonable worst-case development scenarios were developed for the project site based on an evaluation of land uses allowed under the existing (FR-80) zoning with and without the proposed SMO. The following provides a summary of potential land uses. *Appendix "E" contains additional information on the land use scenarios.*

Existing (FR-80) Zoning Development Scenario

Per CCC 40.210.010, permitted land uses under the existing (FR-80) zoning include residential, a variety of services (e.g., business, amusement, general, membership, organization, and educational), public service and facilities, resource activities, and other. Based on a review of surrounding land uses, single-family residential was judged to be the most likely development scenario. Per CCC 40.210.010(B), one single-family home is permitted per lot. Therefore, the reasonable worst-case development scenario under the existing (FR-80) zoning is four single-family homes on the project site.





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LOS = CRITICAL MOVEMENT LEVEL OF SERVICE
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V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

Year 2041 Background Traffic Conditions
Weekday AM & PM Peak Hour
Clark County, Washington

Figure
4

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Proposed SMO Development Scenario

Per CCC 40.250.022, permitted land uses with the proposed SMO include temporary offices, shops or other accessory buildings and structures and short-term stockpiling of extracted materials. Conditional land uses with the proposed SMO include mineral extraction, asphalt mixing, concrete batching, clay bulking, and rock crushing. Based on a review of potential land uses, mineral extraction is expected to be the reasonable worst-case development scenario with the proposed SMO and is consistent with the planned use.

Granite plans to extract approximately 1.3 million tons of material from the site each year. Granite's preferred scenario is to move 1 million tons of material by rail and the remaining 300,000 tons of material by truck. However, Clark County staff have expressed concerns about the potential use of the rail. Therefore, based on discussions with Granite and Clark County staff, this analysis includes an evaluation of two scenarios with the proposed SMO:

- **Applicant's Preferred Scenario**: Granite will extract 1.3 million tons of material from the site each year; 1 million tons will be hauled by rail and 300,000 tons will be hauled by truck.
- **Assumed Worst-Case Scenario**: Granite will extract 1.3 million tons of material from the site each year; all 1.3 million tons will be hauled by truck.
    - It should be noted that Granite representatives indicate that this assumed worst-case scenario is not feasible for their desired operations and would not be pursued. This scenario is analyzed at the request of Clark County staff for illustrative purposes only to document the potential truck trip implications that might occur if a mine operation is serviced exclusively by trucks.

Trip Generation

Trip generation estimates for the reasonable worst-case development scenario under the existing (FR-80) zoning were prepared based on information provided in the standard reference, *Trip Generation Manual, 10th Edition*, published by the Institute of Transportation Engineers (ITE, Reference 6). ITE land use code 210 (single-family detached housing) was used to represent the four single-family homes. Given a lack of information on mining operations in the *Trip Generation Manual*, trip generation estimates for the reasonable worst-case development scenarios with the proposed SMO were developed based on programmatic information provided by Granite. *Appendix "E" contains additional information on the trip generation estimates.*

Table 6 summarizes the anticipated number of trips generated with the proposed SMO under Granite's preferred scenario compared to the anticipated number of trips under the existing (FR-80) zoning. As shown, the proposed SMO with Granite's preferred scenario results in a net increase of 74 daily trips, including eight trips during the weekday AM peak hour and 8 trips during the weekday PM peak hour.

Table 6. Trip Generation Estimate – Applicant's Preferred Scenario

Land Use	ITE Code	Size	Daily Trips	Weekday AM Peak Hour			Weekday PM Peak Hour		
				Total	In	Out	Total	In	Out
Existing (FR-80) Zoning									
Single Family Home	210	4 dwelling units	38	3	1	2	4	3	1
Proposed SMO Overlay									
Granite Mining Operation	N/A	300,000 tons by truck	112	11	6	5	12	0	12
Net Difference (Proposed Minus Existing)			**74**	**8**	**5**	**-3**	**8**	**-3**	**11**

Table 7 summarizes the anticipated number of trips projected to be generated with the proposed SMO under the assumed worst-case scenario compared to the anticipated number of trips under the existing (FR-80) zoning. As shown, the proposed SMO with the assumed worst-case scenario results in a net increase of 324 daily trips, including 45 trips during the weekday AM peak hour and 15 trips during the weekday PM peak hour.

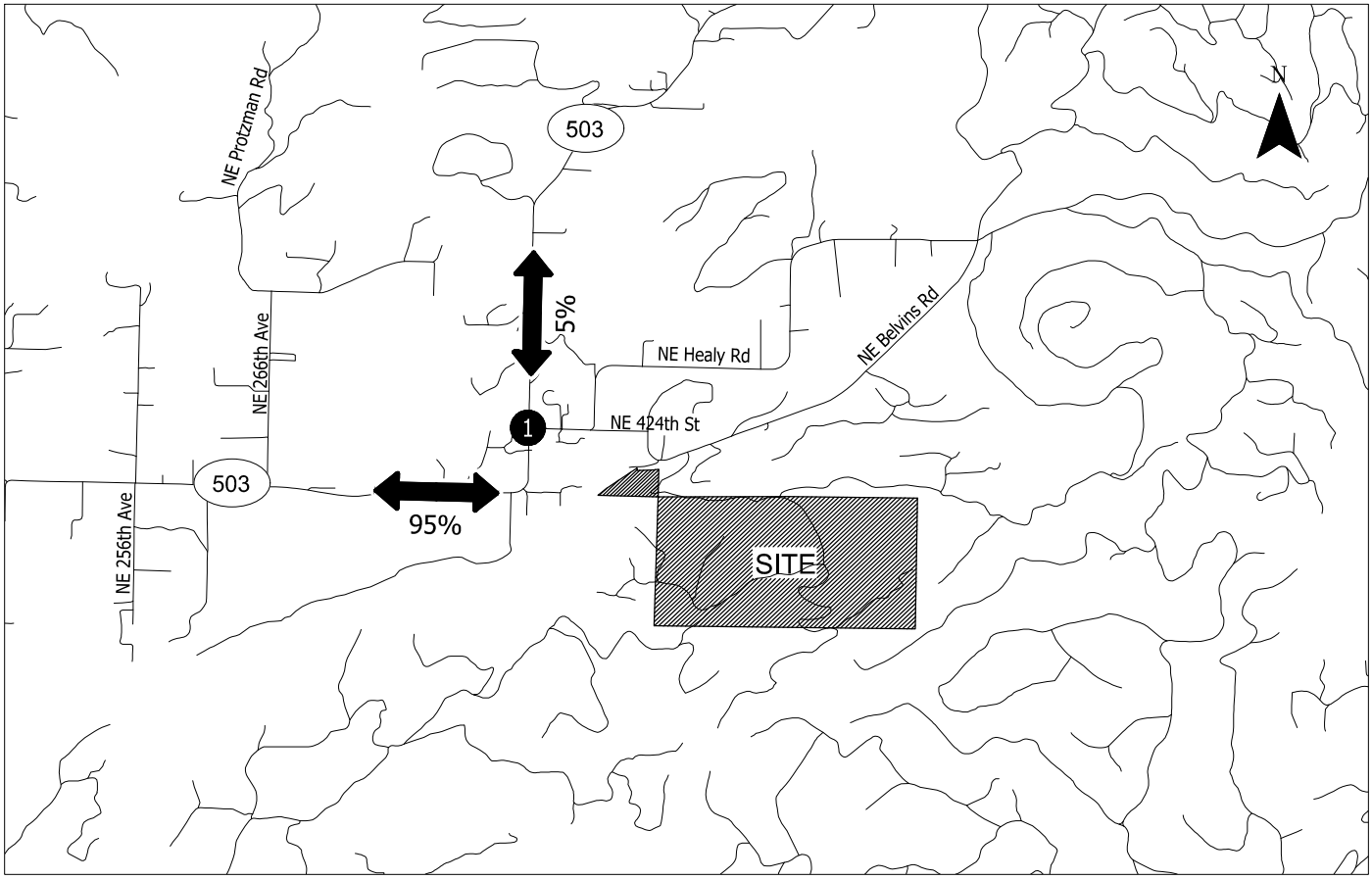
Table 7. Trip Generation Estimate – Assumed Worst-Case Scenario

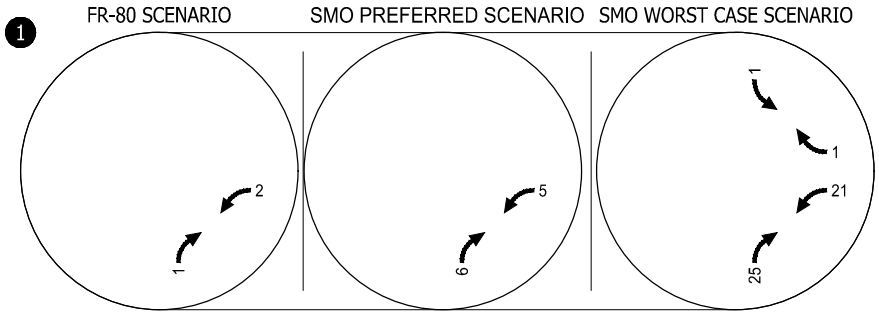
Land Use	ITE Code	Size	Daily Trips	Weekday AM Peak Hour			Weekday PM Peak Hour		
				Total	In	Out	Total	In	Out
Existing (FR-80) Zoning									
Single Family Home	210	4 dwelling units	38	3	1	2	4	3	1
Proposed SMO Overlay									
Granite Mining Operation	N/A	1,300,000 tons by truck	362	48	26	22	19	0	19
Net Difference (Proposed Minus Existing)			**324**	**45**	**25**	**20**	**15**	**-3**	**18**

Trip Distribution

A trip distribution pattern was developed for the project site based on existing traffic patterns, the location of major origins and destinations in the Clark County area, and information provided in the Regional Transportation Council (RTC) travel demand model. The RTC provided estimates of forecast traffic volumes on study area roadways and a distribution of traffic volumes from the project site. Figures 5 and 6 illustrate the trip distribution pattern.

The net new site-generated trips shown in Tables 6 and 7 were assigned to the SR 503 / NE Healy Road intersection according to the trip distribution pattern shows in Figures 5 and 6. Figures 5 and 6 also show the assignment of the site-generated trips at the intersection for all three development scenarios during the weekday AM and PM peak hours. As shown, the majority of traffic is expected to travel to-from the south on SR 503. It is assumed that virtually all truck trips will travel to/from the south on SR 503 to serve the Clark County market whereas some employees may travel to/from the north. As a result, 95 percent of site-generated trips are expected to travel to/from the south on SR 503, with the remaining 5 percent are expected to travel to/from the north.





Estimated Trip Distribution and Assignment: All Scenarios
Weekday AM Peak Hour
Clark County, Washington

- Study Intersection

Figure
5

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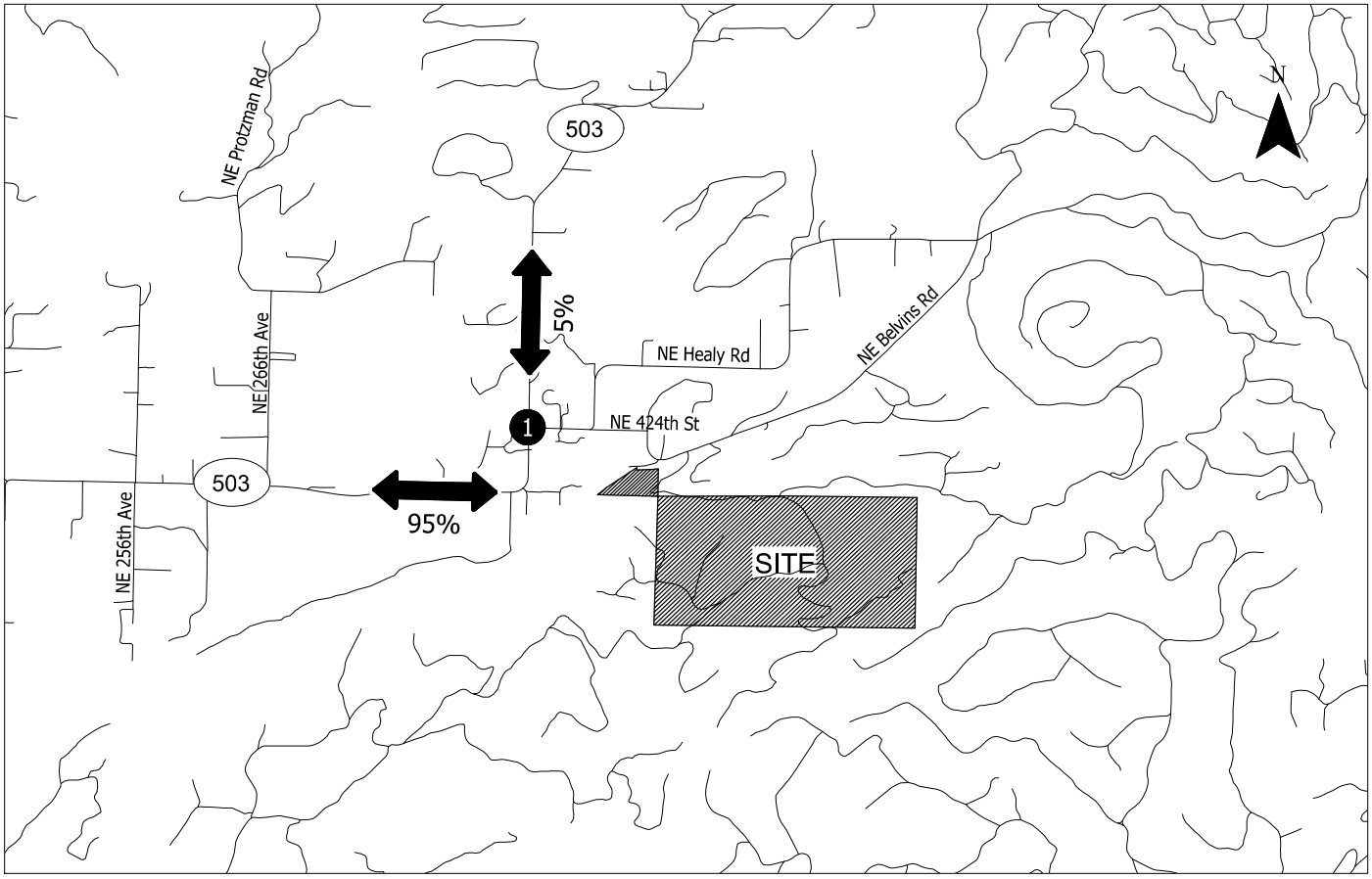

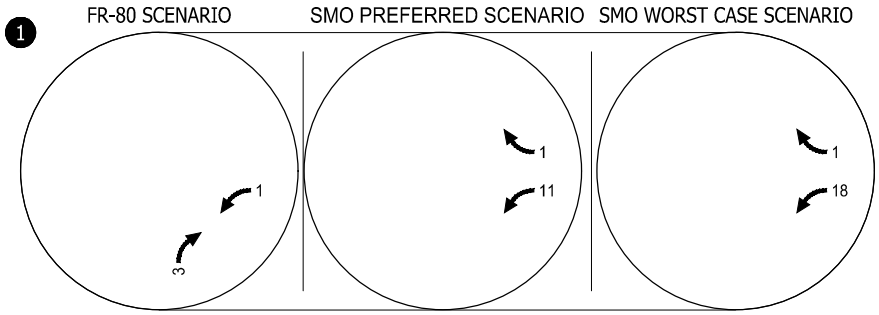

Estimated Trip Distribution and Assignment: All Scenarios
Weekday PM Peak Hour
Clark County, Washington

- Study Intersection

Figure
6

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2041 Total Traffic Conditions

The year 2041 total traffic conditions analysis forecasts how the SR 503 / NE Healy Road intersection will operate assuming development under the existing FR-80 zoning, with Granite's preferred SMO scenario, and with the worst-case SMO scenario. The year 2041 background traffic volumes shown in Figure 4 were added to the site-generated traffic shown in Figures 5 and 6 to arrive at the year 2041 total traffic volumes shown in Figures 7 and 8 for each scenario.

Figures 7 and 8 summarize the results of the year 2041 total traffic conditions analysis at the SR 503 / NE Healy Road intersection during the weekday AM and PM peak hours for all three scenarios evaluated. As shown, the intersection is projected to operate acceptably with and without the proposed SMO. *Appendix "F" includes the 2041 total traffic conditions worksheets.*

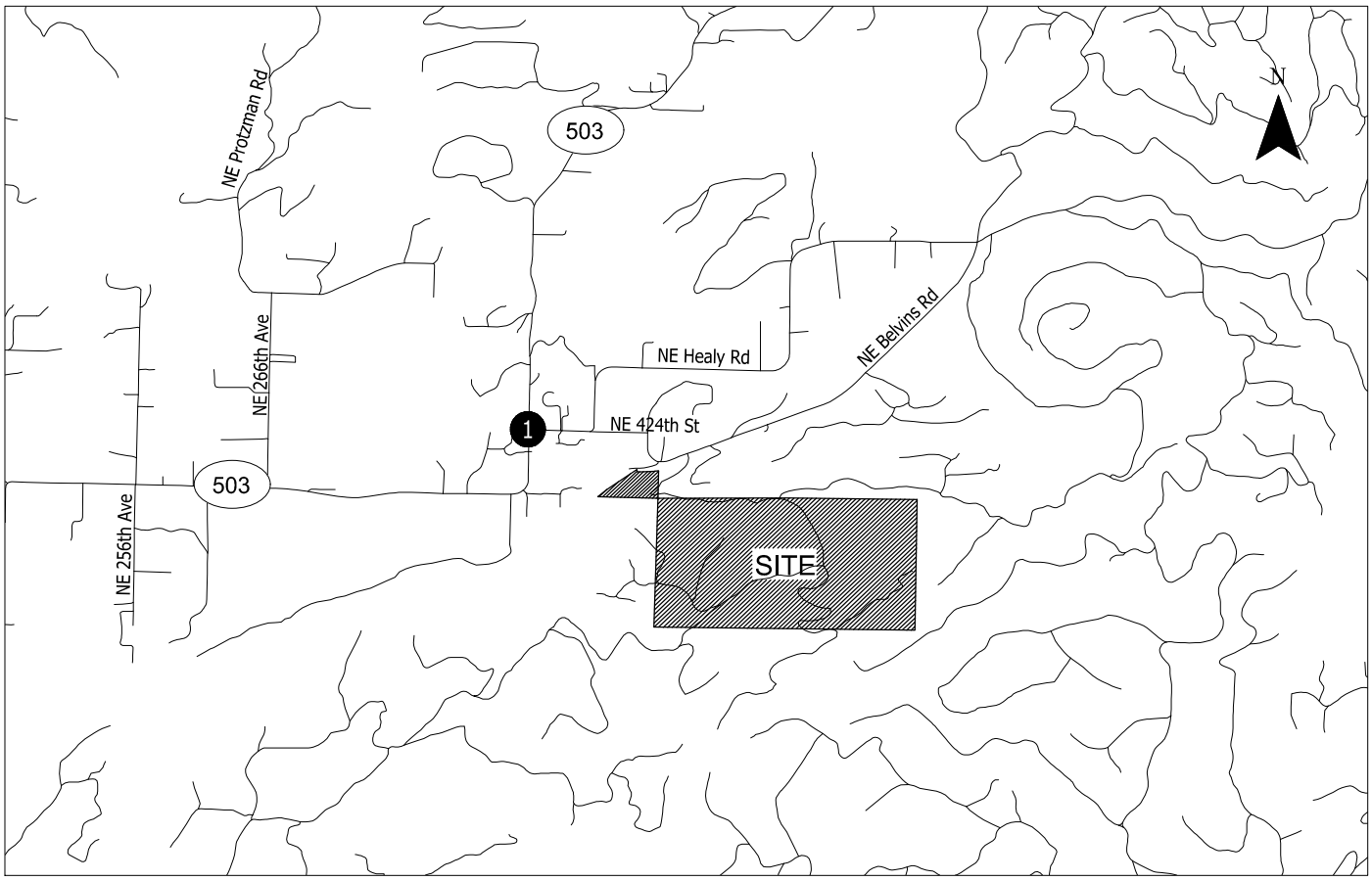
2041 Total Traffic Segment Operations

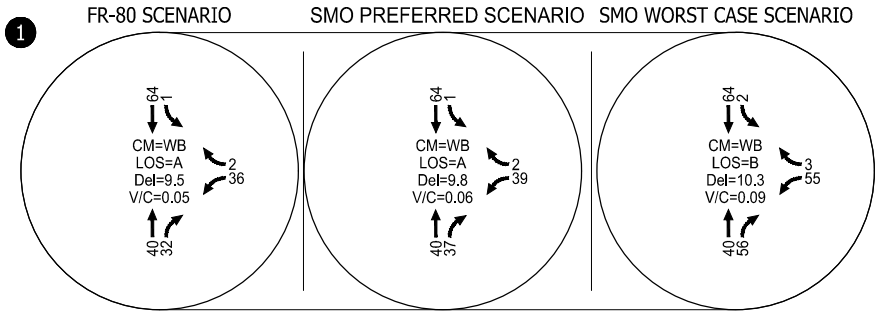
Year 2041 total traffic volumes were compared with adopted Clark County capacity thresholds for corridor segments to assess compliance with concurrency requirements. Table 8 summarizes the year 2041 total bi-direction traffic volumes projected on NE Healy Road during the weekday AM and PM peak hours for each total traffic scenario and reports the V/C ratio along with the single direction roadway capacity. As shown, eastbound and westbound volumes on NE Healy Road, east of SR 503, meet the County's capacity thresholds.

Table 8. 2041 Total Traffic Volumes and Roadway Capacities

Count Location	Road Classification[1]	Single Direction Capacity/Hour[2]	Maximum Volume (vph)[3]		V/C Ratio	
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
FR-80 Zoning						
NE Healy Road, east of SR 503 (WB)	Rural Minor Collector (Rm-2)	600[4]	38	46	0.06	0.08
NE Healy Road, east of SR 503 (EB)			32	86	0.05	0.14
SMO Preferred						
NE Healy Road, east of SR 503 (WB)	Rural Minor Collector (Rm-2)	600[4]	41	57	0.07	0.09
NE Healy Road, east of SR 503 (EB)			37	83	0.06	0.14
SMO Worst-Case						
NE Healy Road, east of SR 503 (WB)	Rural Minor Collector (Rm-2)	600[4]	58	64	0.10	0.11
NE Healy Road, east of SR 503 (EB)			57	83	0.10	0.14

[1] Source: *Clark County Arterial Atlas*
[2] Per Clark County Code: For roadways not fully built-out to county standards, the capacity shall be determined based on the current roadway condition. For roadways with lane widths twelve (12) feet and greater, and with paved shoulder widths two (2) feet and greater, the lane capacity shall be eight hundred (800) vehicles per hour. For roadways with lane widths between eleven (11) and twelve (12) feet and with paved shoulder widths two (2) feet and greater, the lane capacity shall be seven hundred (700) vehicles per hour. For roadways with lane widths less than eleven (11) feet, the lane capacity shall be six hundred (600) vehicles per hour.
[3] vph: vehicles per hour, based on turning movement counts collected at the study intersection.
[4] Based on existing 2-lane cross-section





CM = CRITICAL MOVEMENT
LOS = CRITICAL MOVEMENT LEVEL OF SERVICE
Del = CRITICAL MOVEMENT CONTROL DELAY
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

Year 2041 Total Traffic Conditions
Weekday AM Peak Hour
Clark County, Washington

Figure
7

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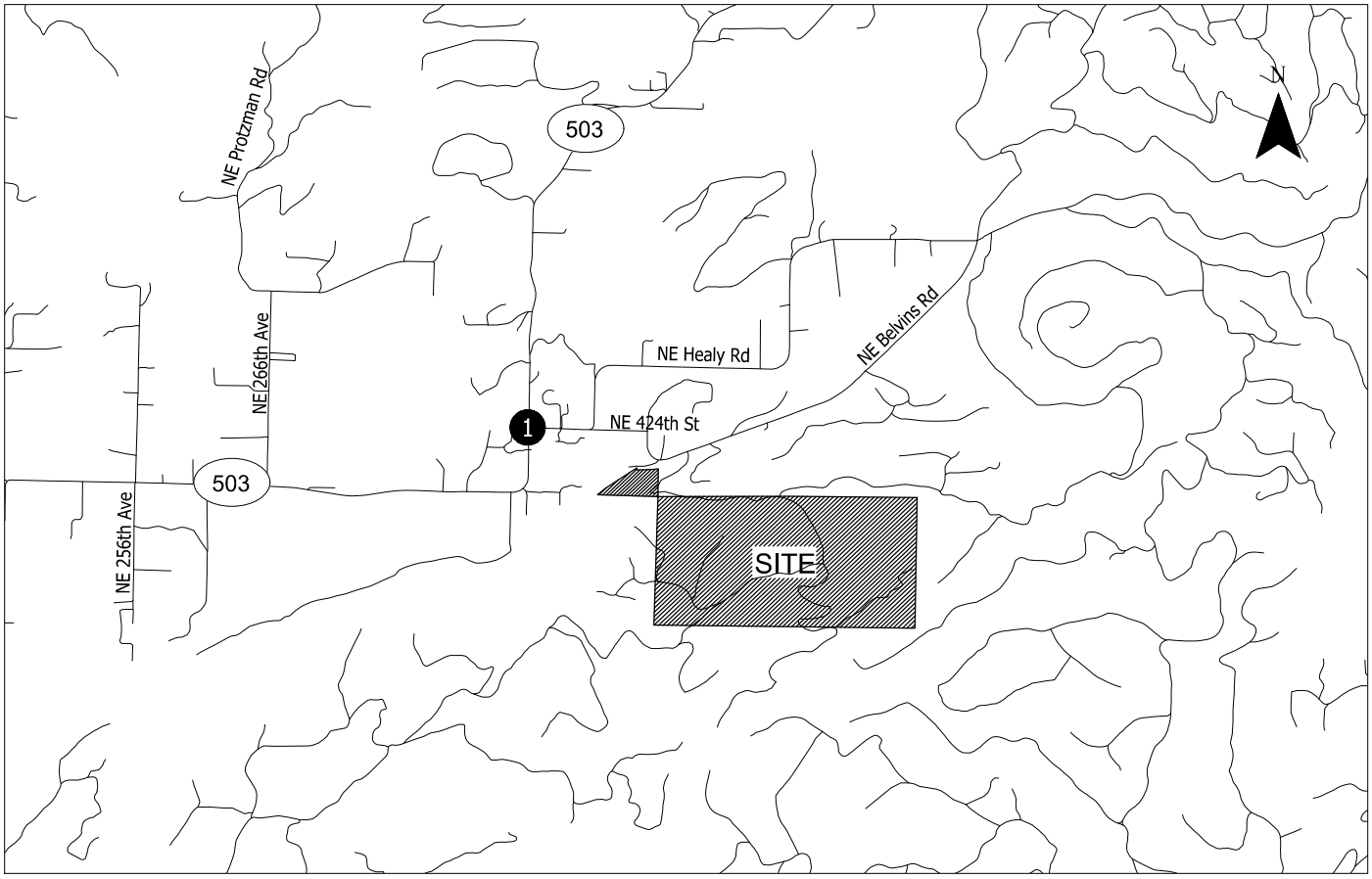
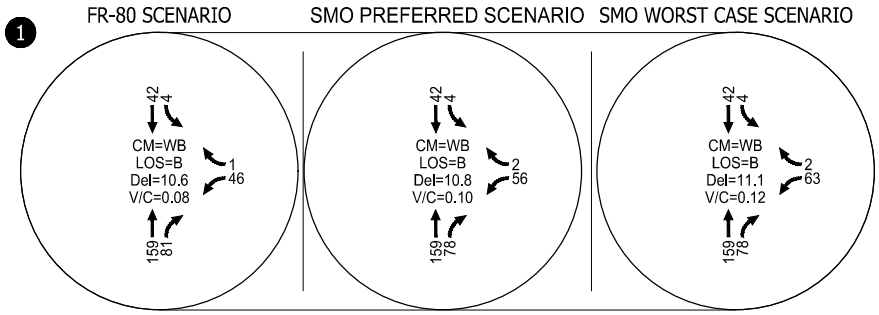
KITTELSON & ASSOCIATES





CM = CRITICAL MOVEMENT
LOS = CRITICAL MOVEMENT LEVEL OF SERVICE
Del = CRITICAL MOVEMENT CONTROL DELAY
V/C = CRITICAL VOLUME-TO-CAPACITY RATIO

Year 2041 Total Traffic Conditions
Weekday PM Peak Hour
Clark County, Washington

Figure
8

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Intersection Turn Lane Needs

The need for left-or right turn lanes on SR 503 at NE Healy Road was evaluated utilizing the turn lane guidelines presented in the *WSDOT Design Manual* (Reference 7). This analysis found that that the projected 2041 turning movements volumes at the intersection do not satisfy the minimum WSDOT volume threshold for providing a left turn lane; however, the weekday PM peak hour volumes satisfy the minimum threshold for providing a right-turn storage lane or taper with and without the proposed SMO. *Appendix "G" contains the turn lane warrant worksheets.*

Intersection Sight Distance

We recommend that future site development applications, if and when submitted, include plans to locate and maintain all future landscaping, above-ground utilities, and site signage to provide adequate sight-distance at the site driveway(s) in accordance with Clark County Code.

FINDINGS AND RECOMMENDATIONS

The results of the analysis indicate that there is adequate capacity is available at the SR 503 / NE Healy Road intersection to support future land development with the proposed surface mining overlay in place. The findings of this analysis and our recommendations are discussed below.

Findings

- The SR 503 / NE Healy Road intersection currently satisfies Clark County and WSDOT performance standards during the weekday AM and PM peak hours and is projected to continue to do so in the future with assumed site development both without and with the proposed surface mining overlay.
- The segment of NE Healy Road between SR 503 and NE 424th Street satisfies Clark County Code volume-to-capacity ratio standards during the weekday AM and PM peak hours today and in the future with assumed site development both without and with the proposed surface mining overlay.
- No capacity-based mitigation needs were identified at the SR 503 / NE Healy Road intersection to support the proposed surface mining overlay.

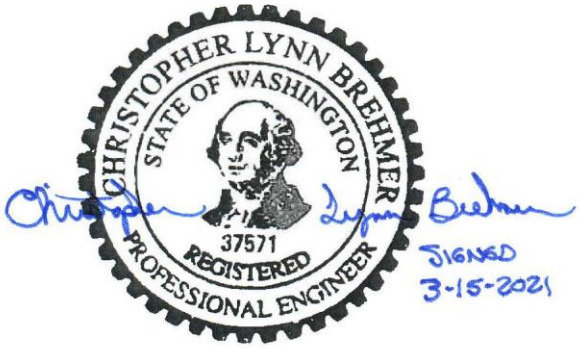
Recommendations

- Future site development applications, if and when submitted, should include plans to locate and maintain all future landscaping, above-ground utilities, and site signage to provide adequate sight-distance at the site driveway(s) in accordance with Clark County Code.

REFERENCES

1. Transportation Research Board. *Highway Capacity Manual, 6th Edition*. 2016.
2. Clark County. *2016 Arterial Atlas*. 2016.
3. American Association of State Highway Transportation Officials. *Highway Safety Manual, 1st Edition*. 2010.
4. Clark County. *Adopted 2021-2026 Transportation Improvement Program*. 2020.
5. Southwest Washington Regional Transportation Council. *Regional Transportation Plan for Clark County: March 2019 Update*. 2019.
6. Institute of Transportation Engineers. *Trip Generation Manual, 10th Edition*. 2017.

Washington State Department of Transportation. *Design Manual*. M22-01.19. September 2020.



Appendix A Traffic Count Worksheets

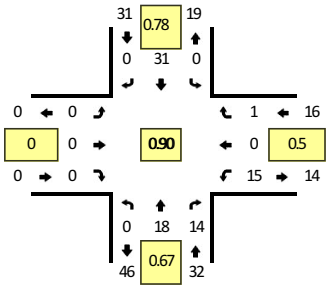
Type of peak hour being reported: Intersection Peak

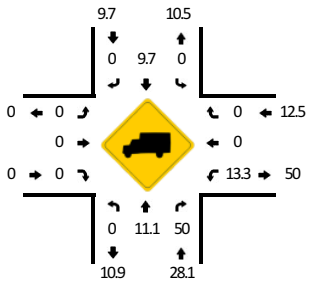
Method for determining peak hour: Total Entering Volume

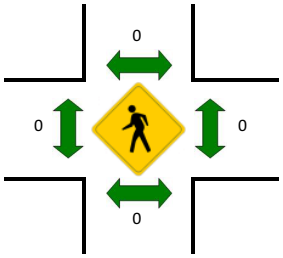
LOCATION: SR 503 -- NE Healy Rd
CITY/STATE: Chelatchie, WA

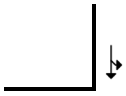
QC JOB #: 15371701
DATE: Tue, Feb 23 2021

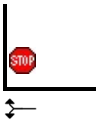
Peak-Hour: 8:00 AM -- 9:00 AM
Peak 15-Min: 8:15 AM -- 8:30 AM

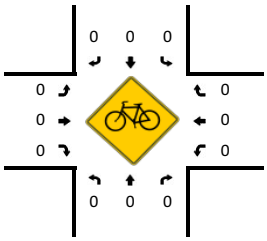


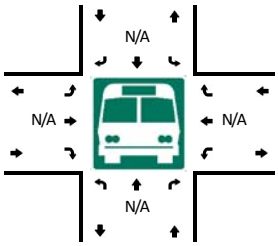


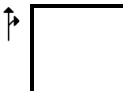


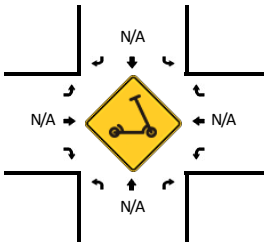












15-Min Count Period Beginning At	SR 503 (Northbound)				SR 503 (Southbound)				NE Healy Rd (Eastbound)				NE Healy Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
7:00 AM	1	0	1	0	2	11	0	0	0	0	0	0	7	0	0	0	22	
7:15 AM	0	0	1	0	0	12	0	0	0	0	0	0	3	0	0	0	16	
7:30 AM	0	4	0	0	0	10	0	0	0	0	0	0	4	0	0	0	18	
7:45 AM	0	1	1	0	1	11	0	0	0	0	0	0	2	0	0	0	16	72
8:00 AM	0	6	4	0	0	9	0	0	0	0	0	0	1	0	0	0	20	70
8:15 AM	0	5	2	0	0	7	0	0	0	0	0	0	7	0	1	0	22	76
8:30 AM	0	1	2	0	0	10	0	0	0	0	0	0	3	0	0	0	16	74
8:45 AM	0	6	6	0	0	5	0	0	0	0	0	0	4	0	0	0	21	79

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	20	8	0	0	28	0	0	0	0	0	0	28	0	4	0	88
Heavy Trucks	0	0	4		0	0	0		0	0	0		4	0	0		8
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 3/2/2021 11:01 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

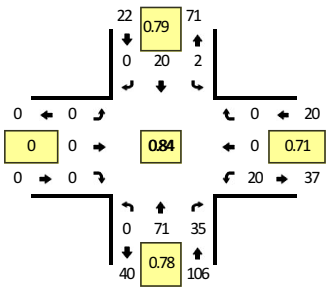
Type of peak hour being reported: Intersection Peak

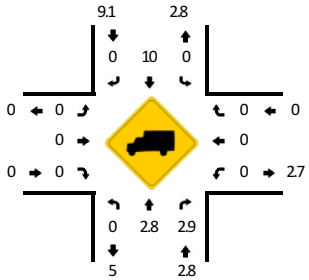
Method for determining peak hour: Total Entering Volume

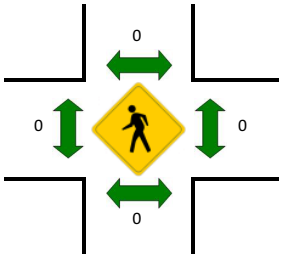
LOCATION: SR 503 -- NE Healy Rd
CITY/STATE: Chelatchie, WA

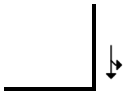
QC JOB #: 15371702
DATE: Tue, Feb 23 2021

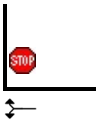
Peak-Hour: 4:30 PM -- 5:30 PM
Peak 15-Min: 5:15 PM -- 5:30 PM

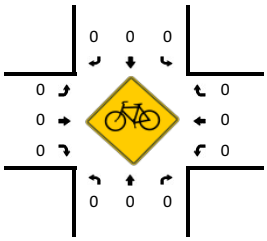


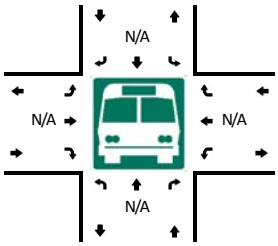


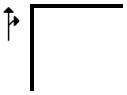


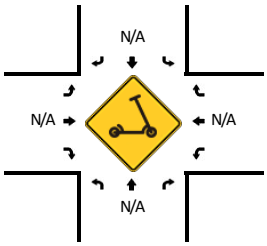












15-Min Count Period Beginning At	SR 503 (Northbound)				SR 503 (Southbound)				NE Healy Rd (Eastbound)				NE Healy Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	0	7	3	0	0	3	0	0	0	0	1	0	2	0	0	0	16	
4:15 PM	0	9	11	0	0	8	0	0	0	0	0	0	4	0	0	0	32	
4:30 PM	0	13	8	0	0	7	0	0	0	0	0	0	4	0	0	0	32	
4:45 PM	0	18	7	0	1	3	0	0	0	0	0	0	7	0	0	0	36	116
5:00 PM	0	17	9	0	0	6	0	0	0	0	0	0	4	0	0	0	36	136
5:15 PM	0	23	11	0	1	4	0	0	0	0	0	0	5	0	0	0	44	148
5:30 PM	0	13	2	0	0	5	0	0	0	0	0	0	7	0	2	0	29	145
5:45 PM	0	10	6	0	1	6	0	0	0	0	0	0	3	0	0	0	26	135

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	92	44	0	4	16	0	0	0	0	0	0	20	0	0	0	176
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 3/2/2021 11:01 AM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Appendix B Existing Traffic Conditions

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	1	27	21	0	43
Future Vol, veh/h	23	1	27	21	0	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	13	0	11	50	0	10
Mvmt Flow	26	1	30	23	0	48

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	90	42	0	0	53	0
Stage 1	42	-	-	-	-	-
Stage 2	48	-	-	-	-	-
Critical Hdwy	6.53	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.53	-	-	-	-	-
Critical Hdwy Stg 2	5.53	-	-	-	-	-
Follow-up Hdwy	3.617	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	884	1034	-	-	1566	-
Stage 1	953	-	-	-	-	-
Stage 2	947	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	884	1034	-	-	1566	-
Mov Cap-2 Maneuver	884	-	-	-	-	-
Stage 1	953	-	-	-	-	-
Stage 2	947	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	889	1566	-
HCM Lane V/C Ratio	-	-	0.03	-	-
HCM Control Delay (s)	-	-	9.2	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	30	0	107	53	3	28
Future Vol, veh/h	30	0	107	53	3	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	3	3	0	10
Mvmt Flow	36	0	127	63	4	33

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	200	159	0	0	190	0
Stage 1	159	-	-	-	-	-
Stage 2	41	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	793	892	-	-	1396	-
Stage 1	875	-	-	-	-	-
Stage 2	987	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	791	892	-	-	1396	-
Mov Cap-2 Maneuver	791	-	-	-	-	-
Stage 1	875	-	-	-	-	-
Stage 2	984	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	791	1396	-
HCM Lane V/C Ratio	-	-	0.045	0.003	-
HCM Control Delay (s)	-	-	9.8	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Appendix C Crash Data and HSM Predictive Analysis Worksheet

OFFICER REPORTED CRASHES THAT OCCURRED AT THE FOLLOWING INTERSECTIONS AND ROAD SEGMENT IN CLARK COUNTY

HEALY RD (CO RD #64620, MP 0.220 - 0.260) @ 424th ST (PRIVATE RD) - *No Reported Crashes*

HEALY RD (CO RD #64620, MP 2.320 - 2.340) @ BLEVINS RD (PRIVATE RD) - *No Reported Crashes*

HEALY RD (CO RD #64620, MP 0.000 - 0.260) FROM SR 503 TO 424th ST - *No Reported Crashes*

SR 503 (MP 24.79 - 24.83) @ HEALY RD

01/01/2015 - 12/31/2019

Under 23 U.S. Code § 148 and 23 U.S. Code § 409, safety data, reports, surveys, schedules, lists compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential crash sites, hazardous roadway conditions, or railway-highway crossings are not subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.

JURISDICTION	COUNTY	CITY	PRIMARY TRAFFICWAY	MILEPOST	A / B	BLOCK NUMBER	INTERSECTING TRAFFICWAY	CO ONLY INTERSECTING COUNTY ROAD MILEPOST	DIST FROM REF POINT	MI or FT	COMP DIR FROM REF POINT	REFERENCE POINT NAME
State Route	Clark		503	24.81								

SR ONLY HISTORY / SUSPENSE IND	REPORT NUMBER	DATE	TIME	MOST SEVERE INJURY TYPE	# INJ	# FAT	# VEH	# PEDS	# BIKES	VEHICLE 1 TYPE	VEHICLE 2 TYPE	JUNCTION RELATIONSHIP
No	E745574	12/08/2017	09:30	No Apparent Injury	0	0	1	0	0	Truck (Flatbad,Van,etc)		At Intersection and Related

WEATHER	ROADWAY SURFACE CONDITION	LIGHTING CONDITION	FIRST COLLISION TYPE / OBJECT STRUCK	VEHICLE 1 ACTION	VEHICLE 2 ACTION	VEHICLE 1 COMPASS DIRECTION FROM	VEHICLE 1 COMPASS DIRECTION TO	VEHICLE 2 COMPASS DIRECTION FROM	VEHICLE 2 COMPASS DIRECTION TO
Clear or Partly Cloudy	Dry	Daylight	Earth Bank or Ledge	Going Straight Ahead		South	North		

MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 1)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 1 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 2 (UNIT 2)	MV DRIVER CONTRIBUTING CIRCUMSTANCE 3 (UNIT 2)
None					

FIRST IMPACT LOCATION (City, County & Misc Trafficways - 2010 forward)	WA STATE PLANE SOUTH - X 2010 - FORWARD	WA STATE PLANE SOUTH - Y 2010 - FORWARD
Past Right Shoulder Decreasing Milepost	1162135.61	222497.52

Worksheet 3A -- Predicted and Observed Crashes by Severity and Site Type Using the Site-Specific EB Method

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Site type	**Predicted average crash frequency (crashes/year)**			**Observed crashes, $N_{observed}$** (crashes/year)	**Overdispersion Parameter, k**	**Weighted adjustment, w**	**Expected average crash frequency, $N_{expected}$**
	$N_{predicted}$ (TOTAL)	$N_{predicted}$ (FI)	$N_{predicted}$ (PDO)			Equation A-5 from Part C Appendix	Equation A-4 from Part C Appendix
ROADWAY SEGMENTS							
Segment_1	0.000	0.000	0.000	0.000	0.236	1.000	0.000
Segment_2	0.000	0.000	0.000	0.000	0.000	1.000	0.000
Segment_3	0.000	0.000	0.000	0.000	0.000	1.000	0.000
Segment_4	0.000	0.000	0.000	0.000	0.000	1.000	0.000
Segment_5	0.000	0.000	0.000	0.000	0.000	1.000	0.000
Segment_6	0.000	0.000	0.000	0.000	0.000	1.000	0.000
Segment_7	0.000	0.000	0.000	0.000	0.000	1.000	0.000
Segment_8	0.000	0.000	0.000	0.000	0.000	1.000	0.000
Segment Totals:	0.000	0.000	0.000	0.000			0.000
INTERSECTIONS							
Intersection_1	0.777	0.323	0.455	0.000	0.540	0.704	0.548
Intersection_2	0.000	0.000	0.000	0.000	0.000	1.000	0.000
Intersection_3	0.000	0.000	0.000	0.000	0.000	1.000	0.000
Intersection_4	0.000	0.000	0.000	0.000	0.000	1.000	0.000
Intersection_5	0.000	0.000	0.000	0.000	0.000	1.000	0.000
Intersection_6	0.000	0.000	0.000	0.000	0.000	1.000	0.000
Intersection_7	0.000	0.000	0.000	0.000	0.000	1.000	0.000
Intersection_8	0.000	0.000	0.000	0.000	0.000	1.000	0.000
Intersection Totals:	0.777	0.323	0.455	0.000			0.548
COMBINED (sum of column)	0.777	0.323	0.455	0.000	--	--	0.548

Worksheet 3B -- Site-Specific EB Method Summary Results

(1)	(2)	(3)
Crash severity level	$N_{predicted}$	$N_{expected}$
Total	$(2)_{COMB}$ from Worksheet 3A	$(8)_{COMB}$ from Worksheet 3A
	0.777	0.548
Fatal and Injury (FI)	$(3)_{COMB}$ from Worksheet 3A	$(3)_{TOTAL} * (2)_{FI} / (2)_{TOTAL}$
	0.323	0.227
Property Damage Only (PDO)	$(4)_{COMB}$ from Worksheet 3A	$(3)_{TOTAL} * (2)_{PDO} / (2)_{TOTAL}$
	0.455	0.320

Appendix D 2041 Background Traffic Conditions

Intersection	
Int Delay, s/veh	2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	34	2	40	31	1	64
Future Vol, veh/h	34	2	40	31	1	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	13	0	11	50	0	10
Mvmt Flow	37	2	43	34	1	70

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	132	60	0	0	77	0
Stage 1	60	-	-	-	-	-
Stage 2	72	-	-	-	-	-
Critical Hdwy	6.53	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.53	-	-	-	-	-
Critical Hdwy Stg 2	5.53	-	-	-	-	-
Follow-up Hdwy	3.617	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	836	1011	-	-	1535	-
Stage 1	935	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	835	1011	-	-	1535	-
Mov Cap-2 Maneuver	835	-	-	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	923	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	843	1535	-
HCM Lane V/C Ratio	-	-	0.046	0.001	-
HCM Control Delay (s)	-	-	9.5	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	45	1	159	78	4	42
Future Vol, veh/h	45	1	159	78	4	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	3	3	0	10
Mvmt Flow	54	1	189	93	5	50

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	296	236	0	0	282	0
Stage 1	236	-	-	-	-	-
Stage 2	60	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	699	808	-	-	1292	-
Stage 1	808	-	-	-	-	-
Stage 2	968	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	696	808	-	-	1292	-
Mov Cap-2 Maneuver	696	-	-	-	-	-
Stage 1	808	-	-	-	-	-
Stage 2	964	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	698	1292	-
HCM Lane V/C Ratio	-	-	0.078	0.004	-
HCM Control Delay (s)	-	-	10.6	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Appendix E Trip Generation Comparison Letter

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MEMORANDUM

Date:	March 4, 2021	Project #: 25979
To:	Gary Albrecht, Clark County Public Works	
From:	Chris Brehmer, PE, Matt Bell, and Russ Doubleday	
Cc:	James Essig, Steve Hitzel – Granite Construction	
Project:	Chelatchie Bluff Mineral Lands TA (PAC 2020-00004)	
Subject:	Preliminary Trip Generation Comparison Letter	

Granite Construction Company ("Granite") is proposing to amend the Clark County Comprehensive Plan and Zoning Map to apply the Surface Mining Overlay (SMO) to four individual parcels located in the vicinity of Chelatchie Prairie. This memorandum provides a preliminary trip generation comparison of potential site development under the existing Forest 80 zoning with and without the proposed SMO. Based on the trip comparison, we conclude the proposed land use action will result in an increase in the trip generation potential of the property and that a transportation analysis will be required to support a future development application to address Clark County Code criteria. Further details regarding project background, our trip comparison methodology, and preliminary findings are provided herein.

PROJECT BACKGROUND

The project site consists of four tax lots (#274346000, #283421000, #283422000, and #283420000) encompassing a total area of approximately 330.95 acres. The properties are all within the Forest 80 (FR-80) zoning district and currently have a Forest Tier 1 (FR-1) comprehensive plan designation. Clark County Code (CCC) 40.210.010 states "the purpose of the FR-80 district is to maintain and enhance resource-based industries, encourage the conservation of productive forest lands and discourage incompatible uses consistent with the FR-1 policies of the comprehensive plan."

Granite is proposing application of the SMO to designate the subsurface hard rock mineral deposit within these four parcels as a resource of long-term commercial significance. According to CCC 40.250.022, "the purpose of the SMO district is to ensure the continued availability of rock, stone, gravel, sand, earth and mineral products without disrupting or endangering adjacent land uses, while safeguarding life, property and the public welfare." Granite seeks to extract hard rock mineral from the site and transport the resource to off-site use via a combination of rail and roadway (truck) shipment.

POTENTIAL CHANGE IN SITE TRIP GENERATION POTENTIAL

The difference in site trip generation potential was assessed considering the range of land uses possible under the existing (FR-80) zoning with and without the proposed SMO. The assessment was prepared for the four parcels assuming a range of development scenarios under the existing (FR-80) zoning with and without the proposed overlay (SMO) as described below.

Potential Uses under the Existing Zoning

Per CCC 40.210.010, permitted land uses under the existing (FR-80) zoning include residential, a variety of services (e.g., business, amusement, general, membership, organization, educational), public service and facilities, resource activities, and other. Based on a review of surrounding land uses, single-family residential is the most likely development scenario. Per CCC 40.210.010(B), one single-family home is permitted per lot. Therefore, the reasonable worst-case development scenario under the existing (FR-80) zoning is four single-family homes.

Potential Uses with the Proposed SMO

Per CCC 40.250.022, permitted land uses with the proposed SMO include temporary offices, shops or other accessory buildings and structures and short-term stockpiling of extracted materials. Conditional land uses with the proposed SMO include mineral extraction, asphalt mixing, concrete batching, clay bulking, and rock crushing. Based on a review of potential land uses, mineral extraction is expected to be the reasonable worst-case development scenario with the proposed SMO and is consistent with the planned use.

Trip Generation Estimates

Trip generation estimate for the reasonable worst-case development scenarios are summarized below.

Existing (FR-80) Zoning

Trip generation estimates for the reasonable worst-case development scenario under the existing (FR-80) zoning were prepared based on information provided in the standard industry reference, *Trip Generation Manual, 10th Edition*, published by the Institute of Transportation Engineers (ITE). ITE land use code 210 (single-family detached housing) was used to represent the single-family homes.

Proposed SMO

Given a lack of information on mining operations in the *Trip Generation Manual*, trip generation estimates for the reasonable worst-case development scenario with the proposed SMO were developed based on programmatic information provided by Granite. Granite is planning to extract approximately 1.3 million tons of material from the site per year and haul the material using a combination of truck and rail. Granite's preferred scenario is to haul approximately 300,000 tons of material by truck with the remaining 1 million tons of material transported off-site by rail; however, Clark County staff expressed questions regarding the feasibility of rail transportation. Therefore, based on discussions with Granite and Clark County staff, two trip generation scenarios were prepared:

- **Applicant's Preferred Scenario**: Granite will extract 1.3 million tons of material from the site each year; 300,000 tons will be hauled by truck and 1 million tons will be hauled by rail. Each truck will haul 32 tons of material; therefore, 9,375 truck loads are required under the preferred scenario (300,000 / 32 = 9,375). Each truck load will require one entering truck

trip (empty) and one exiting truck trip (loaded). The mine will operate five days a week (Monday-Friday), 52 weeks a year, or 260 days (5 x 52 = 260); therefore, approximately 72 daily truck trips are required under the preferred scenario (9,375 truck loads / 260 days x 2 trips per truck load = 72).

- **Assumed Worst-Case Scenario**: Granite will extract 1.3 million tons of material from the site each year; all 1.3 million tons will be hauled by truck. Each truck will haul 32 tons of material; therefore, 40,625 truck loads are required under the worst-case scenario (1,300,000 / 32 = 40,625). The mine will operate five days a week (Monday-Friday), 52 weeks a year, or 260 days (5 x 52 = 260); therefore, approximately 312 daily truck trips are required under the worst-case scenario (40,625 truck loads / 260 days x 2 trips per truck load = 312.5).
    - It should be noted that Granite representatives indicate that this assumed worst-case scenario is not feasible for their desired operations and would not be pursued. This scenario is analyzed at the request of Clark County staff for illustrative purposes only to document the potential truck trip implications that might occur if a mine operation is serviced exclusively by trucks.

Under both scenarios, the mine is expected to operate Monday through Friday from 7:00 AM to 4:00 PM. Mine employees are expected to enter the site before 7:00 AM for the workday and exit at the end of the workday before 4:00 PM. Truck trips are expected to arrive and depart in a relatively uniform pattern throughout the day. The following summarizes an approximation of daily operations by hour.

- 5:00 to 6:00 AM – Mine employees enter the site to start-up and operate the mine (10 employees under the preferred scenario, 15 employees under the worst-case scenario).
- 6:00 to 7:00 AM – Additional mine employees enter the site to operate trucks stored on-site (10 employees under both scenarios).
- 7:00 to 8:00 AM (Weekday AM Peak hour) – Site operations begin as trucks enter and exit the site – it is assumed that trucks trips to/from the site are higher during the morning peak hour than the remainder of the day.
- 8:00 AM to 3:00 PM – Site operations continue – it is assumed that truck trips to/from the site would be relatively uniform throughout the day.
- 3:00 PM to 4:00 PM – Mine employees shut-down and exit the site – it is assumed that truck trips to/from the site are reduced, with most trucks returning to the site to complete the workday during this period.
- 4:00 to 5:00 PM (Weekday PM Peak Hour) – Additional mine employees exit the site – it is assumed that all remaining trucks also exit the site.

Attachment "A" contains a summary of employee and truck trips under the preferred and worst-case scenarios by hour.

Table 1 summarizes the potential change in site trip generation with the proposed SMO assuming the preferred scenario. As shown, the proposed SMO with the preferred scenario results in a net increase of 74 daily trips, including eight trips during the weekday AM peak hour and eight trips during the weekday PM peak hour.

Table 1. Trip Generation Comparison – Applicant's Preferred Scenario

Land Use	Daily Trips	Weekday AM Peak Period			Weekday PM Peak Period		
		Total	In	Out	Total	In	Out
Existing Zoning (FR-80)							
Single-Family Detached Housing (4 Dwelling Units)	38	3	1	2	4	3	1
Proposed SMO Overlay							
Surface Mining Overlay (Preferred Scenario)	112	11	6	5	12	0	12
Net Difference (Proposed-Existing)	**74**	**8**	**5**	**-3**	**8**	**-3**	**11**

Table 2 summarizes the potential change in site trip generation with the with the proposed SMO assuming the assumed worst-case scenario. As shown, the proposed SMO with the worst-case scenario results in a net increase of 324 daily trips, including 45 trips during the weekday AM peak hour and 15 trips during the weekday PM peak hour.

Table 2. Trip Generation Comparison – Assumed Worst-Case Scenario

Land Use	Daily Trips	Weekday AM Peak Period			Weekday PM Peak Period		
		Total	In	Out	Total	In	Out
Existing Zoning (FR-80)							
Single-Family Detached Housing (4 Dwelling Units)	38	3	1	2	4	3	1
Proposed SMO Overlay							
Surface Mining Overlay (Worst Case Scenario)	362	48	26	22	19	0	19
Net Difference (Proposed-Existing)	**324**	**45**	**25**	**20**	**15**	**-3**	**18**

TRANSPORTATION ANALYSIS IMPLICATIONS

Per CCC 40.560.040, a transportation analysis shall be required for all development applications in which the proposed development is projected to have an impact upon any affected transportation corridor or intersection of regional significance, unless the development application is exempt from the provisions of this section. These exemptions include fifty (50) or less new peak period trips at development site. While Tables 1 and 2 show fewer than 50 peak period trips during the weekday AM and PM peak periods, a transportation analysis will be required to understand the truck traffic impacts on the road network and truck turning movements to and from the site. The county outlined the parameters of a transportation analysis in a pre-application conference on December 4th, 2020.

NEXT STEPS

We trust the information presented in this memorandum is useful in understanding the range of site trip generation possible under the existing (FR-80) zoning and with the proposed SMO. We look forward to working with Clark County staff and the Applicant to further refine the preliminary land use assumptions, trip estimates, and potential future transportation analysis scope of work. Please call us if you have questions as you review this material.

Preferred Scenario

		Mine Empolyee Trips			Truck Trips			Total Trips		
		In	Out	Total	In	Out	Total	In	Out	Total
5:00 AM	6:00 AM	10	0	10	0	0	0	10	0	10
6:00 AM	7:00 AM	10	0	10	2	0	2	12	0	12
7:00 AM	8:00 AM	0	0	0	6	5	11	6	5	11
8:00 AM	9:00 AM	0	0	0	5	4	9	5	4	9
9:00 AM	10:00 AM	0	0	0	4	3	7	4	3	7
10:00 AM	11:00 AM	0	0	0	4	3	7	4	3	7
11:00 AM	12:00 PM	0	0	0	4	4	8	4	4	8
12:00 PM	1:00 PM	0	0	0	3	4	7	3	4	7
1:00 PM	2:00 PM	0	0	0	3	4	7	3	4	7
2:00 PM	3:00 PM	0	0	0	3	4	7	3	4	7
3:00 PM	4:00 PM	0	10	10	2	3	5	2	13	15
4:00 PM	5:00 PM	0	10	10	0	2	2	0	12	12
5:00 PM	6:00 PM	0	0	0	0	0	0	0	0	0
	Total	**20**	**20**	**40**	**36**	**36**	**72**	**56**	**56**	**112**

Worst-Case Scenario

		Mine Empolyee Trips			Truck Trips			Total Trips		
		In	Out	Total	In	Out	Total	In	Out	Total
5:00 AM	6:00 AM	15	0	15	0	0	0	15	0	15
6:00 AM	7:00 AM	10	0	10	9	0	9	19	0	19
7:00 AM	8:00 AM	0	0	0	26	22	48	26	22	48
8:00 AM	9:00 AM	0	0	0	22	17	39	22	17	39
9:00 AM	10:00 AM	0	0	0	17	13	30	17	13	30
10:00 AM	11:00 AM	0	0	0	17	13	30	17	13	30
11:00 AM	12:00 PM	0	0	0	17	17	35	17	17	35
12:00 PM	1:00 PM	0	0	0	13	17	30	13	17	30
1:00 PM	2:00 PM	0	0	0	13	17	30	13	17	30
2:00 PM	3:00 PM	0	0	0	13	17	30	13	17	30
3:00 PM	4:00 PM	0	15	15	9	13	22	9	28	37
4:00 PM	5:00 PM	0	10	10	0	9	9	0	19	19
5:00 PM	6:00 PM	0	0	0	0	0	0	0	0	0
	Total	**25**	**25**	**50**	**156**	**156**	**312**	**181**	**181**	**362**

Appendix F 2041 Total Traffic Conditions

Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	36	2	40	32	1	64
Future Vol, veh/h	36	2	40	32	1	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	13	0	11	50	0	10
Mvmt Flow	40	2	44	36	1	71

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	135	62	0	0	80	0
Stage 1	62	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.53	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.53	-	-	-	-	-
Critical Hdwy Stg 2	5.53	-	-	-	-	-
Follow-up Hdwy	3.617	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	833	1009	-	-	1531	-
Stage 1	933	-	-	-	-	-
Stage 2	923	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	832	1009	-	-	1531	-
Mov Cap-2 Maneuver	832	-	-	-	-	-
Stage 1	933	-	-	-	-	-
Stage 2	922	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.5	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	840	1531	-
HCM Lane V/C Ratio	-	-	0.05	0.001	-
HCM Control Delay (s)	-	-	9.5	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	39	2	40	37	1	64
Future Vol, veh/h	39	2	40	37	1	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	31	0	11	59	0	10
Mvmt Flow	43	2	44	41	1	71

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	138	65	0	0	85	0
Stage 1	65	-	-	-	-	-
Stage 2	73	-	-	-	-	-
Critical Hdwy	6.71	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.71	-	-	-	-	-
Critical Hdwy Stg 2	5.71	-	-	-	-	-
Follow-up Hdwy	3.779	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	791	1005	-	-	1524	-
Stage 1	889	-	-	-	-	-
Stage 2	881	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	790	1005	-	-	1524	-
Mov Cap-2 Maneuver	790	-	-	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	880	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	798	1524	-
HCM Lane V/C Ratio	-	-	0.057	0.001	-
HCM Control Delay (s)	-	-	9.8	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	55	3	40	56	2	64
Future Vol, veh/h	55	3	40	56	2	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	53	0	11	75	0	10
Mvmt Flow	61	3	44	62	2	71

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	150	75	0	0	106	0
Stage 1	75	-	-	-	-	-
Stage 2	75	-	-	-	-	-
Critical Hdwy	6.93	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.93	-	-	-	-	-
Critical Hdwy Stg 2	5.93	-	-	-	-	-
Follow-up Hdwy	3.977	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	736	992	-	-	1498	-
Stage 1	834	-	-	-	-	-
Stage 2	834	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	735	992	-	-	1498	-
Mov Cap-2 Maneuver	735	-	-	-	-	-
Stage 1	834	-	-	-	-	-
Stage 2	833	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.3	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	745	1498	-
HCM Lane V/C Ratio	-	-	0.087	0.001	-
HCM Control Delay (s)	-	-	10.3	7.4	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	46	1	159	81	4	42
Future Vol, veh/h	46	1	159	81	4	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	0	0	3	3	0	10
Mvmt Flow	55	1	189	96	5	50

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	297	237	0	0	285	0
Stage 1	237	-	-	-	-	-
Stage 2	60	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	698	807	-	-	1289	-
Stage 1	807	-	-	-	-	-
Stage 2	968	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	695	807	-	-	1289	-
Mov Cap-2 Maneuver	695	-	-	-	-	-
Stage 1	807	-	-	-	-	-
Stage 2	964	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	697	1289	-
HCM Lane V/C Ratio	-	-	0.08	0.004	-
HCM Control Delay (s)	-	-	10.6	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	56	2	159	78	4	42
Future Vol, veh/h	56	2	159	78	4	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	4	0	3	3	0	10
Mvmt Flow	67	2	189	93	5	50

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	296	236	0	0	282	0
Stage 1	236	-	-	-	-	-
Stage 2	60	-	-	-	-	-
Critical Hdwy	6.44	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.44	-	-	-	-	-
Critical Hdwy Stg 2	5.44	-	-	-	-	-
Follow-up Hdwy	3.536	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	691	808	-	-	1292	-
Stage 1	799	-	-	-	-	-
Stage 2	958	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	688	808	-	-	1292	-
Mov Cap-2 Maneuver	688	-	-	-	-	-
Stage 1	799	-	-	-	-	-
Stage 2	954	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.8	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	692	1292	-
HCM Lane V/C Ratio	-	-	0.1	0.004	-
HCM Control Delay (s)	-	-	10.8	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	63	2	159	78	4	42
Future Vol, veh/h	63	2	159	78	4	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	84	84	84	84	84	84
Heavy Vehicles, %	14	0	3	3	0	10
Mvmt Flow	75	2	189	93	5	50

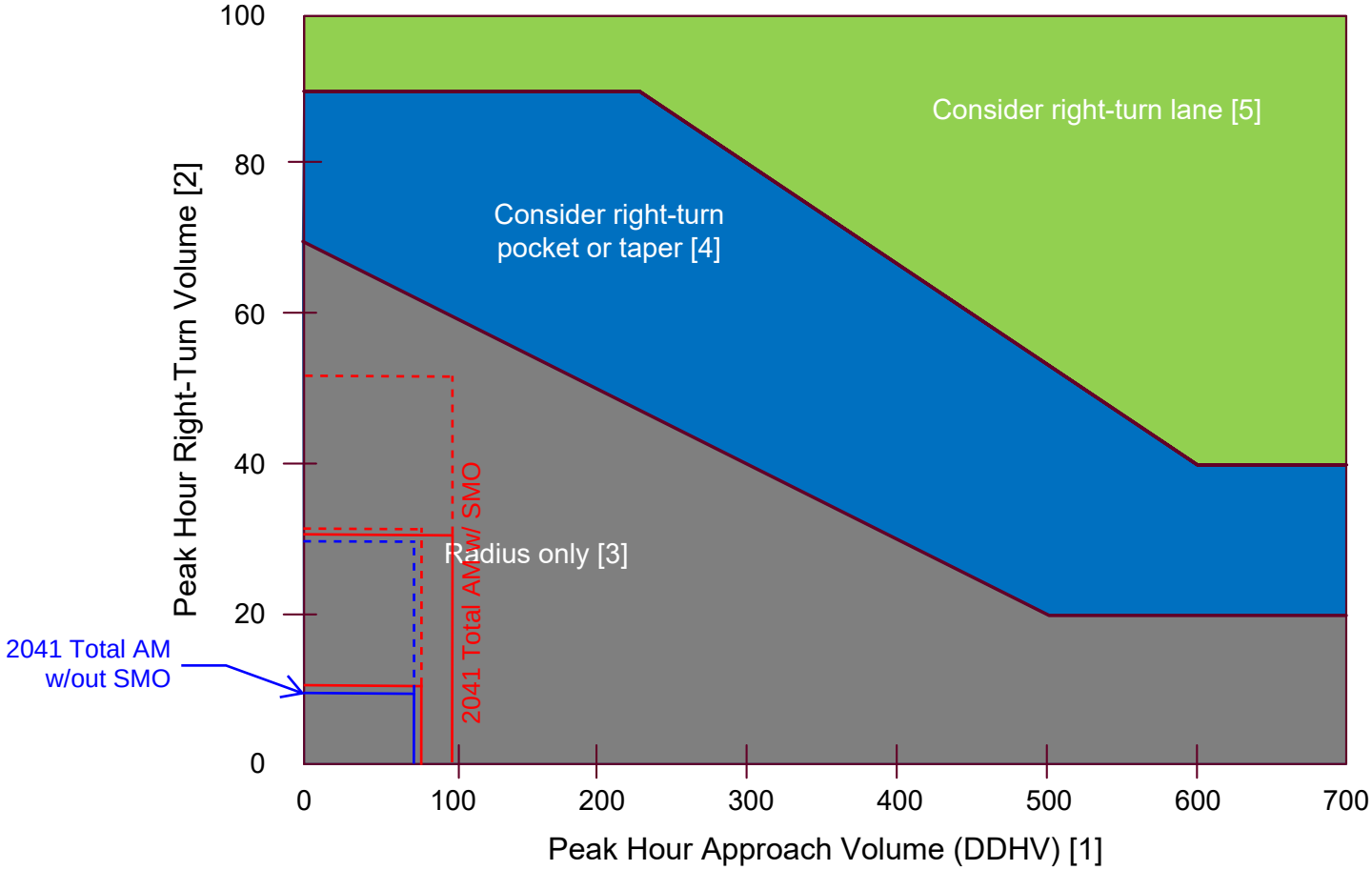
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	296	236	0	0	282	0
Stage 1	236	-	-	-	-	-
Stage 2	60	-	-	-	-	-
Critical Hdwy	6.54	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.54	-	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-	-
Follow-up Hdwy	3.626	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	671	808	-	-	1292	-
Stage 1	776	-	-	-	-	-
Stage 2	933	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	668	808	-	-	1292	-
Mov Cap-2 Maneuver	668	-	-	-	-	-
Stage 1	776	-	-	-	-	-
Stage 2	929	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.1	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	672	1292	-
HCM Lane V/C Ratio	-	-	0.115	0.004	-
HCM Control Delay (s)	-	-	11.1	7.8	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Appendix G Turn Lane Warrant Analysis Worksheets

Exhibit 1310-11 Right-Turn Lane Guidelines



Notes:

[1] For two-lane highways, use the peak hour DDHV (through + right-turn).
For multilane, highways (posted speed 45 mph or above), use the right-lane peak hour approach volume (through + right-turn).

[2] When all three of the following conditions are met, reduce the right-turn DDHV by 20:

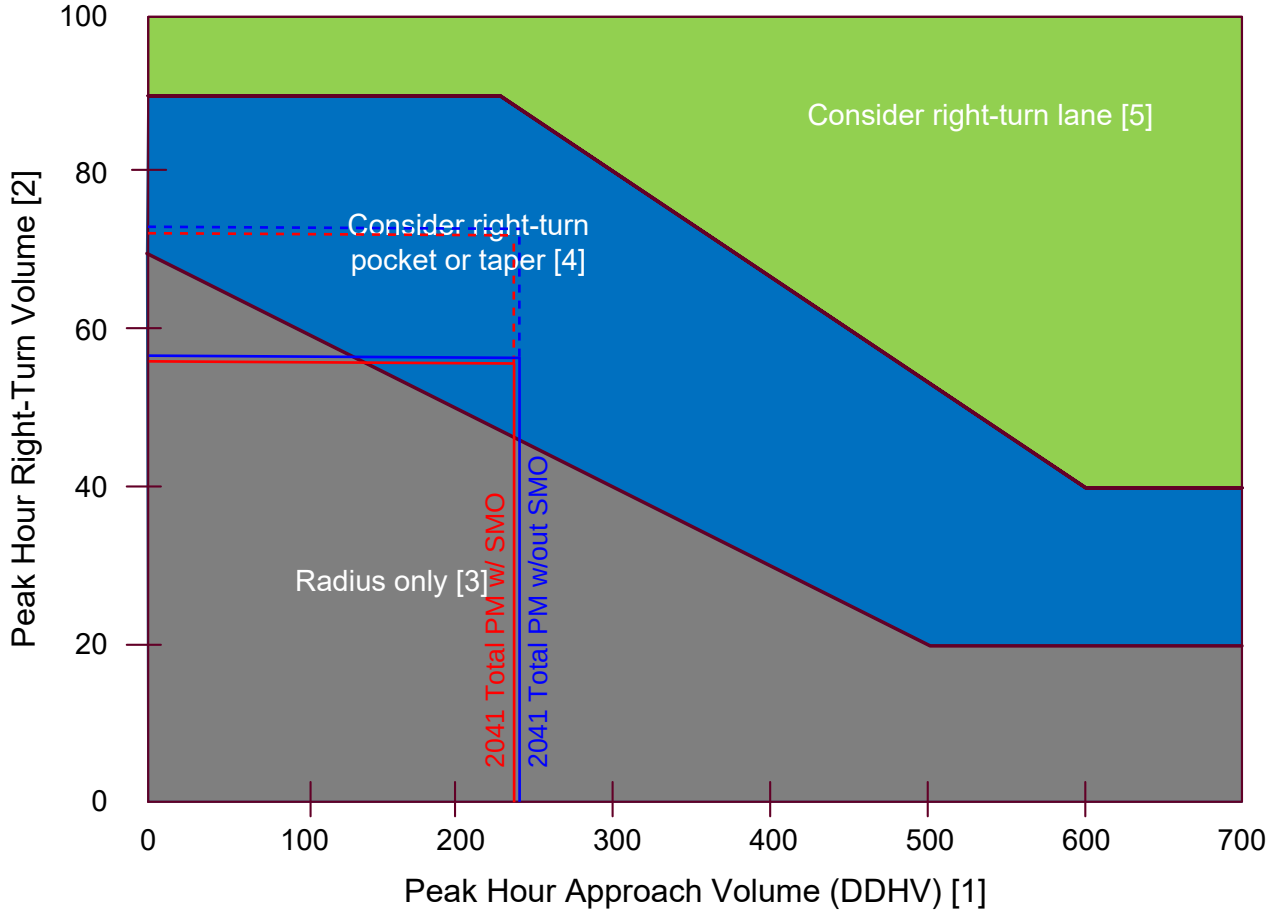
- The posted speed is 45 mph or below
- The right-turn volume is greater than 40 VPH
- The peak hour approach volume (DDHV) is less than 300 VPH

[3] For right-turn corner design, see Exhibit 1310-6.

[4] For right-turn pocket or taper design, see Exhibit 1310-12.

[5] For right-turn lane design, see Exhibit 1310-13.

Exhibit 1310-11 Right-Turn Lane Guidelines



Notes:

[1] For two-lane highways, use the peak hour DDHV (through + right-turn).
For multilane, highways (posted speed 45 mph or above), use the right-lane peak hour approach volume (through + right-turn).

[2] When all three of the following conditions are met, reduce the right-turn DDHV by 20:

- The posted speed is 45 mph or below
- The right-turn volume is greater than 40 VPH
- The peak hour approach volume (DDHV) is less than 300 VPH

[3] For right-turn corner design, see Exhibit 1310-6.

[4] For right-turn pocket or taper design, see Exhibit 1310-12.

[5] For right-turn lane design, see Exhibit 1310-13.

Exhibit H

Aggregate Resource Potential Letter from WA DNR Chief Reclamation Geologist, Rian Skov

January 2021

WASHINGTON STATE DEPT OF
NATURAL RESOURCES

WASHINGTON GEOLOGICAL SURVEY
1111 WASHINGTON ST SE
MAIL STOP 47007
OLYMPIA, WA 98504-7007

January 22, 2021

JAMES ESSIG
GRANITE CONST CO/WESTERN WA
1525 E MARINE VIEW DR
EVERETT, WA 98201-1927

AGGREGATE RESOURCE POTENTIAL, CHELATCHIE PRAIRIE, CLARK COUNTY

James,

Thank you for contacting the DNR Surface Mining Reclamation program for an interpretation of aggregate material potential for a proposed mineral resource overlay project in the Chelatchie Prairie area of Clark County. A parcel map and project narrative were submitted to DNR for reference. We understand that the goal of the project is to supplement the available mineral resource lands in Clark County. The current level of permitted reserves in Clark county is on a downward trend with some of the older mines in the county nearing the end of their lifespan.

Of the five parcels proposed for this project, four are not within the current mineral resource overlay (as shown on the attached parcel map). However, the total area of the project was reviewed by DNR for continuity. The area in question is adjacent to two former permitted surface mines (Chelatchie Rock & Karbon Rock). Both permits have been terminated by DNR.

I reviewed published 1:100,000 scale Geologic maps of Clark County (Philips, W.M., 1985) as well as the aggregate resource map of Clark County (Johnson, C.N. et al., 2005) and the current Clark County Mineral Resource lands GIS map. The main rock type in the proposed parcels is mapped as andesite flows of Oligocene age, which was the rock type mined at the Chelatchie Rock mine. The aggregate resource map of Clark County shows the area as "Hypothetical" resource which is defined as:

"*Hypothetical resources are aggregate resources postulated to exist on the basis of general geologic information and aggregate test data and production history. We map hypothetical resources where available data appear to satisfy most of the elements of our threshold criteria.*"

After review of available information, the area proposed does appear to have potential as an aggregate resource of long term significance.

Thank you for contacting the SMR program.

If you have any questions please feel free to contact me by calling 360-902-1433.

Sincerely,

Rian Skov
Surface Mine Reclamation Program
Washington Geological Survey

Enclosures (Parcel map of proposal, Project narrative)

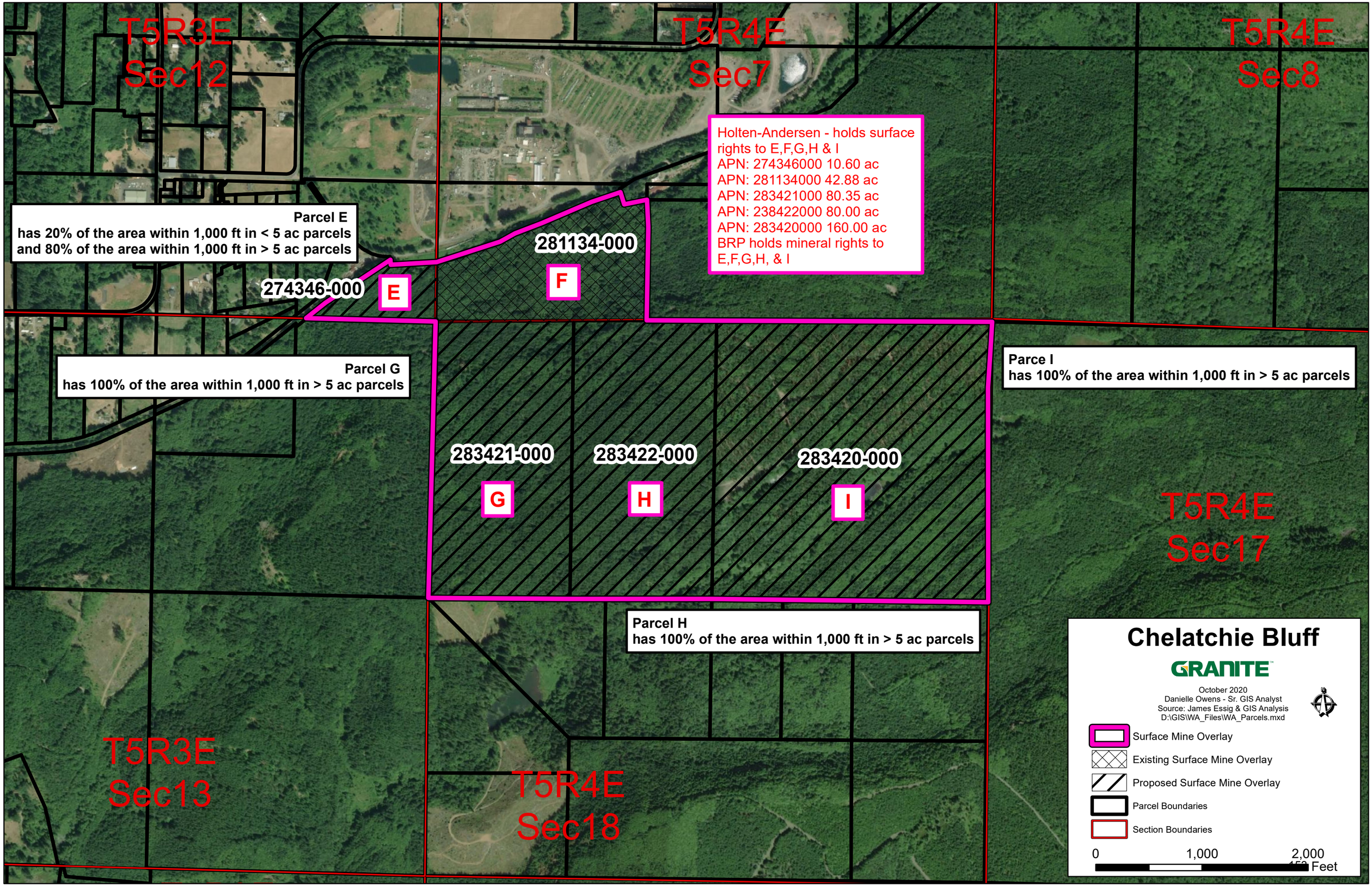

T5R3E
Sec12
T5R4E
Sec7
T5R4E
Sec8
Holten-Andersen - holds surface rights to E,F,G,H & I
APN: 274346000 10.60 ac
APN: 281134000 42.88 ac
APN: 283421000 80.35 ac
APN: 238422000 80.00 ac
APN: 283420000 160.00 ac
BRP holds mineral rights to E,F,G,H, & I
Parcel E
has 20% of the area within 1,000 ft in < 5 ac parcels
and 80% of the area within 1,000 ft in > 5 ac parcels
281134-000
F
274346-000
E
Parcel G
has 100% of the area within 1,000 ft in > 5 ac parcels
Parce I
has 100% of the area within 1,000 ft in > 5 ac parcels
283421-000
G
283422-000
H
283420-000
I
T5R4E
Sec17
Parcel H
has 100% of the area within 1,000 ft in > 5 ac parcels
T5R3E
Sec13
T5R4E
Sec18
Chelatchie Bluff
GRANITE
October 2020
Danielle Owens - Sr. GIS Analyst
Source: James Essig & GIS Analysis
D:\GIS\WA_Files\WA_Parcels.mxd
Surface Mine Overlay
Existing Surface Mine Overlay
Proposed Surface Mine Overlay
Parcel Boundaries
Section Boundaries
0
1,000
2,000
Feet

Exhibit I

Rock Aggregate Resource Lands Inventory Map for Clark County prepared by WA DNR

October 2005

WASHINGTON STATE DEPARTMENT OF
Natural Resources
Doug Sutherland - Commissioner of Public Lands

Division of Geology and Earth Resources
Ron Teissere - State Geologist

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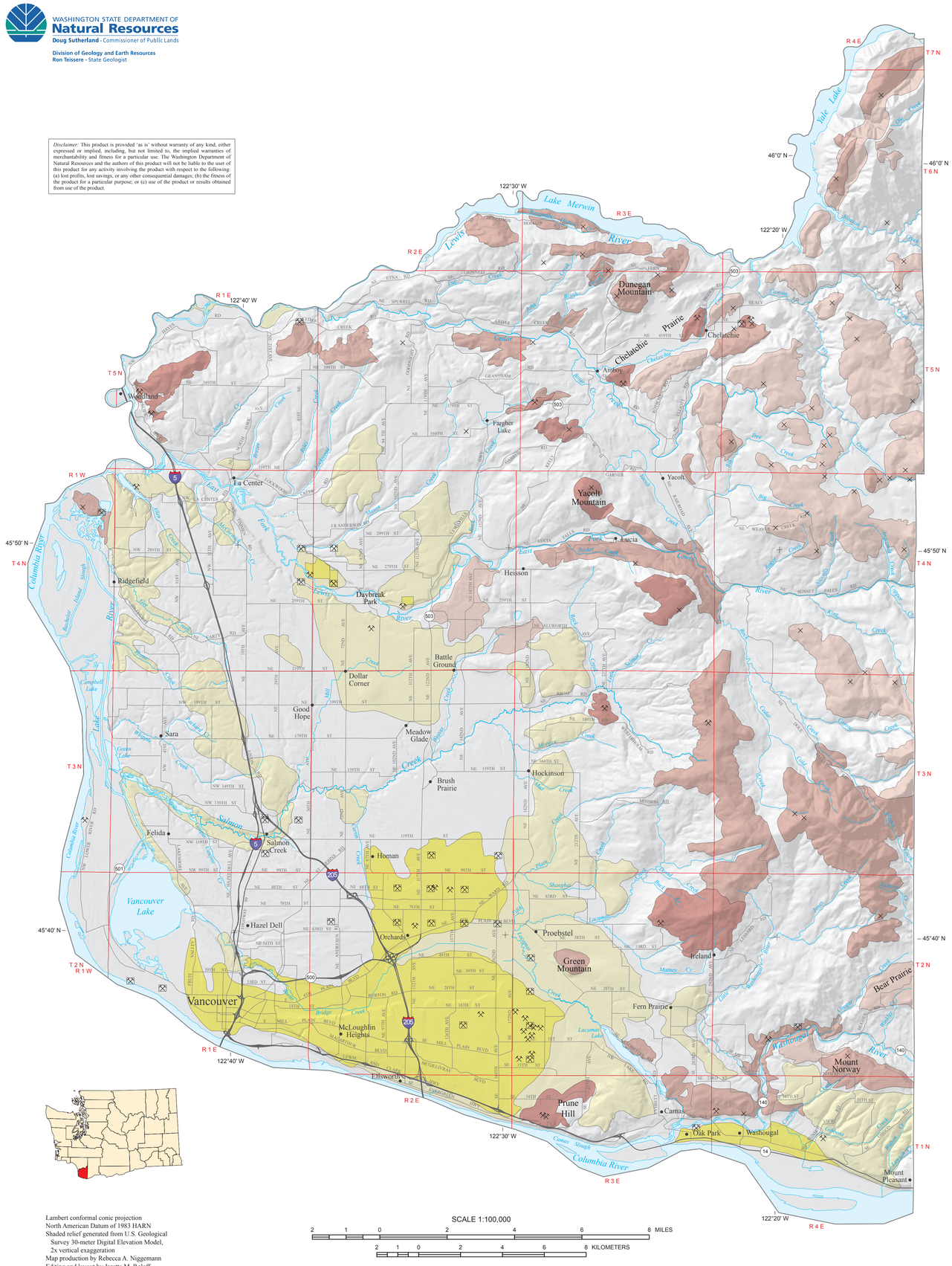

Lambert conformal conic projection
North American Datum of 1983 HARN
Shaded relief generated from U.S. Geological Survey 30-meter Digital Elevation Model, 2x vertical exaggeration
Map production by Rebecca A. Niggemann
Editing and layout by Jaretta M. Roloff

SCALE 1:100,000

2 1 0 2 4 6 8 MILES

2 1 0 2 4 6 8 KILOMETERS

Rock Aggregate Resource Lands Inventory Map for Clark County, Washington

by Chris N. Johnson, Stephen P. Palmer, and James L. Poelstra

October 2005

INTRODUCTION

The Growth Management Act (GMA) requires that local jurisdictions identify and classify aggregate and mineral resource lands from which the extraction of minerals occurs or can be anticipated. These lands should be classified on the basis of geologic, environmental, and economic factors, existing land uses, and land ownership. The Washington State Department of Natural Resources (WADNR), Division of Geology and Earth Resources (DGER), is preparing aggregate resource maps for selected counties using funds provided by the Legislature in the 2005 supplemental budget. These maps are primarily intended for use by local jurisdictions in implementing requirements of the GMA concerning designation of mineral resource lands. These maps may also be used by government agencies, the private sector, and the general public to identify areas where sand and gravel and bedrock might be extracted and used as concrete aggregate or asphalt-treated base.

The aggregate mapping and data presented in this publication provide local jurisdictions with information about the geologic factors used to classify mineral resource lands. In this study, rock aggregate resources are defined as naturally occurring gravel or bedrock aggregate estimated or inferred to exist on the basis of a favorable geologic setting, little or no sampling, and only general knowledge of past aggregate production (U.S. Bureau of Mines and U.S. Geological Survey, 1976). This study does not establish 'reserves', a process that requires detailed site-specific data defining quantity, overburden depth, grade, quality, and economic value determined by closely spaced drilling, sampling, and analysis. Such work is beyond the scope of this investigation and is usually performed by landowners or mine operators as they consider the potential profitability of developing a producing mine.

Our mapping shows the distribution of areas where aggregate resources are likely to be present. These areas may contain economic aggregate reserves. However, we cannot account for other factors, such as environmental conditions, road access, and existing residential density, that could affect the potential for mine development at a specific location. Our study focuses on rock resources used for concrete and asphalt aggregate purposes and does not consider building stone or industrial mineral uses. These other potential uses of rock products are currently of minor economic consequence; however, changing demand and market factors could alter this situation.

Because the primary purpose of our recent resource investigations is to assist GMA implementation, this aggregate resource map covers the entire county. Earlier aggregate resource maps published by DGER covered six 1:100,000-scale quadrangles (Loen and others, 2001; Weberling and others, 2001; Dunn, 2001; Norman and others, 2001; Lingley and others, 2002; Dunn and others, 2002). Those maps did not provide complete coverage of aggregate resources in areas under local government jurisdiction.

GEOLOGIC SETTING

The bedrock geology of Clark County is dominated by early Tertiary products of the Cascade volcanic arc, consisting primarily of intermediate to mafic lava flows, volcaniclastic rocks, and igneous intrusions (Phillips, 1987b; Evarts and Ashley, 1990; Evarts, 2002; Howard, 2002; Evarts, 2004 a,b,c,d). Following mild folding, faulting, and erosion of these bedrock units, the terrain at low elevation was inundated by voluminous lava flows of the Columbia River Basalt Group (including the Grande Ronde Basalt) between 16.5 and 15.6 million years ago (Snavely and Wells, 1996; Niem and Niem, 1985). Erosional remnants of the Grande Ronde Basalt are exposed in northwest Clark County along the Columbia River between the towns of Woodland and Ridgefield (Snavely and others, 1973; Phillips, 1987b; Evarts, 2004d).

Following emplacement of the basalt flows, the ancestral Columbia River and local tributaries transported silt, sand, and gravel into the subsiding Portland Basin—sediments that now form the Troutdale Formation (Mundorff, 1964). Clark County includes the northern part of the basin. The floor of this structural depression slopes west-southwest from central Clark County to a depth of 1800 ft at Vancouver (Tolan and Beeson, 1984; Beeson and Tolan, 1989; Swanson and others, 1993; Evarts and others, 2002).

About 100,000 years ago, basaltic eruptions produced small shield volcanoes and cinder cones between the Columbia River and the Battle Ground area (Hammond and Korosec, 1983; Fleck and others, 2002; Howard, 2002; Phillips, 1987b).

In eastern and northern Clark County, Pleistocene glacial sediments constitute overburden for much of the Tertiary bedrock. As much as 100 ft of these sediments occurs along the Chelatchie Prairie near Amboy (Mundorff, 1984; Phillips, 1987b). In latest Pleistocene time (15,300–12,700 years ago), one or more of the giant Lake Missoula floods raced down the Columbia River gorge and dispersed sediment loads northwestward across much of southwest Clark County. The resultant sand and gravel deposits are as much as 300 ft thick (Palmer and Poelstra, DGER, 2004, unpub. data; Phillips, 1987b; Waitt, 1985; Trimble, 1963). Recent fluvial sediments are deposited on the flood plains of modern rivers throughout Clark County (Mundorff, 1964; Phillips, 1987b; Trimble, 1963).

AGGREGATE RESOURCE MAPPING

Our aggregate resource evaluation is based on the most current geologic mapping available for the study area, aggregate test data obtained primarily from the Washington Department of Transportation (WSDOT), locations of historic sand and gravel or bedrock extraction provided by a variety of sources (including the WADNR, the U.S. Geological Survey (USGS), and local public works departments), interpretation of water well and geotechnical boring logs, and overlays of agricultural soils and topographic map information. However, these data are concentrated near existing population centers. Consequently, our evaluation of aggregate resources in undeveloped parts of the county is limited by a paucity of data. As more detailed geologic mapping and additional aggregate test data and water well logs become available for these areas and improved evaluations of aggregate resource potential are developed, this map will be updated.

Aggregate Resource Criteria

Our classification of aggregate resources is based on a set of criteria, modified slightly from Loen and others (2001), that addresses the potential quality, quantity, and suitability for mine development. These criteria are:

- The thickness of the sand and gravel or bedrock deposit must exceed 25 ft.
- The area of the deposit exposed at the surface must exceed 160 acres and measure at least 1500 ft across the minimum dimension of the deposit, or the reserves must exceed 10 million cubic yards. Exceptions may include unusually thick deposits, or resources of special local importance that have consistently yielded high quality aggregate.
- The 'stripping ratio' (ratio of overburden to gravel or overburden to bedrock) must be less than one to three (1:3).
- The strength and durability of the rock must meet the WSDOT minimum specifications for asphalt-treated base, a rock product used to construct some lower layers of asphalt roads (Table 1).
- Sand and gravel aggregate resources must contain the proper proportions of sand and gravel (ideally, a ratio of 40% sand to 60% gravel). Pebbles and cobbles must be clean, round, hard, durable, and chemically inert (Bates, 1969; WSDOT, 2004).

Aggregate Resource Categories

For both sand and gravel and bedrock aggregate deposits, we have mapped areas that fall within one of three resource categories: identified, hypothetical, and speculative resources. These categories reflect our level of confidence in our evaluation of the quality and quantity of these aggregate resource units.

- **Identified resources** are gravel or bedrock aggregate for which distribution, grade, and quality can be confidently estimated from specific geologic evidence, limited sampling, and laboratory analysis. Identified resources may include economic, marginally economic, and subeconomic components that reflect varying degrees of geologic certainty. We map an identified resource where available data appear to satisfy all of the elements of our threshold criteria.
- **Hypothetical resources** are aggregate resources postulated to exist on the basis of general geologic information and aggregate test data and production history. We map hypothetical resources where available data appear to satisfy most, but not all, of the elements of our threshold criteria.
- **Speculative resources** are aggregate resources for which geologic and production information is sparse and where rock types have not been evaluated for their aggregate potential. Nevertheless, inferences can be made from existing geologic mapping and data to suggest that these rock units may have the potential for meeting the threshold criteria established for this study and possibly containing future aggregate resources.

Aggregate Resource Mapping Methods

The delineation of aggregate resource areas was achieved by an objective, systematic procedure in which portions of geologic units likely to contain aggregate resources were selected, evaluated, and either accepted or rejected based the standard criteria established for this inventory. Sand and gravel resources and bedrock resources were mapped separately.

Sand and gravel resources were identified using geologic and National Soil Conservation Service soils maps (McGee, 1972; Fiksdal, 1975), water well logs (available online from the Washington State Department of Ecology at http://apps.ecy.wa.gov/welllog/), and thickness models from Palmer and Poelstra (unpub. data, 2004). In total, about 1400 water wells and 140 geotechnical borings were reviewed in the process of creating the source gravel and overburden thickness models and developing the resource map.

Bedrock units with potential for high strength and durability were identified from geologic maps and unit descriptions produced by DGER and the USGS; the geomorphic position of resistant bedrock as determined from lidar, DEMs, and aerial photographs; the location of aggregate mines (McKay and others, 2001), and the location of good quality test samples. (Rock strength and durability data are published online by WSDOT at http://www.wsdot.wa.gov/biz/mats/ASA/.) We field checked larger prospective bedrock areas to verify that resource targets would meet the resource criteria. Bedrock resource areas were then mapped on the basis of lithology, number of resistant rock units in contact, and their attitude, geometry, geomorphic expression, and structural discontinuities.

Polygons were digitized and attributed using ESRI ArcGIS. This allowed us to evaluate aggregate potential on a polygon-by-polygon basis and to perform spatial data queries. GIS analysis was used to select polygons larger than 160 acres having minimum widths of 1500 ft or more. Final polygons were individually evaluated and classified as identified, hypothetical, or speculative resources.

Overburden

Intense chemical weathering of geologic units in the western Pacific Northwest has developed saprolitic soil horizons locally as much 30 ft thick over both bedrock and basin-fill sediments. Weathered units are best exposed in steep cliff faces, landslide scarps, and streambeds (Evarts, 2002).

Alpine glacial sediments constitute overburden for much of the Tertiary volcanic bedrock in east and north Clark County. The thickest (>100 ft thick) and most extensive of these glacial sediments are present along Chelatchie Valley near Amboy (Mundorff, 1984; Phillips, 1987b). Although a few small aggregate mines have been developed in Pleistocene glacial outwash deposits in north and east Clark County, the product does not meet WSDOT specifications for asphalt-treated base because clasts are weathered and coated with iron oxide (Dethier and Bethel, 1981).

Summary of Results

The geology of Clark County is favorable for large sand and gravel resources and bedrock aggregate resources. The largest bedrock resources are hosted in Tertiary lava flows and intrusive rocks exposed along canyon walls and in the uplands of eastern and northern Clark County. The best sand and gravel aggregate resource is hosted in the Missoula outburst flood deposits of south central and southwest Clark County and in flood-plain alluvium in the vicinity of Daybreak Park on the East Fork Lewis River. Aggregate resources in Clark County are primarily hosted in 14 geologic map units. The total land area assigned to each resource category and a list of included geologic map units and their symbols is provided in Table 2. All geologic map unit symbols used below (unit Qa, for example) are from the DGER 1:100,000-scale digital geologic map coverage for Washington, which is available online at http://www.dnr.wa.gov/geology/dig100k.htm. Information describing these geologic units and the contacts between geologic units is from both the DGER 1:100,000-scale digital geologic map coverage and the USGS 1:24,000-scale geologic maps cited in this report.

INCLUDED GEOLOGIC MAP UNITS AND THEIR AGGREGATE POTENTIAL

The aggregate resource polygons generated for this map are subsets of larger geologic map units or combinations of geologic map units and represent rock types having aggregate potential. For example, a bedrock polygon might contain basalt and andesite lava flows and a diorite intrusive, all of which are in contact and have high strength and durability.

Quaternary Sand and Gravel Units

Alluvial gravels of the East Fork Lewis River and Lewis River flood plains (unit Qa)—These deposits generally meet WSDOT specifications for asphalt-treated base. For 22 samples tested, the average Los Angeles (LA) Abrasion was 22.2%, Washington Degradation was 63.6%, and specific gravity was 2.7 g/cc. Identified gravel resources near Daybreak Park on the East Fork Lewis River flood plain are largely basalt and andesite clasts derived from upland Tertiary volcanic rocks and subordinate amounts of quartzite clasts eroded from the Troutdale Formation. Sand and gravel deposits form bars, islands, and terraced deposits that are typically less than 45 ft thick and locally up to 160 ft thick (Mundorff, 1964; Phillips, 1987b; Trimble, 1963).

Missoula flood gravel deposits (unit Qfg)—Missoula flood gravel deposits yield high-quality aggregate that meets all WSDOT specifications for asphalt-treated base and Portland cement concrete. For 22 samples tested, the average LA Abrasion was 17.6%, Washington Degradation was 54.8%, and specific gravity was 2.4. The Missoula gravel deposit is an identified resource meeting minimum specifications for thickness, stripping ratio, and strength and durability. This resource is part of the greater upper Pleistocene Missoula flood deposit hosting large sand and gravel deposits in southwest Clark County between the cities of Camas and Vancouver. The Missoula gravels consist of well-rounded, well-sorted, foreset-stratified cobbles and boulders. The gravel is clast-supported and has a sandy matrix composed mostly of basalt, andesite, and smaller amounts of quartzite and granitic pebbles and cobbles. Missoula flood gravel deposits in Clark County are up to 300 ft thick (Palmer and Poelstra, unpub. data, 2004; Phillips, 1987b; Trimble, 1963).

Troutdale Formation (unit QMc)—A few mines have produced from a conglomerate unit deposited at the top of the Troutdale Formation. Sand and gravel clasts commonly retain a coating of iron oxide and clay after washing, and generally do not meet WSDOT specifications for asphalt-treated base and/or Portland cement concrete. However, oversize cobbles and boulders, when crushed, may meet WSDOT specifications for asphalt-treated base. Out of 14 samples tested, the average LA Abrasion was 18.4%, Washington Degradation was 44.8%, and specific gravity was 2.7. This conglomerate represents an upper member of the extensive alluvial deposits of the ancestral Columbia River system and adjacent Cascade highlands. The conglomerate is typically 90 to 150 ft thick and is made up mostly of basalt pebbles and cobbles, with lesser quartzite, granite, and schistose metamorphic clasts, in a fine-grained matrix of arkosic and vitric sand. The conglomerate is well sorted, with lenticular bedding, and is indurated to weakly consolidated. Gravel clasts are characteristically smooth, well rounded, and iron oxide stained (Mundorff, 1964; Phillips, 1987b; Trimble, 1963; Tolan and Beeson, 1984; Evarts, 2002).

Quaternary Bedrock Units

Boring Volcanics (basalt flows at Bear Prairie [unit $QRvb_{be}$], Prune Hill [unit $QRvb_b$], Green Mountain [unit $QRvb_{gm}$], Mount Norway [unit $QRvb_{mn}$], and the Battle Ground area [unit $QRvb_{bg}$])—The tops of these Quaternary lava flows commonly contain abundant vesicles, flow breccias, cinders, ash, and tuff and do not yield rock that meets WSDOT specifications for asphalt-treated base. However the interiors of the flows may be favorable for aggregate resources. For example, the basalt flow at Prune Hill (host for the Fisher Quarry, just west of the town of Camas) meets WSDOT specifications for asphalt-treated base. Out of four Prune Hill samples tested, the average LA Abrasion was 22.2%, Washington Degradation was 63.6%, and specific gravity was 2.7. The Boring Volcanics form small shield volcanoes, cinder cones, and lava flows, typically 50 to 100 ft thick. Composition ranges from basalt to basaltic andesite. Flow jointing ranges from platy to blocky, depending on silica content and individual flow characteristics (Hammond and Korosec, 1983; Fleck and others, 2002; Howard, 2002; Phillips, 1987b; Evarts, USGS, unpub. data, 2005).

Tertiary Bedrock Units

Grande Ronde Basalt (unit Mv_g) (Miocene)—No strength or durability data is available for unit Mv_g in Clark County. However, small quarries have been developed in dissected remnants of Grande Ronde Basalt along the Columbia River between the towns of Woodland and Ridgefield (Beeson and others, 1979; Phillips, 1987b; Wells and Niem, 1987; Evarts, 2004d). These rocks generally have very desirable engineering properties for most construction uses, and large quarries have been developed in the Grande Ronde Basalt across the Columbia River near Columbia City, Oregon (Gray and others, 1978). Grande Ronde (member of the Columbia River Basalt Group) is made up of dark gray to black basaltic andesite (Phillips, 1987b). Total thickness in Clark County may be as much as 100 ft but varies locally (Wells and Niem, 1987; Tolan, 1982; Evarts, 2004d).

Silver Star Granodiorite (unit $Migd_{ss}$)—No strength and durability data is available for the Silver Star Granodiorite in Clark County, and little aggregate mining has occurred in this unit to date. This granodiorite is typically light gray and porphyritic to equigranular. It is part of a northeast-trending belt of Miocene intermediate intrusions that extends from southeast Clark County into Skamania County (Korosec, 1987; Phillips, 1987b; Power and others, 1981; Felts, 1939).

Intrusive andesite (unit $Mian_{ss}$)—There is no production history or strength and durability data available for unit $Mian_{ss}$. This andesite is light to medium gray with locally abundant visible pyroxene and plagioclase grains in a fine matrix (porphyry). It forms the chilled border zone of the Silver Star pluton and numerous other smaller shallow intrusive bodies of similar composition and texture in the eastern third of Clark County (Phillips, 1987b).

Miscellaneous diorite and quartz diorite intrusive bodies (lumped for convenience with unit Ova_2)—Diorite and quartz diorite intrusive bodies have a history of crushed aggregate production in northeast Clark County. Two samples of quartz diorite from Yacolt Mountain yielded LA Abrasion test results of 22.8% and 27.2%, and Oregon Degradation test results of 17.7% and 18.4% (Rotschy Inc. of Yacolt, Wash., unpub. data, 2005). Evarts (2005) mapped Tertiary diorite and quartz diorite in northeast Clark County at Buncombe Hollow Creek, Chelatchie Prairie, Dunegan Mountain, and Yacolt Mountain. These intrusive rocks had not yet been mapped when the original DGER 1:100,000-scale digital geologic map coverage was compiled, hence their inclusion in unit Ova_2. Recent mapping by Evarts (USGS, unpub. data, 2005) shows that they are younger than the Skamania volcanics. These rocks are typically porphyritic to equigranular and form erosion resistant knobs and ridges.

Volcanic rocks locally known as the Skamania Volcanics (unit Ova_2) (upper Oligocene)—Lavas and sills within unit Ova_2 have a history of aggregate production (currently mined at the Finn and Chelatchie Prairie quarries and numerous small forestland quarries). Lava flows and sills meet all WSDOT specifications for asphalt-treated base, where they are not intensely weathered. Out of 22 samples tested, the average LA Abrasion was 22.2%, Washington Degradation was 63.6%, and specific gravity was 2.7. The unit includes dark gray basaltic andesite that commonly has visible plagioclase grains in a very fine matrix and forms massive, dense, blocky to platy jointed lava flows or sills. Lava flows are locally interlayered with mechanically weak volcaniclastic rocks (Phillips, 1987b; Howard, 2002; Evarts, 2004a,b,c,d; Evarts, USGS, unpub. data, 2005). These weak rocks may locally constitute overburden to aggregate resources.

Volcanic rocks locally known as the Skamania Volcanics (unit Ova_1) (lower Oligocene)—Out of 22 samples tested, the average LA Abrasion was 22.2%, Washington Degradation was 63.6%, and specific gravity was 2.7. Unit Ova_1 is made up of dark gray andesite and basaltic andesite lava flows and sills that have a very fine matrix with occasional visible pyroxene and plagioclase grains. Flows are typically massive and blocky to platy jointed. They are interlayered with mechanically weak rocks consisting of massive flow breccias and volcaniclastic rocks. These weak rocks may locally constitute overburden to aggregate resources (Phillips, 1987a,b; Evarts, 2004 a,b,c,d).

Goble Volcanics (unit $Ofvba_g$)—Although no test data is available for Clark County, flow centers in the Goble Volcanics have been mined in adjacent Cowlitz County, and may locally meet WSDOT specifications for asphalt-treated base. Local zeolite and chlorite alteration may render portions of flows unsuitable for use as asphalt-treated base aggregate (Wise, 1970; Tschernich, 1986; Evarts and others, 1987; Evarts and Swanson, 1994). The Goble Volcanics (upper Eocene to lower Oligocene) are comprised of a thick sequence of basalt, andesite, and dacite flows and flow breccias and thin interbeds of red-brown siltstone, sandstone, conglomerate, and tuff throughout northern Clark County. Lava flows have abundant gas bubble voids at their tops, and flow breccias commonly envelop dense lenticular flow centers. Prospective bedrock aggregate resources occur locally within dense flow centers, which are typically blocky to platy jointed and have well-developed columnar jointing or colonnade-entablature structure. Individual flow units are typically 15 to 30 ft thick; however, some flows may be as much as 80 ft thick (Phillips, 1987b; Evarts and Swanson, 1994; Evarts and Ashley, 1990; Evarts, 2004a,b,c,d).

USING THIS MAP FOR LAND-USE PLANNING

Areas that we classify as identified resources have sufficient data to indicate that all of the aggregate resource criteria are satisfied. Generally these areas contain a large proportion of the commercial aggregate mines within the area of our investigation. Areas delineated as hypothetical resources cannot be confirmed to meet all of our established criteria based on the available data, although commercial aggregate mines may be operating within these resource areas. There is sufficient data to indicate that most, but not all, of our threshold criteria are satisfied, and that there is a strong likelihood that these areas contain a significant aggregate resource.

Areas identified as speculative resources have evidence of historic use as an aggregate source (that is, locations of small pits or quarries) and a favorable geologic setting. These factors indicate that there may be some potential for aggregate resource that cannot be disregarded. However, there is not sufficient data in these areas to evaluate the criteria used in our resource classification scheme. We must emphasize that areas delineated as speculative may contain a significant aggregate resource.

If our resource map is used in the delineation of mineral resource lands as part of GMA implementation, we recommend that the areas shown as identified and hypothetical resources be considered for the designated resource areas. We also recommend that landowners be allowed to initiate designation of mineral resource lands based on information specific to a particular parcel or area of ownership. This would allow the inclusion of areas that we have classified as speculative resources because of a lack of data. This procedure would require that the landowner provide data indicating that the areas proposed for inclusion as mineral resource lands do satisfy our classification criteria. For more information on implementation of the GMA for mineral resource lands, see Lingley and Jazdzewski (1994) in the growth management issue of *Washington Geology* [http://www.dnr.wa.gov/geology/pubs/washgeol/2news94.pdf]. They have reviewed Washington's aggregate resources and offer helpful suggestions to local jurisdictions.

ACKNOWLEDGMENTS

We would like to express our appreciation to Mike Mabrey of Clark County Long Range Planning, who has strongly supported our aggregate resource mapping efforts in Clark County; Russell Evarts of the USGS, who assisted in the delineation of geologic units favorable for aggregate resources in Clark County and provided a timely review of the rough draft of this mineral resource inventory; and Dave Norman, Rebecca Niggemann, Jari Roloff, and Chuck Caruthers of the Washington Department of Natural Resources, Division of Geology and Earth Resources, who provided the technical advice and support necessary for the development and completion of this study. We also appreciate the comments and suggestions provided by Kitty Reed on the initial draft of this report.

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EXPLANATION

	Resource		Definition
IDENTIFIED	Gravel	Bedrock	Identified resources are gravel or bedrock aggregate for which distribution, grade, and quality can be confidently estimated from specific geologic evidence, limited sampling, and laboratory analysis. Identified resources may include economic, marginally economic, and subeconomic components that reflect various degrees of geologic certainty. We map an identified resource where available data appear to satisfy all of the elements of our threshold criteria.
HYPOTHETICAL		Bedrock	Hypothetical resources are aggregate resources postulated to exist on the basis of general geologic information and aggregate test data and production history. We map hypothetical resources where available data appear to satisfy most of the elements of our threshold criteria.
SPECULATIVE	Gravel	Bedrock	Speculative resources are aggregate resources for which geologic and production information is sparse and where rock types have not been evaluated for their aggregate potential. Nevertheless, inferences can be made from existing geologic map

Exhibit J

Study of Permitted Aggregate Reserves of Clark County by GeoDesign Inc.

January 2018

SUMMARY: STUDY OF PERMITTED AGGREGATE RESERVES

OF CLARK COUNTY, WASHINGTON

Prepared by:
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On behalf of:
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January 4, 2018

GeoDesign Project: Storedahl-15-01

Executive Summary

In December of 2017 and January of 2018 GeoDesign, Inc. conducted a survey and study of aggregate mines in Clark County, Washington to determine the state of permitted construction aggregate resources within the county. The Department of Natural Resources Information Circular 95 defines construction aggregate, the focus of the study, as "*A mixture of sand and gravel or sand and crushed rock used in portland cement concrete, asphaltic concrete, mortar, plaster, or graded fill. Gravel and crushed stone that are in grain-to-grain contact in the aggregate are strong enough to support the weight of roads, buildings, or other infrastructure. The sand keeps the coarse aggregate in grain-to-grain contact by limiting the ability of the larger particles to shift laterally.*"

The research was conducted with direct consultation from aggregate mine operators in Clark County and the Washington Department of Natural Resources. Additional information was sourced from the US Census Bureau, the Washington Division of Geology and Earth Resources Information Circular 87, and Google Earth Pro aerial photography. The first goal was to determine the current operational status, annual production, quantity of reserves, and the quality of those reserves as construction aggregate throughout the county. The second goal was to create a forecast to understand how permitted reserves fulfill aggregate demand of the county.

Numerous important conclusions were drawn from the data:

- Of the 25 quarries and pits presently permitted in Clark County with the DNR, only 9 mines are producing aggregate. Two active mines, Fazio and Friberg, are producing non-construction grade aggregate. The Washougal pit and Spotted Deer quarry are currently not commercially producing sites. Four other currently producing mines (Fisher, Lewisville Pit,

Livingston, and Courtney Rock) are facing projected depletion of their economic reserves in the next few years.

- Using county reserve estimates compared to demand calculations from the DNR and Clark County industry research, it was concluded that at DNR demand rates the county has only 8 years of permitted aggregate reserves and at Industry demand rates, assessed from industry experience and discussions with county producers, the county reserves would only last 21 years. Given the length of time that it takes to permit and start up a mine, these reserves would be reduced by the time that an additional mine could be producing aggregate. Moreover, because of operational limits such as truck trip restrictions, the amount of aggregate reserves accessible at any point in time may be overstated by these estimates.

The findings of the study are summarized in Table 1 attached. Additional details and supporting information for the study are available upon request to GeoDesign, Inc.

♦ ♦ ♦

Should you have questions, we can be reached at (360) 200-4803.

Sincerely,

GeoDesign, Inc.

Harrison J. Ingham, G.I.T.
Mining Consultant

Roy L. Garrison
Principal Mining Consultant

HJI:RLG
Attachment
1 copies submitted
Document ID: Storedahl-15-01:092917
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Table 1: Clark County Estimated Construction Aggregate Reserves

(GeoDesign, Inc., 01/04/2018)

	Name of Mine	Permit #	Status	Acres Permitted	Life of Mine Volume (cy)
1	WOODLAND PIT	10007	Complete	79.29	-
2	FISHER QUARRY/QS-G-78	10378	Complete	76	-
3	TEBO	10407	Complete	79.93	-
4	WHATLEY PIT G-43	10412	Complete	15	-
5	ORCHARDS	10709	Complete	54	-
6	EVERGREEN	10937	Complete	21.29	-
7	CIRCLE C	11938	Complete	42.9	-
8	WASHOUGAL RIVER PIT [H]	12199	Complete	6.25	-
9	TWIN PEAKS	12661	Complete	30	-
10	SE 1ST ST FACILITY	12822	Complete	10.54	-
11	REEBS/PARR	13027	Complete	52	-
12	ENGLISH PIT [H]	10009	Complete	60	-
13	FINN HILL [H]	10931	Complete	5	-
14	FAZIO PIT [A]	10377	Active	13.85	-
15	DAYBREAK [E]	10139	Active	292	1,333,000
16	FISHER	10379	Active	103.4	30,000
17	MAPLE PIT QUARRY G-9 [B]	10391	Active	31.5	900,000
18	FRIBERG PIT [A]	10403	Active	216	-
19	WASHOUGAL [A]	10745	Active	120	-
20	LIVINGSTON [E]	10930	Active	20	15,000
21	LEWISVILLE PIT (CEMEX) [C]	12044	Active	122.4	560,000
22	SPOTTED DEER/RANDALL KIRK [B]	12461	Active	27.5	800,000
23	COURTNEY ROCK QUARRY [C]	13017	Active	16.75	100,000
24	LIVINGSTON MT QUARRY [E]	13041	Active	40	833,000
25	YACOLT MT QUARRY	13057	Active	135	34,500,000

# of Mines Producing Construction Grade Aggregate	**9**
County Wide Total Permitted Reserves (cy)	**39,071,000**
Annual Aggregate Demand using DNR Consumption Estimate (cy) [D,F]	**5,513,940**
Estimated Years of Reserve Based on DNR Consumption	**7**
Annual Aggregate Demand using Industry Consumption Estimate (cy) [D,G]	**1,837,980**
Estimated Years of Reserve Based on Projected Industry Consumption	**21**

[A] Remaining reserves and production are non-construction grade aggregate, based on DNR definition (Information Circular 95)

[B] Estimated reserve based on SM-8a annual production

[C] Reserve estimated with air photo analysis (Google Earth Pro 5/22/2017 Air Photo) and mine depth permitted

[D] 2015 US Census Bureau Population of Clark County - 459,495

[E] Converted from tons using DNR Information Circular 95 conversion numbers (1.6 T/cy for Sand & Gravel, 2.4 T/cy for Basalt/Andesite)

[F] Annual per capita demand of 12 cubic yards per person from Washington Division of Geology and Earth Resources Information Circular 87 (1992)

[G] Annual per capita demand of 4 cubic yards per person derived Clark County aggregate industry research and producer information

[H] In Reclamation

Notes: Complete is defined as DNR permits no longer producing aggregate with depleted reserves and/or being reclaimed.

ADDITIONAL DETAILS AND SUPPORTING INFORMATION

STUDY OF PERMITTED AGGREGATE RESERVES

OF CLARK COUNTY, WASHINGTON

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January 25, 2018

GeoDesign Project: Storedahl-15-01

INTRODUCTION

In December 2017 and January 2018 GeoDesign, Inc. conducted a study of aggregate mines and estimated aggregate reserves in Clark County, Washington. The first goal of the study was to determine the current operational status, annual production, quantity of reserves, and the quality of those reserves as construction aggregate throughout the County. The second goal was to create a forecast to understand how permitted reserves may fulfill aggregate demand of the County. The Washington Department of Natural Resources Information Circular 95 defines construction aggregate as "*A mixture of sand and gravel or sand and crushed rock used in portland cement concrete, asphaltic concrete, mortar, plaster, or graded fill.*"

The research was conducted with direct consultation with the Washington Department of Natural Resources (DNR), aggregate mine operators in Clark County, and utilizing GeoDesign, Inc.'s 40 years of mining industry expertise. Additional information was sourced from the United States Census Bureau, the Washington Division of Geology and Earth Resources Information Circular 87, and Google Earth Pro aerial photography.

The study concludes that Clark County is facing several challenges with its permitted construction aggregate reserves. There is a rapidly decreasing amount of permitted reserves combined with high demand for aggregate in the rapidly growing County. Using DNR data for per capita demand of aggregate, this study estimates Clark County has only 7 years of reserves. Alternatively, using a projected industry consumption per capita demand, there are only 21 years of reserves remaining. Of the 25 mines listed by DNR as being active in Clark County, 9 are producing construction aggregate. Over 99% of the permitted reserves are sourced from only 6 mines. The conclusion

drawn from this study is the need for expanded permitted resources in Clark County to avoid supply issues and pricing inflation.

ACTIVE PERMITS IN CLARK COUNTY

Presented on Table 1 is a list from the DNR containing all 25 mines currently in operation in Clark County with active permits. This list was generated by the DNR directly for GeoDesign in December 2017 and does not include mines that have been reclaimed or are otherwise listed as inactive. Active sites are mines that have sufficient activity occurring that requires DNR oversight and inspection. Besides production of mined materials, regulated activities include backfilling, active reclamation, landfill use and other non-resource extraction activities.

Table 1. Clark County Active Mine Permits
(Washington Department of Natural Resources, December 14, 2017)

Name of Mine		Permit #	Operator/Applicant
1	WOODLAND PIT	10007	J L STOREDAHL & SONS INC
2	FISHER QUARRY/QS-G-78	10378	PACIFIC ROCK PRODUCTS LLC
3	TEBO	10407	J L STOREDAHL & SONS INC
4	WHATLEY PIT G-43	10412	CLARK COUNTY PUBLIC WORKS
5	ORCHARDS	10709	CADMAN MATERIALS INC
6	EVERGREEN	10937	TAPANI INC
7	CIRCLE C	11938	CORAMAE CARLSON
8	WASHOUGAL RIVER PIT	12199	CANYON CREEK ROCK LLC
9	TWIN PEAKS	12661	PEBBLE CREEK FARMS LTD
10	SE 1ST ST FACILITY	12822	CADMAN MATERIALS INC
11	REEBS/PARR	13027	CADMAN MATERIALS INC
12	ENGLISH PIT	10009	GILBERT WESTERN CORP
13	FINN HILL	10931	CLARK COUNTY PUBLIC WORKS
14	FAZIO PIT	10377	FAZIO BROS SAND CO INC
15	DAYBREAK	10139	J L STOREDAHL & SONS INC
16	FISHER	10379	CADMAN MATERIALS INC
17	MAPLE PIT QUARRY G-9	10391	CLARK COUNTY PUBLIC WORKS
18	FRIBERG PIT	10403	ROTSCHY
19	WASHOUGAL	10745	PAUL ZIMMERLY ROCK PRODUCTS
20	LIVINGSTON	10930	TOWER ROCK PRODUCTS INC
21	LEWISVILLE PIT (CEMEX)	12044	PACIFIC ROCK PRODUCTS INC
22	SPOTTED DEER/RANDALL KIRK	12461	DNR SW PRO 532
23	COURTNEY ROCK QUARRY	13017	WALDOW FAMILY ENT INC
24	LIVINGSTON MT QUARRY	13041	TOWER ROCK PRODUCTS INC
25	YACOLT MT QUARRY	13057	J L STOREDAHL & SONS INC

Through discussions with the DNR and their inspectors it was determined that 13 of the sites were not producing any form of mined material for the general market. These sites are:

Woodland Pit, Fisher Quarry, Tebo, Whatley Pit, Orchards, Evergreen, Circle C, Washougal River Pit, Twin Peaks, SE 1st St, Reebs/Parr, Finn Hill, and English Pit. These locations are in various stages of backfilling, reclamation, landfill use, or other non-extractive activities that fall under DNR oversight. These sites are referred to hereafter as "complete", meaning there is no viable or extracted mineral reserve remaining at the facility, and there is no commercial aggregate being sold off the site.

ACTIVE MINES IN CLARK COUNTY

We investigated the remaining 12 active mine sites with permitted reserves in Clark County. Table 2 presents the results of the investigations including the permitted area of the site and the mine reserves (presented as Life of Mine Volume in cubic yards).

FAZIO, FRIBERG, AND WASHOUGAL

These 3 mine sites were excluded from the calculations for permitted construction aggregate reserves based on discussion with DNR staff, review of documents from DNR's files, discussion with mine operators, and the nature of each operation. Fazio receives Colombia River dredge sands as determined by discussion with the DNR inspector for the site and written comments from the DNR's August 29, 2016 inspection report. The Washougal site is currently not producing any aggregate for sale based on DNR inspections and review of aerial photographs. Friberg is currently only producing screening and fill material and based on DNR form SM-2 data has nearly depleted its reserves.

DAYBREAK, LIVINGSTON, LIVINGSTON MOUNTAIN, AND YACOLT MOUNTAIN

These operations are mined by Storedahl and Sons, Inc. Information regarding their status was determined from interviews with Storedahl and Sons in December 2017 and corroborated with the DNR via discussion with inspectors and review of inspection reports. Storedahl reported reserves for this study in tons of aggregate which was then converted to cubic yards using standard DNR conversion numbers outlined in the Washington Department of Natural Resources Information Circular 95.

FISHER

Fishers reserves were determined from DNR inspection report data and a letter from Brian Massey with the DNR dated May 1, 2017, where he discussed a small section of the mine floor that will be mined, as well as additional discussion of the reserves with the DNR occurring on December 14, 2017.

MAPLE PIT

The Maple Pit is operated by Clark County Public Works, and its reserves were estimated from the DNR SM-8A form on file combined with an annual production estimate and remote reconnaissance of the site.

LEWISVILLE PIT

Reserves for this facility were determined through analysis of the existing mine footprint via air photo reconnaissance and elevation data compared against permitted mining area and depth in the SM-8A form on file with the DNR for the site, which is dated October 12, 2004.

SPOTTED DEER

Reserves for this facility were determined through analysis of the existing mine footprint via air photo reconnaissance, elevation data, and estimated annual production compared against permitted mining area and depth reported in the SM-8A form on file with the DNR for the site, which is dated January 6, 2012.

COURTNEY ROCK QUARRY

Reserves for this facility were determined through analysis of the existing mine footprint via air photo reconnaissance and elevation data compared against permitted mining area and depth in the SM-8A form on file with the DNR for the site which is dated November 13, 2003.

Table 2. Clark County Estimated Construction Aggregate Reserves
(GeoDesign, Inc., January 4, 2018)

Name of Mine		Permit #	Status	Acres Permitted	Life of Mine Volume (cy)
1	WOODLAND PIT	10007	Complete	79.29	-
2	FISHER QUARRY/QS-G-78	10378	Complete	76	-
3	TEBO	10407	Complete	79.93	-
4	WHATLEY PIT G-43	10412	Complete	15	-
5	ORCHARDS	10709	Complete	54	-
6	EVERGREEN	10937	Complete	21.29	-
7	CIRCLE C	11938	Complete	42.9	-
8	WASHOUGAL RIVER PIT	12199	Complete	6.25	-
9	TWIN PEAKS	12661	Complete	30	-
10	SE 1ST ST FACILITY	12822	Complete	10.54	-
11	REEBS/PARR	13027	Complete	52	-
12	ENGLISH PIT	10009	Complete	60	-
13	FINN HILL	10931	Complete	5	-
14	FAZIO PIT	10377	Active	13.85	-
15	DAYBREAK	10139	Active	292	1,333,000
16	FISHER	10379	Active	103.4	30,000
17	MAPLE PIT QUARRY G-9	10391	Active	31.5	900,000
18	FRIBERG PIT	10403	Active	216	-
19	WASHOUGAL	10745	Active	120	-
20	LIVINGSTON	10930	Active	20	15,000
21	LEWISVILLE PIT (CEMEX)	12044	Active	122.4	560,000
22	SPOTTED DEER/RANDALL KIRK	12461	Active	27.5	800,000
23	COURTNEY ROCK QUARRY	13017	Active	16.75	100,000
24	LIVINGSTON MT QUARRY	13041	Active	40	833,000
25	YACOLT MT QUARRY	13057	Active	135	34,500,000

cy = cubic yards

CONCLUSIONS

Table 3 provides a summary of the major conclusions drawn from the study. The study used the 2015 Census Bureau population data for the County and per capita consumption data from the DNR Information Circular 87 and an assumed Industry consumption estimate based on conversations with producers within the County for determining the total volume of demand for construction aggregates per year. This was then compared against the County-wide permitted reserves to estimate the years of reserves remaining in Clark County.

Table 3. Clark County Estimated Construction Aggregate Forecast
(GeoDesign, Inc., January 4, 2018)

Number of Mines Producing Construction-Grade Aggregate	**9**
County Wide Total Permitted Reserves (cy)	**39,071,000**
Annual Aggregate Demand using DNR Consumption Estimate (cy)	**5,513,940**
Estimated Years of Reserve Based on DNR Consumption	**7**
Annual Aggregate Demand using Industry Consumption Estimate (cy)	**1,837,980**
Estimated Years of Reserve Based on Projected Industry Consumption	**21**

cy = cubic yards

It was concluded that at DNR demand rates the County has only 7 years of permitted aggregate reserves, and at Industry demand rates, assessed from industry experience and discussions with aggregate producers within the County, the County reserves would last only 21 years. Given the length of time that it takes to permit and start up a mine, these reserves would be significantly reduced by the time an additional mine could produce aggregate. Moreover, because of operational limits such as truck-trip restrictions, the amount of aggregate reserves accessible at any point in time may be overstated by these estimates. An additional limitation within the study is population. The number used for this study is from 2015 and does not account for the rapid growth experienced by the county from 2015 to 2017. These results establish a clear need for additional permitted aggregate reserves in Clark County to meet the rapidly increasing demand for aggregate within the County.

♦ ♦ ♦

Should you have questions, we can be reached at (360) 200-4803.

Sincerely,

GeoDesign, Inc.

Harrison J. Ingham
Staff Mining Consultant

Roy L. Garrison
Principal Mining Consultant

HJI:RLG
One copy submitted (via email)
Document ID: Storedahl-15-01-012518-addl-info.docx
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Exhibit K

Legal Description & Deeds

December 1985 – Bargain and Sale Deed – International Paper Company (IP) to IP Timberlands Operating Company, Ltd.

October 2010 – Quit Claim Deed – IP et al. to BRP, LLC.

February 2020 – Quit Claim Deed – IP et al. to BRP, LLC.

This instrument prepared by and when recorded mail to:
BRP LLC
c/o NRP (Operating) LLC
601 Jefferson Street, Suite 3600
Attention: Mr. Wyatt Hogan
Vice President-General Counsel

Space above this line for Recorders use only

QUITCLAIM DEED

Date: July 13th 2010

Grantor(s): **INTERNATIONAL PAPER COMPANY, SUSTAINABLE FORESTS, L.L.C., INTERNATIONAL PAPER REALTY CORPORATION, BLUE SKY TIMBER PROPERTIES LLC, SP FORESTS L.L.C., IP PETROLEUM COMPANY, INC., GCO MINERALS LLC, IP PACIFIC TIMBERLANDS, INC., IP TIMBERLANDS OPERATING COMPANY, LTD., IP FARMS, INC., CHAMPION REALTY CORPORATION, TRANSTATES PROPERTIES INCORPORATED** and **THE LONG-BELL PETROLEUM COMPANY, INC.**
Grantors Address: **PO Box 2118, Memphis, TN 38101**
Grantee(s): **BRP LLC**
Abbreviated Legal: ptn. T005N-R003E-SEC003, ptn. T005N-R003E-SEC004, ptn. T005N-R003E-SEC002, ptn. T005N-R004E-SEC007, ptn. T005N-R003E-SEC012, ptn. T005N-R004E-SEC007, ptn. T005N-R003E-SEC013, ptn. T005N-R004E-SEC018, ptn. T005N-R003E-SEC014, ptn. T005N-R003E-SEC014, ptn. T005N-R003E-SEC015, ptn. T005N-R003E-SEC022, ptn. T005N-R003E-SEC022, ptn. T005N-R003E-SEC027, ptn. T005N-R003E-SEC027, ptn. T005N-R003E-SEC026, ptn. T005N-R003E-SEC035, ptn. T004N-R003E-SEC005, ptn. T003N-R003E-SEC002, ptn. T003N-R003E-SEC011, ptn. T003N-R003E-SEC026, ptn. T004N-R004E-SEC018, ptn. T004N-R004E-SEC018, ptn. T003N-R003E-SEC026, ptn. T003N-R003E-SEC011, ptn. T003N-R003E-SEC002, ptn. T003N-R003E-SEC002, ptn. T003N-R003E-SEC002, ptn. T003N-R003E-SEC002, ptn. T003N-R003E-SEC002, ptn. T005N-R004E-SEC007
Additional Legal on page: **Exhibit A**
Assessor's Tax Parcel No(s): 281141000, ptn. 281174000, 275008000, ptn. 300022000, 274799000, 274797000, 300024000, ptn. 300026000, 279455000, 300019000, ptn. 300020000, ptn. 300020000, 276619000, ptn. 300022000, 300021000, 274791000, ptn. 300025000, ptn. 300026000, 274574000, ptn. 300026000, ptn. 283421000, 283422000, 283420000, [redacted], 274347000, ptn. 274363000, 281147000, 259783000, 259794000, 272651000, 272442000, 272445000, ptn. 206685262, ptn. 206685262, 202733000, ptn. 202760000, ptn. 202732000, 120211000, 120211005, ptn. 120210000; 120232000, 120230000, 120210005, ptn. 120210000, 120901000, 120211000, 120211005, ptn. 120210000, 120232000, 120230000, 120260000, 120262000, 120240000, 120250000, 120270000, 247859000 & 247858000, 247849000, 247860000, 230302000, 230276000, ptn. 230300000, 120211000, 120211005, ptn. 120210000, 120232000, 120230000

THE GRANTOR(S), INTERNATIONAL PAPER COMPANY, a New York corporation, **SUSTAINABLE FORESTS, L.L.C.,** a Delaware limited liability company,

4710775 D
RecFee - $138.00 Pages: 27 - CINCO LAND & EXPLORATION
Clark County, WA 10/26/2010 01:03

RETURN ADDRESS

Cinco Energy Services
9235 Katy Freeway, Suite 400
Houston, TX 657821
657829 657826 657822
657827 657823
657828 657825

Real Estate Excise Tax
Ch. 11 Rev. Laws 1951
EXEMPT
Affd. #_____ Date 10.26.10
For details of tax paid see
Affd. #_____
Doug Lasher
Clark County Treasurer
By_____ Deputy

Please print neatly or type information

Document Title(s)

Quit Claim Deed

Reference Numbers(s) of related documents:

Legal 02|32007019v1

Additional Reference #'s on page ____

Grantor(s) (Last, First and Middle Initial)

International Paper Company, et al

Additional grantors on page ____

Grantee(s) (Last, First and Middle Initial)

BRP, LLC

Additional grantees on page ____

Legal Description (abbreviated form: i.e. lot, block plat or section, township, range, quarter/quarter)

TRACT 00004 T005N-R003E-SEC003
320acs NEZ

Additional legal is on page ____
See Exhibit "A"

Assessor's Property Tax Parcel/Account Number

28114 1000 (See Exhibit A)

Additional parcel #'s on page ____

The Auditor/Recorder will rely on the information provided on this form. The staff will not read the document to verify the accuracy or completeness of the indexing information provided herein.

I am requesting an emergency nonstandard recording for an additional fee as provided in RCW 36.18.010. I understand that the recording processing requirements may cover up or otherwise obscure some part of the text of the original document.

Signature of Requesting Party

INTERNATIONAL PAPER REALTY CORPORATION, a Delaware corporation, **BLUE SKY TIMBER PROPERTIES LLC**, a Delaware limited liability company, **SP FORESTS L.L.C.**, a Delaware limited liability company, **IP PETROLEUM COMPANY, INC.**, a Delaware corporation, **GCO MINERALS LLC**, a Texas limited liability company, **IP PACIFIC TIMBERLANDS, INC.**, a Delaware corporation, **IP TIMBERLANDS OPERATING COMPANY, LTD.**, a Texas limited partnership, **IP FARMS, INC.**, a Delaware corporation, **CHAMPION REALTY CORPORATION**, a Delaware corporation, **TRANSTATES PROPERTIES INCORPORATED**, a Delaware corporation and **THE LONG-BELL PETROLEUM COMPANY, INC.**, a Louisiana corporation (each a "**GRANTOR**" and collectively, the "**GRANTORS**"), and each of whose address is set forth below, for and in consideration of the sum of TEN AND NO/100 DOLLARS ($10.00) cash in hand paid by **BRP LLC**, a Delaware limited liability company, whose address is set forth below, ("**GRANTEE**"), the receipt and sufficiency of which are hereby acknowledged, do hereby quitclaim and release unto Grantee, its successors and assigns forever, subject to the reservations herein, the Assets. The term "*Assets*" shall mean all of the right, title, interest and claim of each Grantor in and to the following, less and except the Excluded Assets (as hereinafter defined):

(a) all mineral fee estates, mineral servitudes, royalty, overriding royalty, executive rights and other interests and rights, whether developed or undeveloped, leased or unleased in all (i) oil, liquid hydrocarbons, gas, coal seam gas, coal bed methane and any and all other liquid or gaseous hydrocarbons, as well as their respective constituent products, including condensate, casinghead gas, distillate and natural gas liquids and any other minerals produced in association therewith, (ii) helium, carbon dioxide and other gaseous substances, (iii) lead, zinc, copper, coal, lignite, peat, sulfur, phosphate, iron ore, sodium, salt, uranium, thorium, and other fissionable materials, molybdenum, vanadium, titanium, rulite ilmenite, leucoxene, zircon, monazite, gold, silver, bauxite, precious and semi-precious gems and minerals, industrial minerals and other hard minerals, (iv) limestone, granite, saprolite, kaolin (and other forms of clay), sand, gravel, aggregate and other mined or quarried stone, bedrock and other rock materials, (v) all geothermal energy resources including, but not limited to, hydrostatic pressure, thermal energy, hydropressured reservoirs, geopressured reservoirs, steam and other gases, hot water, hot brine, heat, natural gas and methane dissolved in geothermal formation water and any

associated energy found in such geothermal formation water, including hydrostatic pressure and thermal energy, (vi) the right to sequester carbon dioxide or other greenhouse gases or greenhouse gas emissions in, on or under the subsurface of the Assets, including deep saline acquifers, oil and gas reservoirs, unmineable coal seams, basalt formations, and any other type of geologic formations or strata that may be susceptible to carbon dioxide or greenhouse gas storage either presently or in the future, (vii) subsurface water rights, and (viii) ore deposits of any kind or character, whether solid, liquid or gaseous, and without limitation by enumeration of the minerals and substances expressly mentioned above (all of the foregoing minerals, substances and rights being defined as "*Minerals*"), in each case owned, held or claimed by any Grantor, in, to, on or under any of the lands described on **EXHIBIT A** attached hereto and made a part hereof (the "*Mineral Lands*");

(b) all Mineral leases, subleases, option agreements, and other similar instruments applicable to the Mineral Lands, including without limitation, those leases and other instruments described on **EXHIBIT B** attached hereto and made a part hereof;

(c) all real or immovable property and rights incident to the Mineral Lands, including (i) all rights with respect to the use or occupation of the surface of and subsurface depths under the Mineral Lands, and (ii) all rights with respect to any pooled, communitized or unitized lands by virtue of any Mineral Lands being a part thereof, including all production from such pool or unit allocated to any such Mineral Lands;

(d) all surface fee interests, surface leases, easements, rights-of-way, permits, licenses, and servitudes, rights of ingress and egress and use of the Mineral Lands to the extent reasonably necessary for exploring, drilling, mining, developing, producing, treating, storing, removing, transporting, marketing and owning the Minerals, and other rights with respect to the use and occupation of the surface of and the subsurface depths under the Mineral Lands, including those described in **EXHIBIT C** (such properties, the "*Easements*") but only to the extent that an owner of the Mineral Lands has rights under such Easements and subject to those obligations thereunder relating to the use of the surface of the Mineral Lands or the Minerals;

(e) all Minerals produced from or attributable to the Mineral Lands after the Effective Time and all fixtures and other real, immovable, movable and mixed property used or held for use in connection with the Mineral Lands;

LESS AND EXCEPT, and each Grantor hereby reserves all of its right, title, interest and claim in and to, the lands described on **EXHIBIT D** attached hereto and made a part hereof for all purposes (such properties, the "*Excluded Assets*").

TO HAVE AND TO HOLD THE ASSETS, together with all and singular the rights, privileges, contracts and appurtenances, in any way appertaining or belonging thereto (except as otherwise set forth herein), unto Grantee, its successors and assigns forever. EXCEPT AS

PROVIDED IN THE SALE AND CONTRIBUTION AGREEMENT DATED MAY 27, 2010 BY AND AMONG NRP (OPERATING) LLC, INTERNATIONAL PAPER COMPANY, IP MINERAL HOLDINGS LLC and GRANTEE, this Quitclaim Deed is made without warranty of title of any kind whatsoever, express, implied or statutory, and without recourse, even as to the return of the purchase price or other consideration, but with full substitution and subrogation of Grantee, and all persons claiming by, through and under Grantee, to the extent assignable, in and to all covenants and warranties by Grantors' predecessors in title and with full subrogation of all rights accruing under the statutes of limitation or prescription under the laws of various states in which the Assets are located. Grantors hereby assign to Grantee all covenants and warranties by Grantors' predecessors in title and all of Grantors' rights, claims and causes of action which any Grantor may have against its predecessors, and Grantee is specifically subrogated to all rights occurring under the statutes of limitation or prescription under the laws of the state where the Mineral Lands are located, to the extent Grantor may legally transfer such rights and grant such subrogation.

This Quitclaim Deed shall be effective for all purposes as of 7:00 a.m., local time at the location of the Assets, June 1, 2010 (the "*Effective Time*").

Address of Grantor:
c/o International Paper Company
PO Box 2118
Memphis, TN 38101

Address of Grantee:
BRP LLC
c/o NRP (Operating) LLC
601 Jefferson Street, Suite 3600
Attention: Mr. Wyatt Hogan
Vice President-General Counsel

EXECUTED this 13 day of July, 2010.

INTERNATIONAL PAPER COMPANY,
a New York corporation

By: _____

Name: **Kevin G. McWilliams**

Title: **Vice President**

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of **Tennessee**, personally appeared **Kevin G. McWilliams**, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the **Vice President** of **INTERNATIONAL PAPER COMPANY,** a New York corporation, to be the free and voluntary act and deed of said corporation for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

_____
Notary Signature

Jenny L. Bullard
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of **Tennessee**
residing at **Shelby**
My appointment expires 2-1-2012

(NOTARY)

LEGAL02/32007019v1

Clark, Washington - QCD

SUSTAINABLE FORESTS, L.L.C., a
Delaware limited liability company

By: _____

Name: Kevin G. McWilliams

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared Kevin G. McWilliams, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **SUSTAINABLE FORESTS, L.L.C.**, a Delaware limited liability company, to be the free and voluntary act and deed of said company for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

_____
Notary Signature
Jenny L. Bullard
_____
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires 2-1-2012

(NOTARY)

LEGAL02/32007019v1

Clark, Washington - QCD

INTERNATIONAL PAPER REALTY CORPORATION, a Delaware corporation

By: _____

Name: E. Wayne Plummer

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared E. Wayne Plummer, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **INTERNATIONAL PAPER REALTY CORPORATION**, a Delaware corporation, to be the free and voluntary act and deed of said corporation for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

_____
Notary Signature

Jenny L. Bullard
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires 2-1-2012

(NOTARY)

BLUE SKY TIMBER PROPERTIES LLC, a Delaware limited liability company

By: _____

Name: E. Wayne Plummer

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared E. Wayne Plummer, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **BLUE SKY TIMBER PROPERTIES LLC**, a Delaware limited liability company, to be the free and voluntary act and deed of said company for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

_____
Notary Signature

Jenny L. Bullard
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires 2-1-2012

JENNY L. BULLARD STATE OF TENNESSEE NOTARY PUBLIC COUNTY OF SHELBY

(NOTARY)

SP FORESTS L.L.C., a Delaware limited liability company

By: _____

Name: E. Wayne Plummer

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared E. Wayne Plummer, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **SP FORESTS L.L.C.**, a Delaware limited liability company, to be the free and voluntary act and deed of said company for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

_____
Notary Signature

Jenny L. Bullard
_____
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires 2-1-2012

(NOTARY)

LEGAL02/32007019v1

Clark, Washington - QCD

IP PETROLEUM COMPANY, INC., a Delaware corporation

By: Karen M Edwards

Name: Karen M. Edwards

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13th day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared Karen M. Edwards, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **IP PETROLEUM COMPANY, INC.**, a Delaware corporation, to be the free and voluntary act and deed of said corporation for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

Notary Signature

Alexis S.D. Fulton
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires _____

(NOTARY)

ALEXIS S.D. FULTON
STATE OF TENNESSEE
NOTARY PUBLIC
COUNTY OF SHELBY

LEGAL02/32007019v1

Clark, Washington - QCD

GCO MINERALS LLC, a
Texas limited liability company

By: Karen M Edwards

Name: Karen M. Edwards

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared Karen M. Edwards, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **GCO MINERALS LLC**, a Texas limited liability company, to be the free and voluntary act and deed of said corporation for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

Notary Signature

Alexis S.D. Fulton
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires _____

(NOTARY)

ALEXIS S.D. FULTON
STATE OF TENNESSEE
NOTARY PUBLIC
COUNTY OF SHELBY

LEGAL02/32007019v1

Clark, Washington - QCD

IP PACIFIC TIMBERLANDS, INC., a Delaware corporation

By: _____

Name: E. Wayne Plummer

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared E. Wayne Plummer personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **IP PACIFIC TIMBERLANDS, INC**, a Delaware corporation, to be the free and voluntary act and deed of said corporation for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

_____
Notary Signature

Jenny L. Bullard
_____
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires 2-1-2012

(NOTARY)

IP TIMBERLANDS OPERATING COMPANY, LTD., a Texas limited partnership

By: IP Forest Resources Company, a Delaware corporation, its Managing Partner

By: _____

Name: E. Wayne Plummer

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared E. Wayne Plummer, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of IP Forest Resources Company, a Delaware corporation, as Managing Partner of **IP TIMBERLANDS OPERATING COMPANY, LTD.**, a Texas limited partnership, to be the free and voluntary act and deed of said corporation for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

Notary Signature

Jenny L. Bullard

(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires 2-1-2012

JENNY L. BULLARD STATE OF TENNESSEE NOTARY PUBLIC COUNTY OF SHELBY

(NOTARY)

LEGAL02/32007019v1

Clark, Washington - QCD

IP FARMS, INC., a Delaware corporation

By: _____

Name: E. Wayne Plummer

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared E. Wayne Plummer, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **IP FARMS, INC.**, a Delaware corporation, to be the free and voluntary act and deed of said corporation for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

_____
Notary Signature

Jenny L. Bullard
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires 2-1-2012

(NOTARY)

CHAMPION REALTY CORPORATION, a Delaware corporation

By: _____

Name: E. Wayne Plummer

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared E. Wayne Plummer, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **CHAMPION REALTY CORPORATION**, a Delaware corporation, to be the free and voluntary act and deed of said corporation for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

_____
Notary Signature
Jenny L. Bullard

_____
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires 2-1-2012

(NOTARY)

TRANSTATES PROPERTIES INCORPORATED, a Delaware corporation

By: _____

Name: E. Wayne Plummer

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared E. Wayne Plummer personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **TRANSTATES PROPERTIES INCORPORATED**, a Delaware corporation, to be the free and voluntary act and deed of said corporation for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

_____
Notary Signature

Jenny L. Bullard
_____
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires 2-1-2012

(NOTARY)

THE LONG-BELL PETROLEUM COMPANY, INC., a Louisiana corporation

By: _____

Name: E. Wayne Plummer

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared E. Wayne Plummer, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **THE LONG-BELL PETROLEUM COMPANY, INC.**, a Louisiana corporation, to be the free and voluntary act and deed of said corporation for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

_____
Notary Signature

Jenny L. Bullard
_____
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires 2·1·2012

(NOTARY)

LEGAL02/32007019v1

Clark, Washington - QCD

EXHIBIT A

(see attached)

[Tract#] [Location Reference (Abst/Svy, PLSS, District)]
[Gross Acres (+/-)]
[Tract Description]
[Tax Parcel ID]

TRACT 00004 T005N-R003E-SEC003 320 acs

N2

Said tract being associated with Tax Parcel ID: "272442000 & 272445000, "

TRACT 00006 T005N-R003E-SEC004 36.84 acs

SE4NE4

Said tract being associated with Tax Parcel ID: "272651000, "

TRACT 00007 T005N-R002E-SEC002 160 acs

SE4

Said tract being associated with Tax Parcel ID: "259783000 & 259794000, "

TRACT 00012 T005N-R004E-SEC007 18.69 acs

Beg at NW cor of NE4NE4 E of Willamette Meridian; th E along N boundary of Section 7, 103.3 ft; th S 240 ft; th W 103.3 ft; N 240 ft to POB.

Said tract being associated with Tax Parcel ID: "281147000, "

TRACT 00014 T005N-R003E-SEC012 29.36 acs

That Portion of SE4NE4 E of Willamette Meridian desc as beg at the NE cor; th SW to the SW Cor thereof; th E to SE cor; th N to pob

Said tract being associated with Tax Parcel ID: "274347000 & ptn 274363000, "

TRACT 00016 T005N-R004E-SEC007 10.34 acs

All the area in SE4NE4 E of Willamette Meridian which lies S of Private Industrial Road of the Harbor Plywood Corp; as further desc in Dd Bk D-55 Pg 256B

Said tract being associated with Tax Parcel ID: 271146000

TRACT 00019 T005N-R003E-SEC013 47.73 acs

47.73 acs m/l out of Dd Parcel 18 desc as pt Sec E of Willamette Meridian desc as follows; A strip of land 100ft wide ext 50ft on each side of centerline, and Parcel 19 bng that portion of E2NW4; as further desc in Dd BK D46 PP 387B.

Said tract being associated with Tax Parcel ID: "274574000, Ptn 300026000"

TRACT 00020 T005N-R004E-SEC018 320.34 acs

N2

Said tract being associated with Tax Parcel ID: "283421000, 283422000 & 283420000, "

TRACT 00021 T005N-R003E-SEC014 46.5 acs

46.50 Acs m/l out of Dd Parcels 14A and 14B, desc as that part of Sec N2 of SW4 E of Willamette Meridian lying within folowing desc tr: A strip 100ft wide ext 50ft on each side of centerline; as further desc in Dd Bk D46 Pg 387B

Said tract being associated with Tax Parcel ID: "274791000, Ptn 300025000, Ptn 300026000"

TRACT 00022 T005N-R003E-SEC014 33.2 acs

Pt NE4 E of Willamette Meridian, lying S and E of RR ROW, less pt conveyed to FW Senter, BK 452 PP15 and exc Rds, as further desc in 6/28/1960 Correction Deed EF and BD Baker to Intl Paper Co.

Said tract being associated with Tax Parcel ID: "274799000, 274797000, 300024000, Ptn 300026000"

TRACT 00027 T005N-R003E-SEC015 42 acs

42 Acs m/l out of Dd Parcel 12(2nd last para)desc as all that portn of S2SE4 E of Willamette Meridian, which lies to the S&E of foregoing desc strip of lnd (bng in Sec 22), as further desc in 02/14/1958 Dd Harbor Plywood Corp to International Paper Co.

Said tract being associated with Tax Parcel ID: "275008000, Ptn 300022000"

TRACT 00028 T005N-R003E-SEC022 57.26 acs

57.26 acs m/l Parcels 11,12(Last para start w Also)Pcl 11 desc as beg Engs Sta 13494 a pnt on S boundary of Sec 22, Pcl 12 desc as Beg at Engs Sta 16326.5 a pnt on S boundary of NW4 Sec 22 bng 1220ft N SEC Sec 15;as further desc in Dd BkD46 Pg387B.

Said tract being associated with Tax Parcel ID: 300021000

TRACT 00030 T005N-R003E-SEC022 5 acs

5 Acs m/l out of Deed Parcel 11 desc as a parcel of land contg 2 Acs in SW4SW4 and 3 Acs in NW4SW4 bng between Cty Rd and Land covered by the foregoing desc (bng desc as pnt S boundary of Sec 22) as further desc in Dd Bk D46 Pg 387B.

Said tract being associated with Tax Parcel ID: "276619000, Ptn 300022000"

TRACT 00033 T005N-R003E-SEC027 2.86 acs

2.86 Acs m/l out of Dd Parcel 10 desc that part of Sec 27 lying on the N side of following desc ROW and Cty Rd, length of ROW bng 1919ft cont; as further desc in 05/31/1990 deed International Paper Realty Corp to Johan Lund & L'Oreal Dupuis-Lund.

Said tract being associated with Tax Parcel ID: Ptn 300020000

TRACT 00037 T005N-R003E-SEC027 7.17 acs

7.17 acs m/l out of Parcel 7(start in middle of 2nd para at 1st ALSO:)Beg at Engineers Sta 7159 bng pnt S side of NE4SE4, 148 ft W of SEC NE4SE4; th 5 deg curve to left for 384ft; and as further described in deed Bk D46 Pg 387B.

Said tract being associated with Tax Parcel ID: Ptn 300020000

TRACT 00039 T005N-R003E-SEC026 6.73 acs

6.73 acs m/l out of Parcel 7(Start 2nd Para 2nd Also)desc as parcel of land in the SW4 of Sec which abuts ROW desc(beg part of para)and which lies S and W of Cty Rd bng All the land betwn sd Cty Rd and ROW in SW4, as desc in Dd Bk D46 Pg 387B.

Said tract being associated with Tax Parcel ID: 300019000

TRACT 00040 T005N-R003E-SEC035 23.36 acs

23.36 Acs m/l out of Dd Parcel 5 and desc as that portion of S2N2NW4 of Section 35 lying W of the West Boundary line of County Rd 16; as further desc in 02/29/1984 deed International Paper Co to International Paper Realty Corp.

Said tract being associated with Tax Parcel ID: 279455000

TRACT 00042 T004N-R003E-SEC005 120 acs

SE4SW4, W2SE4 E of Willamette Meridian

Said tract being associated with Tax Parcel ID: "230302000, 230276000 & ptn 230300000, "

TRACT 00044 T003N-R003E-SEC002 34.28 acs

Lots 38, 42 and 43 Block 1, Venersborg Acre Tracts according to plat rec Vol D of plats Pg 6

Said tract being associated with Tax Parcel ID: "120240000, 120250000, 120270000, "

TRACT 00047 T003N-R003E-SEC011 20 acs

W2NE4NW4

Said tract being associated with Tax Parcel ID: "ptn 202740000, ptn 202732000, "

TRACT 00048 T003N-R003E-SEC026 30 acs

Pt SW4SW4 except W 10 Acres

Said tract being associated with Tax Parcel ID: "ptn 206685262, "

TRACT 00049 T004N-R004E-SEC018 40 acs

NW4SE4

Said tract being associated with Tax Parcel ID: "247849000 & 247860000, "

TRACT 00050 T004N-R004E-SEC018 40 acs

SE4SE4

Said tract being associated with Tax Parcel ID: "247859000 & 247858000, "

TRACT 00077 T003N-R003E-SEC026 20 acs

N2SE4SW4

Said tract being associated with Tax Parcel ID: "ptn 206685262, "

TRACT 00078 T003N-R003E-SEC011 20 acs

E2NE4NW4

Said tract being associated with Tax Parcel ID: "202733000, "

TRACT 00079 T003N-R003E-SEC002 20 acs

Lots 36 and 45 Block 1, Venersborg Acre Tracts according to plat rec Vol D of plats Pg 6

Said tract being associated with Tax Parcel ID: "120210005, ptn 120210000, 120901000,"

TRACT 00080 T003N-R003E-SEC002 10 acs

Lot 39 Block 1, Venersborg Acre Tracts according to plat Rec Vol D of plats Pg 6

Said tract being associated with Tax Parcel ID: "120260000, 120262000, "

TRACT 00081 T003N-R003E-SEC002 15 acs

Lots 37 and 44 Block 1, Venersborg Acre Tracts according to plat rec Vol D of plats Pg 6

Said tract being associated with Tax Parcel ID: "120211000, 120211005, ptn 120210000, 120232000, 120230000,"

TRACT 00082 T003N-R003E-SEC002 5 acs

NE 5 ac pt of Lots 37 and 44 Blk1,Venersborg Ac, Rec Vol D PP 6, desc beg at pt NWC of Lot 37; th S00- 42-32W alng W ln Lot 37 818ft to cntrln of 60ft non-exc prvt rd; as further desc in 08/16/1990 deed Intl Paper Realty Corp to CE and CL Pepper.

Said tract being associated with Tax Parcel ID: "120211000, 120211005 & ptn 120210000; 120232000, 120230000, "

TRACT 00083 T003N-R003E-SEC002 5 acs

SW 5 acs being pt Lots 37 and 44, Blk 1, Venersborg, plat Rec Vol D, PP 6, as further desc in 08/16/1990 Deed from Intl Paper Realty Corp to Jack and Ruth E Griffith, Doc 9009110078.

Said tract being associated with Tax Parcel ID: "120211000, 120211005 & ptn 120210000; 120232000, 120230000, "

TRACT 00084 T005N-R004E-SEC007 4 acs

Commencing at center Sec 7 T5N-R4W WM; W on center line of Sec 7 561.0 ft; N parallel to N and S center line of Sec 7 310.5ft; E parallel to E and W center line of Sec 7 561.0 ft to N and S center line of Sec 7; S on center line of Sec 7 310.5 ft to POB

Said tract being associated with Tax Parcel ID: "281141000 & ptn 281174000, "

County Total (Calculated Gross Acre Estimate):1550.66

Exhibit "A"

GRANTORS:

International Paper Company
Sustainable Forests, LLC
International Paper Realty Corporation
Blue Sky Timber Properties, LLC
SP Forests, LLC
IP Petroleum Company, Inc.
GCO Minerals LLC
IP Pacific Timberlands, Inc.
IP Timberlands Operating Company, LTD.
IP Farms, Inc.
Champion Realty Corporation
Transtates Properties Incorporated
The Long-Bell Petroleum Company, Inc.

EXHIBIT B

Clark County Tax Parcel ID Numbers:

Tax District: 1190001

283422000, 283421000, 283420000, 247849000, 247860000, 247859000, 247858000

EXHIBIT C

Tax District: 1190001

TRACT 00020 T005N-R004E-SEC018 320.34 acs

N2

Said tract being associated with Tax Parcel ID: "283421000, 283422000 & 283420000, "

TRACT 00049 T004N-R004E-SEC018 40 acs

NW4SE4

Said tract being associated with Tax Parcel ID: "247849000 & 247860000, "

TRACT 00050 T004N-R004E-SEC018 40 acs

SE4SE4

Said tract being associated with Tax Parcel ID: "247859000 & 247858000, "

Exhibit "A"

GRANTORS:

International Paper Company
Sustainable Forests, LLC
International Paper Realty Corporation
Blue Sky Timber Properties, LLC
SP Forests, LLC
IP Petroleum Company, Inc.
GCO Minerals LLC
IP Pacific Timberlands, Inc.
IP Timberlands Operating Company, LTD.
IP Farms, Inc.
Champion Realty Corporation
Transtates Properties Incorporated
The Long-Bell Petroleum Company, Inc.

TRACT 00021 T005N-R003E-SEC014 46.5 acs

46.50 Acs m/l out of Dd Parcels 14A and 14B, desc as that part of Sec N2 of SW4 E of Willamette Meridian lying within folowing desc tr: A strip 100ft wide ext 50ft on each side of centerline; as further desc in Dd Bk D46 Pg 387B

Said tract being associated with Tax Parcel ID: "~~274791000, Ptn 300025000~~, Ptn 300026000"

TRACT 00022 T005N-R003E-SEC014 33.2 acs

Pt NE4 E of Willamette Meridian, lying S and E of RR ROW, less pt conveyed to FW Senter, BK 452 PP15 and exc Rds, as further desc in 6/28/1960 Correction Deed EF and BD Baker to Intl Paper Co.

Said tract being associated with Tax Parcel ID: "274799000, 274797000, 300024000, Ptn 300026000"

TRACT 00084 T005N-R004E-SEC007 4 acs

Commencing at center Sec 7 T5N-R4W WM; W on center line of Sec 7 561.0 ft; N parallel to N and S center line of Sec 7 310.5ft; E parallel to E and W center line of Sec 7 561.0 ft to N and S center line of Sec 7; S on center line of Sec 7 310.5 ft to POB

Said tract being associated with Tax Parcel ID: "281141000 & ptn 281174000, "

County Total (Calculated Gross Acre Estimate):1550.66

Exhibit "A"

GRANTORS:

International Paper Company
Sustainable Forests, LLC
International Paper Realty Corporation
Blue Sky Timber Properties, LLC
SP Forests, LLC
IP Petroleum Company, Inc.
GCO Minerals LLC
IP Pacific Timberlands, Inc.
IP Timberlands Operating Company, LTD.
IP Farms, Inc.
Champion Realty Corporation
Transtates Properties Incorporated
The Long-Bell Petroleum Company, Inc.

EXHIBIT B

Clark County Tax Parcel ID Numbers:

Tax District: 119022

274791000, 300025000, 300024000, 300020000, 300019000, 279455000

EXHIBIT C

Tax District: 119022

TRACT 00021 T005N-R003E-SEC014 46.5 acs

46.50 Acs m/l out of Dd Parcels 14A and 14B, desc as that part of Sec N2 of SW4 E of Willamette Meridian lying within folowing desc tr: A strip 100ft wide ext 50ft on each side of centerline; as further desc in Dd Bk D46 Pg 387B

Said tract being associated with Tax Parcel ID: "274791000, Ptn 300025000, ~~Ptn 300026000"~~

TRACT 00022 T005N-R003E-SEC014 33.2 acs

Pt NE4 E of Willamette Meridian, lying S and E of RR ROW, less pt conveyed to FW Senter, BK 452 PP15 and exc Rds, as further desc in 6/28/1960 Correction Deed EF and BD Baker to Intl Paper Co.

Said tract being associated with Tax Parcel ID: "274799000, 274797000, 300024000, Ptn 300026000"

TRACT 00033 T005N-R003E-SEC027 2.86 acs

2.86 Acs m/l out of Dd Parcel 10 desc that part of Sec 27 lying on the N side of following desc ROW and Cty Rd, length of ROW bng 1919ft cont; as further desc in 05/31/1990 deed International Paper Realty Corp to Johan Lund & L'Oreal Dupuis-Lund.

Said tract being associated with Tax Parcel ID: Ptn 300020000

TRACT 00037 T005N-R003E-SEC027 7.17 acs

7.17 acs m/l out of Parcel 7(start in middle of 2nd para at 1st ALSO:)Beg at Engineers Sta 7159 bng pnt S side of NE4SE4, 148 ft W of SEC NE4SE4; th 5 deg curve to left for 384ft; and as further described in deed Bk D46 Pg 387B.

Said tract being associated with Tax Parcel ID: Ptn 300020000

TRACT 00039 T005N-R003E-SEC026 6.73 acs

6.73 acs m/l out of Parcel 7(Start 2nd Para 2nd Also)desc as parcel of land in the SW4 of Sec which abuts ROW desc(beg part of para)and which lies S and W of Cty Rd bng All the land betwn sd Cty Rd and ROW in SW4, as desc in Dd Bk D46 Pg 387B.

Said tract being associated with Tax Parcel ID: 300019000

TRACT 00040 T005N-R003E-SEC035 23.36 acs

23.36 Acs m/l out of Dd Parcel 5 and desc as that portion of S2N2NW4 of Section 35 lying W of the West Boundary line of County Rd 16; as further desc in 02/29/1984 deed International Paper Co to International Paper Realty Corp.

Said tract being associated with Tax Parcel ID: 279455000

Exhibit "A"

GRANTORS:

International Paper Company
Sustainable Forests, LLC
International Paper Realty Corporation
Blue Sky Timber Properties, LLC
SP Forests, LLC
IP Petroleum Company, Inc.
GCO Minerals LLC
IP Pacific Timberlands, Inc.
IP Timberlands Operating Company, LTD.
IP Farms, Inc.
Champion Realty Corporation
Transtates Properties Incorporated
The Long-Bell Petroleum Company, Inc.

EXHIBIT B

Clark County Tax Parcel ID Numbers:

Tax District: 1030002

259794000, 259783000

EXHIBIT C

Tax District: 1030002

TRACT 00007 T005N-R002E-SEC002 160 acs

SE4

Said tract being associated with Tax Parcel ID: "259783000 & 259794000, "

Exhibit "A"

GRANTORS:

International Paper Company
Sustainable Forests, LLC
International Paper Realty Corporation
Blue Sky Timber Properties, LLC
SP Forests, LLC
IP Petroleum Company, Inc.
GCO Minerals LLC
IP Pacific Timberlands, Inc.
IP Timberlands Operating Company, LTD.
IP Farms, Inc.
Champion Realty Corporation
Transtates Properties Incorporated
The Long-Bell Petroleum Company, Inc.

EXHIBIT B

Clark County Tax Parcel ID Numbers:

Tax District: 1190007

120240000, 120250000, 120270000, 202740000, 202732000, 202733000, 120210005, 120210000, 120901000, 120260000, 120262000, 120211000, 120211005, 120232000, 120230000

EXHIBIT C

Tax District: 1190007

TRACT 00044 T003N-R003E-SEC002 34.28 acs

Lots 38, 42 and 43 Block 1, Venersborg Acre Tracts according to plat rec Vol D of plats Pg 6

Said tract being associated with Tax Parcel ID: "120240000, 120250000, 120270000, "

TRACT 00047 T003N-R003E-SEC011 20 acs

W2NE4NW4

Said tract being associated with Tax Parcel ID: "ptn 202740000, ptn 202732000, "

TRACT 00078 T003N-R003E-SEC011 20 acs

E2NE4NW4

Said tract being associated with Tax Parcel ID: "202733000, "

TRACT 00079 T003N-R003E-SEC002 20 acs

Lots 36 and 45 Block 1, Venersborg Acre Tracts according to plat rec Vol D of plats Pg 6

Said tract being associated with Tax Parcel ID: "120210005, ptn 120210000, 120901000,"

TRACT 00080 T003N-R003E-SEC002 10 acs

Lot 39 Block 1, Venersborg Acre Tracts according to plat Rec Vol D of plats Pg 6

Said tract being associated with Tax Parcel ID: "120260000, 120262000, "

TRACT 00081 T003N-R003E-SEC002 15 acs

Lots 37 and 44 Block 1, Venersborg Acre Tracts according to plat rec Vol D of plats Pg 6

Said tract being associated with Tax Parcel ID: "120211000, 120211005, ptn 120210000, 120232000, 120230000,"

TRACT 00082 T003N-R003E-SEC002 5 acs

NE 5 ac pt of Lots 37 and 44 Blk1,Venersborg Ac, Rec Vol D PP 6, desc beg at pt NWC of Lot 37; th S00- 42-32W alng W ln Lot 37 818ft to cntrln of 60ft non-exc prvt rd; as further desc in 08/16/1990 deed Intl Paper Realty Corp to CE and CL Pepper.

Said tract being associated with Tax Parcel ID: "120211000, 120211005 & ptn 120210000; 120232000, 120230000, "

TRACT 00083 T003N-R003E-SEC002 5 acs

SW 5 acs being pt Lots 37 and 44, Blk 1, Venersborg, plat Rec Vol D, PP 6, as further desc in 08/16/1990 Deed from Intl Paper Realty Corp to Jack and Ruth E Griffith, Doc 9009110078.

Said tract being associated with Tax Parcel ID: "120211000, 120211005 & ptn 120210000; 120232000, 120230000, "

EXHIBIT B

Clark County Tax Parcel ID Numbers:

Tax District: 098001

206685262

EXHIBIT C

Tax District: 0980001

TRACT 00077 T003N-R003E-SEC026 20 acs

N2SE4SW4

Said tract being associated with Tax Parcel ID: "ptn 206685262, "

TRACT 00048 T003N-R003E-SEC026 30 acs

Pt SW4SW4 except W 10 Acres

Said tract being associated with Tax Parcel ID: "ptn 206685262, "

Exhibit "A"

GRANTORS:

International Paper Company
Sustainable Forests, LLC
International Paper Realty Corporation
Blue Sky Timber Properties, LLC
SP Forests, LLC
IP Petroleum Company, Inc.
GCO Minerals LLC
IP Pacific Timberlands, Inc.
IP Timberlands Operating Company, LTD.
IP Farms, Inc.
Champion Realty Corporation
Transtates Properties Incorporated
The Long-Bell Petroleum Company, Inc.

EXHIBIT B

Clark County Tax Parcel ID Numbers:

Tax District: 119020

275008000, 300022000, 300021000, 276619000, 230302000, 230276000, 230300000

EXHIBIT C

Tax District: 119020

TRACT 00027 T005N-R003E-SEC015 42 acs

42 Acs m/l out of Dd Parcel 12(2nd last para)desc as all that portn of S2SE4 E of Willamette Meridian, which lies to the S&E of foregoing desc strip of lnd (bng in Sec 22), as further desc in 02/14/1958 Dd Harbor Plywood Corp to International Paper Co.

Said tract being associated with Tax Parcel ID: "275008000, Ptn 300022000"

TRACT 00028 T005N-R003E-SEC022 57.26 acs

57.26 acs m/l Parcels 11,12(Last para start w Also)Pcl 11 desc as beg Engs Sta 13494 a pnt on S boundary of Sec 22, Pcl 12 desc as Beg at Engs Sta 16326.5 a pnt on S boundary of NW4 Sec 22 bng 1220ft N SEC Sec 15;as further desc in Dd BkD46 Pg387B.

Said tract being associated with Tax Parcel ID: 300021000

TRACT 00030 T005N-R003E-SEC022 5 acs

5 Acs m/l out of Deed Parcel 11 desc as a parcel of land contg 2 Acs in SW4SW4 and 3 Acs in NW4SW4 bng between Cty Rd and Land covered by the foregoing desc (bng desc as pnt S boundary of Sec 22) as further desc in Dd Bk D46 Pg 387B.

Said tract being associated with Tax Parcel ID: "276619000, Ptn 300022000"

TRACT 00042 T004N-R003E-SEC005 120 acs

SE4SW4, W2SE4 E of Willamette Meridian

Said tract being associated with Tax Parcel ID: "230302000, 230276000 & ptn 230300000, "

This instrument prepared by and when recorded mail to:
BRP LLC
c/o NRP (Operating) LLC
601 Jefferson Street, Suite 3600
Attention: Mr. Wyatt Hogan
Vice President-General Counsel

Space above this line for Recorders use only

QUITCLAIM DEED

Date: July 13th 2010

Grantor(s): **INTERNATIONAL PAPER COMPANY, SUSTAINABLE FORESTS, L.L.C., INTERNATIONAL PAPER REALTY CORPORATION, BLUE SKY TIMBER PROPERTIES LLC, SP FORESTS L.L.C., IP PETROLEUM COMPANY, INC., GCO MINERALS LLC, IP PACIFIC TIMBERLANDS, INC., IP TIMBERLANDS OPERATING COMPANY, LTD., IP FARMS, INC., CHAMPION REALTY CORPORATION, TRANSTATES PROPERTIES INCORPORATED** and **THE LONG-BELL PETROLEUM COMPANY, INC.**
Grantors Address: **PO Box 2118, Memphis, TN 38101**
Grantee(s): **BRP LLC**
Abbreviated Legal: ptn. T005N-R003E-SEC003, ptn. T005N-R003E-SEC004, ptn. T005N-R003E-SEC002, ptn. T005N-R004E-SEC007, ptn. T005N-R003E-SEC012, ptn. T005N-R004E-SEC007, ptn. T005N-R003E-SEC013, ptn. T005N-R004E-SEC018, ptn. T005N-R003E-SEC014, ptn. T005N-R003E-SEC014, ptn. T005N-R003E-SEC015, ptn. T005N-R003E-SEC022, ptn. T005N-R003E-SEC022, ptn. T005N-R003E-SEC027, ptn. T005N-R003E-SEC027, ptn. T005N-R003E-SEC026, ptn. T005N-R003E-SEC035, ptn. T004N-R003E-SEC005, ptn. T003N-R003E-SEC002, ptn. T003N-R003E-SEC011, ptn. T003N-R003E-SEC026, ptn. T004N-R004E-SEC018, ptn. T004N-R004E-SEC018, ptn. T003N-R003E-SEC026, ptn. T003N-R003E-SEC011, ptn. T003N-R003E-SEC002, ptn. T003N-R003E-SEC002, ptn. T003N-R003E-SEC002, ptn. T003N-R003E-SEC002, ptn. T003N-R003E-SEC002, ptn. T005N-R004E-SEC007
Additional Legal on page: **Exhibit A**
Assessor's Tax Parcel No(s): 281141000, ptn. 281174000, 275008000, ptn. 300022000, 274799000, 274797000, 300024000, ptn. 300026000, 279455000, 300019000, ptn. 300020000, ptn. 300020000, 276619000, ptn. 300022000, 300021000, 274791000, ptn. 300025000, ptn. 300026000, 274574000, ptn. 300026000, ptn. 283421000, 283422000, 283420000, [redacted], 274347000, ptn. 274363000, 281147000, 259783000, 259794000, 272651000, 272442000, 272445000, ptn. 206685262, ptn. 206685262, 202733000, ptn. 202760000, ptn. 202732000, 120211000, 120211005, ptn. 120210000; 120232000, 120230000, 120210005, ptn. 120210000, 120901000, 120211000, 120211005, ptn. 120210000, 120232000, 120230000, 120260000, 120262000, 120240000, 120250000, 120270000, 247859000 & 247858000, 247849000, 247860000, 230302000, 230276000, ptn. 230300000, 120211000, 120211005, ptn. 120210000, 120232000, 120230000

THE GRANTOR(S), INTERNATIONAL PAPER COMPANY, a New York corporation, **SUSTAINABLE FORESTS, L.L.C.,** a Delaware limited liability company,

4710775 D
RecFee - $138.00 Pages: 27 - CINCO LAND & EXPLORATION
Clark County, WA 10/26/2010 01:03

RETURN ADDRESS

Cinco Energy Services
9235 Katy Freeway, Suite 400
Houston, TX 657821
657829 657826 657822
657827 657823
657828 657825

Real Estate Excise Tax
Ch. 11 Rev. Laws 1951
EXEMPT
Affd. #_____ Date 10.26.10
For details of tax paid see
Affd. #_____
Doug Lasher
Clark County Treasurer
By_____ Deputy

Please print neatly or type information

Document Title(s)

Quit Claim Deed

Reference Numbers(s) of related documents:

Legal 02|32007019v1

Additional Reference #'s on page ____

Grantor(s) (Last, First and Middle Initial)

International Paper Company, et al

Additional grantors on page ____

Grantee(s) (Last, First and Middle Initial)

BRP, LLC

Additional grantees on page ____

Legal Description (abbreviated form: i.e. lot, block plat or section, township, range, quarter/quarter)

TRACT 00004 T005N-R003E-SEC003
320acs NEZ

Additional legal is on page ____
See Exhibit "A"

Assessor's Property Tax Parcel/Account Number

28114 1000 (See Exhibit A)

Additional parcel #'s on page ____

The Auditor/Recorder will rely on the information provided on this form. The staff will not read the document to verify the accuracy or completeness of the indexing information provided herein.

I am requesting an emergency nonstandard recording for an additional fee as provided in RCW 36.18.010. I understand that the recording processing requirements may cover up or otherwise obscure some part of the text of the original document.

Signature of Requesting Party

INTERNATIONAL PAPER REALTY CORPORATION, a Delaware corporation, **BLUE SKY TIMBER PROPERTIES LLC**, a Delaware limited liability company, **SP FORESTS L.L.C.**, a Delaware limited liability company, **IP PETROLEUM COMPANY, INC.**, a Delaware corporation, **GCO MINERALS LLC**, a Texas limited liability company, **IP PACIFIC TIMBERLANDS, INC.**, a Delaware corporation, **IP TIMBERLANDS OPERATING COMPANY, LTD.**, a Texas limited partnership, **IP FARMS, INC.**, a Delaware corporation, **CHAMPION REALTY CORPORATION**, a Delaware corporation, **TRANSTATES PROPERTIES INCORPORATED**, a Delaware corporation and **THE LONG-BELL PETROLEUM COMPANY, INC.**, a Louisiana corporation (each a "**GRANTOR**" and collectively, the "**GRANTORS**"), and each of whose address is set forth below, for and in consideration of the sum of TEN AND NO/100 DOLLARS ($10.00) cash in hand paid by **BRP LLC**, a Delaware limited liability company, whose address is set forth below, ("**GRANTEE**"), the receipt and sufficiency of which are hereby acknowledged, do hereby quitclaim and release unto Grantee, its successors and assigns forever, subject to the reservations herein, the Assets. The term "*Assets*" shall mean all of the right, title, interest and claim of each Grantor in and to the following, less and except the Excluded Assets (as hereinafter defined):

(a) all mineral fee estates, mineral servitudes, royalty, overriding royalty, executive rights and other interests and rights, whether developed or undeveloped, leased or unleased in all (i) oil, liquid hydrocarbons, gas, coal seam gas, coal bed methane and any and all other liquid or gaseous hydrocarbons, as well as their respective constituent products, including condensate, casinghead gas, distillate and natural gas liquids and any other minerals produced in association therewith, (ii) helium, carbon dioxide and other gaseous substances, (iii) lead, zinc, copper, coal, lignite, peat, sulfur, phosphate, iron ore, sodium, salt, uranium, thorium, and other fissionable materials, molybdenum, vanadium, titanium, rulite ilmenite, leucoxene, zircon, monazite, gold, silver, bauxite, precious and semi-precious gems and minerals, industrial minerals and other hard minerals, (iv) limestone, granite, saprolite, kaolin (and other forms of clay), sand, gravel, aggregate and other mined or quarried stone, bedrock and other rock materials, (v) all geothermal energy resources including, but not limited to, hydrostatic pressure, thermal energy, hydropressured reservoirs, geopressured reservoirs, steam and other gases, hot water, hot brine, heat, natural gas and methane dissolved in geothermal formation water and any

associated energy found in such geothermal formation water, including hydrostatic pressure and thermal energy, (vi) the right to sequester carbon dioxide or other greenhouse gases or greenhouse gas emissions in, on or under the subsurface of the Assets, including deep saline acquifers, oil and gas reservoirs, unmineable coal seams, basalt formations, and any other type of geologic formations or strata that may be susceptible to carbon dioxide or greenhouse gas storage either presently or in the future, (vii) subsurface water rights, and (viii) ore deposits of any kind or character, whether solid, liquid or gaseous, and without limitation by enumeration of the minerals and substances expressly mentioned above (all of the foregoing minerals, substances and rights being defined as "*Minerals*"), in each case owned, held or claimed by any Grantor, in, to, on or under any of the lands described on **EXHIBIT A** attached hereto and made a part hereof (the "*Mineral Lands*");

(b) all Mineral leases, subleases, option agreements, and other similar instruments applicable to the Mineral Lands, including without limitation, those leases and other instruments described on **EXHIBIT B** attached hereto and made a part hereof;

(c) all real or immovable property and rights incident to the Mineral Lands, including (i) all rights with respect to the use or occupation of the surface of and subsurface depths under the Mineral Lands, and (ii) all rights with respect to any pooled, communitized or unitized lands by virtue of any Mineral Lands being a part thereof, including all production from such pool or unit allocated to any such Mineral Lands;

(d) all surface fee interests, surface leases, easements, rights-of-way, permits, licenses, and servitudes, rights of ingress and egress and use of the Mineral Lands to the extent reasonably necessary for exploring, drilling, mining, developing, producing, treating, storing, removing, transporting, marketing and owning the Minerals, and other rights with respect to the use and occupation of the surface of and the subsurface depths under the Mineral Lands, including those described in **EXHIBIT C** (such properties, the "*Easements*") but only to the extent that an owner of the Mineral Lands has rights under such Easements and subject to those obligations thereunder relating to the use of the surface of the Mineral Lands or the Minerals;

(e) all Minerals produced from or attributable to the Mineral Lands after the Effective Time and all fixtures and other real, immovable, movable and mixed property used or held for use in connection with the Mineral Lands;

LESS AND EXCEPT, and each Grantor hereby reserves all of its right, title, interest and claim in and to, the lands described on **EXHIBIT D** attached hereto and made a part hereof for all purposes (such properties, the "*Excluded Assets*").

TO HAVE AND TO HOLD THE ASSETS, together with all and singular the rights, privileges, contracts and appurtenances, in any way appertaining or belonging thereto (except as otherwise set forth herein), unto Grantee, its successors and assigns forever. EXCEPT AS

PROVIDED IN THE SALE AND CONTRIBUTION AGREEMENT DATED MAY 27, 2010 BY AND AMONG NRP (OPERATING) LLC, INTERNATIONAL PAPER COMPANY, IP MINERAL HOLDINGS LLC and GRANTEE, this Quitclaim Deed is made without warranty of title of any kind whatsoever, express, implied or statutory, and without recourse, even as to the return of the purchase price or other consideration, but with full substitution and subrogation of Grantee, and all persons claiming by, through and under Grantee, to the extent assignable, in and to all covenants and warranties by Grantors' predecessors in title and with full subrogation of all rights accruing under the statutes of limitation or prescription under the laws of various states in which the Assets are located. Grantors hereby assign to Grantee all covenants and warranties by Grantors' predecessors in title and all of Grantors' rights, claims and causes of action which any Grantor may have against its predecessors, and Grantee is specifically subrogated to all rights occurring under the statutes of limitation or prescription under the laws of the state where the Mineral Lands are located, to the extent Grantor may legally transfer such rights and grant such subrogation.

This Quitclaim Deed shall be effective for all purposes as of 7:00 a.m., local time at the location of the Assets, June 1, 2010 (the "*Effective Time*").

Address of Grantor:
c/o International Paper Company
PO Box 2118
Memphis, TN 38101

Address of Grantee:
BRP LLC
c/o NRP (Operating) LLC
601 Jefferson Street, Suite 3600
Attention: Mr. Wyatt Hogan
Vice President-General Counsel

EXECUTED this 13 day of July, 2010.

INTERNATIONAL PAPER COMPANY,
a New York corporation

By: _____

Name: **Kevin G. McWilliams**

Title: **Vice President**

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of **Tennessee**, personally appeared **Kevin G. McWilliams**, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the **Vice President** of **INTERNATIONAL PAPER COMPANY,** a New York corporation, to be the free and voluntary act and deed of said corporation for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

_____
Notary Signature

Jenny L. Bullard
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of **Tennessee**
residing at **Shelby**
My appointment expires 2-1-2012

(NOTARY)

LEGAL02/32007019v1

Clark, Washington - QCD

SUSTAINABLE FORESTS, L.L.C., a
Delaware limited liability company

By: _____

Name: Kevin G. McWilliams

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared Kevin G. McWilliams, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **SUSTAINABLE FORESTS, L.L.C.**, a Delaware limited liability company, to be the free and voluntary act and deed of said company for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

_____
Notary Signature
Jenny L. Bullard
_____
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires 2-1-2012

(NOTARY)

LEGAL02/32007019v1

Clark, Washington - QCD

INTERNATIONAL PAPER REALTY CORPORATION, a Delaware corporation

By: _____

Name: E. Wayne Plummer

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared E. Wayne Plummer, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **INTERNATIONAL PAPER REALTY CORPORATION**, a Delaware corporation, to be the free and voluntary act and deed of said corporation for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

_____
Notary Signature

Jenny L. Bullard
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires 2-1-2012

(NOTARY)

LEGAL02/32007019v1

Clark, Washington - QCD

BLUE SKY TIMBER PROPERTIES LLC, a Delaware limited liability company

By: _____

Name: E. Wayne Plummer

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared E. Wayne Plummer, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **BLUE SKY TIMBER PROPERTIES LLC**, a Delaware limited liability company, to be the free and voluntary act and deed of said company for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

_____
Notary Signature

Jenny L. Bullard
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires 2-1-2012

JENNY L. BULLARD STATE OF TENNESSEE NOTARY PUBLIC COUNTY OF SHELBY

(NOTARY)

SP FORESTS L.L.C., a Delaware limited liability company

By: _____

Name: E. Wayne Plummer

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared E. Wayne Plummer, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **SP FORESTS L.L.C.**, a Delaware limited liability company, to be the free and voluntary act and deed of said company for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

_____
Notary Signature

Jenny L. Bullard
_____
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires 2-1-2012

(NOTARY)

LEGAL02/32007019v1

Clark, Washington - QCD

IP PETROLEUM COMPANY, INC., a Delaware corporation

By: Karen M Edwards

Name: Karen M. Edwards

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13th day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared Karen M. Edwards, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **IP PETROLEUM COMPANY, INC.**, a Delaware corporation, to be the free and voluntary act and deed of said corporation for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

Notary Signature

Alexis S.D. Fulton
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires _____

(NOTARY)

ALEXIS S.D. FULTON
STATE OF TENNESSEE
NOTARY PUBLIC
COUNTY OF SHELBY

LEGAL02/32007019v1

Clark, Washington - QCD

GCO MINERALS LLC, a
Texas limited liability company

By: Karen M Edwards

Name: Karen M. Edwards

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared Karen M. Edwards, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **GCO MINERALS LLC**, a Texas limited liability company, to be the free and voluntary act and deed of said corporation for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

Notary Signature

Alexis S.D. Fulton
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires _____

(NOTARY)

ALEXIS S.D. FULTON
STATE OF TENNESSEE
NOTARY PUBLIC
COUNTY OF SHELBY

IP PACIFIC TIMBERLANDS, INC., a Delaware corporation

By: _____

Name: E. Wayne Plummer

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared E. Wayne Plummer personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **IP PACIFIC TIMBERLANDS, INC**, a Delaware corporation, to be the free and voluntary act and deed of said corporation for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

_____
Notary Signature

Jenny L. Bullard
_____
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires 2-1-2012

(NOTARY)

IP TIMBERLANDS OPERATING COMPANY, LTD., a Texas limited partnership

By: IP Forest Resources Company, a Delaware corporation, its Managing Partner

By: _____

Name: E. Wayne Plummer

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared E. Wayne Plummer, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of IP Forest Resources Company, a Delaware corporation, as Managing Partner of **IP TIMBERLANDS OPERATING COMPANY, LTD.**, a Texas limited partnership, to be the free and voluntary act and deed of said corporation for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

Notary Signature

Jenny L. Bullard

(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires 2-1-2012

JENNY L. BULLARD STATE OF TENNESSEE NOTARY PUBLIC COUNTY OF SHELBY

(NOTARY)

LEGAL02/32007019v1

Clark, Washington - QCD

IP FARMS, INC., a Delaware corporation

By: _____

Name: E. Wayne Plummer

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared E. Wayne Plummer, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **IP FARMS, INC.**, a Delaware corporation, to be the free and voluntary act and deed of said corporation for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

_____
Notary Signature

Jenny L. Bullard
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires 2-1-2012

(NOTARY)

CHAMPION REALTY CORPORATION, a Delaware corporation

By: _____

Name: E. Wayne Plummer

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared E. Wayne Plummer, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **CHAMPION REALTY CORPORATION**, a Delaware corporation, to be the free and voluntary act and deed of said corporation for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

_____
Notary Signature
Jenny L. Bullard

_____
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires 2-1-2012

(NOTARY)

TRANSTATES PROPERTIES INCORPORATED, a Delaware corporation

By: _____

Name: E. Wayne Plummer

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared E. Wayne Plummer personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **TRANSTATES PROPERTIES INCORPORATED**, a Delaware corporation, to be the free and voluntary act and deed of said corporation for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

_____
Notary Signature

Jenny L. Bullard
_____
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires 2-1-2012

(NOTARY)

THE LONG-BELL PETROLEUM COMPANY, INC., a Louisiana corporation

By: _____

Name: E. Wayne Plummer

Title: Vice President

STATE OF TENNESSEE)
) ss.
COUNTY OF SHELBY)

On this 13 day of July, 2010, before me, a Notary Public in and for the State of Tennessee, personally appeared E. Wayne Plummer, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person who executed this instrument, on oath stated that s/he was authorized to execute the instrument, and acknowledged it as the Vice President of **THE LONG-BELL PETROLEUM COMPANY, INC.**, a Louisiana corporation, to be the free and voluntary act and deed of said corporation for the uses and purposes mentioned in the instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

_____
Notary Signature

Jenny L. Bullard
_____
(Stamp or Print Name)
NOTARY PUBLIC in and for the State of Tennessee
residing at Shelby
My appointment expires 2·1·2012

(NOTARY)

LEGAL02/32007019v1

Clark, Washington - QCD

EXHIBIT A

(see attached)

[Tract#] [Location Reference (Abst/Svy, PLSS, District)]
[Gross Acres (+/-)]
[Tract Description]
[Tax Parcel ID]

TRACT 00004 T005N-R003E-SEC003 320 acs

N2

Said tract being associated with Tax Parcel ID: "272442000 & 272445000, "

TRACT 00006 T005N-R003E-SEC004 36.84 acs

SE4NE4

Said tract being associated with Tax Parcel ID: "272651000, "

TRACT 00007 T005N-R002E-SEC002 160 acs

SE4

Said tract being associated with Tax Parcel ID: "259783000 & 259794000, "

TRACT 00012 T005N-R004E-SEC007 18.69 acs

Beg at NW cor of NE4NE4 E of Willamette Meridian; th E along N boundary of Section 7, 103.3 ft; th S 240 ft; th W 103.3 ft; N 240 ft to POB.

Said tract being associated with Tax Parcel ID: "281147000, "

TRACT 00014 T005N-R003E-SEC012 29.36 acs

That Portion of SE4NE4 E of Willamette Meridian desc as beg at the NE cor; th SW to the SW Cor thereof; th E to SE cor; th N to pob

Said tract being associated with Tax Parcel ID: "274347000 & ptn 274363000, "

TRACT 00016 T005N-R004E-SEC007 10.34 acs

All the area in SE4NE4 E of Willamette Meridian which lies S of Private Industrial Road of the Harbor Plywood Corp; as further desc in Dd Bk D-55 Pg 256B

Said tract being associated with Tax Parcel ID: 271146000

TRACT 00019 T005N-R003E-SEC013 47.73 acs

47.73 acs m/l out of Dd Parcel 18 desc as pt Sec E of Willamette Meridian desc as follows; A strip of land 100ft wide ext 50ft on each side of centerline, and Parcel 19 bng that portion of E2NW4; as further desc in Dd BK D46 PP 387B.

Said tract being associated with Tax Parcel ID: "274574000, Ptn 300026000"

TRACT 00020 T005N-R004E-SEC018 320.34 acs

N2

Said tract being associated with Tax Parcel ID: "283421000, 283422000 & 283420000, "

TRACT 00021 T005N-R003E-SEC014 46.5 acs

46.50 Acs m/l out of Dd Parcels 14A and 14B, desc as that part of Sec N2 of SW4 E of Willamette Meridian lying within folowing desc tr: A strip 100ft wide ext 50ft on each side of centerline; as further desc in Dd Bk D46 Pg 387B

Said tract being associated with Tax Parcel ID: "274791000, Ptn 300025000, Ptn 300026000"

TRACT 00022 T005N-R003E-SEC014 33.2 acs

Pt NE4 E of Willamette Meridian, lying S and E of RR ROW, less pt conveyed to FW Senter, BK 452 PP15 and exc Rds, as further desc in 6/28/1960 Correction Deed EF and BD Baker to Intl Paper Co.

Said tract being associated with Tax Parcel ID: "274799000, 274797000, 300024000, Ptn 300026000"

TRACT 00027 T005N-R003E-SEC015 42 acs

42 Acs m/l out of Dd Parcel 12(2nd last para)desc as all that portn of S2SE4 E of Willamette Meridian, which lies to the S&E of foregoing desc strip of lnd (bng in Sec 22), as further desc in 02/14/1958 Dd Harbor Plywood Corp to International Paper Co.

Said tract being associated with Tax Parcel ID: "275008000, Ptn 300022000"

TRACT 00028 T005N-R003E-SEC022 57.26 acs

57.26 acs m/l Parcels 11,12(Last para start w Also)Pcl 11 desc as beg Engs Sta 13494 a pnt on S boundary of Sec 22, Pcl 12 desc as Beg at Engs Sta 16326.5 a pnt on S boundary of NW4 Sec 22 bng 1220ft N SEC Sec 15;as further desc in Dd BkD46 Pg387B.

Said tract being associated with Tax Parcel ID: 300021000

TRACT 00030 T005N-R003E-SEC022 5 acs

5 Acs m/l out of Deed Parcel 11 desc as a parcel of land contg 2 Acs in SW4SW4 and 3 Acs in NW4SW4 bng between Cty Rd and Land covered by the foregoing desc (bng desc as pnt S boundary of Sec 22) as further desc in Dd Bk D46 Pg 387B.

Said tract being associated with Tax Parcel ID: "276619000, Ptn 300022000"

TRACT 00033 T005N-R003E-SEC027 2.86 acs

2.86 Acs m/l out of Dd Parcel 10 desc that part of Sec 27 lying on the N side of following desc ROW and Cty Rd, length of ROW bng 1919ft cont; as further desc in 05/31/1990 deed International Paper Realty Corp to Johan Lund & L'Oreal Dupuis-Lund.

Said tract being associated with Tax Parcel ID: Ptn 300020000

TRACT 00037 T005N-R003E-SEC027 7.17 acs

7.17 acs m/l out of Parcel 7(start in middle of 2nd para at 1st ALSO:)Beg at Engineers Sta 7159 bng pnt S side of NE4SE4, 148 ft W of SEC NE4SE4; th 5 deg curve to left for 384ft; and as further described in deed Bk D46 Pg 387B.

Said tract being associated with Tax Parcel ID: Ptn 300020000

TRACT 00039 T005N-R003E-SEC026 6.73 acs

6.73 acs m/l out of Parcel 7(Start 2nd Para 2nd Also)desc as parcel of land in the SW4 of Sec which abuts ROW desc(beg part of para)and which lies S and W of Cty Rd bng All the land betwn sd Cty Rd and ROW in SW4, as desc in Dd Bk D46 Pg 387B.

Said tract being associated with Tax Parcel ID: 300019000

TRACT 00040 T005N-R003E-SEC035 23.36 acs

23.36 Acs m/l out of Dd Parcel 5 and desc as that portion of S2N2NW4 of Section 35 lying W of the West Boundary line of County Rd 16; as further desc in 02/29/1984 deed International Paper Co to International Paper Realty Corp.

Said tract being associated with Tax Parcel ID: 279455000

TRACT 00042 T004N-R003E-SEC005 120 acs

SE4SW4, W2SE4 E of Willamette Meridian

Said tract being associated with Tax Parcel ID: "230302000, 230276000 & ptn 230300000, "

TRACT 00044 T003N-R003E-SEC002 34.28 acs

Lots 38, 42 and 43 Block 1, Venersborg Acre Tracts according to plat rec Vol D of plats Pg 6

Said tract being associated with Tax Parcel ID: "120240000, 120250000, 120270000, "

TRACT 00047 T003N-R003E-SEC011 20 acs

W2NE4NW4

Said tract being associated with Tax Parcel ID: "ptn 202740000, ptn 202732000, "

TRACT 00048 T003N-R003E-SEC026 30 acs

Pt SW4SW4 except W 10 Acres

Said tract being associated with Tax Parcel ID: "ptn 206685262, "

TRACT 00049 T004N-R004E-SEC018 40 acs

NW4SE4

Said tract being associated with Tax Parcel ID: "247849000 & 247860000, "

TRACT 00050 T004N-R004E-SEC018 40 acs

SE4SE4

Said tract being associated with Tax Parcel ID: "247859000 & 247858000, "

TRACT 00077 T003N-R003E-SEC026 20 acs

N2SE4SW4

Said tract being associated with Tax Parcel ID: "ptn 206685262, "

TRACT 00078 T003N-R003E-SEC011 20 acs

E2NE4NW4

Said tract being associated with Tax Parcel ID: "202733000, "

TRACT 00079 T003N-R003E-SEC002 20 acs

Lots 36 and 45 Block 1, Venersborg Acre Tracts according to plat rec Vol D of plats Pg 6

Said tract being associated with Tax Parcel ID: "120210005, ptn 120210000, 120901000,"

TRACT 00080 T003N-R003E-SEC002 10 acs

Lot 39 Block 1, Venersborg Acre Tracts according to plat Rec Vol D of plats Pg 6

Said tract being associated with Tax Parcel ID: "120260000, 120262000, "

TRACT 00081 T003N-R003E-SEC002 15 acs

Lots 37 and 44 Block 1, Venersborg Acre Tracts according to plat rec Vol D of plats Pg 6

Said tract being associated with Tax Parcel ID: "120211000, 120211005, ptn 120210000, 120232000, 120230000,"

TRACT 00082 T003N-R003E-SEC002 5 acs

NE 5 ac pt of Lots 37 and 44 Blk1,Venersborg Ac, Rec Vol D PP 6, desc beg at pt NWC of Lot 37; th S00- 42-32W alng W ln Lot 37 818ft to cntrln of 60ft non-exc prvt rd; as further desc in 08/16/1990 deed Intl Paper Realty Corp to CE and CL Pepper.

Said tract being associated with Tax Parcel ID: "120211000, 120211005 & ptn 120210000; 120232000, 120230000, "

TRACT 00083 T003N-R003E-SEC002 5 acs

SW 5 acs being pt Lots 37 and 44, Blk 1, Venersborg, plat Rec Vol D, PP 6, as further desc in 08/16/1990 Deed from Intl Paper Realty Corp to Jack and Ruth E Griffith, Doc 9009110078.

Said tract being associated with Tax Parcel ID: "120211000, 120211005 & ptn 120210000; 120232000, 120230000, "

TRACT 00084 T005N-R004E-SEC007 4 acs

Commencing at center Sec 7 T5N-R4W WM; W on center line of Sec 7 561.0 ft; N parallel to N and S center line of Sec 7 310.5ft; E parallel to E and W center line of Sec 7 561.0 ft to N and S center line of Sec 7; S on center line of Sec 7 310.5 ft to POB

Said tract being associated with Tax Parcel ID: "281141000 & ptn 281174000, "

County Total (Calculated Gross Acre Estimate):1550.66

Exhibit "A"

GRANTORS:

International Paper Company
Sustainable Forests, LLC
International Paper Realty Corporation
Blue Sky Timber Properties, LLC
SP Forests, LLC
IP Petroleum Company, Inc.
GCO Minerals LLC
IP Pacific Timberlands, Inc.
IP Timberlands Operating Company, LTD.
IP Farms, Inc.
Champion Realty Corporation
Transtates Properties Incorporated
The Long-Bell Petroleum Company, Inc.

EXHIBIT B

Clark County Tax Parcel ID Numbers:

Tax District: 1190001

283422000, 283421000, 283420000, 247849000, 247860000, 247859000, 247858000

EXHIBIT C

Tax District: 1190001

TRACT 00020 T005N-R004E-SEC018 320.34 acs

N2

Said tract being associated with Tax Parcel ID: "283421000, 283422000 & 283420000, "

TRACT 00049 T004N-R004E-SEC018 40 acs

NW4SE4

Said tract being associated with Tax Parcel ID: "247849000 & 247860000, "

TRACT 00050 T004N-R004E-SEC018 40 acs

SE4SE4

Said tract being associated with Tax Parcel ID: "247859000 & 247858000, "

Exhibit "A"

GRANTORS:

International Paper Company
Sustainable Forests, LLC
International Paper Realty Corporation
Blue Sky Timber Properties, LLC
SP Forests, LLC
IP Petroleum Company, Inc.
GCO Minerals LLC
IP Pacific Timberlands, Inc.
IP Timberlands Operating Company, LTD.
IP Farms, Inc.
Champion Realty Corporation
Transtates Properties Incorporated
The Long-Bell Petroleum Company, Inc.

TRACT 00021 T005N-R003E-SEC014 46.5 acs

46.50 Acs m/l out of Dd Parcels 14A and 14B, desc as that part of Sec N2 of SW4 E of Willamette Meridian lying within folowing desc tr: A strip 100ft wide ext 50ft on each side of centerline; as further desc in Dd Bk D46 Pg 387B

Said tract being associated with Tax Parcel ID: "~~274791000, Ptn 300025000~~, Ptn 300026000"

TRACT 00022 T005N-R003E-SEC014 33.2 acs

Pt NE4 E of Willamette Meridian, lying S and E of RR ROW, less pt conveyed to FW Senter, BK 452 PP15 and exc Rds, as further desc in 6/28/1960 Correction Deed EF and BD Baker to Intl Paper Co.

Said tract being associated with Tax Parcel ID: "274799000, 274797000, 300024000, Ptn 300026000"

TRACT 00084 T005N-R004E-SEC007 4 acs

Commencing at center Sec 7 T5N-R4W WM; W on center line of Sec 7 561.0 ft; N parallel to N and S center line of Sec 7 310.5ft; E parallel to E and W center line of Sec 7 561.0 ft to N and S center line of Sec 7; S on center line of Sec 7 310.5 ft to POB

Said tract being associated with Tax Parcel ID: "281141000 & ptn 281174000, "

County Total (Calculated Gross Acre Estimate):1550.66

Exhibit "A"

GRANTORS:

International Paper Company
Sustainable Forests, LLC
International Paper Realty Corporation
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SP Forests, LLC
IP Petroleum Company, Inc.
GCO Minerals LLC
IP Pacific Timberlands, Inc.
IP Timberlands Operating Company, LTD.
IP Farms, Inc.
Champion Realty Corporation
Transtates Properties Incorporated
The Long-Bell Petroleum Company, Inc.

EXHIBIT B

Clark County Tax Parcel ID Numbers:

Tax District: 119022

274791000, 300025000, 300024000, 300020000, 300019000, 279455000

EXHIBIT C

Tax District: 119022

TRACT 00021 T005N-R003E-SEC014 46.5 acs

46.50 Acs m/l out of Dd Parcels 14A and 14B, desc as that part of Sec N2 of SW4 E of Willamette Meridian lying within folowing desc tr: A strip 100ft wide ext 50ft on each side of centerline; as further desc in Dd Bk D46 Pg 387B

Said tract being associated with Tax Parcel ID: "274791000, Ptn 300025000, ~~Ptn 300026000"~~

TRACT 00022 T005N-R003E-SEC014 33.2 acs

Pt NE4 E of Willamette Meridian, lying S and E of RR ROW, less pt conveyed to FW Senter, BK 452 PP15 and exc Rds, as further desc in 6/28/1960 Correction Deed EF and BD Baker to Intl Paper Co.

Said tract being associated with Tax Parcel ID: "274799000, 274797000, 300024000, Ptn 300026000"

TRACT 00033 T005N-R003E-SEC027 2.86 acs

2.86 Acs m/l out of Dd Parcel 10 desc that part of Sec 27 lying on the N side of following desc ROW and Cty Rd, length of ROW bng 1919ft cont; as further desc in 05/31/1990 deed International Paper Realty Corp to Johan Lund & L'Oreal Dupuis-Lund.

Said tract being associated with Tax Parcel ID: Ptn 300020000

TRACT 00037 T005N-R003E-SEC027 7.17 acs

7.17 acs m/l out of Parcel 7(start in middle of 2nd para at 1st ALSO:)Beg at Engineers Sta 7159 bng pnt S side of NE4SE4, 148 ft W of SEC NE4SE4; th 5 deg curve to left for 384ft; and as further described in deed Bk D46 Pg 387B.

Said tract being associated with Tax Parcel ID: Ptn 300020000

TRACT 00039 T005N-R003E-SEC026 6.73 acs

6.73 acs m/l out of Parcel 7(Start 2nd Para 2nd Also)desc as parcel of land in the SW4 of Sec which abuts ROW desc(beg part of para)and which lies S and W of Cty Rd bng All the land betwn sd Cty Rd and ROW in SW4, as desc in Dd Bk D46 Pg 387B.

Said tract being associated with Tax Parcel ID: 300019000

TRACT 00040 T005N-R003E-SEC035 23.36 acs

23.36 Acs m/l out of Dd Parcel 5 and desc as that portion of S2N2NW4 of Section 35 lying W of the West Boundary line of County Rd 16; as further desc in 02/29/1984 deed International Paper Co to International Paper Realty Corp.

Said tract being associated with Tax Parcel ID: 279455000

Exhibit "A"

GRANTORS:

International Paper Company
Sustainable Forests, LLC
International Paper Realty Corporation
Blue Sky Timber Properties, LLC
SP Forests, LLC
IP Petroleum Company, Inc.
GCO Minerals LLC
IP Pacific Timberlands, Inc.
IP Timberlands Operating Company, LTD.
IP Farms, Inc.
Champion Realty Corporation
Transtates Properties Incorporated
The Long-Bell Petroleum Company, Inc.

EXHIBIT B

Clark County Tax Parcel ID Numbers:

Tax District: 1030002

259794000, 259783000

EXHIBIT C

Tax District: 1030002

TRACT 00007 T005N-R002E-SEC002 160 acs

SE4

Said tract being associated with Tax Parcel ID: "259783000 & 259794000, "

Exhibit "A"

GRANTORS:

International Paper Company
Sustainable Forests, LLC
International Paper Realty Corporation
Blue Sky Timber Properties, LLC
SP Forests, LLC
IP Petroleum Company, Inc.
GCO Minerals LLC
IP Pacific Timberlands, Inc.
IP Timberlands Operating Company, LTD.
IP Farms, Inc.
Champion Realty Corporation
Transtates Properties Incorporated
The Long-Bell Petroleum Company, Inc.

EXHIBIT B

Clark County Tax Parcel ID Numbers:

Tax District: 1190007

120240000, 120250000, 120270000, 202740000, 202732000, 202733000, 120210005, 120210000, 120901000, 120260000, 120262000, 120211000, 120211005, 120232000, 120230000

EXHIBIT C

Tax District: 1190007

TRACT 00044 T003N-R003E-SEC002 34.28 acs

Lots 38, 42 and 43 Block 1, Venersborg Acre Tracts according to plat rec Vol D of plats Pg 6

Said tract being associated with Tax Parcel ID: "120240000, 120250000, 120270000, "

TRACT 00047 T003N-R003E-SEC011 20 acs

W2NE4NW4

Said tract being associated with Tax Parcel ID: "ptn 202740000, ptn 202732000, "

TRACT 00078 T003N-R003E-SEC011 20 acs

E2NE4NW4

Said tract being associated with Tax Parcel ID: "202733000, "

TRACT 00079 T003N-R003E-SEC002 20 acs

Lots 36 and 45 Block 1, Venersborg Acre Tracts according to plat rec Vol D of plats Pg 6

Said tract being associated with Tax Parcel ID: "120210005, ptn 120210000, 120901000,"

TRACT 00080 T003N-R003E-SEC002 10 acs

Lot 39 Block 1, Venersborg Acre Tracts according to plat Rec Vol D of plats Pg 6

Said tract being associated with Tax Parcel ID: "120260000, 120262000, "

TRACT 00081 T003N-R003E-SEC002 15 acs

Lots 37 and 44 Block 1, Venersborg Acre Tracts according to plat rec Vol D of plats Pg 6

Said tract being associated with Tax Parcel ID: "120211000, 120211005, ptn 120210000, 120232000, 120230000,"

TRACT 00082 T003N-R003E-SEC002 5 acs

NE 5 ac pt of Lots 37 and 44 Blk1,Venersborg Ac, Rec Vol D PP 6, desc beg at pt NWC of Lot 37; th S00- 42-32W alng W ln Lot 37 818ft to cntrln of 60ft non-exc prvt rd; as further desc in 08/16/1990 deed Intl Paper Realty Corp to CE and CL Pepper.

Said tract being associated with Tax Parcel ID: "120211000, 120211005 & ptn 120210000; 120232000, 120230000, "

TRACT 00083 T003N-R003E-SEC002 5 acs

SW 5 acs being pt Lots 37 and 44, Blk 1, Venersborg, plat Rec Vol D, PP 6, as further desc in 08/16/1990 Deed from Intl Paper Realty Corp to Jack and Ruth E Griffith, Doc 9009110078.

Said tract being associated with Tax Parcel ID: "120211000, 120211005 & ptn 120210000; 120232000, 120230000, "

EXHIBIT B

Clark County Tax Parcel ID Numbers:

Tax District: 098001

206685262

EXHIBIT C

Tax District: 0980001

TRACT 00077 T003N-R003E-SEC026 20 acs

N2SE4SW4

Said tract being associated with Tax Parcel ID: "ptn 206685262, "

TRACT 00048 T003N-R003E-SEC026 30 acs

Pt SW4SW4 except W 10 Acres

Said tract being associated with Tax Parcel ID: "ptn 206685262, "

Exhibit "A"

GRANTORS:

International Paper Company
Sustainable Forests, LLC
International Paper Realty Corporation
Blue Sky Timber Properties, LLC
SP Forests, LLC
IP Petroleum Company, Inc.
GCO Minerals LLC
IP Pacific Timberlands, Inc.
IP Timberlands Operating Company, LTD.
IP Farms, Inc.
Champion Realty Corporation
Transtates Properties Incorporated
The Long-Bell Petroleum Company, Inc.

EXHIBIT B

Clark County Tax Parcel ID Numbers:

Tax District: 119020

275008000, 300022000, 300021000, 276619000, 230302000, 230276000, 230300000

EXHIBIT C

Tax District: 119020

TRACT 00027 T005N-R003E-SEC015 42 acs

42 Acs m/l out of Dd Parcel 12(2nd last para)desc as all that portn of S2SE4 E of Willamette Meridian, which lies to the S&E of foregoing desc strip of lnd (bng in Sec 22), as further desc in 02/14/1958 Dd Harbor Plywood Corp to International Paper Co.

Said tract being associated with Tax Parcel ID: "275008000, Ptn 300022000"

TRACT 00028 T005N-R003E-SEC022 57.26 acs

57.26 acs m/l Parcels 11,12(Last para start w Also)Pcl 11 desc as beg Engs Sta 13494 a pnt on S boundary of Sec 22, Pcl 12 desc as Beg at Engs Sta 16326.5 a pnt on S boundary of NW4 Sec 22 bng 1220ft N SEC Sec 15;as further desc in Dd BkD46 Pg387B.

Said tract being associated with Tax Parcel ID: 300021000

TRACT 00030 T005N-R003E-SEC022 5 acs

5 Acs m/l out of Deed Parcel 11 desc as a parcel of land contg 2 Acs in SW4SW4 and 3 Acs in NW4SW4 bng between Cty Rd and Land covered by the foregoing desc (bng desc as pnt S boundary of Sec 22) as further desc in Dd Bk D46 Pg 387B.

Said tract being associated with Tax Parcel ID: "276619000, Ptn 300022000"

TRACT 00042 T004N-R003E-SEC005 120 acs

SE4SW4, W2SE4 E of Willamette Meridian

Said tract being associated with Tax Parcel ID: "230302000, 230276000 & ptn 230300000, "

Exhibit L

Chelatchie Prairie Railroad Potential Letter from Eric Temple, Owner of Portland Vancouver Junction Railroad

January 2021

Portland Vancouver Junction Railroad

January 25, 2021

Attn. Clark County Community Planning
RE: Granite Construction Chelatchie Bluff Surface Mine Overlay Annual Review

I write to support the Granite Construction Chelatchie Bluff Mineral Lands Project amendment to the Comprehensive Plan and address the rail transportation concerns raised in the December Pre-Application conference call.

As background, the Portland Vancouver Junction Railroad (PVJR) is the lessee of Clark County's Chelatchie Prairie Railroad. While PVJR did enter a leaseback with the County for the track north of MP 18.7 to the end of the line MP 33.1, PVJR retained both the exclusive operating rights to commence freight service at any time, as well as the right to terminate the leaseback. If this project moves forward and rail services are needed, PVJR would be ready, willing, and able to make this happen.

The condition of the railroad throughout the entire 33 miles is essentially FRA Class 1 Excepted. This allows PVJR to operate freight trains at up to 10 mph. Given the length of the line and service envisioned, PVJR sees no need to exceed 10 mph even as we improve the track to higher FRA standards. We do not envision a scenario where the railroad operations would occur outside of normal business hours (8am to 6pm). We're also committed to working with any local communities to schedule railroad operations to occur outside of any particularly busy commute times. In addition, positive consideration should come from the undeniable truth these rail operations will both reduce truck traffic congestion and road damage, as well as reduce the carbon footprint of aggregate sourcing in Clark County.

PVJR also owns a rail served property that could potentially serve as an off-loading terminal for mineral aggregates located in the center of the Vancouver market on the Padden Parkway-78th. On October 2, 2020 the Clark County Hearing Examiner approved a zone change of the parcel from IL (Light Industrial) to IR (Railroad Industrial) facilitating use of the Chelatchie Prairie Railroad. The site has roughly 1,000 feet of rail frontage adjacent to the northwest property line with existing 100ft. wide right-of-way which allows for multiple track sidings to be developed. The site is currently vacant and suitable for offloading and distribution of mineral aggregates. The site also has an easement allowing use of the traffic lighted intersection at NE 47th.

Finally, I write to inform anyone concerned, the track conditions are not in any way an impediment to moving forward. The few areas PVJR has currently taken out of service can be made operational prior to transporting aggregates via rail at a relatively low cost. This statement can be confirmed by the County's own July 2, 2020 study conducted by a company called Exeltech. Also, Granite Construction and PVJR both individually and collectively have the resources to make any necessary improvements. In addition, PVJR has secured $4.8 million through the transportation budget process with the support of Governor Inslee and the Legislature.

Please let me know if you have any additional questions or concerns.

Thank you,

Eric Temple

Eric Temple
President, Portland Vancouver Junction Railroad LLC

2265 116th Ave NE Suite 210-8 Bellevue, WA 98004 (425) 835-2582

Exhibit M

Exeltech Technical Memo for Railroad Engineering Services produced for Clark County Public Works

July 2020

exeltech

July 2, 2020

Ms. Carolyn Heniges, PE
Operations Manager
Clark County Public Works
P.O. Box 9810
Vancouver, WA 98666-9810

Re: Clark County Public Works, Parks and Land Division
Railroad Engineering Services – Scoping and Estimating

Dear Ms. Heniges:

Exeltech Consulting, Inc. (Exeltech) has completed the preparation of a Technical Memorandum for Railroad Engineering Services – Scoping and Estimating for the Clark County Chelatchie Prairie Railroad. The purpose of this memorandum is to provide a high-level evaluation of the four bridges over streams and creeks, and the track conditions of the Phase I (MP 0.0 to MP 14.12) and Phase III (MP 18.7 to MP 20.0) track sections. The intent of this scoping and estimating study is to evaluate the rails, ties, ballast and grade, switching, as well as the bridge structures to meet the Cooper E80 and 10mph freight service for Federal Railroad Administration (FRA) Excepted Track requirements.

We have performed our high-level field review of the Phase I and Phase III segments of the Chelatchie Prairie Railroad (MP 0.0 to 14.12 and MP 18.7 to 20.0) and summarized our findings in the attached Technical Memos. Prior to conducting the field investigations, we reviewed Clark County provided inspection reports for the bridges, held a video conference project kick-off meeting with Clark County staff and Will Cahill. Bridge plans were not provided. Additionally, field personnel as well as the project manager participated in railroad safety course and completed the railroad safety exam provided by Cahill, Inc. Field reviews were conducted between May 26 and May 29, 2020. Will Cahill (Cahill, Inc) provided high-rail transportation and was present during all field inspections.

Track inspection identified some deficiencies that need to be resolved to meet FRA Excepted Track requirements, as well as track maintenance needs. Cost Estimates for maintenance and repairs including mobilization, but not sales tax, engineering and contingencies:

Phase I (MP 0.0 to 14.12) - $1,000,000
Phase III (MP 18.7 to 20.0) - $145,000

Bridge inspection identified recommended bridge repairs. Estimate for bridge repairs including mobilization, but not sales tax, engineering and contingencies:

Bridge #6 – $51,000
Bridge #12 - $77,000
Bridge #18 - $134,000
Bridge #20 - $110,000

Our findings are documented in the enclosed four documents:

- **Technical Memo – Track Conditions Assessment 6/5/2020** includes: Summary of track conditions findings, recommended track maintenance and repairs, MP identification of track deficiencies and select project photos.

8729 Commerce Place Drive NE
Suite A
Lacey, WA 98516
T. 360.357.8289
F. 360.357.8225
www.xltech.com

- **Estimate for Track Improvements 7/2/2020** includes: High-level estimate for Phase I and Phase III track maintenance and needed track repairs. Updated estimate from 6/5/2020 to include mobilization, engineering and contingencies.

- **Technical Memo – Bridge Conditions Assessment 6/5/2020** includes: Summary of bridge conditions findings for bridges #6, 12, 18 and 20 along with select bridge photos.

- **Estimate for Bridge Improvements 7/2/2020** includes: High-level estimate bridge repairs for each bridge. Updated estimate from 6/5/2020 to include mobilization, engineering and contingencies.

We look forward to discussing our findings further with you after you have had a chance to review this technical memorandum. We are available to provide additional assistance under future Phases of work for the Clark County Chelatchie Prairie Railroad.

It has been our pleasure to provide Inspection, Scoping and Estimating services to you. Please feel free to contact us at any time.

Respectfully Submitted,

EXELTECH CONSULTING, INC.

Kevin Weed, PE
Senior Project Manager

KEW:kew
Enc: Technical Memo – Track Conditions Assessment dated 6/5/2020
Technical Memo – Bridge Conditions Assessment dated 6/5/2020
Clark County RR Track Repairs Estimate dated 7/2/2020
Clark County RR Bridge Repairs Cost Estimate dated 7/2/2020

KEVIN E. WEED
STATE OF WASHINGTON
Digitally signed by Kevin E. Weed
Date: 2020.08.07 15:42:50-07'00'
29742
REGISTERED
PROFESSIONAL ENGINEER

Date:	June 5, 2020	**File:**	2020-05
To:	Carolyn Heniges, PE		
From:	James Kirk / Kevin Weed, PE		
Project:	Clark County Public Works, Parks and Land Division Railroad Engineering – Scoping and Estimating		
Subject:	Evaluation of Track Conditions Phase I & Phase III		

TECHNICAL MEMO

Message/Comments:

Between May 26, 2020 and May 29, 2020, James Kirk with Exeltech Consulting, Inc. performed a high-level railway assessment of the Clark County short-line railroad (Chelatchie Prairie Railroad). Will Cahill (with Cahill, Inc.) provided high-rail access and support to Jim during the site review. Jim reviewed the conditions of the rails, switches and associated railroad. The areas reviewed are broken into two sections, Mile Post (MP) 0.0 to MP 14.1 (Vancouver, Washington to Battle Ground, Washington – Phase I) and MP 18.7 to 20.0 (referred to as the 'gap' between Portland Vancouver Junction Railroad [PVJR] and Battle Ground, Yacolt, and Chelatchie Prairie Railroad [BYCX] – Phase III).

General assessment:

The PVJR is in poor condition due to lack of regular maintenance. Per discussions with Will Cahill, the train crew functions as the maintenance crew and typically just makes basic repairs to allow the train to operate on the tracks. In open areas the track is generally debris free; however, in wooded areas, the track is covered with forested debris.

The tracks need a lot of regular maintenance such as:

- high spikes need to be knocked down,
- anchors need to be tightened,
- box ties with anchors (not just randomly apply anchors),
- anchors across from joints need to be taken off and applied elsewhere,
- all track joints need to be raised, hand-tamped, and properly spiked, bolts tightened, and lock washers added, many joints don't even have enough spikes.

Common issues observed during the high-level track assessment include; low joints, slewed ties, missing spikes, and lack of ballast. It is recommended that a track maintenance crew walk the track and adjust low railroad ties, align the track with a track slewing machine, install adequate number of railroad spikes (replace missing spikes), and add ballast. After the normal maintenance is done and the ballast dumped; the track needs to be surfaced and regulated with a tamper and ballast regulator. Adding ballast will help hold the track surface and keep the track from moving out of alignment during warmer weather.

The rail itself is generally in fair condition. Since this an old track, various rail weights (66, 85, 90, 100 and 136 pounds [lbs]) were observed. The 66-lb rail is possibly part of the original rail and heavier gage rails have replaced the lighter rail over time. The 66-lb rail meets the requirement for 10 miles per hour (mph) freight. As part of long-term rail maintenance, it is recommended that a plan is developed to replace sections of 66-lb rail with a heavier gage rail to improve rail stability and alignment.

In general, the railroad crossings are in well maintained condition; however, some of the crossings have tall grass and/or brush that impacts sight distance, which is a Federal Railroad Administration (FRA) defect. We recommend that regular brush cutting occurs in these areas to maintain the required sight distance.

Tree cover and heavy brush impact the condition of the rail. Forested debris has built up in segments of the rail covering the railroad ties. Debris impacts the railroad ties by increasing aging and rotting of ties. Also, heavy brush and tree cover impacts site distance on the rail and safe equipment clearance. We recommend bringing in a track brush cutter to improve clearances, reduce accumulation of debris, and allow sunlight to reach the track. Also, it is recommended that forest debris material is broomed off with a ballast regulator, and a maintenance program is developed to broom off future debris accumulations at least every 5 years.

Drainage issues were observed along the track. Ditches need to be cleaned out as part of the track maintenance and, these areas should be re-ballasted to prevent potentially sliding and weakening of the shoulder areas.

We also observed that trespassers encroach the railroad right-of-way. This is a common problem on low speed and low use track facilities. Maintaining “no trespassing” signs and railroad right-of-way fencing will help reduce trespassing. Enforcement does work as well; however, it’s difficult to provide enforcement on a low-volume tracks. We recommend that you annually review trespassing issues and evaluate if additional no-trespassing measures need to be implemented.

The following is a summary of observations and recommended rail improvements based on milepost segments:

Phase I

MP 0.0 to MP 14.1

- Most of the track joints need to be raised, hand tamped, spiked, and the bolts tightened. Anchors need to be removed from across the joints and reapplied at either end of the joints.
- Most of the track is severely in need of ballast in the center of track and shoulders.
- The rail gauge is adequate per the FRA Excepted Track.
- The switches are generally in good order. The exception is the siding at Battle Ground.
- Brush cutting to improve sight distance and track clearance is needed.
- Ditches cleaned to improve drainage (approximately 2 miles of ditches).

MP 0.0 to MP 2.0 (Vancouver)

- Several sections of track have slewed ties that need to be straightened and anchored.
- There is a broken joint bar at MP 1.8.

MP 7.10 to NE 131st Street

- Forest debris built up on tracks needs to be broomed off with a ballast regulator to slow the decay of the cross ties.
- The brush needs to be cut and maintained to provide adequate clearance around trains and equipment.

MP 9.0, Crossings at 181st and 119th Streets

- Brush needs to be cut and maintained to provide good field of vision for trains and cars to eliminate FRA site distance defect.

MP 9.0 to SR 503

- Forest debris built up on tracks needs to be broomed off with a ballast regulator to slow the decay of the cross ties.
- The brush needs to be cut and maintained to provide adequate clearance around trains and equipment.

MP 10.5 to MP 11.8

- Forest debris built up on tracks needs to be broomed with a ballast regulator and debris removed to slow the decay of the cross ties.
- The brush needs to be cut and maintained to provide adequate clearance around trains and equipment.
- Ditches need to be cleaned to improve drainage.
- Undercut the track mud and backfill with ballast from MP 11.2 to MP 11.4.

MP 13.7 to 14.12 (Battle Ground)

- Two broken rail ends in the same joint need to be repaired on the South side at MP 13.98.
- Walkway around the switch needs more ballast on both sides of the track at MP 13.7.
- Battleground siding needs repair, siding switches need heal block, switch bolts, guard rail, and frog bolts, which are marked tightened. Materials estimate includes 45 8-foot (ft) cross ties, 2 14-ft and 1 15-ft switch ties.

Phase III

MP 18.7 to MP 20.0

- Identified at least 143 8-ft cross ties that need to be replaced.
- Severe lack of track ballast on the shoulders. It appears to be caused primarily by motorcycle riding on the track shoulders. The motorcycle trail leads downhill to a home on the northside of the track. Consider enforcement of trespassing and installation of a right-of-way fence to eliminate motorcycle damage.
- Forest debris built up on tracks needs to be broomed with a ballast regulator and debris removed to slow the decay of the cross ties.
- In forested areas, the brush needs to be cut and maintained to provide adequate clearance around trains and equipment.
- Most of the track needs the joints raised, hand tamped, spiked, tighten bolts and the anchors adjusted.
- Ballast added, track surfaced, lined, and regulated.
- Several areas of stormwater runoff damage as occurred, needs shoulder repair and ballast.
- Ditches need to be cleaned.
- MP 19.0 - Large boulder within the track clear zone that needs to be removed.
- Approximately 0.8 miles of hillside slope appears to have drainage and potential slide issues. Recommend further evaluation of slopes and long-term slope management to reduce potential for slide debris impacting track operations..

Bridge #18 approaches

- Five 8-ft cross ties have had the spikes pulled and the ties have been dug-out and thrown in the stream
- At least four more ties on the North side have had the spikes pulled and plates removed.

Site Photos:

MP 4.1 to MP 4.4 – Track debris, tree, and brush cover

Near Bridge No. 6 – Lack of ballast and brush in clear zone

MP 11.8 – Lack of shoulder ballast and drainage

MP 11.4 – Mudhole and poor drainage

MP 13.98 – Broken Rails

Near Bridge #18 – Missing Railroad Ties

Between MP 19.0 and 20.0 – Slope issues and large rock in clear zone

MP 19.0 to MP 20.0 – Track debris, tree, and brush cover

MP 19.0 to MP 20.0 – Motorcycle trail from track towards house

MP 19.0 to MP 20.0 – Entrance to Motorcycle trail from track

Date:	June 5, 2020	**File:**	2020-05
To:	Carolyn Heniges, PE		
From:	Ronald Smith, PE / Karl Kirker PE SE		
Project:	Clark County Public Works – Parks and Land Division Railroad Engineering – Scoping and Estimating		
Subject:	Evaluation of Bridge Conditions Phase I & Phase III		

exeltech

TECHNICAL MEMO

Message/Comments:

On May 28,2020 Ron Smith with Exeltech Consulting, Inc., conducted a high-level field assessment evaluation of the structural components of Bridges 6, 12, 18 and 20 including the approaches. The information from the field assessment was used to create this conditions report Technical Memo that lists the conditions and a rough cost estimate for each repair or replacement needed for bridge structures to meet Cooper E80 and 10mph freight service for FRA Excepted Track. For each bridge the repairs were broken out as those requiring repair/replacement within the next 2 years and those requiring repair/replacement in the next 2 to 5 years. The individual item costs shown below do not include mobilization, inflation, engineering, contingencies or sales tax.

Bridge 6

Bridge 6 is a 7 span timber bridge with timber pile abutments, timber pile interior bents and timber stringers. The following components require repair or replacement.

Repairs/replacement within 2 years:

- Piles

  7 piles have internal decay and should be repaired by cutting out the length of pile decayed and installing a new 12x14 post:

  1. Bent 2 Pile 5 - Pile decayed from sill to ground – approx. 1'.
  2. Bent 4 Pile 1 – Pile decayed from sill to ground – approx. 2'.
  3. Bent 4 Pile 3 – Pile decayed from sill to ground – approx. 2'.
  4. Bent 5 Pile 5 – Pile decayed from sill to ground – approx. 5'.
  5. Bent 6 Pile 2 – Pile decayed lower 10'.
  6. Bent 7 Pile 4 – Pile decayed from cap to ground - 10'.
  7. Bent 4 Pile 3 – Pile decayed from cap to ground - 3'.

  Cost = $45,000

Repairs/replacement in 2 to 5 years:

- Bracing

  Some bracing members have splitting and decay. Replace with new 3x10 timbers:

1. Bent 6 - 2 lower sway braces are split at ends.
2. Bent 6 – 2 sash braces are split at ends.

Cost = $700

- Pile shimming

  Shim gaps between top of piles and cap.

  1. Bent 6 – 2 piles

  Cost = $400

Bridge 12

Bridge 12 is an 11 span timber bridge with timber pile abutments, timber pile interior bents and timber stringers. The following components require repair or replacement.

Repairs/replacement within 2 years:

- Piles

  6 piles have internal decay and should be repaired by cutting out the length of pile decayed and installing a new 12x12 post:

  1. Bent 3 Pile 3 - Pile decayed at top from cap– approx. 2'.
  2. Bent 6 Pile 5 – Pile decayed at top from cap– approx. 8'.
  3. Bent 8 Pile 1 – Pile decayed from cap to ground – approx.40'.
  4. Bent 10 Pile 4 – Pile decayed lower 2' to ground.
  5. Bent 11 Pile 1 – Pile decayed lower 6' to ground.
  6. Bent 12 Pile 2 – Pile decayed from cap to ground - 8'.

  Cost = $39,000

- Backwall and Wingwalls

  Bent 12 backwall and lagging is rotten and bulging. Both wingwalls are rotten and have rotated outward. The bent should be rebuilt with a new backwall and new wingwalls.

  Cost = $14,800 includes excavation and backfill

- Mud Sills

  Bent 11 mud sills at Pile 2 have severe decay and should be replaced with new timbers.

  Cost = $4,500

- Bracing

  Many bracing members have splitting and decay. Replace with new 3x10 or 6x10 timbers.

  1. Bent 3 - 2 lower sash braces
  2. Bent 3 – 2 sway braces

3. Bent 4 – 2 mid sash
4. Bent 4 – 2 lower sway
5. Bent 5 – 2 lower sash
6. Bent 5 – 2 2nd level sash
7. Bent 5 – 2 2nd level sway
8. Bent 6 – 2 towers.
9. Bent 6 – 2 lower sway
10. Bent 7 –2 2nd level sash
11. Bent 7 –2 lower sway
12. Bent 8 –2 girt
13. Bent 8 – 2 upper sway
14. Bent 9 – 2 lower sash
15. Bent 9 – 2 upper sash
16. Bent 10 – 2 upper tower
17. Bent 10 – 2 upper tower
18. Bent 10 – 2 sash

Cost = $5,800

<u>Repairs/replacement in 2 to 5 years:</u>

- Pile shimming

  Shim gaps between top of piles and cap.

  1. Bent 3 – All piles
  2. Bent 4 – Piles 1 and 3
  3. Bent 5 – Pile 1
  4. Bent 8 – Piles 3 and 5
  5. Bent 9 – Piles 1 and 5

  Cost = $2,400

- Stringer shimming

  Shim gaps between top of cap and the stringers or replace crushing shims.

  1. Bent 3 – Stringer 1 - 3
  2. Bent 4 – Stringer 1
  3. Bent 8 – Stringer 1 - 3
  4. Bent 9 – stringer 6
  5. Bent 10 – Stringer 2 - 3
  6. Bent 12 – Stringer 3

  Cost = $3,600

Bridge 18

Bridge 18 is an 8 span timber bridge with timber pile abutments, timber pile interior bents and timber stringers. The following components require repair or replacement.

Repairs/replacement within 2 years:

- Piles
  7 piles have internal decay and should be repaired by cutting out the length of pile decayed and installing a new 12x12 post. Two of the piles are at Bent 1 where all the piles should be cut off and the bent rebuilt with a sill, 5 new posts and a new cap as part of the backwall and wingwall replacement.
  1. Bent 1 Pile 1 - Pile decayed from cap to ground – 3'.
  2. Bent 1 Pile 5 – Pile decayed from cap to ground– 3'.
  3. Bent 2 Pile 5 – Pile decayed from cap to ground – 5'.
  4. Bent 5 Pile 4 – Pile decayed lower 6' to ground.
  5. Bent 6 Pile 1 – Pile decayed lower 5' to ground.
  6. Bent 6 Pile 2 – Pile decayed at top from cap– approx. 2'.
  7. Bent 8 Pile 1 – Pile decayed lower 10' to ground.

  Cost = $63,000

- Caps
  Cap at Bent 1 would be replaced as part of Bent 1 reconstruction.
  1. Bent 1 – Cap – 14' long

  Cost = $7,800

- Backwall and Wingwalls
  Bents 1 and 9 have backwalls and lagging that is rotten and bulging. Both wingwalls for both bents are rotten and have rotated outward. The bents should be rebuilt with a new backwalls and new wingwalls. At Bent 1 the cap and piles should be replaced with a sill, 5 new posts and a new cap as part of the backwall and wingwall reconstruction.

  Cost = $40,500 includes excavation, backfill and ballast

Repairs/replacement in 2 to 5 years:

- Bracing
  1. Bent 2 - 2 lower sway braces are split at ends

  Cost = $360

- Pile shimming
  Shim gaps between top of piles and cap.

1. Bent 2 – All piles
2. Bent 3 – Piles 3 and 4
3. Bent 5 – Pile 1
4. Bent 4 – Piles 2 and 4
5. Bent 5 – Pile 1
6. Bent 7 – Pile 4
7. Bent 8 – Piles 1 – 4

Cost = $5,400

- Stringer shimming

  Shim gaps between top of cap and the stringers or replace crushing shims.

  1. Bent 2 – Stringer all
  2. Bent 9 – Stringer all.

  Cost = $2,400

- Loose Hardware

  Replace/tighten missing or loose hardware in the caps and stringers throughout the bridge.

  Cost = $2,700

Bridge 20

Bridge 20 is a 6 span timber bridge with timber pile abutments, timber pile interior bents and timber stringers. The following components require repair or replacement.

Repairs/replacement within 2 years:

- Stringers

  5 stringers have internal decay and should be replaced. The stringers are each 2 spans long.

  1. Spans 1 & 2 - Stringer 1 – Approx. 30’ long
  2. Spans 1 & 2 - Stringer 2 – Approx. 30’ long
  3. Spans 1 & 2 - Stringer 6 – Approx. 30’ long
  4. Spans 5 & 6 - Stringer 1 – Approx. 30’ long
  5. Spans 5 & 6 - Stringer 6 – Approx. 30’ long

  Cost = $18,000

- Caps

  2 caps have internal decay and should be replaced.

  2. Bent 2 – Cap – 14’ long
  3. Bent 3 – Cap – Cap is 14’ long.

  Cost = $15,800

- Backwall

  Bents 1 and 7 have backwall posts that are rotten and allow the walls to move. The bents should be rebuilt with a new backwalls and posts. At Bent 7 the support is undermined. The approach fill has settled leaving track unsupported.

  Cost = $25,900 includes excavation, backfill and ballast

- Bracing

  All the bracing has been cut. It will have to be replaced with new 3x10 timbers.:

  Cost = $2,000

- Mud Sills

  1. Bent 6 mud sills at Piles 1 and 5 have severe decay and should be replaced with new timbers.
  2. Bent 7 2 mud sill timbers have severe decay and should be replaced with new timbers.

  Cost = $9,500

- Sills

  The sills at 3 bents have severe decay and require replacement with new 12x12 timbers

  1. Bent 2 – Approx. 16’ long.
  2. Bent 3 – Approx. 20’ long.
  3. Bent 6 – Approx. 16’ long

  Cost = $24,000

<u>Repairs/replacement in 2 to 5 years:</u>

- Pile shimming

  Shim gaps between top of piles and cap.

  1. Bent 4 – Piles 3, 4 and 5

  Cost = $1,200

- Stringer shimming

  Shim gaps between top of cap and the stringers.

  1. Bent 6 – Stringer all

  Cost = $3,000

PHOTOS

BRIDGE 12 – DAMANGED BRACING

BRIDGE 12 – BENT 11 DECAYED MUD SILL

PHOTOS

BRIDGE 18 – LOOKING EAST

BRIDGE 18 – BENT 1

PHOTOS

BRIDGE 18 – BENT 1 PILE 5 DECAY AT TOP

BRIDGE 20 – LOOKING WEST

PHOTOS

BRIDGE 20 – ELEVATION SHOWING MISSING BRACING

BRIDGE 20 – BENT 7 SHOWING MOVEMENT AND UNDERMINING

exeltech	Project:	**Clark County Public Works**	Engineers: **JK**
		RR Engr. Services – Scoping and Estimating	Date: **7/2/2020**
	Subject:	**Cost Estimate - Track Repairs**	Reviewers: **KEW**
			Date: **7/2/2020**

Project # **2020-05**

Page: **1**

ITEM		SPEC. SECTION	STD. ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
				PREPARATION				
1		1-09.7	0001	MOBILIZATION	L.S.		10%	$20,000.00
				RAILWAY				
PHASE I (MP 0.0 to MP 14.2)								
1				BALLAST	TON	14200	35	$497,000.00
2				8-ft CROSS TIES	EACH	329	165	$54,285.00
3				14-ft CROSS TIES	EACH	2	250	$500.00
4				15-ft CROSS TIES	EACH	1	300	$300.00
5				JOINT BAR	EACH	2	225	$450.00
6				66LB RAIL SECTION	EACH	2	1600	$3,200.00
7				TRACK BOLTS	KEG	28	300	$8,520.00
8				SPIKES	KEG	142	300	$42,600.00
9				66LB ANCHORS	EACH	300	12	$3,600.00
10				TAMP TRACK	MILES	14.2	10560	$149,952.00
11				BROOMING (BALLAST REGULATOR)	MILES	2	2640	$5,280.00
12				CLEAN DITCHES	MILES	2	21120	$42,240.00
13				UNDERCUT TRACK	MILES	1	80000	$80,000.00
14				BRUSH CUTTING	MILES	2	10000	$20,000.00
							subtotal	$907,927.00
							Mobilization, inflation and contingencies	$445,000.00
Construction Total Phase I								**$1,350,000.00**
						25%	Engr. & CM	$338,000.00
Total Engineering, Construction and Contingencies								**$1,688,000.00**
PHASE III (MP 18.7 TO 20.0)								
1				BALLAST	TON	2600	35	$91,000.00
2				8-ft CROSS TIES	EACH	170	35	$5,950.00
3				TRACK BOLTS	KEG	3	300	$900.00
4				SPIKES	KEG	13	300	$3,900.00
5				66LB ANCHORS	EACH	200	12	$2,400.00
6				TAMP TRACK	MILES	1.3	$ 21,120	$27,456.00
7				REMOVE ROCKS/STABILIZE SLOPE	LS	1	$ 10,000	$10,000.00
8				CLEAN DITCHES	MILES	0.8	$ 21,120	$16,896.00
9				BROOMING (BALLAST REGULATOR)	MILES	0.8	$ 2,640	$2,112.00
10				BRUSH CUTTING	MILES	0.8	$ 10,000	$8,000.00
							subtotal	$131,606.00
							Mobilization, inflation and contingencies	$64,000.00
Total Phase III								**$200,000.00**
						25%	Engr. & CM	$50,000.00
Total Engineering, Construction and Contingencies								**$250,000.00**
Total Phase I and Phase III								**$1,938,000.00**

exeltech	Project:	**Clark County Public Works** RR Engr. Services – Scoping and Estimating	Engineers: **RLS** Date: **7/2/2020**	Project # **2020-05**
	Subject:	**Cost Estimate - Bridge Repairs**	Reviewers: **KNK** Date: **7/2/2020**	Page: **1**

ITEM	SPEC. SECTION	STD. ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
			PREPARATION				
1	1-09.7	0001	MOBILIZATION	L.S.		10%	$50,500.00
			STRUCTURE				
BRIDGE 6							
1			PILE REPAIRS	L.S.	1		$45,000.00
2			BRACING REPAIRS	L.S.	1		$700.00
3			PILE SHIMMING	L.S.	1		$400.00
						subtotal	$46,100.00
						mobilization, inflation and contingencies	$23,000.00
						Bridge 6	$69,000.00
BRIDGE 12							
1			PILE REPAIRS	L.S.	1		$39,000.00
2			BRACING REPAIRS	L.S.	1		$5,800.00
3			PILE SHIMMING	L.S.	1		$2,400.00
4			STRINGER SHIMMING	L.S.	1		$3,600.00
5			MUD SILL REPAIRS	L.S.	1		$4,500.00
6			BACKWALL AND WINGWALL REPAIRS	L.S.	1		$13,000.00
7			STRUCTURE EXCAVATION CLASS A INCL. HAUL	L.S.	1		$900.00
8			GRAVEL BACKFILL FOR WALL	L.S.	1		$900.00
						subtotal	$70,100.00
						mobilization, inflation and contingencies	$34,000.00
						Bridge 12	$104,000.00
BRIDGE 18							
1			PILE REPAIRS	L.S.	1		$63,000.00
2			CAP REPAIRS	L.S.	1		$7,800.00
3			BRACING REPAIRS	L.S.	1		$360.00
4			PILE SHIMMING	L.S.	1		$5,400.00
5			STRINGER SHIMMING	L.S.	1		$2,400.00
6			HARDWARE REPAIR	L.S.	1		$2,700.00
7			BACKWALL AND WINGWALL REPAIRS	L.S.	1		$26,100.00
8			STRUCTURE EXCAVATION CLASS A INCL. HAUL	L.S.	1		$2,000.00
9			GRAVEL BACKFILL FOR WALL	L.S.	1		$2,000.00
10			PERMEABLE BALLAST	L.S.	1		$10,400.00
						subtotal	$122,160.00
						mobilization, inflation and contingencies	$60,000.00
						Bridge 18	$182,000.00
BRIDGE 20							
1			STRINGER REPAIRS	L.S.	1		$18,000.00
2			CAP REPAIRS	L.S.	1		$15,800.00
3			BRACING REPAIRS	L.S.	1		$2,000.00
4			SILL REPAIRS	L.S.	1		$24,000.00
5			MUD BLOCK REPAIRS	L.S.	1		$9,500.00
6			PILE SHIMMING	L.S.	1		$1,200.00
7			STRINGER SHIMMING	L.S.	1		$3,000.00
8			BACKWALL REPAIRS	L.S.	1		$17,600.00
9			STRUCTURE EXCAVATION CLASS A INCL. HAUL	L.S.	1		$900.00
10			GRAVEL BACKFILL FOR WALL	L.S.	1		$900.00
11			PERMEABLE BALLAST	L.S.	1		$6,500.00
						subtotal	$99,400.00
						mobilization, inflation and contingencies	$49,000.00
						Bridge 20	$150,000.00
Total Bid Items with Mobilization, Inflation(2023) and Contingincies (Bridges 6, 12, 18 and 20)							$505,000.00
Engineering and Construction Management							$202,000.00
Total (Bridges 6, 12, 18 and 20)							$707,000.00

Exhibit N

Memorandum of License, BRP LLC to Granite Construction Company

May 2020

5817975 MEMO
Total Pages: 6 Rec Fee: $108.50
eRecorded in Clark County, WA 11/10/2020 04:07 PM
JORDAN RAMIS PC
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Recorded at the Request of
and When Recorded Return to:

Bruce Benson PS
800 Fifth Avenue, Suite 4100
Seattle, WA 98101

MEMORANDUM OF LICENSE

Optionor: **BRP LLC, a Delaware limited liability company**

Optionee: **Granite Construction Company, a California corporation**

Abbreviated Legal Description: ¼, ¼, **Sec#, Tn# Rn# [SE 12-5-3E, SW 7-5-4E, N ½ 18-5-4E]**

(Complete legal description on Exhibit A of this document.)

Assessor's Property Tax Parcel Account Numbers: **281134-000**
274346-000
283421-000
283422-000
283420-000

MEMORANDUM OF LICENSE

This MEMORANDUM OF LICENSE is effective as of the [_5th___] day of [_May___], 2020, by and between BRP LLC, a Delaware limited liability company ("***Optionor***") and GRANITE CONSTRUTION COMPANY, a California corporation ("***Optionee***").

1. **Premises; Grant of Exclusive License**. Optionor has granted to Optionee upon the terms and conditions of that certain *Option to Lease and Exploration License* between the parties dated [_May 5th,__], 2020 (the "***Option***"), which is incorporated herein by reference, an exclusive license to explore the mineral rights legally described in Exhibit A (the "***Premises***").

2. **Term**. The term of the Option (the "***Term***") shall commence upon the Effective Date (as determined under of the Option) and shall end April 30, 2025. The Option may be terminated earlier pursuant to its terms.

3. **Exclusive Option to Lease**. Optionor has granted to Optionee an exclusive option to lease the Premises in accordance with the terms and conditions set forth in the Option. Such option expires at the end of the Term (as defined in the Option).

4. **Purpose of Memorandum of License**. This Memorandum of License is prepared for the purpose of being publicly recorded only, and it in no way modifies the License.

Optionor:

BRP LLC

By: _____

Its Vice President and Chief Engineer

Optionee:

GRANITE CONSTRUCTION COMPANY

By: MIKE STEIN

Its VP OF REGIONAL OPERATIONS

OPTIONOR: BRP LLC

STATE OF WEST VIRGINIA)
) ss.
COUNTY OF CABELL)

On this 5th day of May, 2020, before me personally appeared Gregory F. Wooten, to me known to be the VP & Chief Engineer of BRP LLC, the limited liability company that executed the within and foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said limited liability company for the uses and purposes therein mentioned, and on oath stated that she/he was authorized to execute the said instrument.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
Vera E. Gartin
4573 Midway Road
Yawkey, WV 25573
My Commission Expires August 5, 2024

Vera E. Gartin
(Signature)

VERA E. GARTIN
(Name legibly printed or stamped)

Notary Public in and for the State of WV,
residing at WV
My appointment expires: August 5, 2024

OPTIONEE: GRANITE CONSTRUCTION COMPANY

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of Santa Cruz

On May 11th, 2020, before me, Carol Johnson
(insert name of notary)

personally appeared Mike Stein, who proved to
(insert name of person signing Affidavit)

me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)

Notary Public
State of Washington
Carol L. Johnson
Commission Expires 06-08-2022

Exhibit A

The Premises

(See attached)

APN/Parcel ID(s): 281134-000, 274346-000, 283421-000, 283422-000 and 283420-000

TOWNSHIP 5 NORTH, RANGE 3 EAST, WILLAMETTE MERIDIAN

Section 12: That portion of the Southeast quarter of Section 12, described as follows:

BEGINNING at the DNR concrete monument at the Southeast corner of Section 12; thence North 00°29'21" West 560.33 feet; thence South 79°55'33" West 91.59 feet to a ½ inch iron rod; thence South 86°49'21" West 155.72 feet to a ½ inch iron rod; thence South 86°52'12" West 183.75 feet to an ½ inch iron rod; thence North 05°37'34" West 46.63 feet to a ½ inch iron rod at the Northerly Southeast corner of the L.P. & N. Tract as described under Auditor's File No. 8209160048 and shown on that survey recorded in Book 13, page 153; thence following the South line of said L.P. & N. Tract South 55°17'15" West 730.94 feet; thence South 50°20'55" West 235.12 feet to the Southerly Southeast corner thereof on the South line of the Southeast quarter of the Southeast quarter of Section 12; thence South 89°43'47" East 1220.39 feet to the Point of Beginning.

TOWNSHIP 5 NORTH, RANGE 4 EAST, WILLAMETTE MERIDIAN

Section 7: The Southwest quarter

EXCEPT the East half of the Southeast quarter of the Southwest quarter

EXCEPT that portion conveyed to Amboy Trucking Company by Deed recorded under Auditor's File No. 8302140072, described as follows:

That portion of the East half of the Northeast quarter of the Southwest quarter of said Section 7, lying Southerly of the South right of way line of International Paper Company Logging Road No. 100.

ALSO, BEGINNING at a point of intersection of the South right of way line of International Paper Logging Road No. 100 with the West line of the East half of the Northeast quarter of the Southwest quarter of said Section 7; thence South along the West line of the East half of the Northeast quarter of the Southwest quarter and along the West line of the East half of the Southeast quarter of the Southwest quarter of said Section 7, a distance of 228.47 feet to the Southwest corner of that tract conveyed to Amboy Trucking Company by Deed recorded under Auditor's File No. 8005090041, records of said County; thence South 76°33'07" West 219.94 feet; thence North 18°58'28" West 146.77 feet; thence North 55°31'14" East 168.39 feet to the South right of way line of said Logging Road No. 100; thence Northeasterly along the South right of way line of said Logging Road No. 100 to the Point of Beginning.

ALSO, EXCEPT that portion thereof lying North of the following described line:

BEGINNING at the intersection of the East line of said Southwest quarter with the South right of way line of International Paper Company Logging Company Road No. 100 as shown on that survey recorded in Book 13, page 152, said point being located North 01°02'03" West 1610.99 feet from a 5/8 inch iron rod at the South quarter corner of said Section 7; thence South 68°55'49" West 829.64 feet to a 5/8 inch iron rod as shown in Book 13, page 152; thence South 55°20'31' West 169 feet to a 5/8 inch iron rod as shown in said Book 13, page 152; thence South 18°58'09"East 30.94 feet to a ½ inch iron rod; thence South 71°12'31" West 161.210 feet to a ½ inch iron rod; thence South 68°23'43" West 126.168 feet to a ½ inch

rod; thence South 63°36'52" West 118.414 feet to a ½ inch iron rod; thence South 66°24'06" West 108.336 feet to a ½ inch iron rod; thence South 67°22'05" West 120.291 feet to a ½ inch iron rod; thence South 65°24'47" West 158.716 feet to a ½ inch iron rod; thence South 69°25'20' West 175.587 feet to a ½ inch iron rod; thence South 64°50'59" West 108.550 feet to a ½ inch iron rod; thence South 59°19'49" West 149.826 feet to a ½ inch iron rod; thence South 71°14'37" West 101.657 feet to a ½ inch iron rod; thence South 66°41'04" West 129.381 feet to a ½ inch iron rod; thence South 66°33'25" West 122.300 feet to a ½ inch iron rod; thence South 70°42'24" West 154.083 feet to a ½ inch iron rod; thence South 79°55'33" West 123.89 feet to the terminus of said line on the West boundary of said Southwest quarter at a point North 00°29'21" West 560.33 feet from a D.N.R. concrete monument at the Southwest corner of Section 7.

That portion of the Southeast quarter of the Northeast quarter of said Section 7, lying Southeasterly of the following described Parcel 4, as conveyed to Bald Knob Land and Timber Company by Deed recorded under Auditor's File No. 8405230033:

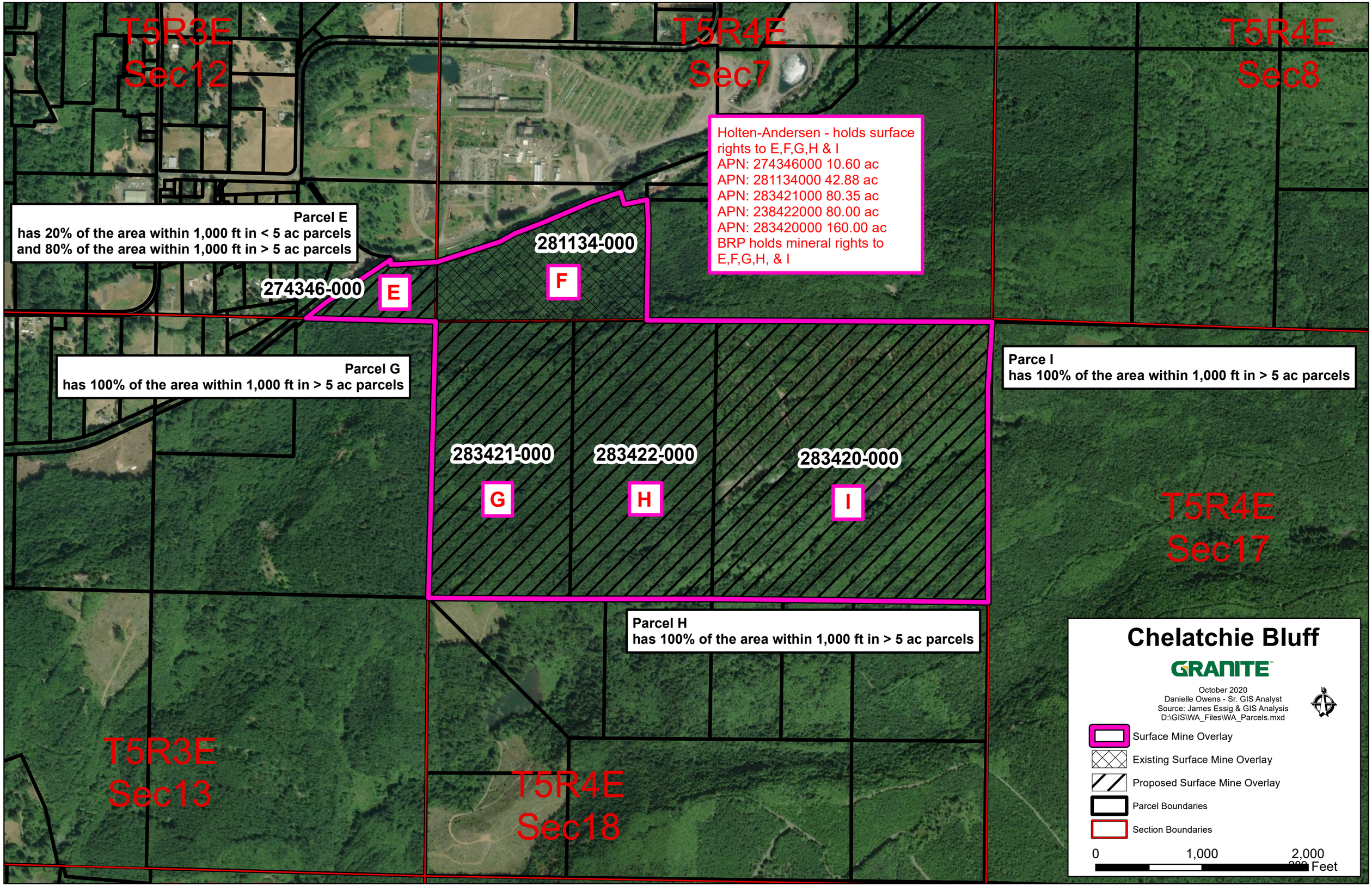
That part of the Southeast quarter of the Northeast quarter of said Section 7, contained in a strip of land 100 feet in width, extending 35 feet on the Northwest side and 65 feet on the Southeast side of the following described engineer's line as now located and surveyed:

BEGINNING at a point on the South boundary of the Southeast quarter of the Northeast quarter of said Section 7, located 1049.9 feet West of the East quarter corner of said Section 7; thence North 46° East for a distance of 1485 feet to a point on the East boundary of said Section 7 located 1032 feet North of the East quarter corner of said Section 7.

Section 18: The North half.

Exhibit O

Chelatchie Bluff Parcel Map


T5R3E
Sec12
T5R4E
Sec7
T5R4E
Sec8
Holten-Andersen - holds surface rights to E,F,G,H & I
APN: 274346000 10.60 ac
APN: 281134000 42.88 ac
APN: 283421000 80.35 ac
APN: 238422000 80.00 ac
APN: 283420000 160.00 ac
BRP holds mineral rights to E,F,G,H, & I
Parcel E
has 20% of the area within 1,000 ft in < 5 ac parcels
and 80% of the area within 1,000 ft in > 5 ac parcels
281134-000
F
274346-000
E
Parcel G
has 100% of the area within 1,000 ft in > 5 ac parcels
Parce I
has 100% of the area within 1,000 ft in > 5 ac parcels
283421-000
G
283422-000
H
283420-000
I
T5R4E
Sec17
Parcel H
has 100% of the area within 1,000 ft in > 5 ac parcels
T5R3E
Sec13
T5R4E
Sec18
Chelatchie Bluff
GRANITE
October 2020
Danielle Owens - Sr. GIS Analyst
Source: James Essig & GIS Analysis
D:\GIS\WA_Files\WA_Parcels.mxd
Surface Mine Overlay
Existing Surface Mine Overlay
Proposed Surface Mine Overlay
Parcel Boundaries
Section Boundaries
0
1,000
2,000
Feet

May 25, 2021

TO: Clark County Community Planning
ATTN: Jose Alvarez
1300 Franklin Street
P.O. Box 9810
Vancouver, WA 98666-9810

FROM: Steve Hitzel, Environmental Engineer, Granite Construction Company

RE: CPZ2021-00006 Chelatchie Bluff Applicant's Interest in the Proposal Clarification

Mr. Alvarez,

In response to your request for additional documentation that addresses CCC 40.560.040 D(1)(a-c), please see the attached letter from National Resource Partner's Regional Manager, Adam Clark, and the associated review of surface rights vs. mineral rights by NRP's counsel, Stoel Rives LLP.

Please contact me, or James Essig, with any additional questions regarding this matter.

Sincerely,

Steve Hitzel
Granite Construction Company
Environmental Engineer
Pacific Northwest Region

Pacific Northwest Region
16821 SE McGillivray Blvd
Vancouver, WA 98683
Phone 509/454-8513
Cell 509/930-4863

NRP (OPERATING) LLC

5260 Irwin Rd., Huntington, WV 25705

(304) 522-5757 • Fax (304) 522-5401

May 25, 2021

Clark County Community Planning
ATTN: Jose Alvarez
1300 Franklin Street
P.O. Box 9810
Vancouver, WA 98666-9810

RE: Natural Resource Partners L.P. Mineral Interst in Chelatchie Bluff Mineral Lands, CPZ2021-00006

Dear Mr. Alvarez,

My name is Adam Clark and I am a Regional Manager for Natural Resource Partners L.P. (NYSE:NRP) ("NRP"). I am writing to provide some general background on NRP and to explain NRP's interest in Granite Construction Company's ("Granite") Chelatchie Bluff Land Application Review.

NRP:

NRP is a diversified natural resource company that owns over 10 million acres of mineral interest, consisting of coal, aggregate, industrial minerals, base and precious metal and various other energy commodities. In addition, NRP owns a 49% non-controlling equity interest in Ciner Wyoming, a trona ore mining and soda ash production business. NRP's primary business model is similar to that of other mineral royalty companies, wherein NRP does not operate any mines or operations. Rather NRP, through its subsidiaries, executes long term leases with experienced mineral operators to develop NRP's mineral interests. NRP receives a royalty on all commodities produced from the leased lands.

NRP and International Paper Company:

In June of 2010, NRP and International Paper Company entered into a Joint Venture, forming BRP LLC. NRP serves as the manager of the JV to which International Paper Company contributed its reserved mineral rights. In 2019, NRP purchased International Paper's interest in the JV and International Paper began the process of conveying any remaining mineral interests to BRP Minerals LLC. Both BRP LLC and BRP Minerals LLC (collectively, "BRP"), are wholly owned subsidiary companies of NRP.

NRP (OPERATING) LLC

5260 Irwin Rd., Huntington, WV 25705

(304) 522-5757 • Fax (304) 522-5401

Granite:

Effective May 5th, 2020, BRP executed an Option To Lease and Exploration License ("Agreement") with Granite. Under the Agreement, Granite has the exclusive right to mine and remove rock and aggregates from the Chelatchie Bluff property. For your convenience I have attached a copy the Memorandum of License, Exhibit A.

To further understand NRP's reserved rights in the Chelatchie Bluff property which have been leased to Granite, it is necessary to review the recorded Bargain and Sale Deed, dated March 14, 1985, and recorded under AFN 8512200101. This is the deed by which International Paper Company sold the property to IP Timberlands, reserving to itself all "mineral and mineral rights" in, on or under the property conveyed. Exhibit B of the Deed contains certain covenants related to the development of the reserved mineral interest. Those rights and covenants run with the property and continue to govern the rights of the mineral owner and the rights of the surface owner in the property.

We requested that our counsel at Stoel Rives LLP review our rights, under Washington law, as owner of a severed mineral interest and the rights of the surface owner. I am also enclosing the memo we received in response to that request.

For any further information regarding NRP's involvement in the project feel free to contact me directly at AClark@wpplp.com .

Sincerely,

Adam Clark

Adam Clark

Regional Manager

NRP (OPERATING) LLC

5260 Irwin Rd., Huntington, WV 25705

(304) 522-5757 • Fax (304) 522-5401

Exhibit A

(See Attached)

Recorded at the Request of
and When Recorded Return to:

Bruce Benson PS
800 Fifth Avenue, Suite 4100
Seattle, WA 98101

MEMORANDUM OF LICENSE

Optionor: **BRP LLC, a Delaware limited liability company**

Optionee: **Granite Construction Company, a California corporation**

Abbreviated Legal Description: **¼, ¼, Sec#, Tn# Rn# [SE 12-5-3E, SW 7-5-4E, N ½ 18-5-4E]**

(Complete legal description on Exhibit A of this document.)

Assessor's Property Tax Parcel Account Numbers: **281134-000**
274346-000
283421-000
283422-000
283420-000

MEMORANDUM OF LICENSE

This MEMORANDUM OF LICENSE is effective as of the [_5th___] day of [_May___], 2020, by and between BRP LLC, a Delaware limited liability company ("***Optionor***") and GRANITE CONSTRUTION COMPANY, a California corporation ("***Optionee***").

1. **Premises; Grant of Exclusive License**. Optionor has granted to Optionee upon the terms and conditions of that certain *Option to Lease and Exploration License* between the parties dated [_May 5th,__], 2020 (the "***Option***"), which is incorporated herein by reference, an exclusive license to explore the mineral rights legally described in Exhibit A (the "***Premises***").

2. **Term**. The term of the Option (the "***Term***") shall commence upon the Effective Date (as determined under of the Option) and shall end April 30, 2025. The Option may be terminated earlier pursuant to its terms.

3. **Exclusive Option to Lease**. Optionor has granted to Optionee an exclusive option to lease the Premises in accordance with the terms and conditions set forth in the Option. Such option expires at the end of the Term (as defined in the Option).

4. **Purpose of Memorandum of License**. This Memorandum of License is prepared for the purpose of being publicly recorded only, and it in no way modifies the License.

Optionor:

BRP LLC

By: _____

Its Vice President and Chief Engineer

Optionee:

GRANITE CONSTRUCTION COMPANY

By: MIKE STEIN

Its VP OF REGIONAL OPERATIONS

OPTIONOR: BRP LLC

STATE OF WEST VIRGINIA)
) ss.
COUNTY OF CABELL)

On this 5th day of May, 2020, before me personally appeared Gregory F. Wooten, to me known to be the VP & Chief Engineer of BRP LLC, the limited liability company that executed the within and foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said limited liability company for the uses and purposes therein mentioned, and on oath stated that she/he was authorized to execute the said instrument.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
Vera E. Gartin
4573 Midway Road
Yawkey, WV 25573
My Commission Expires August 5, 2024

Vera E. Gartin
(Signature)

VERA E. GARTIN
(Name legibly printed or stamped)

Notary Public in and for the State of WV,
residing at WV
My appointment expires: August 5, 2024

OPTIONEE: GRANITE CONSTRUCTION COMPANY

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of Santa Cruz

On May 11th, 2020, before me, Carol Johnson
(insert name of notary)

personally appeared Mike Stein, who proved to
(insert name of person signing Affidavit)

me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her authorized capacity, and that by his/her signature on the instrument the person, or the entity upon behalf of which the person acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)

Notary Public
State of Washington
Carol L. Johnson
Commission Expires 06-08-2022

Exhibit A

The Premises

(See attached)

APN/Parcel ID(s): 281134-000, 274346-000, 283421-000, 283422-000 and 283420-000

TOWNSHIP 5 NORTH, RANGE 3 EAST, WILLAMETTE MERIDIAN

Section 12: That portion of the Southeast quarter of Section 12, described as follows:

BEGINNING at the DNR concrete monument at the Southeast corner of Section 12; thence North 00°29'21" West 560.33 feet; thence South 79°55'33" West 91.59 feet to a ½ inch iron rod; thence South 86°49'21" West 155.72 feet to a ½ inch iron rod; thence South 86°52'12" West 183.75 feet to an ½ inch iron rod; thence North 05°37'34" West 46.63 feet to a ½ inch iron rod at the Northerly Southeast corner of the L.P. & N. Tract as described under Auditor's File No. 8209160048 and shown on that survey recorded in Book 13, page 153; thence following the South line of said L.P. & N. Tract South 55°17'15" West 730.94 feet; thence South 50°20'55" West 235.12 feet to the Southerly Southeast corner thereof on the South line of the Southeast quarter of the Southeast quarter of Section 12; thence South 89°43'47" East 1220.39 feet to the Point of Beginning.

TOWNSHIP 5 NORTH, RANGE 4 EAST, WILLAMETTE MERIDIAN

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EXCEPT the East half of the Southeast quarter of the Southwest quarter

EXCEPT that portion conveyed to Amboy Trucking Company by Deed recorded under Auditor's File No. 8302140072, described as follows:

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ALSO, BEGINNING at a point of intersection of the South right of way line of International Paper Logging Road No. 100 with the West line of the East half of the Northeast quarter of the Southwest quarter of said Section 7; thence South along the West line of the East half of the Northeast quarter of the Southwest quarter and along the West line of the East half of the Southeast quarter of the Southwest quarter of said Section 7, a distance of 228.47 feet to the Southwest corner of that tract conveyed to Amboy Trucking Company by Deed recorded under Auditor's File No. 8005090041, records of said County; thence South 76°33'07" West 219.94 feet; thence North 18°58'28" West 146.77 feet; thence North 55°31'14" East 168.39 feet to the South right of way line of said Logging Road No. 100; thence Northeasterly along the South right of way line of said Logging Road No. 100 to the Point of Beginning.

ALSO, EXCEPT that portion thereof lying North of the following described line:

BEGINNING at the intersection of the East line of said Southwest quarter with the South right of way line of International Paper Company Logging Company Road No. 100 as shown on that survey recorded in Book 13, page 152, said point being located North 01°02'03" West 1610.99 feet from a 5/8 inch iron rod at the South quarter corner of said Section 7; thence South 68°55'49" West 829.64 feet to a 5/8 inch iron rod as shown in Book 13, page 152; thence South 55°20'31' West 169 feet to a 5/8 inch iron rod as shown in said Book 13, page 152; thence South 18°58'09"East 30.94 feet to a ½ inch iron rod; thence South 71°12'31" West 161.210 feet to a ½ inch iron rod; thence South 68°23'43" West 126.168 feet to a ½ inch

rod; thence South 63°36'52" West 118.414 feet to a ½ inch iron rod; thence South 66°24'06" West 108.336 feet to a ½ inch iron rod; thence South 67°22'05" West 120.291 feet to a ½ inch iron rod; thence South 65°24'47" West 158.716 feet to a ½ inch iron rod; thence South 69°25'20' West 175.587 feet to a ½ inch iron rod; thence South 64°50'59" West 108.550 feet to a ½ inch iron rod; thence South 59°19'49" West 149.826 feet to a ½ inch iron rod; thence South 71°14'37" West 101.657 feet to a ½ inch iron rod; thence South 66°41'04" West 129.381 feet to a ½ inch iron rod; thence South 66°33'25" West 122.300 feet to a ½ inch iron rod; thence South 70°42'24" West 154.083 feet to a ½ inch iron rod; thence South 79°55'33" West 123.89 feet to the terminus of said line on the West boundary of said Southwest quarter at a point North 00°29'21" West 560.33 feet from a D.N.R. concrete monument at the Southwest corner of Section 7.

That portion of the Southeast quarter of the Northeast quarter of said Section 7, lying Southeasterly of the following described Parcel 4, as conveyed to Bald Knob Land and Timber Company by Deed recorded under Auditor's File No. 8405230033:

That part of the Southeast quarter of the Northeast quarter of said Section 7, contained in a strip of land 100 feet in width, extending 35 feet on the Northwest side and 65 feet on the Southeast side of the following described engineer's line as now located and surveyed:

BEGINNING at a point on the South boundary of the Southeast quarter of the Northeast quarter of said Section 7, located 1049.9 feet West of the East quarter corner of said Section 7; thence North 46° East for a distance of 1485 feet to a point on the East boundary of said Section 7 located 1032 feet North of the East quarter corner of said Section 7.

Section 18: The North half.

MEMORANDUM

May 25, 2021

TO: ADAM CLARK, REGIONAL MANAGER
NATURAL RESOURCE PARTNERS L.P.

FROM: RAMONA L. MONROE

RE: Severed Mineral Interests in Washington State

You asked that I summarize the law with respect to severed mineral interests generally and, specifically in Washington State, with regard to the property in Clark County that you have leased to Granite Construction Company for the purposes of mining construction rock and/or aggregates. You indicated particular interest in whether the surface owner's consent would be needed to designate the property as mineral resource lands.

SHORT ANSWER

Under Washington law, when the surface estate and mineral estate have been severed, neither owner requires the consent of the other to apply for and obtain local land use designations or authorizations.

Washington State does not have a well-developed body of law around severed minerals. The summary of Washington law below relies only on Washington case law which often cites to decisions from other jurisdictions. We advise caution in relying on cases from other jurisdictions or general descriptions of mineral and surface rights as different states have adopted different approaches to balancing the rights of mineral and surface owners. Fortunately, Washington has previously addressed the question of whether surface and mineral owners must both consent to local land use applications, as discussed below.

EXPLANATION AND ANALYSIS

Severed Mineral Interests. At the most basic levels, ownership of real property in the United States involves a bundle of legal rights. To understand these rights from a legal perspective, an analogy is often made to a bundle of sticks in which each stick represents a different aspect of property ownership. Sticks can remain in the bundle or be separated from the bundle and transferred to a separate and different owner. Mineral rights are often separated, or severed, from the bundle. An easement granting rights of use granted to a third party are another example of sticks being severed from the bundle.

The Mineral Estate. When mineral interests are severed, by reservation or grant, the property is considered to be divided into two estates: the mineral estate and the surface estate. *Harrison v. Stevens County*, 115 Wash. App. 126, at 131 (2003). Both the mineral and surface estates are interests in real property.[1] Minerals included in the mineral estate may be subsurface or found on the surface of the land. *Id.* at 133.[2] Once severed, the mineral estate is considered dominant over the surface estate, meaning that the mineral owner has the right to use the surface to the extent reasonably necessary to remove the minerals and the surface owner cannot restrict such reasonable and necessary use. *Id*.

Over time, many courts and states have adopted laws more favorable to surface owners. Some states have adopted the accommodation doctrine which requires a mineral owner to reasonably accommodate existing surface uses in accessing and extracting minerals. Reasonable accommodations means employing available and reasonable alternatives to access the minerals. In the seminal case, the court required an oil and gas company to place its pumping units below the surrounding ground level to avoid interference with the rolling irrigation system used by the surface owner. Other states have adopted statutes requiring that the mineral owner pay to the surface owner reasonable compensation for damages caused by accessing the minerals. It does not appear that Washington has adopted statutory provisions for surface damages nor that its courts have grappled with the accommodation doctrine.

Rights of the Mineral vs. Surface Owner. Although Washington law regarding the competing rights of separate surface and minerals owners is underdeveloped, existing case law is sufficient to answer the questions you posed to us. The Washington Supreme Court directs us to the language of the deed severing the minerals to determine the nature of the rights created. *Saddle Mountain Minerals v. Joshi*, 152 Wn.2d 242, 255 (2004). In *Saddle Mountain*, because the deed indicated that the mineral rights conveyed included sand and gravel and imposed no limitations on the type of mining, the court concluded that the mineral owners were entitled to compensation for use of minerals by the surface owner even though such use did not constitute mining. *Id*.

Turning to the language in the deed severing minerals on the subject property shows that the surface and mineral owners laid out their respective rights in detail. In 1985, International Paper Company, as owner of both the surface and the minerals, conveyed the subject property to IP Timberlands Operating Company, reserving all minerals and minerals rights, including sand, gravel, aggregate, and other mined or quarried stone or rock materials, together with full rights of access and use of the surface for mining, including open pit, surface or strip mining. *See* attached deed, recorded under Auditor's File Number 8512200101. As the deed language demonstrates, the surface owner expressly agreed to future open pit mining of rock.

---

[1] Not every stick in the bundle is an estate in property, or a real property interest. An easement, for example, is a right to use the property of another. It is not a separate estate or an interest in real property.

[2] Washington has rejected the approach adopted by a Texas court that when mineral extraction would deplete or destroy the surface, the surface owner has title to those minerals. *Harrison v. Stevens County*,115 Wash. App. 126, at 132-33 (2003).

Furthermore, the parties to the original severance deed included twelve pages of provisions governing the rights of the mineral owner and the surface owner. These provisions include, among other things, advance notice of certain activities, use of water, erosion and environmental protection, surface damages, and taxes. All subsequent surface owners took title subject to these deed provisions which govern the ongoing relationship between the surface owner and the mineral owner.

Local Land Use Applications. The facts of the *Harrison v. Stevens County* case (cited above) are particularly helpful to the question of whether consent from both surface and mineral owner is needed for local land use applications. In *Harrison*, the court was asked to determine whether the surface owner could subdivide property without the consent of the mineral owner. The court found that because the mineral estate is separate and distinct from the surface estate, the mineral interest would not be affected by a subdivision of the surface. 115 Wash. App. at 134. Each grantee of a subdivided portion of the surface would hold their property subject to the rights of the mineral owner. *Id*. at 133. "The right to remove minerals from the land is distinct from ownership of the land, even when the minerals lie on the surface." *Id*. Thus, the mineral owner's consent to or signature on the subdivision application was not required.

Similarly, a mineral owner can apply for and obtain local land use approvals without the surface owner's signature or consent. In effect, the surface owner has already consented by accepting title to the surface estate subject to the rights of the mineral owner. In the case of the subject property, the deed dictates the rights of each owner, effectively creating a contract that either party can enforce.

The Washington Attorney General has considered whether a mineral owner must join with a surface owner in applying for tax classification of land as forest land, open space, or agricultural land for tax purposes. AGO 1981 No. 15. The Attorney General concluded that a mineral owner does not need to join in a request for tax classification or designation. *Id*. For the same reasons that a surface owner does not need the consent or participation of the mineral owner to apply for a designation of the surface uses, a mineral owner cannot be required to obtain the surface owner's consent or participation to pursue a mineral classification.

CONCLUSION

Washington law is settled that the mineral and surface estates are separate and distinct interests in real property such that each owner can request and obtain zoning and land use approvals without the participation of the other.