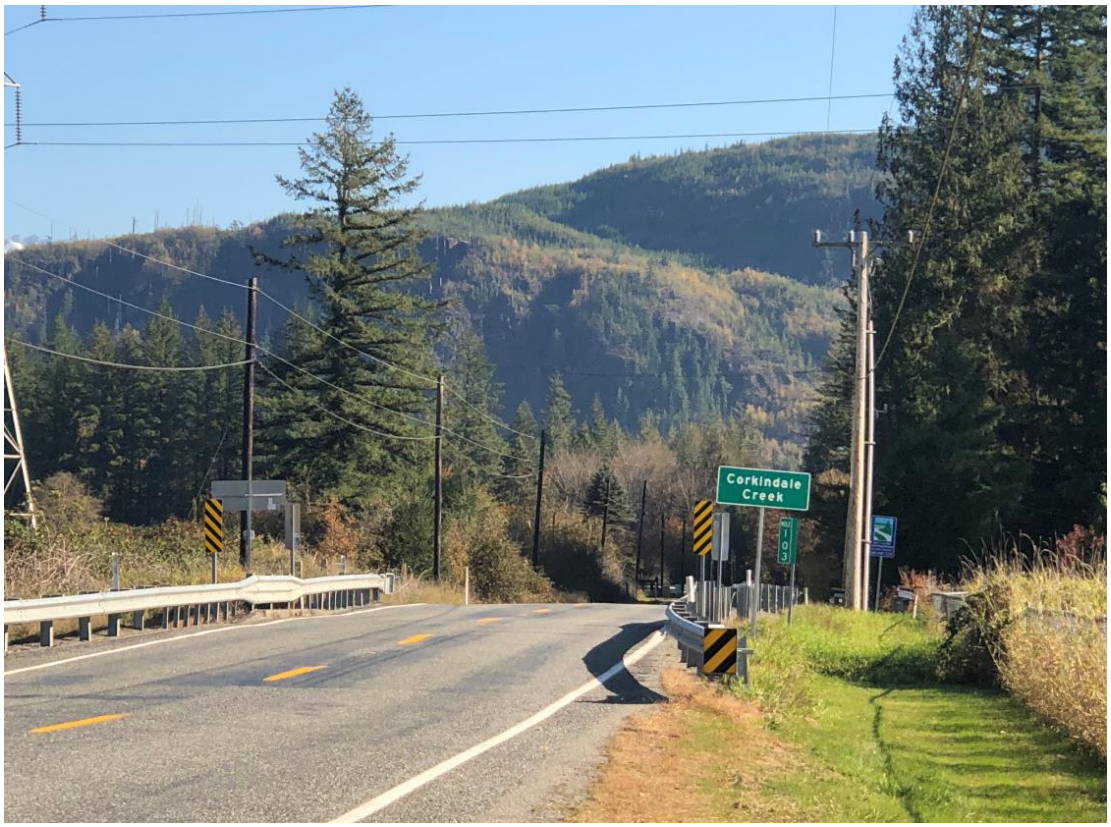
VISUAL RESOURCES REPORT
MARBLEMOUNT QUARRY

Submitted to: Chuck Nylund

Kiewit Infrastructure Company

January 17, 2019



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1. INTRODUCTION

1.1 Purpose

The purpose of this report is to inventory and discuss potential visual impacts from the proposed project. The proposed project is the development of a rock quarry, as described in detail in **Section 1.2**. The subject property is located near Marblemount in Skagit County, Washington (**Figure 1**) and includes Tax Parcels P45543, P45550, P120304, P128574, and parts of P45548 and P45541 as detailed in **Section 1.3**.

1.2 Proposed Project

Brief Description

The Proposed Project includes boundary line adjustments, site clearing, site grading, road building, quarry operations, and reclamation of a bedrock quarry on Rockport Cascade Road approximately one mile south of Marblemount, WA (**Figure 1**). The Proposed Project will involve development activities on parcels P45543, P128574, P120304, P45550, and parts of P45548 and P45541 (**Figure 2**). A majority of the mining would take place on P45543, which has been used as a small-scale quarry (under 3 acres) over the past several decades. The overall project limit footprint at full buildout is approximately 120 acres. At full buildout, the proposed mining footprint would encompass approximately 30 acres (20 acres proposed for Phase I); quarry operations—including roads, stockpile areas, stormwater management, and operations areas—would encompass approximately 60 acres; and approximately 30 acres would be retained vegetation areas.

Currently, stands of second-growth timber cover a majority of the site and an approximately 800-foot-high rock face dominates P45543. This rock face consists of Shuksan greenschist, which is the desired quarry stone source.

The proposed project would occur in four steps:

1. Boundary Line Adjustment, Site Clearing, Preparation, and Building Access Road for Forest Practice Conversion;
2. Mining within the MRO Overlay Area;
3. Possible Quarry Expansion, Contingent on MRO Boundary Change, and;
4. Quarry Reclamation.

Step 1 – Boundary Line Adjustment, Site Clearing, Preparation, and Building Access Road for Forest Practice Conversion would include acquiring and performing boundary line adjustments on P128574. The property line would be adjusted to encompass approximately 10.2 acres of P45541. Additionally, an approximately 20.2-acre portion of P45548 would also be boundary line adjusted to P128574. Step 1 also includes clearing, removing stumps, site grading, and road construction on Parcels P45543, P45550, P120304, P128574, and parts of P45548 and P45541. Marketable timber will be removed from the site. An approximately 6,700-foot gravel access road would be built to access the top and eastern portions of the project site. Wood mulch and top soil would be stockpiled on site for future reclamation. Access to the site would include building two new access driveways on Rockport Cascade Road and decommissioning the two existing access points. Grading and roadways for quarry operations and stormwater management will be constructed on the western portion of the project limits. The road providing access to the eastern portion of the site would be designed to meet or exceed Skagit County standards, Washington Department of Natural

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Resources (DNR) Forest Practice and Mining standards, and any other standards appropriate for its use. Following site clearing and preparation, the road would be used to access the top of the quarry and for hauling rocks to the bottom for processing.

Step 2 – Mining within the MRO Overlay Area would include establishing the quarry on P45543 within the current MRO boundary per the Mining Site Plan. Step 2 would also include the construction of mining operation areas and support facilities, including an armor stone staging area in the western portion of P45543. This step would also involve constructing portable offices/storage structures, a truck loadout scale, a heavy equipment and employee parking area, a fueling station, maintenance shops, and storage facilities for blasting equipment. An undersized rock stockpile area would be established within the existing MRO area on P128574 and a potential future phase undersized rock stockpile area has been designated if the MRO boundary is successfully expanded (see Step 3). Rock mining would be conducted using a "top down" approach, such that rock would be transported to the stockpile or staging areas by truck, instead of being cast off the cliff face. The land use to the south, east, and west is secondary and industrial forestry and the land use to the north is rural residential. A minimum 100-foot setback would be maintained along adjacent property lines or bordering quarry activities. A 50-foot vegetative buffer would be maintained on Rockport Cascade Road.

Step 3 – Possible Quarry Expansion, Contingent on MRO Boundary Change, would include quarry and undersized rock stockpile area expansions. Step 3 is dependent upon an expansion of the MRO through the Skagit County Comprehensive Plan Amendment process. Once the MRO overlay is expanded, the quarry area would expand approximately 10 acres into P45541, and the undersized rock stockpile area described in Step 2 would expand to the south (approximately 20 acres) onto P45548 to accommodate the additional undersized rocks from the expanded quarry. The mining activities of Step 3 would be the same as those in Step 2.

Step 4 – Quarry Reclamation would include full reclamation of all the affected parcels following decommissioning of the quarry, roads, and supporting mining operations. The full lifespan of the quarry would be up to 100 years or whenever the source of rock is exhausted. The Mining Reclamation Plan is consistent with DNR surface quarry reclamation regulations. The land will be restored to forestry land use following reclamation.

1.3 Location and Physiography

The study area is located in unincorporated Skagit County in the NE ¼ of the NW ¼ of Section 24 and the SW ¼ of Section 13, Township 35 North, and Range 10 East of the Willamette Meridian. The subject parcel is approximately 1.25 miles south of Marblemount and 0.5 miles east of the Skagit River (**Figure 1**). Existing access to the site is possible from Rockport Cascade Road via a short gravel driveway and turnaround. Ground surface elevations in the study area vicinity range from approximately 300 feet along the western parcel boundary to approximately 1,200 feet at the crest of the rock outcrop (all elevations NAVD 88).

1.4 Regulatory Framework

The proposed project is consistent with Skagit County land use, zoning, overlays, and Comprehensive Plan goals and policies. It is not located along an interstate or state highway and any quarry signage would not be visible from State Route (SR) 20, the only state highway in the vicinity of the project site.

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2. EXISTING CONDITONS

2.1 Existing Conditions Characterization - Desktop Analysis

2.1.1 Viewshed Spatial Data

The viewshed simulation (**Figure 3**) utilized in this assessment was conducted by Element Solutions using GIS analysis. It shows the maximum viewshed based on topographic raster data. It uses bare earth LiDAR and does not account for tree/building cover that may obscure ot block views of the site. Therefore, the yellow areas depicted on the figure show all the areas from which the quarry would be visible if there were no trees or buildings. The green areas show the limits of the North Cascades National Park.

The desktop data used for the viewshed analysis is inventoried below in Table 1.

Table 1: Data Used for Desktop Analysis

Data	Format	Date	Source
Aerial photography (NAIP Orthophoto)	SID	2011 - 2017	USDA and Skagit County
LiDAR	Bare earth grid	2006 and 2016	PSLC and WADNR
Topographic Contour Map	Shapefile	2016	Generated from LiDAR

2.2 Existing Condition Characterization - Field Assessment

Element staff conducted a visual analysis of SR-20 and Rockport Cascade Road. They analyzed the visibility of the proposed project from several points along SR-20 and Rockport Cascade Road and took photographs along several points. Represenations of views at various locations are included in this report. Locations of photographs are shown as photo points on Figure 3.

3. IMPACT ANALYSIS

3.1 Marblemount Quarry Visibility

The following is a partial list of known roads, rivers, towns, and recreation areas of significance. Marblemount Quarry visibility from these locations was determined from the viewshed analysis described above, as that analysis is the most conservative. However, field conditions revealed that the heavy tree cover obscures the quarry from view from most points along SR-20 and the Skagit River.

3.1.1 North Cascades National Park

North Cascades National Park is several miles northeast of the project site (see Figure 3). The quarry ***would not*** be visible from the national park under the most conservative analysis (viewshed analysis).

3.1.2 State Route 20

SR-20 is a Washington State Scenic Byway (WSDOT 2019). Signage along Scenic Byways is regulated through RCW 47.42, the Highway Advertising Control Act—Scenic Vistas Act (WSL 2019) . The quarry would not have signage along SR 20 nor would any signage on Rockport Cascade Road be visible from SR-20. The quarry itself ***would*** be visible from some areas of SR-20. The most direct view of the quarry from SR-20 occurs near Corkindale based on the viewshed desktop and field analysis.

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However, field visits confirmed that the trees along SR-20 obscure the view of the quarry for a majority of travel distance along SR-20 within the viewshed.

3.1.3 Skagit River

The reach of the Skagit River near the project site is a federally-designated Wild and Scenic River administered by the United States Forest Service, Mt. Baker-Snoqualmie National Forest (NWSRS 2019a). Designation does not prohibit development or give the federal government control over private property. Instead, protection of Wild and Scenic Rivers is ensured through voluntary stewardship by landowner and river users as well as regulation through federal, state, local, and/or tribal governments. Federally-designated Wild and Scenic Rivers in the lower 48 states are managed within 0.25 mile on either bank (NWSRS 2019b). The proposed project is just under 0.5 mile from the Skagit River at its closest point, which means the quarry is outside the USFS management jurisdiction of the river.

The quarry ***could*** potentially be visible from the Skagit River from just west of Corkindale to Marblemount based on the desktop viewshed analysis. However, field visits confirmed that the heavy tree cover along the riparian cooridor of the river would significantly obscure the view of the quarry from the river.

3.1.4 Illabot Creek

The northern reach of Illabot Creek is a federally-designated Wild and Scenic River. Its designated reach stretches from the headwaters of Illabot Creek to approximately two miles upstream from its confluence with the Skagit River and just south of the Rockport-Cascade Road (NWSRS 2019c). It is several miles from the proposed quarry; therefore, the quarry is out of the USFS management jurisdiction are of the creek. While the viewshed analysis shows that the quarry ***could*** potentially be visible from Illabot Creek, field conditions confirm that the quarry ***would not*** be visible from Illabot Creek.

3.1.5 Skagit River Recreation Areas

The stretch of the Skagit River near the proposed project site is very popular with anglers and provides fishing and other river-related outdoor activities. While tree cover is heavy in these areas and is likely to obscure the quarry from view from most points along the Skagit River during the majority of the year, it is possible that the upper parts of quarry ***could*** potentially be visible from recreation areas along the Skagit River. While vegetative buffers will provide visual screening of the lower parts of quarry operations, the upper part of the quarry may be visible from certain locations that are popular Skagit River recreation areas.

3.1.6 Mountain Climbing/Hiking Recreation

The proposed quarry ***would*** be visible from the opposite side of the valley at several locations northwest of the project site, particularly at elevations that are above the valley floor. The proposed project would likely be visible from the Cow Heaven Trail (WTA 2019), the Helen Buttes (Summit Post 2018), the potentially from the Stephen Mather Wilderness and Noisy Diosbud Wilderness (WAUS 2019). These areas are located at the opposite side of the valley and are significantly farther from the proposed quarry than the Skagit River or other areas discussed in this report. From the opposite side of the valley the quarry would nearly indistinguishable from logging clear cuts that are prominent on the southern side of the valley.

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3.1.7 Rockport

The most conservative analysis (viewshed analysis) shows that the quarry ***could*** be visible from areas of Rockport. However, data from the field show that it is unlikely that the quarry would actually be visible from Rockport given the high volume of trees.

3.1.8 Marblemount

The most conservative analysis (viewshed analysis) shows that the quarry ***could*** be visible from the western part of Marblemount. The viewshed analysis also shows that the quarry ***would not*** be visible from the eastern part of Marblemount. However, conditions in the field show that it is unlikely that quarry would be directly visible from any part of Marblemount, given the density of trees in the area.

3.1.9 Corkindale

The viewshed analysis shows that the quarry ***would*** be visible from areas around Corkindale. Field conditions verify that the upper part of the quarry would be visible from certain areas of Corkindale.

3.2 Zoning and Land Use Compatibility

The proposed project would be built in underlying zones that support mining and quarry land uses (RRc-NRL, SF-NRL, IF-NRL). Because the proposed project is compatible with Skagit County land use and zoning, visual impacts to surrounding areas would be comparative with what is expected and allowed in these zones.

3.3 Summary of Impacts

The proposed project would have unavoidable visual impacts to some locations within the vicinity of the project area. The upper part of the quarry would be the most visible part of the quarry from the Skagit River Valley overall viewshed area. Significant tree cover in the valley obscures the lower part of the quarry from view in many places along SR-20, Rockport Cascade Road, and the Skagit River. The entire quarry could be visible from a higher vantage point in the mountains across the valley, but the greater distance would reduce the visual impact.

Other factors that influence the visual impacts are the aspect of the quarry, the rock color, and the seasonal conditions. The quarry walls are on a northerly and westerly aspect and shaded for a majority of daylight hours, thus obscuring the visual impacts (see Google Earth image below). In addition, the color of the rock is a darker shade of green and gray which tends to not stand out as much as a lighter hue rock such as granite or limestone. In peak tourism seasons, the leaf-on condition helps to obscure the views to the quarry from locations along the river and road networks.

The visual impacts would be greatest during full buildout quarry conditions and are expected to diminish over time, particularly once reclamation is implemented and given time to mature. In the future, the site will be revegetated and should be returned to a condition that is visually indistinct given the presence of rock outcrops, talus and tree cover that is typical to the surrounding area. Therefore, the visual impacts are largely temporary in nature.

The quarry would not be visible from the North Cascades National Park. Recommended mitigation measures are provided in Section 4.1 to offset some of the visual impacts of lower quarry operations.

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4. MITIGATION AND RECLAMATION

4.1 Mitigation Recommendations

The proposed quarry will likely have unavoidable visual impacts while the quarry is in operation. Shuksan Greenschist is a dark-colored basalt, which helps reduce the visual impact from quarry operations. Additionally, the rock formation to be quarried is a northwest-facing slope that is often in shadow, which also would help reduce the visual impact. The upper part of the quarry during mining operations would likely look very similar in size and color to a forestry clear cut common in this area. Once mining has ceased and reclamation has been initiated, the visual impacts will diminish.

The following mitigation measures are recommended to reduce the visual impact from the lower quarry operations:

- Maintain a 50-foot vegetative buffer on Rockport Cascade Road;
- Maintain 100-foot naturally-vegetated setbacks on north, east, and south property lines;
- Limit onsite structures to a height of 30 feet or less;
- Incorporate mitigation measures described in the Marblemount Quarry Reclamation Plan and Biological Assessment to the extent feasible.

4.2 Reclamation

The Reclamation Plan required by DNR contains mitigation measures that would help restore some of the visual impacts to the area over time. The access road would be decommissioned and replanted and quarry benches would be planted with native vegetation. The quarry site would be returned to forestry land use, therefore the visual impacts are ultimately temporary.

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5. CLOSURE

This report was prepared and submitted by:

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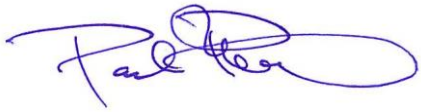

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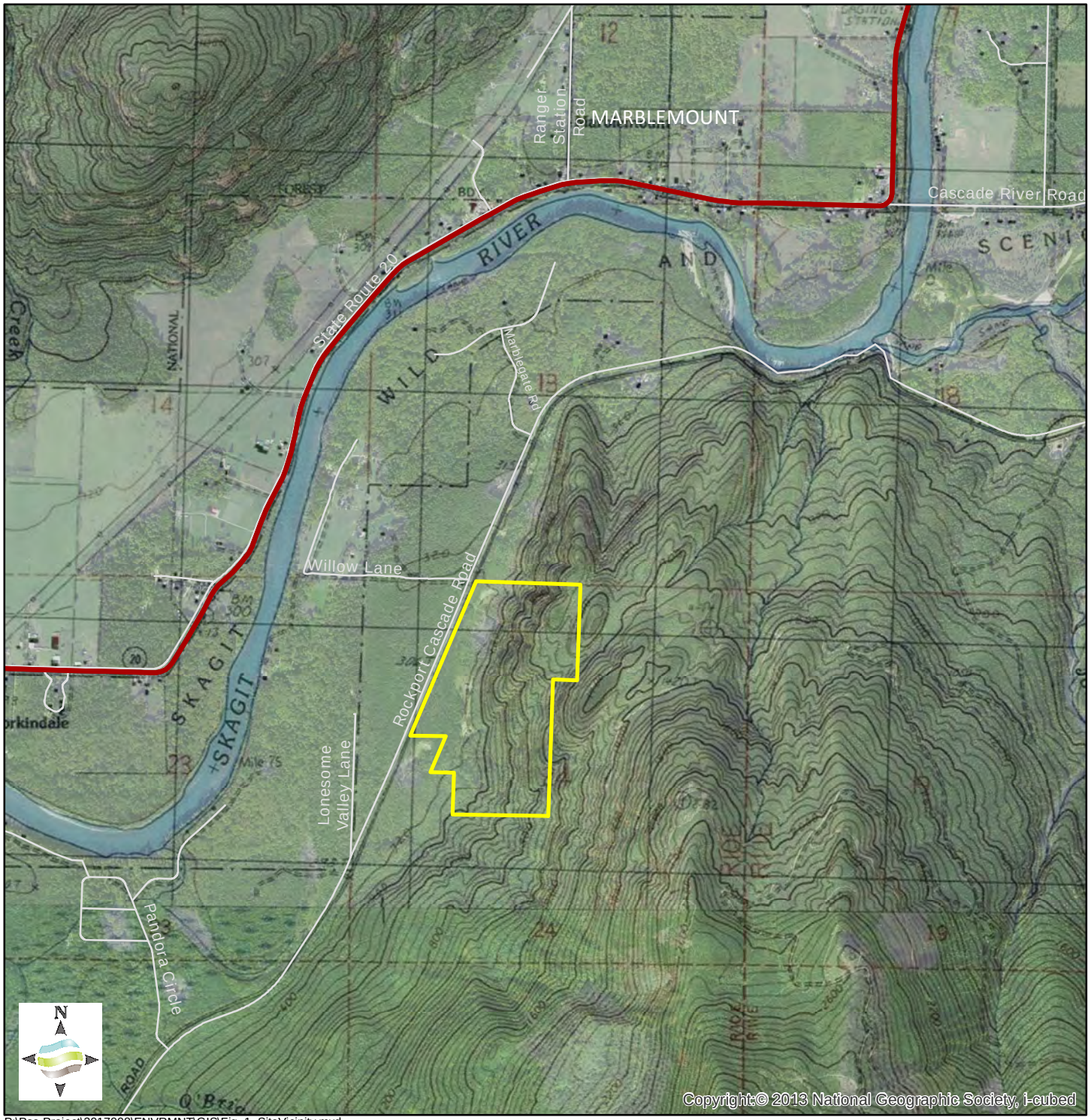
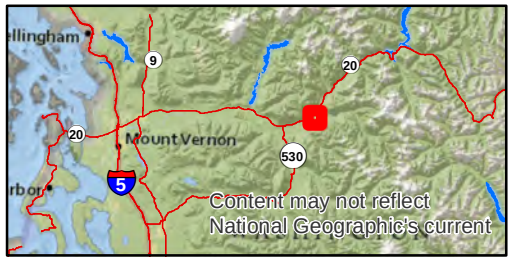
Figures





Data Credits:
USDA NAIP 2015
WSDOT 2018
Skagit County 2018

Project Limits
Rural Roads
State Highways

Feet
0 1,000 2,000 4,000

1:24,000

1 inch = 2,000 feet

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Figure 1

Marblemount Quarry
Site Vicinity Map

Date: 1/9/2019

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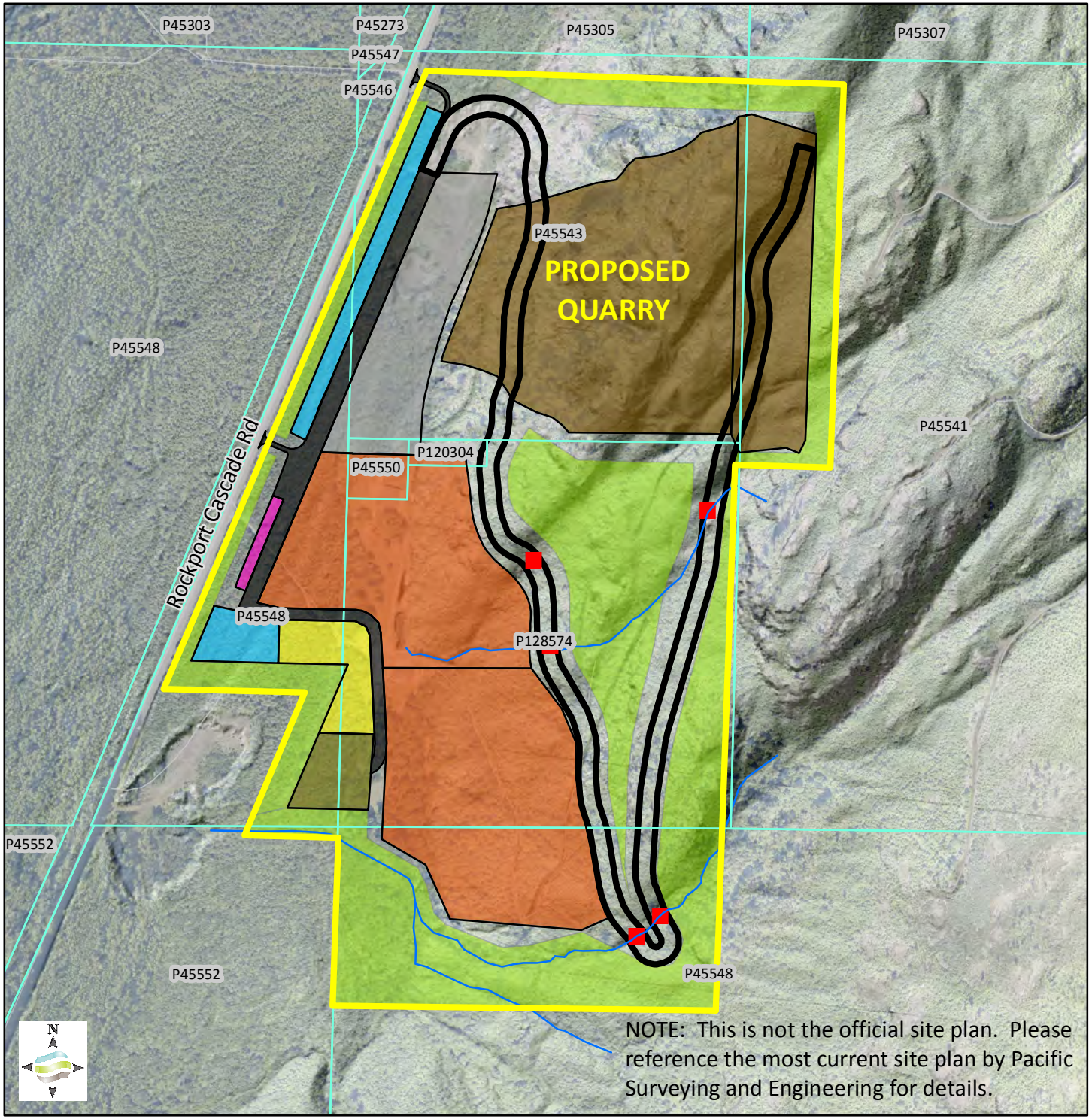

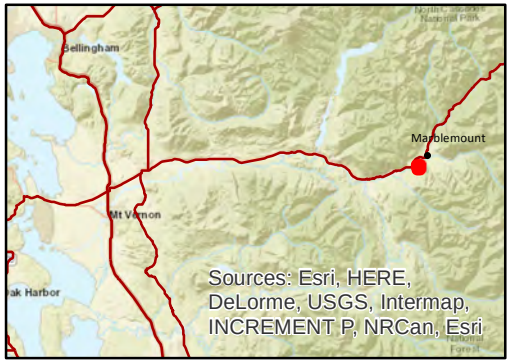

- Project Limits
- Parcels
- Streams
- Proposed Culvert
- Proposed Access Road
- Clearing Limits (Trees Retained)
- Armor Stone Stockpiling and Crushing
- Access/Scale Roads
- Explosives Storage Exclusion Area
- Undersized Stockpile Area (Maximum Potential Buildout)
- Misc. Structures Footprint
- Quarry Footprint (Maxium Potential Buildout)
- Soil Stockpile
- Stormwater Facilities

0 250 500 1,000
Feet

NOTE: This is not the official site plan. Please reference the most current site plan by Pacific Surveying and Engineering for details.

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FIGURE 2

Marblemount Quarry
Proposed Project at
Full Buildout Potential

Date: 1/15/2019

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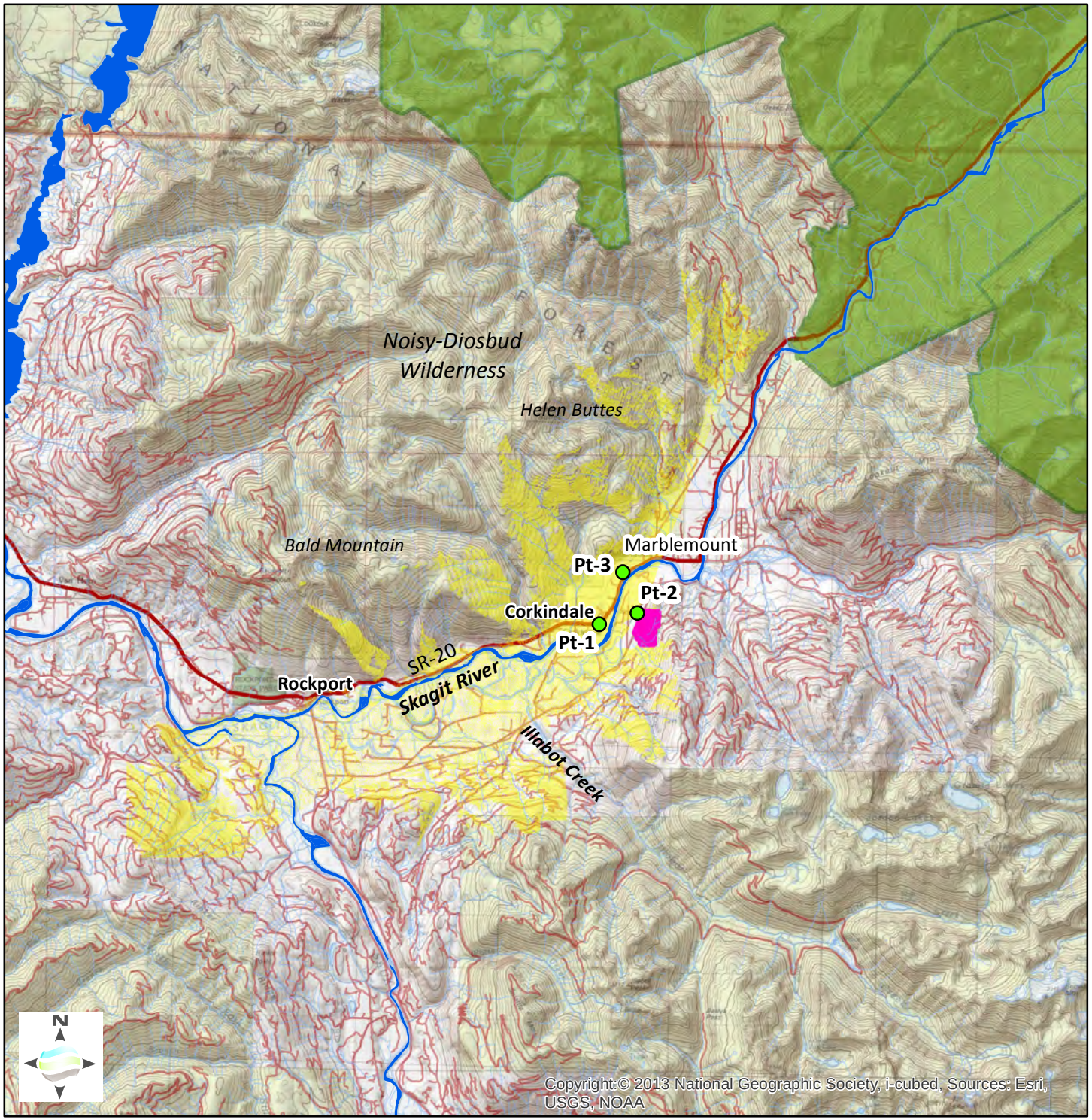

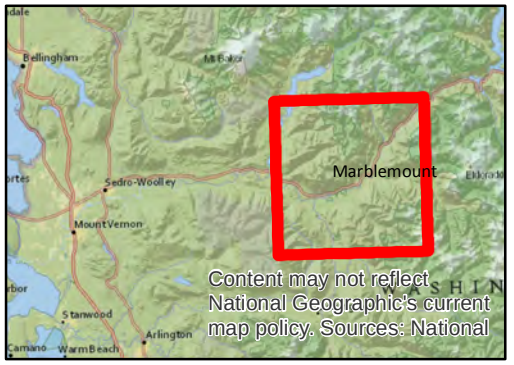

- Project Limits
- Rivers
- Not Visible
- Visible
- North Cascades National Park

Miles
0 1 2 3 4

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FIGURE 3

Marblemount Quarry
Viewshed Analysis

Date: 1/15/2019

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Viewshed Photographs

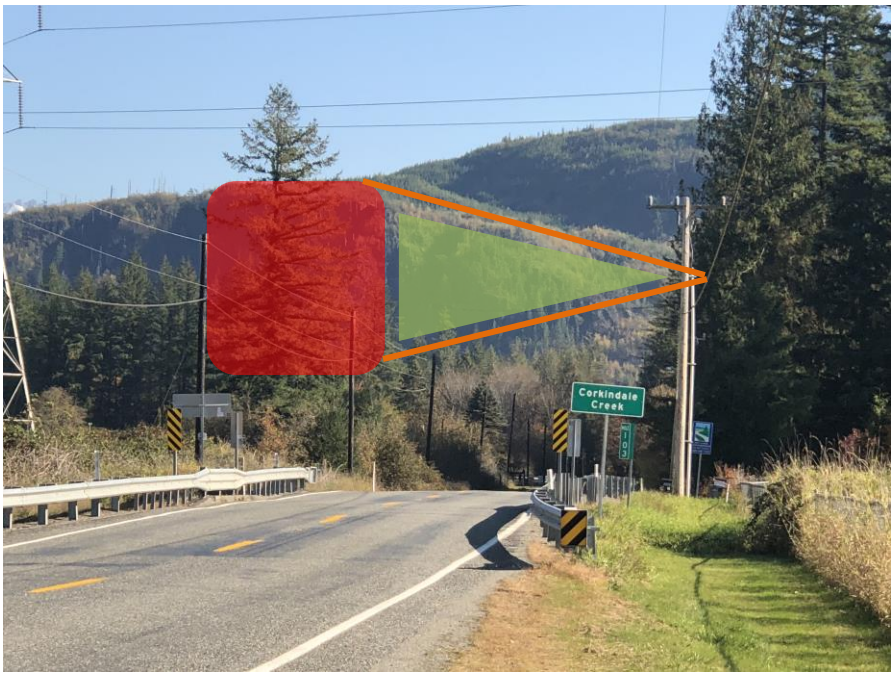

Photo Point 1: See Figure 3 for location on map.

The Bridge at Corkindale. Red square shows potential visible approximate mining area. Orange shows the approximate area of the access road. Green triangle shows one approximate area of tree retention.

Photo Point 2: See Figure 3 for location on map.

This photo shows the vegetation that obscures the view of the quarry on Rockport Cascade Road. These trees would be retained and provide visual screening.

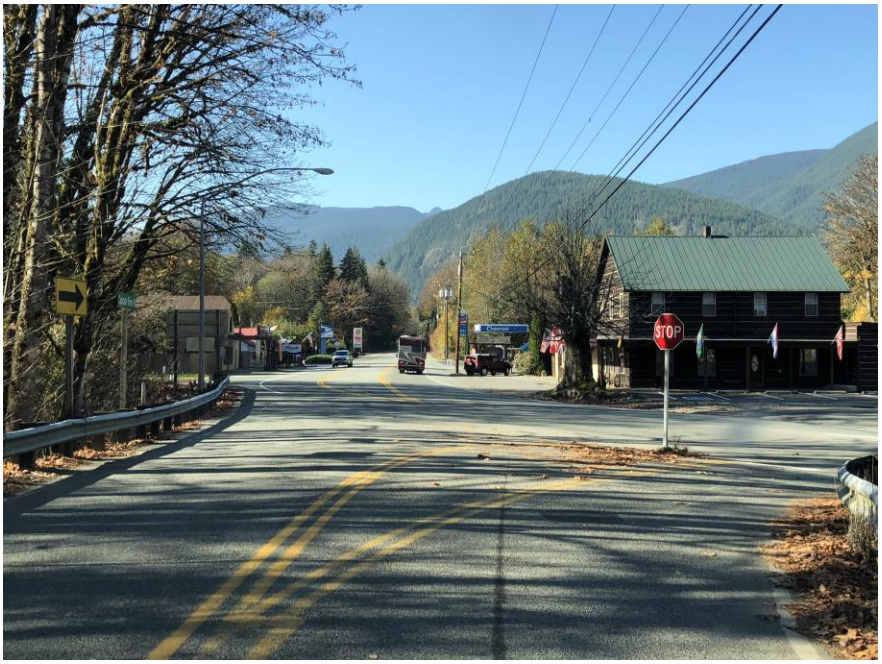

Photo Point 3: See Figure 3 for location on map.

View facing southwest on SR-20 at the intersection of Cascade River Road and SR-20. The quarry is not visible from this location.