



# Alto Tunnel Study

## Weekly Progress Report Week Ending March 3, 2017



Report #4

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## 1.0 Project Activities

Project activities for the week of February 27 through March 3 included performing video surveys of Borehole B-2 and demobilizing the drilling equipment from the Underhill Site. The casing in Boring B-2 was retracted approximately 30 to 40 feet so that the zone at the crown of the tunnel is visible. The video survey of both Boreholes was reviewed and it appears that the tunnel is completely collapsed at the two locations. In both boreholes there appears to be no significant gap between intact rock and rubble where a large cave-in may have occurred in these areas.

After the videos were reviewed Drill Tech was given the go-ahead to begin demobilization activities at Underhill and mobilization at Chapman.

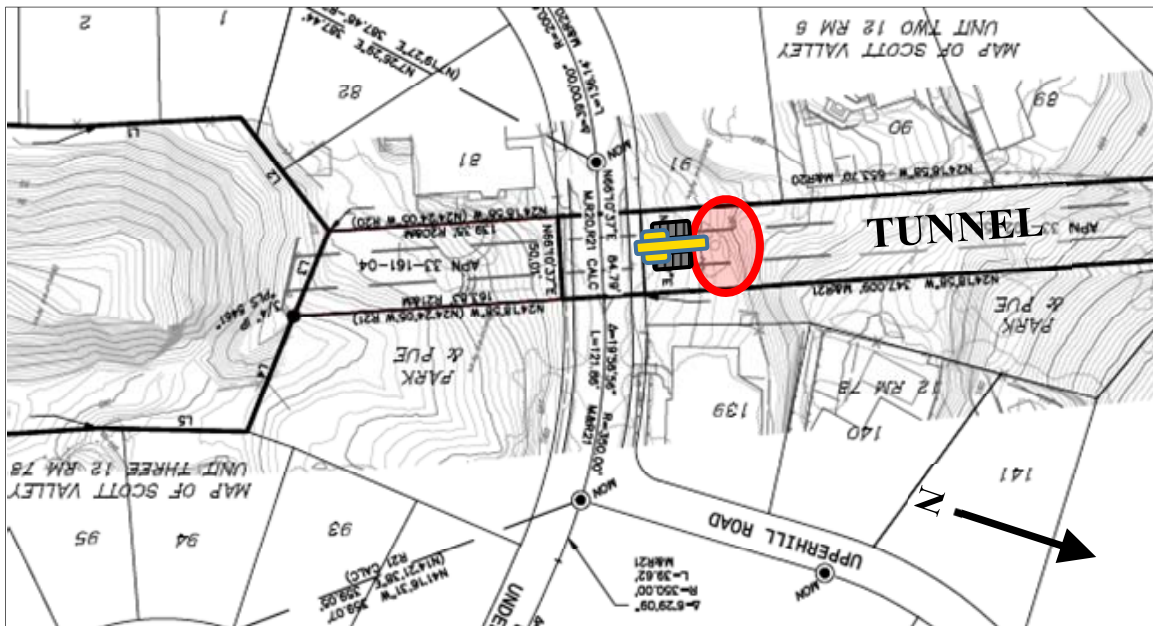


Figure 1. Drill rig and borehole locations above Alto Tunnel at the Underhill Road project site.

### 1.1 Underhill Site Controls

Traffic control measures continued to be implemented along Underhill Road; these measures appeared to adequately manage the low traffic volume and provided a safe work zone. Secondary containment remained under the air compressor stored onsite. Plywood continued to protect the ground surface at the entrance of the site along Underhill Road.

Fugitive dust from drilling continued to be mitigated using water added to the air system. Site erosion controls of silt fences, sand bags, and straw waddles were implemented to control site runoff. Noise monitoring was conducted at the Underhill Site. Locations and decibel measurements are shown for reference in Figure 2.

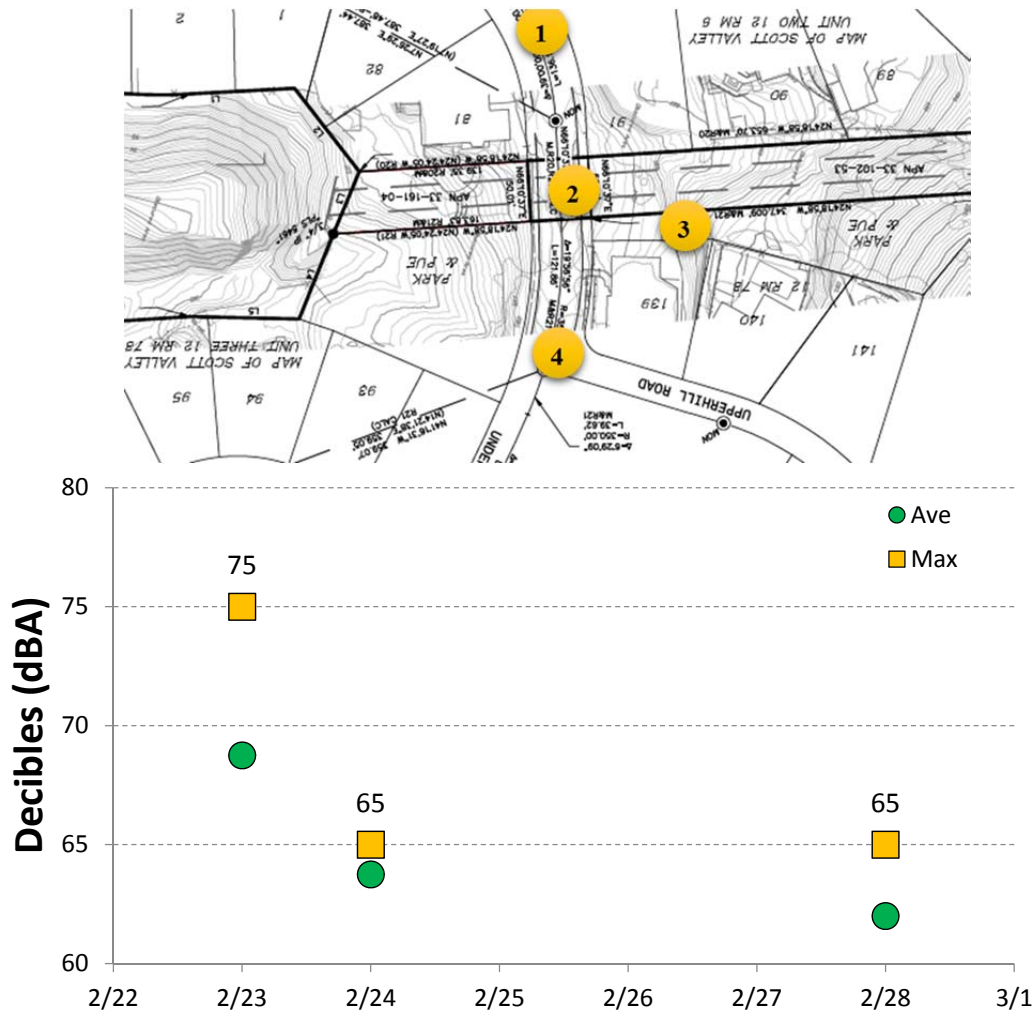


Figure 2. Underhill site noise monitoring locations and decibel measurements.

## 2.0 Project Schedule

### 2.1 Project Drilling Progress

The planned drilling activity at the Underhill site has progressed to a total drilled depth of 120 feet in Borehole 1 and 330 feet in Borehole 2. No boreholes have been completed at the Chapman site. See Figure 2 for the project drilling progress.

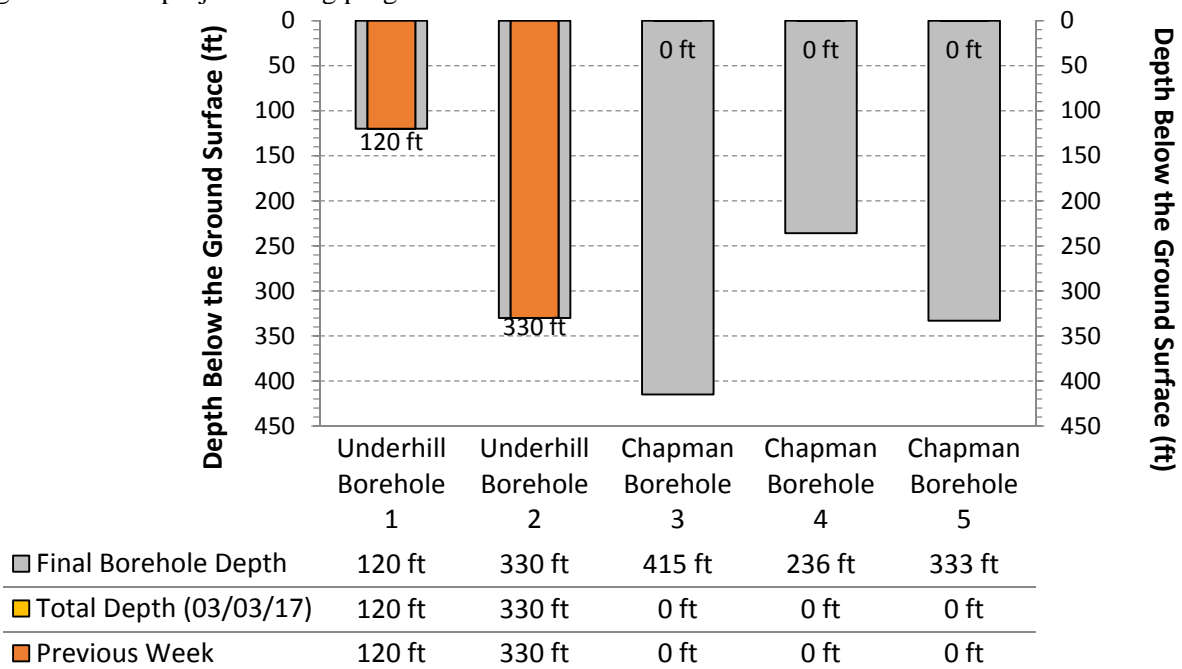


Figure 3. Project drilling progress.

## 2.2 Project Delays and Comments

There were no weather related project delays this week. The project delays to date have impacted the project schedule. The project schedule was adjusted by a week to account for the weather delays. The delays are not anticipated to impact the current project budget scope items and have not incurred additional out of scope items. However if modifications to the boreholes or additional boreholes are added, there would be a schedule and budget impact. Additional weather delays are not anticipated, given the 14-day weather forecast provided in Figure 4.















MON MAR 6		Mostly Cloudy	MON MAR 13		Mostly Cloudy
TUE MAR 7		Cloudy	TUE MAR 14		AM Clouds/PM Sun
WED MAR 8		AM Clouds/PM Sun	WED MAR 15		Partly Cloudy
THU MAR 9		AM Clouds/PM Sun	THU MAR 16		Mostly Cloudy
FRI MAR 10		AM Clouds/PM Sun	FRI MAR 17		Showers
SAT MAR 11		AM Clouds/PM Sun	SAT MAR 18		AM Clouds/PM Sun
SUN MAR 12		Sunny	SUN MAR 19		Sunny

Figure 4. 14-day weather forecast for the project area.

## 2.3 Updated Project Schedule

A complete updated schedule can be found on the Walk-Bike-Marin Projects and Programs website.

[http://www.walkbikemarin.org/projects\\_alto.php](http://www.walkbikemarin.org/projects_alto.php)

### 3.0 Project Items Summary

The items for this project include two boreholes at the Underhill site and three boreholes at the Chapman site. Individual hole depth estimates and percent completed are provided in Table 2. A modification to the drilling angles has reduced the total estimated linear feet of drilling to 1434 feet.

**Table 1. Completed project items Task 3.2.**

Item No.	Description	Unit	Completed Quantity	Total Estimated	Completed
Underhill Site					
1	Borehole 1	LF	120	123	98%
2	Borehole 2	LF	330	360	92%
Chapman Site					
3	Borehole 3	LF	0	415	0%
4	Borehole 4	LF	0	236	0%
5	Borehole 5	LF	0	333	0%
Total		LF	450	1467	31%