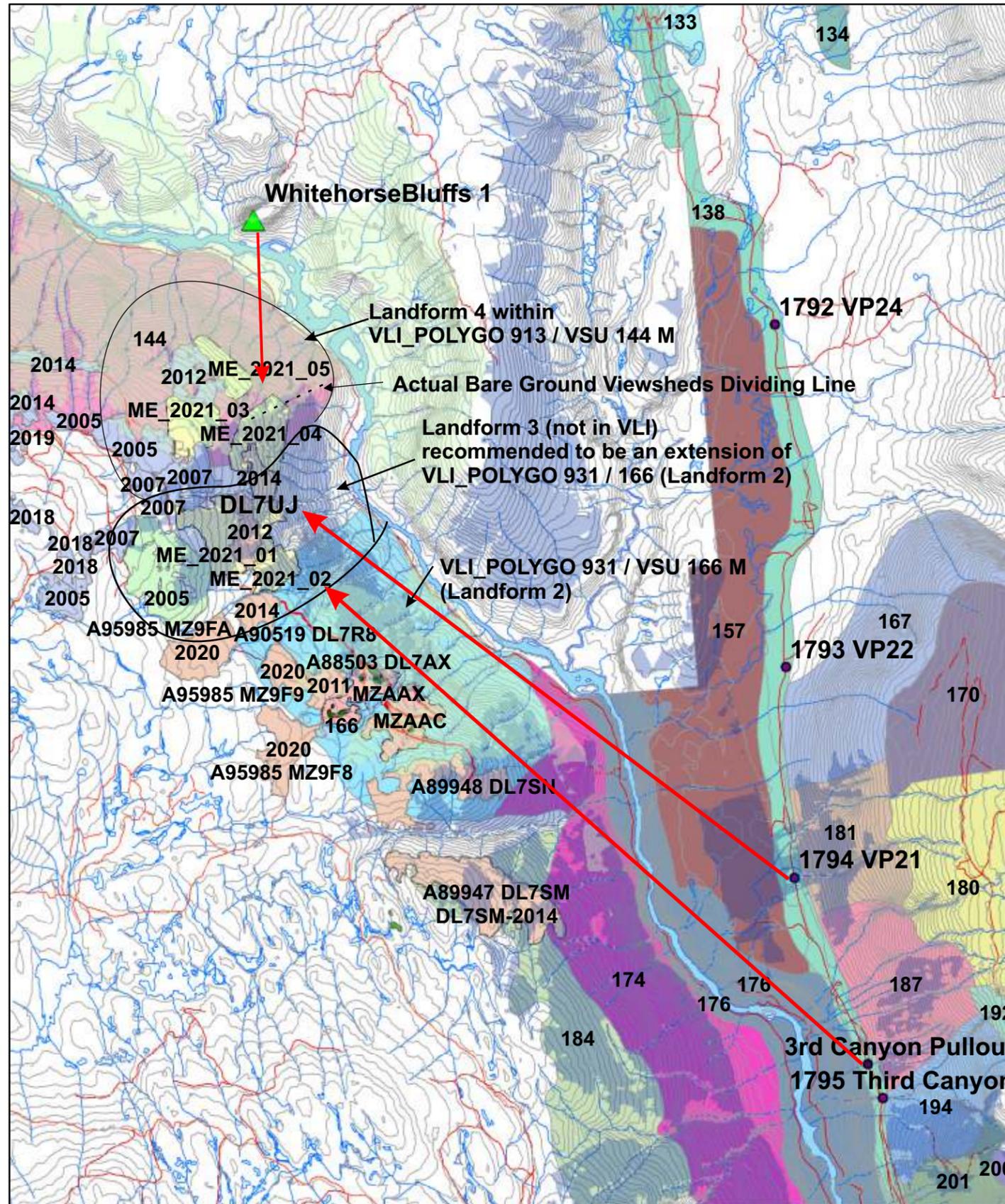
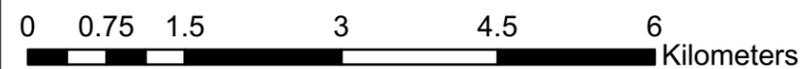


**BCTS Mahood East Operating Area  
Visual Impact Assessment  
ME\_2021\_01, 02, 03, 04, & 05 Block Shapes  
Produced by  
RDI Resource Design Inc  
December, 2021**



- Not Visible
- Visible Whitehorse Bluffs Trail 1 Viewshed (bare ground)
- Not Visible
- Visible Viewpoint 21 Viewshed (bare ground)
- 3rd\_CanyonPullout
- White\_Horse\_1\_VP
- MackenzieVPs
- April\_9,\_2021\_MZAAC,MZAAX\_Roads
- H2005redo
- DL7UJ\_2012
- Dec\_15\_Existing\_Cutblocks
- Dec\_6,\_2021\_Mahood\_East\_Existing\_Cutblocks
- December\_6,\_2021\_Mahood\_East\_Blocks
- DL7AX\_E
- April\_9,\_2021\_MZAAC,MZAAX\_WTRA's
- April\_9,\_2021\_MZAAC,MZAAX\_Block\_Shapes
- Dec\_15\_Existing\_WTRA
- Dec\_15\_Proposed\_Roads
- A95985\_Roads
- 14-DL7SM\_Roads
- A95985\_MZ9FA\_WTRA
- 14-DL7SM\_WTRA\_NP
- 14-DL7SM\_Block



# Contents

1	Cover - Key Map
2	Contents
3	Summary Report
4	Third Canyon Viewpoints
5	Viewpoint 21 Simulation
6	Viewpoint 21 Analysis
7	Viewpoint 21 Percent Alteration
8	Viewpoint 21 Google Street View 2012 & RDI Viewshed
9	White Horse Bluffs Trail 1 Viewpoint (Trail Start)
10	White Horse Bluffs Trail 1 Viewpoint Percent Alteration
11	Viewpoint 22 Bare Land Simulation for Landform Interpretive Purposes only

## Introduction

On December 6, 2021, RDI was requested to conduct a Percent Alteration Visual Impact Assessment of proposed Mahood East cutblocks ME\_2021\_01 / 02 / 03 / 04 / 05. The request, under contract PD18TEB007, was made by Ches Clem, RPF, Contract Administrator. A data link was provided which included the proposed cutblocks and existing cutblocks.

In his e-mail, Ches noted:

*"The blocks are not ribboned at this point in time, so the VIA will help guide layout. Thinking you will have a model already built for this area, so that will be great. The viewpoint for ME\_2021\_03, 04, 05 would be Whitehorse bluffs 1 (trail start). Blocks ME\_2021\_01 and 02 would be potentially viewed from viewpoints 21 and 24 (from the Mackenzie VIA completed in May 18, 2021). If there are other viewpoints along the Clearwater Valley Road that you would like me to get photos for, please let me know. We determined in the Mackenzie analysis that viewpoint 22 is completely screened."* Ches also provided his photo from Third Canyon Pullout Viewpoint on December 17, revealing current alteration as shown on page 4.

RDI entered the new data into the existing ArcMap and Visual Nature Studio models for both Mahood East and Mackenzie, then merged all relevant viewpoints into the Mahood East project for rendering from both viewing directions. Full panoramic simulations were produced from 2 open viewpoints (VP's 21 and Whitehorse Bluffs 1). Bare land simulations were also produced, coloured by Visual Sensitivity Unit. These also enabled observations of the structure of the terrain to assist visual force analysis, and assist in determining the extent of a combined, unified landform. The new cutblocks will sit partly within VLI\_POLYGO 913 / VSU 144 to the north which has a Modification VQO, and in an un-rated area located between VLI\_POLYGO 931 / VSU 166 with a Modification VQO to the south and 913 to the north which has been named Landform 3 for this analysis (see key map on page 1). As the un-recorded Landform 3 sits between two Modification polygons, it is reasonable to assign the same VQO to that un-assigned area visible from Viewpoint 21, and potentially other glimpses along Clearwater Valley Road. RDI considers the area to be a logical extension of VLI\_POLYGO 931 (Landform 2) seen from Clearwater Valley Road. It is not visible from the Bluffs. Simulations from the Third Canyon viewpoints were rendered following receipt of Ches' photo, revealing ME\_2021\_04 clearly in view, and a small portion of ME\_2021\_02 also in view.

Percent Alteration calculations were produced from White Horse Bluffs 1 and VP 21 only. VP 24 was too far north along the road for visibility towards the new cutblocks, and VP 22 was screened. The views from Third Canyon partially occluded the proposed cutblocks making those viewpoints not useful for percent alteration calculation. The linework and calculations are presented on each of VP 21 and Whitehorse Bluffs viewpoint Percent Alteration pages of this report.

## Findings and Conclusions

### Whitehorse Bluffs 1 Viewpoint

The Whitehorse Bluffs 1 viewpoint looks directly upon cutblocks ME\_2021\_05, ME\_2021\_03, and captures a glimpse of ME\_2021\_04 on the ridgeline with a larger portion not seen in Landform 3 from this vantage point. Viewing distance is near mid-ground (1620m to nearest edge). With associated nonVEG existing alteration, total Percent Alteration of the VLI\_POLYGO 913 subset from the Bluffs viewpoint, termed Landform 4 by RDI, is predicted to be 3.63%, well below the Modification Visual Quality Class (7.1% to 18.0%). Design attributes reveal a cohesive pattern, moderate scale, sympathetic with major visual forces (main ridge line), and somewhat rectilinear in association with existing 2012 alteration. The proposed alteration may benefit by greater edge undulation where possible, addition of WTRAs and VEG achievement. The Ches Clem photo from the viewpoint taken in 2020 is found on the viewpoint's analysis page of this report.

### Viewpoint 21 Clearwater Valley Road

Viewpoint 21 proved to be a more challenging exercise in both Percent Alteration determination and ability to meet the VQO. A large portion of RDI's Landform 3 is in nonVEG condition, due to visible harvesting between 2005 and 2014. Existing cutblocks DL7UJ (2014) and A86396-1 (2012) are still prominent in 2020 photography by Ches Clem. RDI's Mackenzie VIA of December 29, 2020 considered cutblocks DL7SN existing and MZAAX (MZ\_2020\_06) in Landform 2A (VLI\_POLYGO 931). No analysis was made of DL7UJ or A86396 Blk 1 in Landform 3 at that time. New percent alteration calculations are provided on the VP21 sheets in this report. ME\_2021\_04 needs verification with telephoto lens photography to determine if it is likely to be visible. It sits partly in VLI\_POLYGO 913 (Landform 4) and partly in the un-recorded area called Landform 3. Present photography presented on the Viewpoint 21 page shows it to be mainly screened by small roadside trees. RDI reduced the foreground tree height very slightly in the visual simulation to reveal the cutblock in its entirety. Viewing distance to the proposed cutblocks is greater than 8 km (i.e., background view). Viewing sensitivity is fairly low due to infrequent transitory viewing opportunities except for residences (unchecked). A bare-ground viewshed was completed for VP 21 for verification and added as an insert on page 8 of this report. Both VP 21 and White Horse Trail start viewsheds are shown on the key map on page 1 of this report. RDI has added dividing line between the two indicating less visible area coverage from White Horse viewpoint.

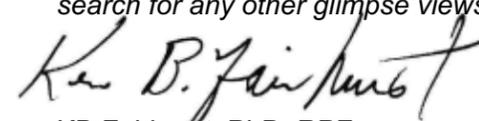
RDI proposes that Landform 2 and Landform 3 be merged together as the revised Landform 2 (VLI\_POLYGO 931) with an extension of the established VQO of Modification over the full visible unit. A merged landform is supportable given the absence of visual breaks across the landform, as confirmed by the VP 21 viewshed. The cohesive visual unit becomes more apparent further north (see bare land rendering from VP 22 for further indication of the single landform legitimacy).

The total percent alteration of the merged landform will be 14% in perspective view, including existing DL7UJ and MZAAX, and including ME\_2021\_04 as shown to be visible in the Third Canyon Viewpoint renderings as likely to be visible from just beyond the small roadside trees within the Trophy Mountain Buffalo Ranch. The 2012 Google Street View provided by Ches Clem indicates the previous openness and variability in visual conditions on the ranch property. New photography will assist this determination. The extended Landform 2 would have 9% existing alteration and 5% proposed alteration, the total being within the Modification Visual Quality Class (VQC) range of 7.1% to 18.0%. The calculation tables are provided on the viewpoint analysis sheets. The proposed cutblocks and nonVEG existing alteration present themselves visually as strongly rectilinear and dominate the north (right-hand) portion of the recommended merged landform. The Modification category of Visually Altered Forest allows for alteration that is very easy to see, and is a) large in scale and natural in appearance, or b) small in scale but with some angular characteristics, and percent alteration between 7.1% and 18%. Maximum Modification may be very easy to see and a) very large in scale, b) rectilinear or geometric in shape, or c) both, and percent alteration 18.1% to 30%.

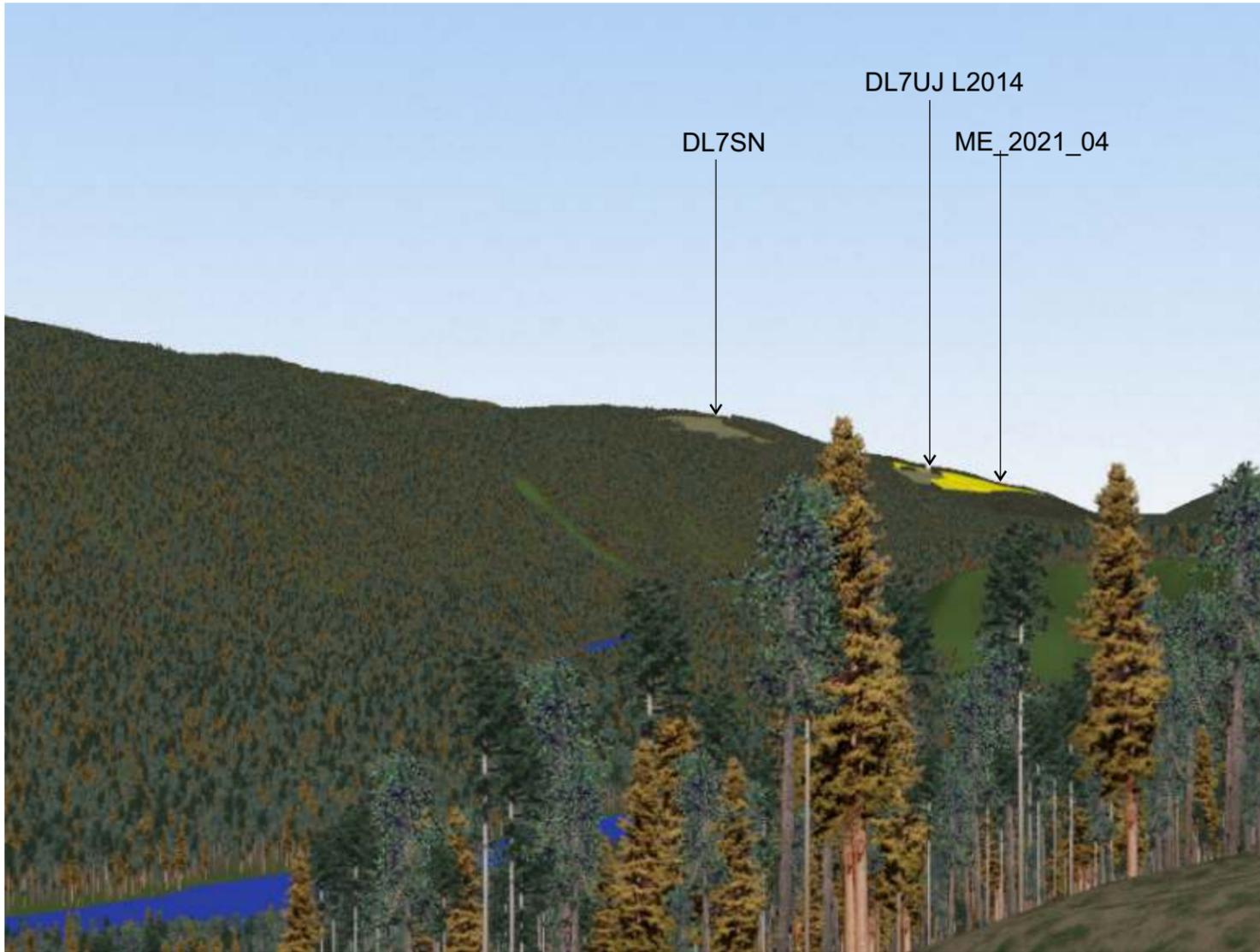
RDI supports the merged single landform option, but with very cautious adherence to visual design principles to significantly reduce the apparent angularity, breadth, and concentration of harvesting in the north (right-hand) portion of the landform, and close assessment of visually effective green-up, whilst bearing in mind it is in background view with few viewing opportunities. RDI encourages a photo-reconnaissance of additional viewing opportunities, mainly as one travels north from VP 21 along the Clearwater River Road, toward VP 24 where an intervening landform screens the project area from view.

In the latest e-mail received on December 17th, Ches stated:

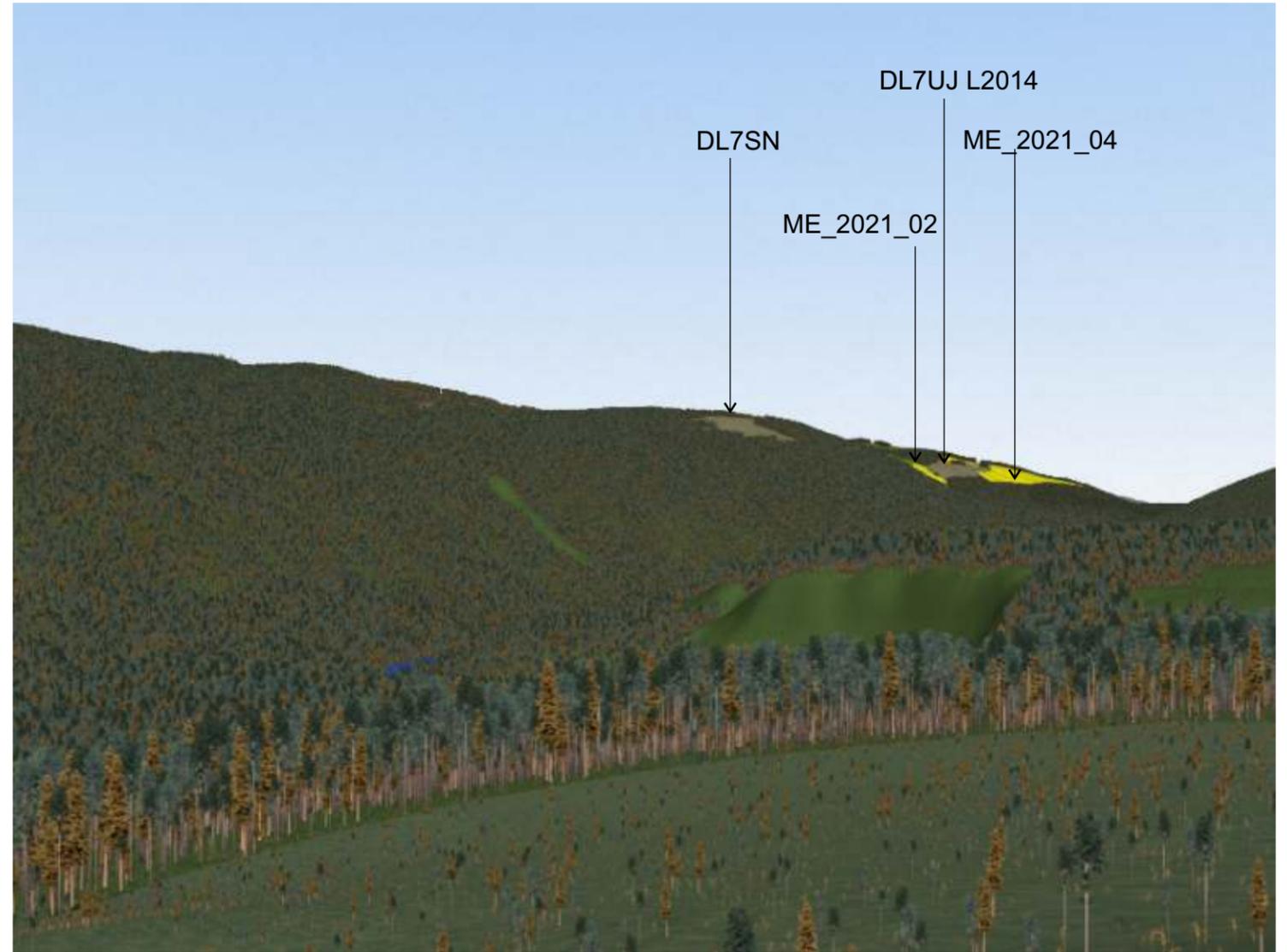
*"We don't have the ME blocks scheduled for auction until 2026 at the earliest due to adjacency green-up (FPPR section 65: at least 75% of the net area to be reforested of the existing cutblock is stocked such that the average height of the tallest 10% of the trees on the area is a minimum of 3 m). By 2026 the blocks will probably not yet be at VEG height but they will be getting close. Using your VIA analysis we can also plan some well placed WTRA's that I think will help reduce the visual impacts a lot. When I'm out taking the telephoto pictures I might even record a video on my phone demonstrating the screening along the Clearwater Valley Road and will search for any other glimpse views and get photos."*



KB Fairhurst, PhD, RPF  
RDI Resource Design Inc  
December 28, 2021



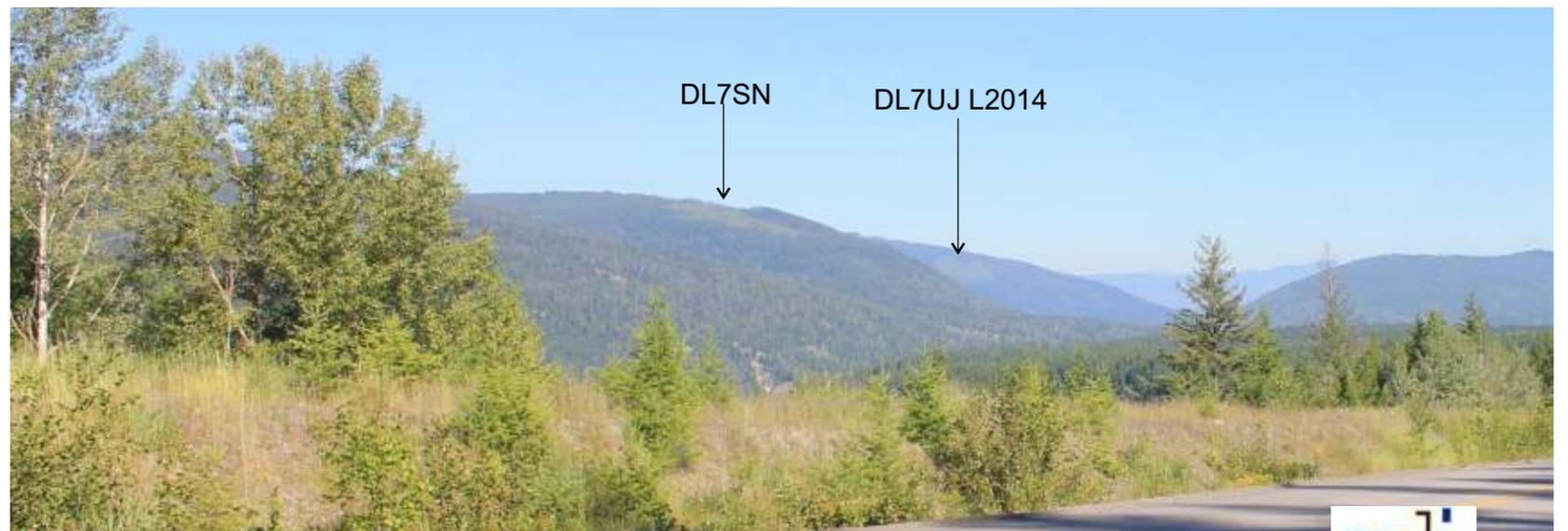
Third Canyon



Third Canyon Pullout 51 47' 30.06N / 120 00' 51.67W

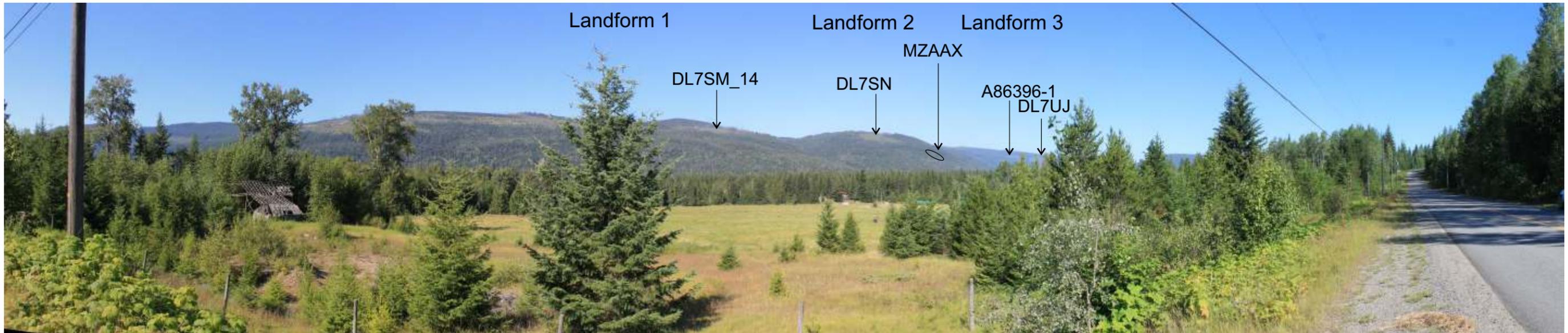


Ches Clem Photo

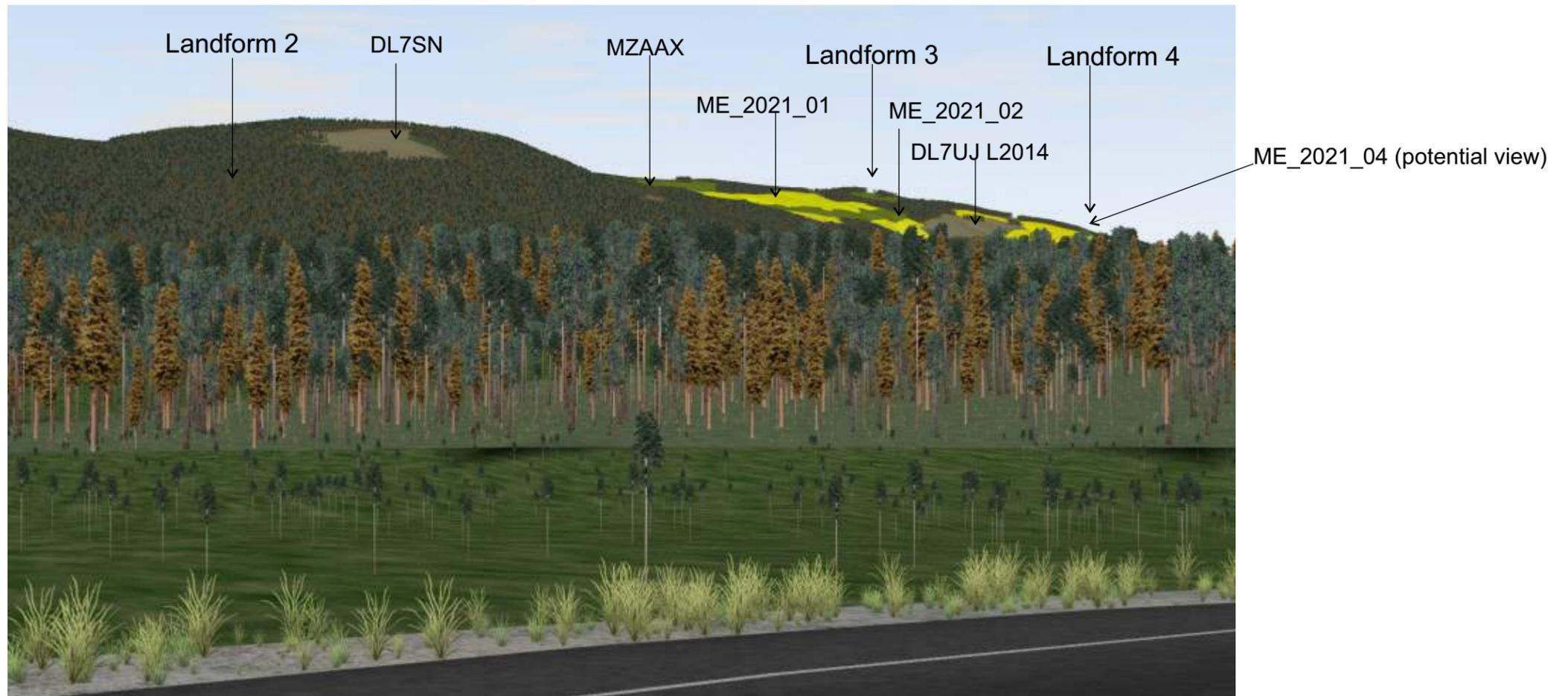


Ches Clem Photo

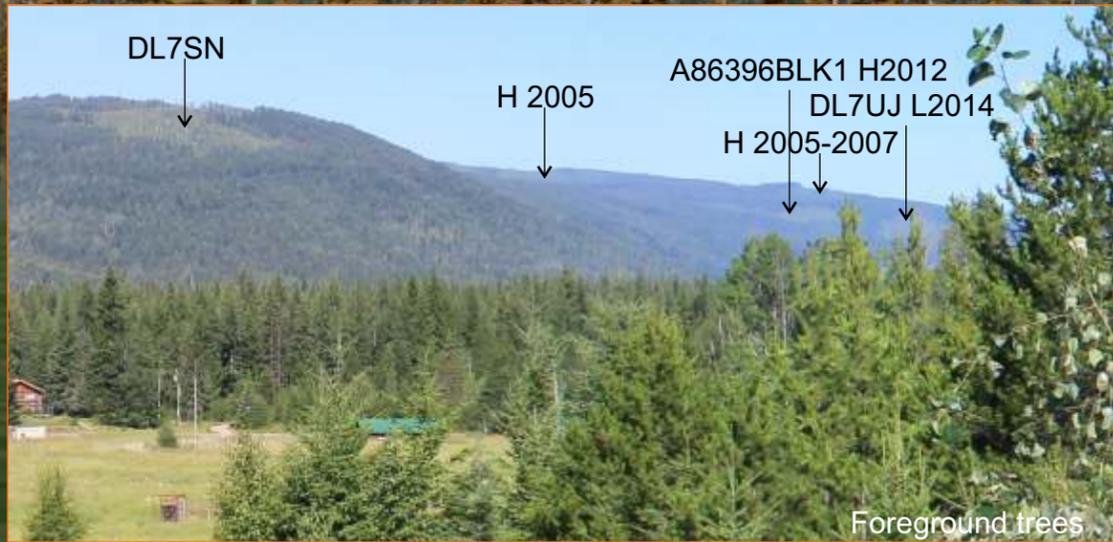
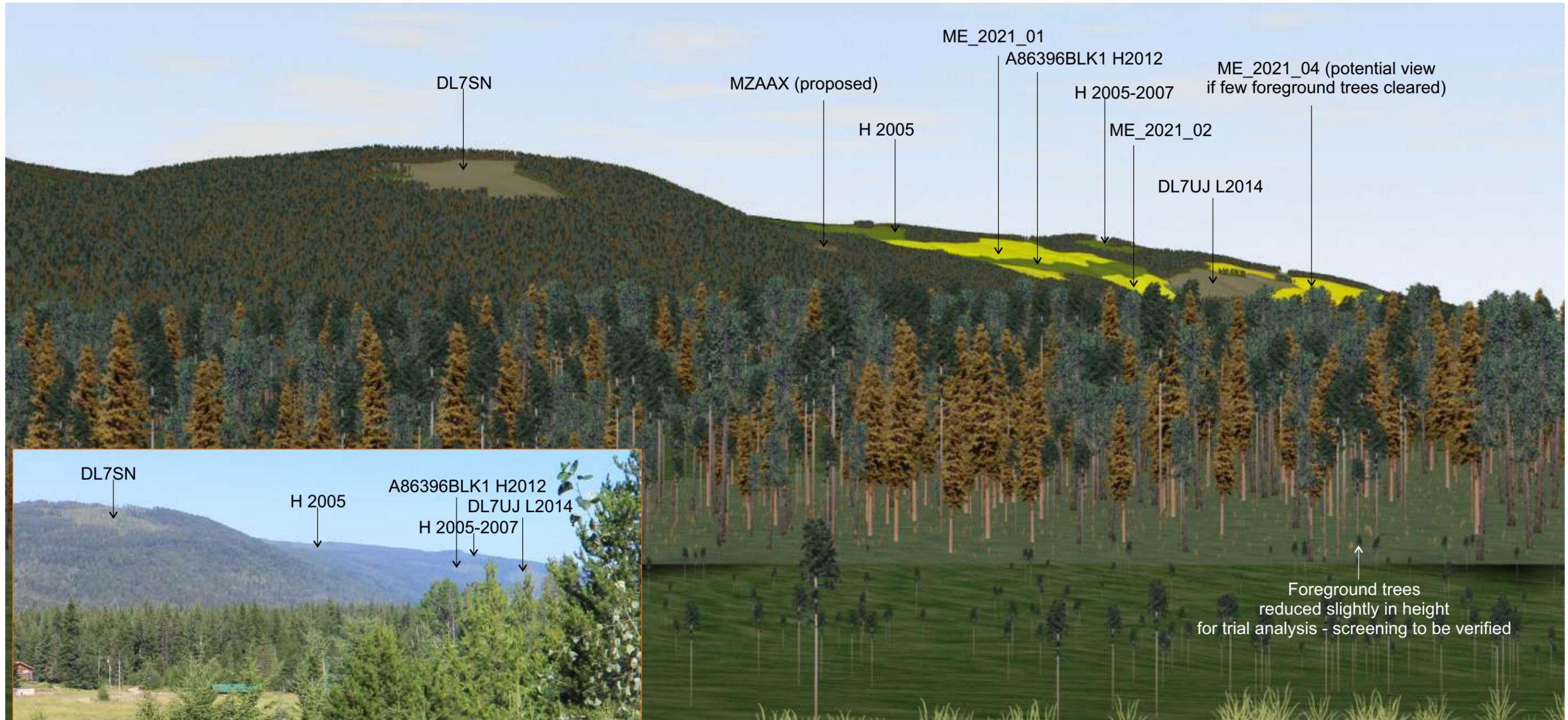
Third Canyon Viewpoints



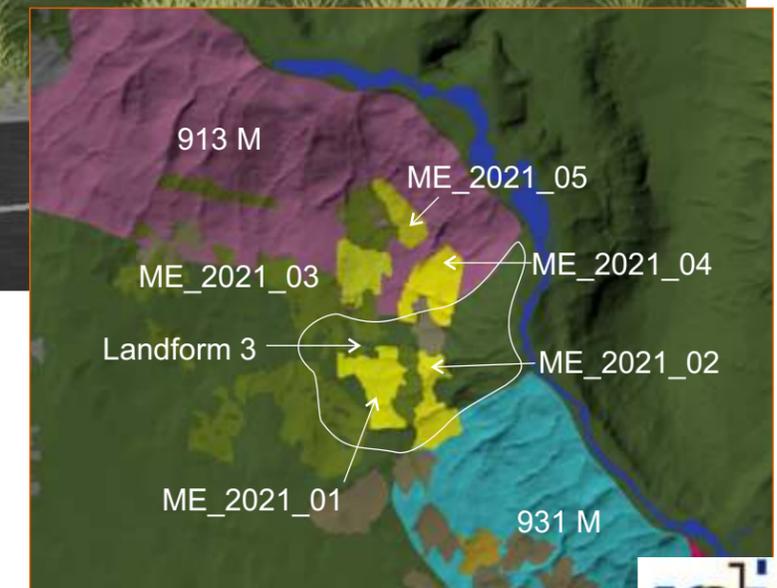
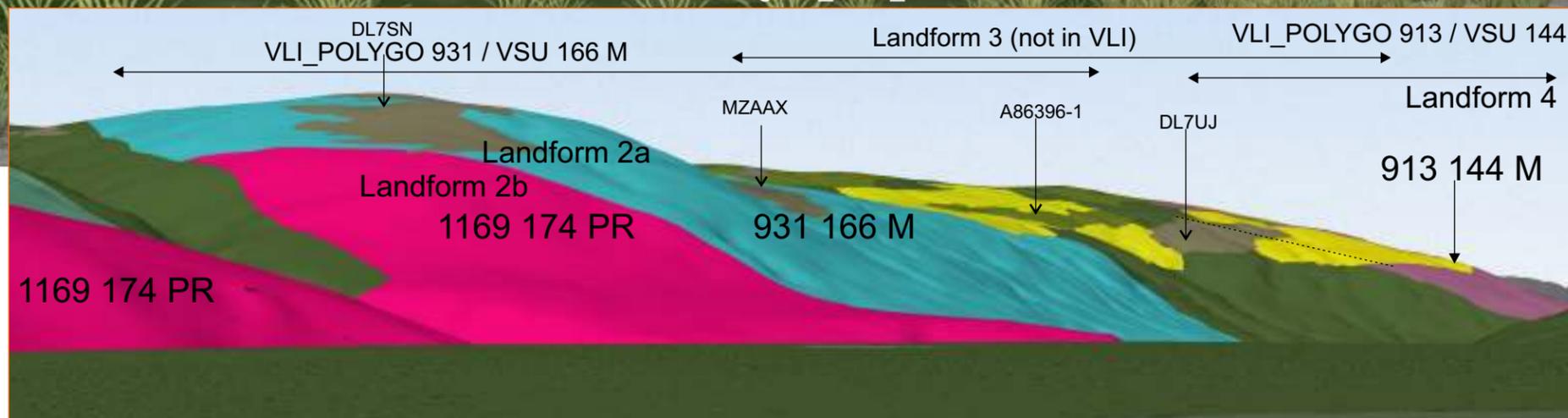
Viewpoint 21 Photo by Ches Clem, Clearwater Valley Road - roadside screen appears to obscure ME\_2021\_04 location - more open viewing opportunity from field



Viewpoint 21 Simulation with minor foreground clearing reveals ME\_2021\_04 - see next two pages for full assessment. The 04 block is clearly evident from the Third Canyon viewpoints presented on page 4.



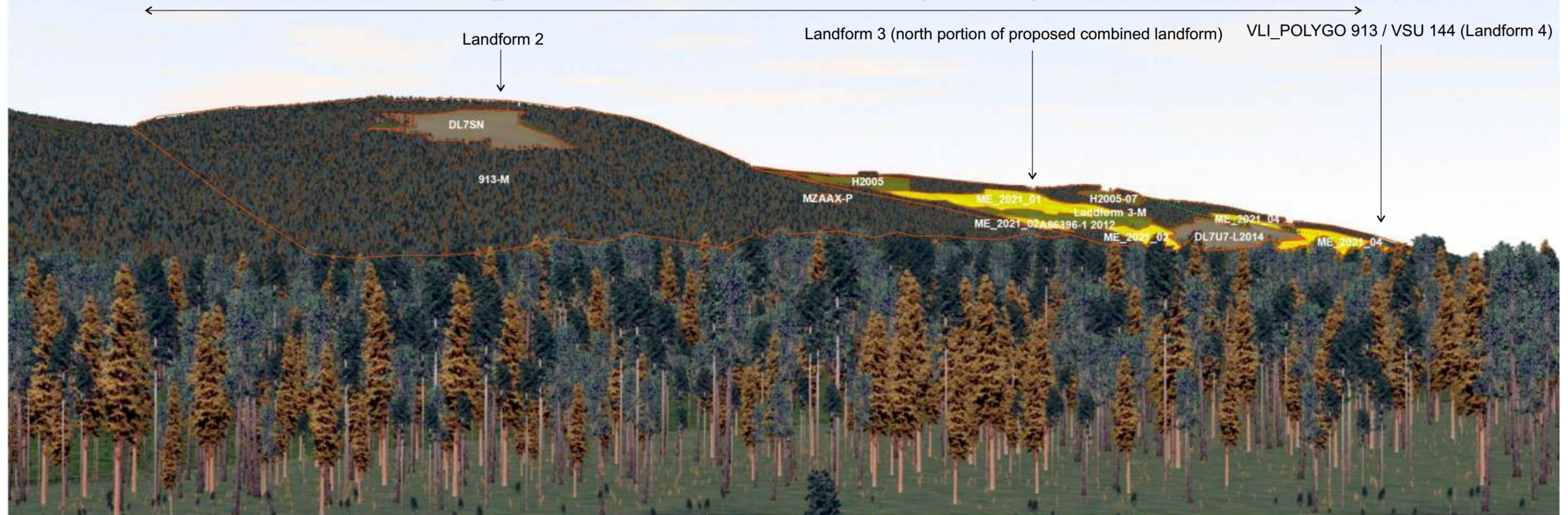
Foreground trees reduced slightly in height for trial analysis - screening to be verified



Viewpoint 21, Clearwater Valley Road 51 48 53.5, 120 01 32.4



Proposed VLI\_POLYGO 931 / VSU 166 expansion to cover previously unrecorded gap (L3) between VSU 931 (L2) and VSU 913 (L4)



Viewpoint 21 Percent Alteration VLI_POLYGO 931/VSU 166 + Landform 3 Combined				
NAME	AREA2	% Alt	Existing	Proposed
931-M	699958.67			
Landform 3-M	160370.34			
<b>Sum 931+Landform 3</b>	<b>860329.02</b>			
H2005-07	3470.32	0.40%	0.40%	
DL7U7-L2014	19318.30	2.25%	2.25%	
ME_2021_04	12672.47	1.47%		1.47%
A86396-1 2012	14600.86	1.70%	1.70%	
H2005	7944.94	0.92%	0.92%	
ME_2021_01	21842.81	2.54%		2.54%
ME_2021_02	3145.46	0.37%		0.37%
ME_2021_02	6456.21	0.75%		0.75%
MZAAX-P	1174.62	0.14%		0.14%
DL7SN	33186.38	3.86%	3.86%	
<b>Sum Alt 931+L3</b>	<b>123812.35</b>	<b>14.39%</b>	<b>9.13%</b>	<b>5.26%</b>
<b>if ME_2021_04 is NVS</b>	<b>111139.89</b>	<b>12.92%</b>		<b>3.79%</b>

VLI\_POLYGO\_931 (Landform 2 in prior RDI assessment) links naturally with the previously unrecorded area called Landform 3 by RDI in the previous and current analyses. Percent Alteration for the combined unit is within the Modification VQC (7.1% to 18.0% in perspective view). In general, the horizontal orientation of the pattern of existing and proposed openings is compatible with the horizontal visual forces of the combined landform (i.e., the ridgeline). Caution with design and layout is required due to the concentration, scale, and somewhat rectilinear nature of the proposed and existing alteration in the north portion of the combined landform. VEG achievement is recommended prior to proceeding with the newly proposed alteration. The calculations include a small portion of Landform 4 (VLI\_POLYGO 913 / VSU144 M) demarked by the green dotted line in the above simulation. See page 9 for a bare-land assessment revealing the continuity of the combined landform from Viewpoint 22 (visually screened from the road).



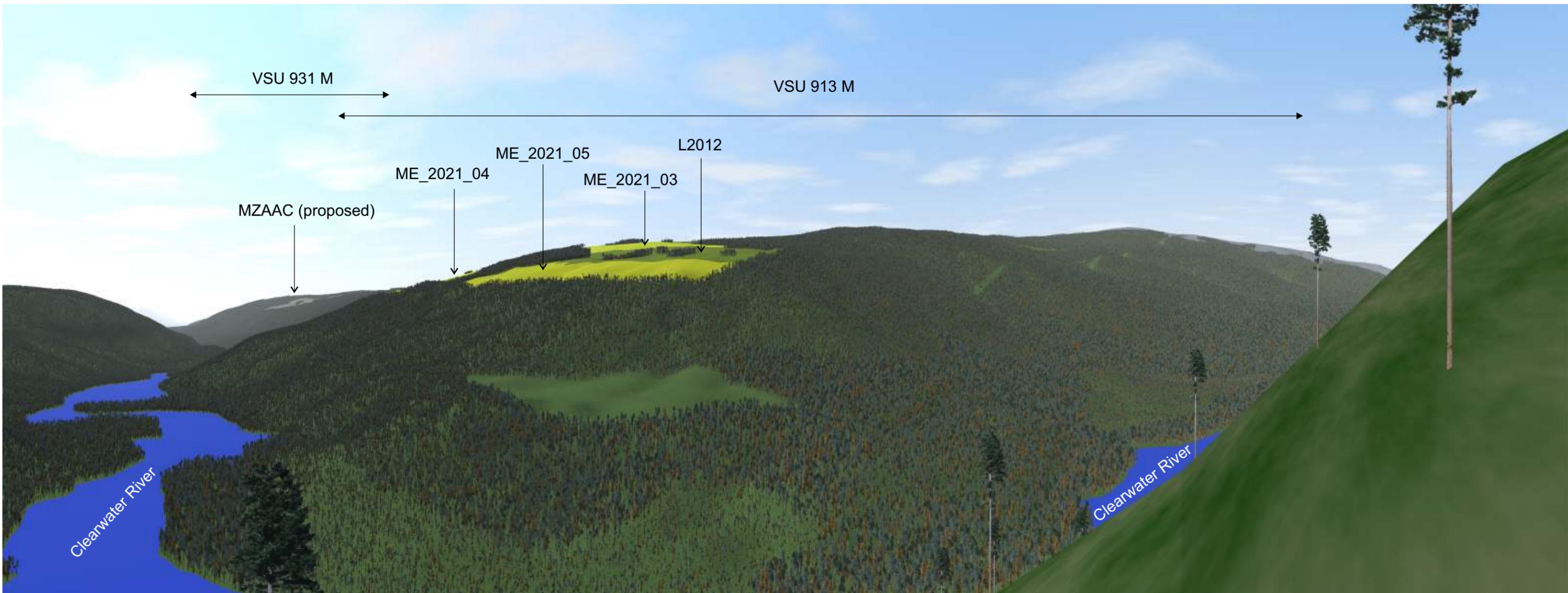
more open views



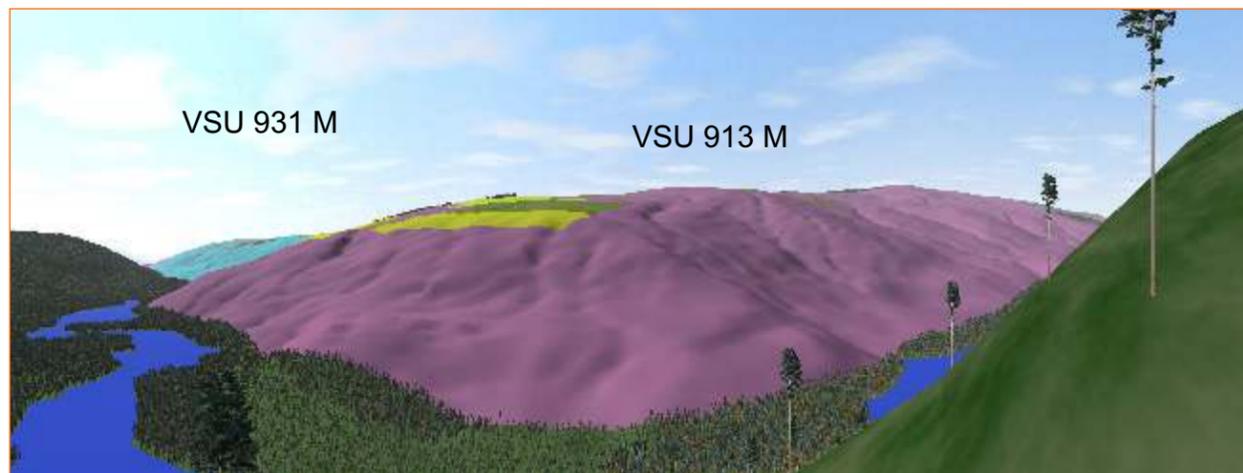
Google

The 2012 visual condition along the roadside adjacent to Trophy Mountain Buffalo Ranch reveals more open viewing opportunity towards the background landform where the proposed cutblocks will be located. The bare viewshed in dark blue colour in the inset shows visibility from VP 21 without tree cover, confirming real and potential continuity of viewing opportunity in the un-recorded area between the established VSU Polygons.

Image capture: Sep 2012 © 2021 Google



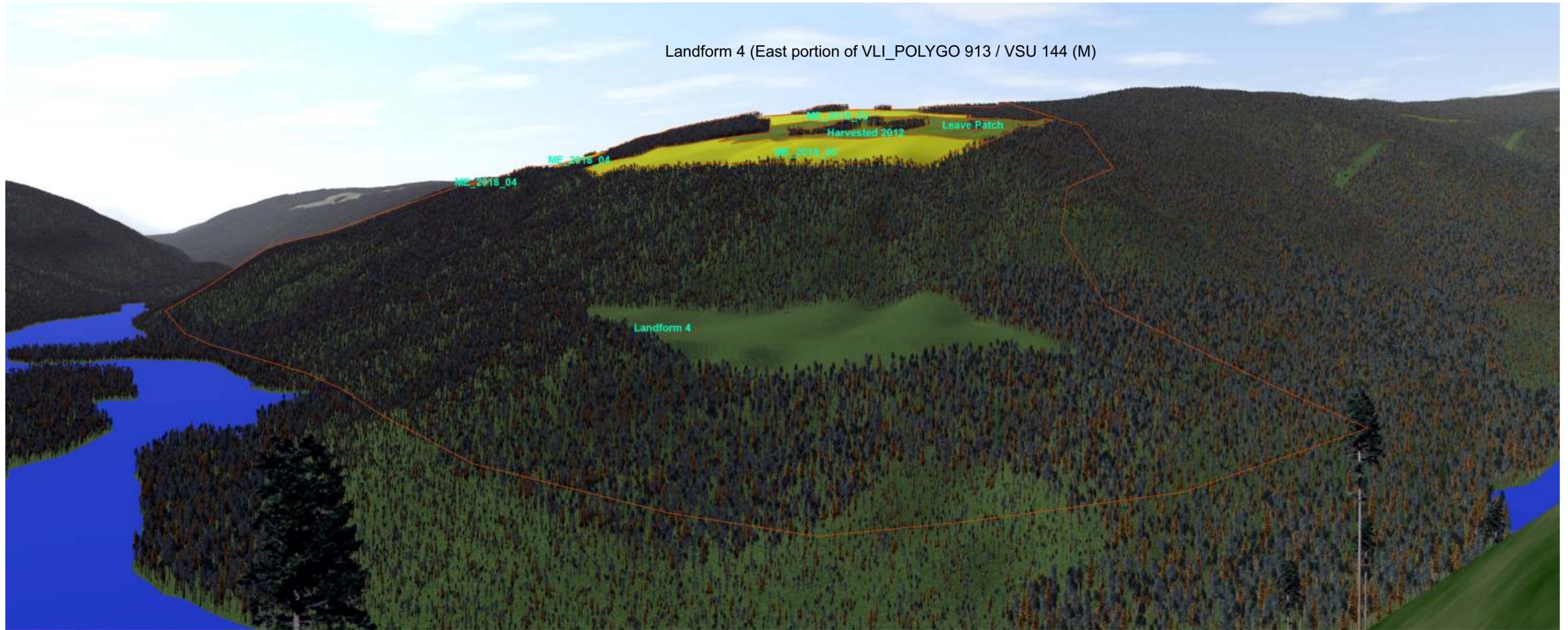
The proposed and existing cutblocks form a cohesive pattern on the upper portion of the landform in scale with the existing greened-up openings lower down, and conform with the main visual forces of the landform which is the eastern portion of VLI\_POLYGO 913 / VSU 144 (Modification VQO).



Ches Clem Photo 2020

White Horse Bluffs 1 (Trail Start)

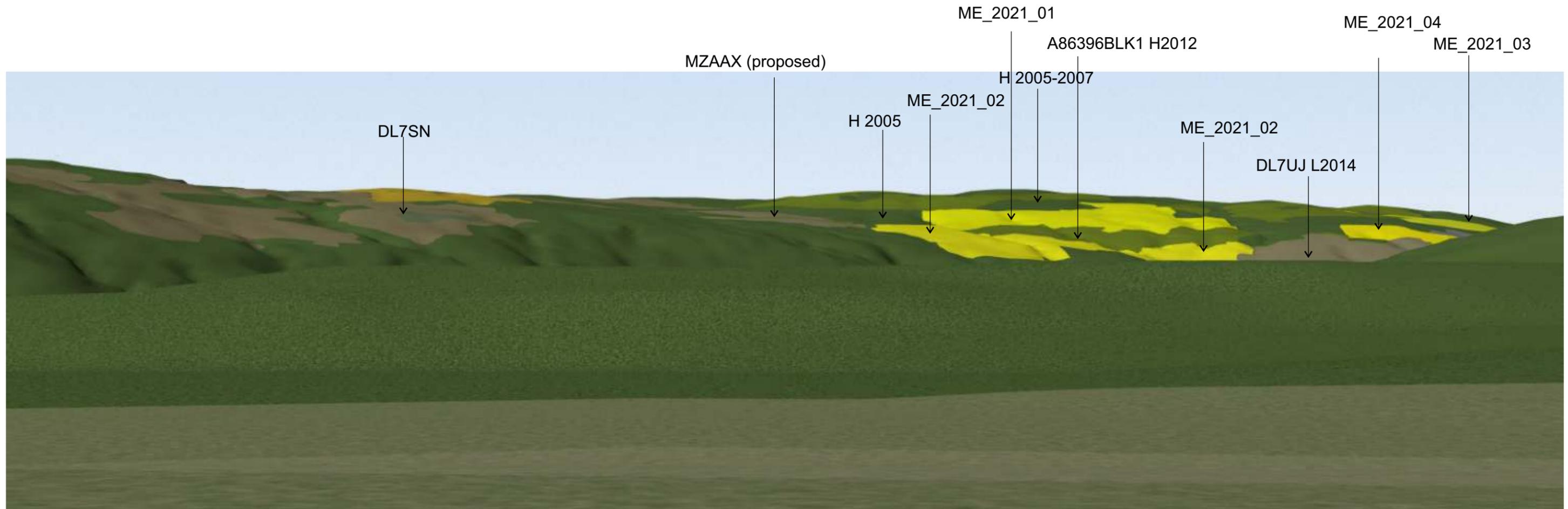
Landform 4 (East portion of VLI\_POLYGO 913 / VSU 144 (M))



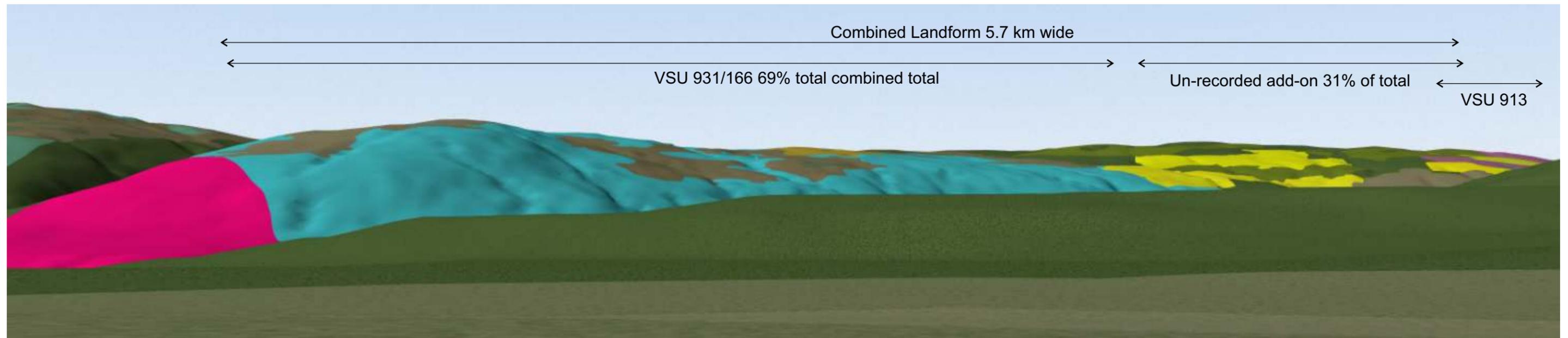
Percent Alteration White House Bluffs 1		
NAME	AREA2	% Alt
<b>Landform 4 of VSU913 M</b>	1423185.68	
ME_2021_05	35844.95	2.52%
Harvested 2012	16081.06	1.13%
ME_2021_03	6099.61	0.43%
ME_2021_04	127.31	0.01%
ME_2021_04	456.78	0.03%
Leave Patch in H2012	6029.58	0.42%
Leave Patch in H2012	867.43	0.06%
Sum Alteration	58609.71	4.12%
Sum Leave	6897.01	0.48%
<b>Net Alteration</b>	<b>51712.70</b>	<b>3.63%</b>

The proposed and existing cutblocks form a cohesive pattern on the upper portion of the landform, in scale with the existing greened-up openings lower down, and conform with the main visual forces of the landform which is the eastern portion of VLI\_POLYGO 913 / VSU 144 (Modification VQO). Percent Alteration is within the range of Partial Retention (1.5% to 7.0%.

White Horse Bluffs 1 (Trail Start) Percent Alteration - Landform 4 of VSU 913/144 M



Terrain is low, rolling, and horizontal without significant topographic breaks in the skyline from one end to the other



Viewpoint 22 Bare Demonstration of Landform Only (fully screen from by roadside vegetation)