Applegate Trail I North Sexton Pass I-5 East: I





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Applegate Trail I North Sexton Pass I-5 East: I

Outline

- I. PURPOSE
- II. RESOURCES
 - A. 1923 Oregon Riddle Quadrangle
 - B. 1940 Smith Hill Pass Oregon Construction Right-Of-Way Map
 - C. 1998 Merlin Quadrangle & 1996 Sexton Mountain Quadrangle
- III. SMITH HILL PASS: 1940
- IV. APPLEGATE TRAIL I (ATI) FOR NORTH SEXTON PASS I-5 EAST (1,060')
 - A. "Y" Road No. 1 to "Y" Road No. 2 (760')
 - 1. Station ATI 0+00
 - 2. Station ATI 1+00
 - 3. Station ATI 2+00
 - 4. Station ATI 3+00
 - 5. Station ATI 4+00
 - 6. Station ATI 5+00
 - 7. Station ATI 6+00
 - 8. Station ATI 7+00
 - B. "Y" Road No. 2 to Clearing Before I-5 Sign (300')
 - 9. Station ATI 7+60
 - 10. Station ATI 8+00
 - 11. Station ATI 9+00
 - 12. Station ATI 10+00
 - 13. Station ATI 10+60
 - C. I-5 Sign Next to Freeway
 - 14. Station ATI 11+40
- V. TELEGRAPH LINES & APPLEGATE TRAIL AT SMITH HILL PASS
- VI. JR OF APPLEGATE TRAIL SOUTH RAT CREEK (JA-15)
 - A. Hugo Emigrant Trails Committee Work
 - B. 1940 Oregon Construction Right-Of-Way Map
- VII. PRELIMINARY ANALYSIS
- VIII. SUMMARY FOR APPLEGATE TRAIL NORTH SEXTON PASS I-5 EAST: I
- IX. AUTHORS
 - A. Authors
 - B. GLO Field Review SubCommittee and Josephine County Historical Society
 - C. Josephine County Historical Society
 - D. Members of GLO Field Review SubCommittee
 - E. Neighbors

Bibliography

Appendices

Appendix A. Appendix B. Appendix C. Appendix D. Appendix E. Appendix F. Appendix G. Table 1. Table 2. Table 3. Table 4. Table 5. Appendix H.	October 18, 2011 Field Trip To North Sexton Pass I-5 East October 21, 2011 Field Trip To North Sexton Pass I-5 East October 21, 2011 Visited Applegate Trail Interpretive Center Museum October 23, 2011 Field Trip To North Sexton Pass I-5 East October 28, 2011 Field Trip To North Sexton Pass I-5 East November 15, 2011 Field Trip To North Sexton Pass I-5 East 1940 Oregon Highway Map Tables Measurements of Smith Buildings From 1/4 Corner: Sections 22 and 23 Roads 310' Segment of Applegate Trail at South Mt. Sexton Pass 1,060' Segment of Applegate Trail at North Mt. Sexton Pass 60' Strip For Telegraph & Telephone Lines Over Mt. Sexton Pass Stations Of North Sexton Pass I-5 East		
	Photographs		
Photo 1.	Right-of-Way Cleared On Mt. Sexton Pass: 1941		
Photo 2.	"Y" No. 1		
Photo 3.	Rene On Applegate Trail Between Stations ATI 0+00 & ATI 1+00		
Photo 4.	Mike & Kelly At Station ATI 7+60		
Photo 5.	Joe & Jim Brushing At Station ATI 7+60		
Photo 6.	Joe On Trail Near Station ATI 10+60		
Photo 7.	North Bound I-5 Sign		
	Photographs: Appendix A		
Photo 1.	Eastern Upridge Road		
Photo 2.	Hog House Location		
Photo 3.	New Access/I-5 Fire Road Bed At South End Of Berm On Old Pacific Highway		
Photo 4.	"Y" No. 1 & I-5 Fire Road Bed		
Photo 5.	Rocks In Row		
Photo 6.	Culvert		
Photo 7.	Ditch At Road		
Photo 8.	I-5 Sign		
	Photographs: Appendix B		
Photo 1.	Bottom of I-5 Fire Road		
Photo 2.	Tire Near "Y" Road No. 2		
Photo 3.	Big Ponderosa & ODOT Station No. OBEC #568H+T		

Photo 4. Photo 5. Photo 6. Photo 7. Photo 8. Photo 9. Photo 10.	North Bound I-5 Sign View Toward Highway Marker Post From Vicinity of I-5 Sign Guard Rail West Toward JA-15 From I-5 East Sign I-5 Parking For Applegate Trail Site JA-15 I-5 Guard Rail Along Trail Near JA-15 I-5 Sign Looking East From I-5 Guard Rail West I-5 Sign Looking East From Applegate Trail JA-15 Parking Area		
Photographs: Appendix D			
Photo 1. Photo 2.	Kelly Rarey & Malcolm Drake At Highway Marker Post Kelly At Highway Marker Post On Earlier Trip; I-5 In Background To West		
Photo 3. Photo 4. Photo 5. Photo 6.	Highway Marker Post Along Trail Water Washed Rotated Highway Marker Sign: Top To Left Water Washed Rotated Highway Marker Sign: Middle Portion Of Sign Water Washed Rotated Highway Marker Sign: Bottom To Right		
Photo 7.	Water Washed Rotated Highway Marker Sign Photographs: Appendix E		
Photo 1. Photo 2. Photo 3. Photo 4. Photo 5. Photo 6. Photo 7. Photo 8.	Rene On Applegate Trail Between Stations ATI 0+00 & ATI 1+00 Marking Stake On Applegate Trail At Station ATI 1+00 Kelly & Joe At Station ATI 2+00 Joe Brushing The Applegate Trail Kelly Marking The Applegate Trail Rene & Kelly At Station ATI 7+60 Mike & Kelly At Station ATI 7+60 Rocks In A Line		
	Photographs: Appendix F		
Photo 1. Photo 2. Photo 3. Photo 4. Photo 5. Photo 6. Photo 7.	Joe Brushing At Station ATI 7+60 Joe & Jim Brushing At Station ATI 7+60 Jim On Northern Portion of ATI I-5 Culvert At Station ATI 10+00 Trail Near Station ATI 10+60 Jim & Joe Near I-5 At Station ATI 10+60 Joe At Station ATI 10+60 On Course To I-5 Sign		

Maps

Map 1A.	Smith Hill Pass Of Applegate Trail: 1901 - 1902	
Map 1B.	Old Smith Hill Pass Of Applegate Trail: 1901 - 1902	
Map 1C.	Old Smith Hill Pass Of Applegate Trail With Features: 1901 - 1902	
Map 2.	Old Smith Homestead At Smith Hill Pass: 1940	
Map 3.	County Roads South Of Smith Hill Pass: 1940	
Map 4.	310' Segment of Applegate Trail at Mt. Sexton Pass: 1998	
Map 5.	Applegate Trail North Sexton Pass I-5 East: 1940	
	New Access/Fire I-5 Road (200')	
	Applegate Trail I (ATI) For North Sexton Pass I-5 East (1,060')	
	Applegate Trail II (ATII) For North Sexton Pass I-5 East (1,300')	
Map 6.	Applegate Trail North Sexton Pass I-5 West: 1940	
	Applegate Trail III (ATIII) For North Sexton Pass I-5 East (1,853')	
	North Sexton Pass Under - 250'	
	North Sexton Pass I-5 West - 440'	
Map 7.	Applegate Trail At Sexton Pass: 1998	
	New Access/Fire I-5 Road (200')	
	Applegate Trail I (ATI) For North Sexton Pass I-5 East (1,060')	
	Applegate Trail II (ATII) For North Sexton Pass I-5 East (1,300')	
	Applegate Trail III (ATIII) For North Sexton Pass I-5 East (1,853')	
	North Sexton Pass Under (250')	
	North Sexton Pass I-5 West (440')	
	Aerial Photographs	

Smith Hill Pass: 1939 Aerial 1. Sexton Mountain Pass Region: 1959 Aerial 2. Aerial 3. Applegate Trail North Sexton Pass: 2011

Edited by Kelly Rarey, Karen Rose, and Mike Walker.

Applegate Trail I North Sexton Pass I-5 East: I

I. PURPOSE

Understanding the Applegate Trail and its evolution at North Mt. Sexton Pass east of I-5 is fascinating. This understanding has created a need for the description of four linear Trail/Road features. Road feature No. 2, 1,060' "Applegate Trail I (ATI) For North Sexton Pass I-5 East" is the most significant as it is the original location of the Applegate Trail (Trail).

Road Feature 1. New Access/Fire I-5 Road (200')

Road Feature 2. Applegate Trail I (ATI) For North Sexton Pass I-5 East (1,060')

"Y" Road No. 1 to "Y" Road No. 2 (760') &

"Y" Road No. 2 to Clearing Before I-5 Sign (300')

Road Feature 3. Applegate Trail II (ATII) For North Sexton Pass I-5 East (1,300')

"Y" Road No. 1 to "Y" Road No. 2 (760') &

"Y" Road No. 2 to Highway Marker Post (540')

Road Feature 4. Applegate Trail III (ATIII) For North Sexton Pass I-5 East (1,853')

"Y" Road No. 1 to "Y" Road No. 2 (760') &

"Y" Road No. 2 to beyond the Highway Marker Post at I-5 Ditch (1,093')

The purpose of this paper is to document research of the 1,060' segment of the *Trail* identified as "*Applegate Trail I North Sexton Pass I-5 East*" (i.e., Smith Hill Pass in south to Applegate Trail site near I-5 sign in north) as it existed August 1940 before the Smith Hill Pass summit of the Pacific Highway road base was cut in 1941.

Home Page: Hugo Neighborhood Association & Historical Society Web Page: http://www.hugoneighborhood.org/

The primary tools for this research were the 1940 Oregon Construction Right-of-Way (ROW) Map⁹ and the previous work of the Hugo Emigrant Trails Committee (HETC) in researching, locating, and marking the *Trail* site South Rat Creek JA-15, and the 310' segment of the Applegate Trail south of Mt. Sexton Pass.

II. RESOURCES

A. 1923 Oregon Riddle Quadrangle

The *Oregon Riddle Quadrangle*¹¹ at a scale of 1:125,000 and a contour of 100' creates difficulties in estimating the Smith Hill Pass's original elevation (Maps 1A - 1C). The Smith Hill Pass is contained between the 2,000' and 2,100' contours. The distance in a north-south direction between these contours is approximately 940' which means the original summit was relatively broad and flat.

There is a cultural dot on the *Oregon Riddle Quadrangle* adjacent and east of the wagon road (i.e., Applegate Trail) exactly where we would expect the John S. W. Smith house to be located (Section II.B; Maps 1A - 1C).

The John S. W. Smith homestead house is adjacent to the *Trail*. The evolved *Trail* of 1901 - 1902 is identified on the topographic map. There is a discernable *Trail* location change from west to east of an area south of Smith Hill Pass to the *Trail* located on the east side of Smith Hill Pass north of the summit (Maps 1A - 1C).

B. 1940 Smith Hill Pass Oregon Construction Right-Of-Way Map⁹

The structures identified on the 1940 Oregon Construction ROW Map⁹ were all at the Mt. Sexton Summit or north of it, and all were north of the 1/4 section line of Section 23, T.34.S., R.6 W., W.M as this was the southern boundary of the Smith 160-acre homestead (Map 2). The Smith structures themselves had some distance between them. For example, it was 245' in a north-south direction from the Chicken House to House No. 3 and 455' in an east-west direction between the Barn and the Hog House.

John Smith Family: Hugo Pioneers⁷ (Map 2).

In 1877 "John and Susan took up a one hundred and sixty acre homestead in a meadow on the north side of Sexton Mountain. This meadow is where the present Interstate 5 freeway cut is located. At the time they homesteaded, the overland stage road ran through this property. John and Susan farmed their homestead until just after the turn of the century."⁵

In 1877 it was six years before the railroad was developed through Hugo from Roseburg, Oregon. On September 16, 1896 John S. W. Smith was issued a homestead patent for 160 acres in Hugo, Oregon (Patent No. 3749).

In 1941 the right-of-way was cleared on Mt. Sexton⁵. The photo is courtesy of the *Grants Pass Courier* with the following caption (Photo 1).

"The residence [John S. W. Smith homesteaded in 1877] overlooking the Pacific highway summit [Smith Hill] on the shoulder of Mt. Sexton has been razed, and trees are

being felled for 1.92 miles of new construction soon to take place there. Here is a view toward the summit from the Grants Pass side showing the steep, old dirt road on the left [Applegate Trail], the curving present highway on the right [Old Pacific Highway/U.S. 99], and the felled trees on the right-of-way of the new work. The highway summit will be lowered several feet by a deep cut. (Courier Photo and Engraving.)." (Photo 1).

C. 1998 Merlin Quadrangle¹³ & 1996 Sexton Mountain Quadrangle¹²

At a scale of 1:24,000 and a contour of 40' the 1998 Mt. Sexton Pass's elevation can be estimated. The Sexton Mt. Pass is contained between the 2,000' and 1,960' contours. The ODOT

highway sign at Mt. Sexton Pass identifies the elevation at 1,960'. The distance in a north-south direction between these contours is approximately 400'. This distance on the quadrangle provides little information concerning the exact location of the summit except that it is relatively broad and flat.

III. SMITH HILL PASS: 1940

The following information on the 1940 Smith Hill Pass is a brief summary from the paper *Smith Hill Pass:* 1940.⁴ A simple

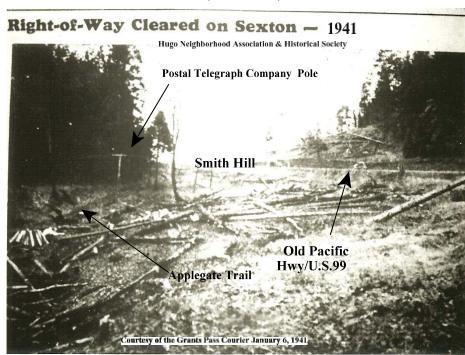


Photo 1. Right-of-Way Cleared On Mt. Sexton Pass: 1941
Courtesy of the Grants Pass Courier

and important fact was that the Smith Hill Pass was relatively broad and flat. According to Harrington, the original summit was 86' higher than it is today: "According to a sign that was there when Harrington visited in November, 1933, the elevation of the pass was 2,046'." 6

In 1934 there used to be a bench mark (B.M) K 256 with an elevation of 2,053.724' near the summit of Smith Hill Pass along the old Pacific Highway, south of milepost 264, 84' west of highway, 87' south of pole barn, near pole in barnyard, and in rock outcrop. Bench Mark K 256 was approximately 10' west of the pole (Map 2). The pole was one of the 1864 Collins Telegraph line poles. The location of K 256, the pole barn, pole, and Pacific Highway are identified on Map 2.

It is unknown how much highway was cut at Smith Hill Pass from 1921 - 1922 when the Pacific Highway was paved for the first time. It is assumed that mostly there was little cut to reduce the

grade over Smith Hill Pass. It is also assumed that there were side hill cuts in the Pacific Highway near Smith Hill Pass for the purpose of establishing a level road base.

The 1939 aerial photograph of Smith Hill Pass also clearly shows the paved 1921 - 1922 Pacific Highway and the Applegate Trail North Pass segment (Aerial 1; Map 2) and the paved 1921 - 1922 Pacific Highway and the Applegate Trail South Pass (Aerial 1; Map 3).



Photo 2. "Y" Road No. 1

The 1959 aerial photograph clearly shows Sexton Mt. Pass after the 1941 cut (Aerial 2). The 1959 aerial photograph also shows the paved 1921 - 1922 Pacific Highway, minus the area over Sexton Mt. Pass. The Smith barn and most of the other Smith structures are gone (Aerial 1). The location of the Hog House was not destroyed by the 1941 cut nor any I-5 cut and is still clearly visible in the ground. In 1941 the U.S. Weather Bureau storage building (Map 2) had been moved to a concrete pad at the base of the Eastern Upridge Road (Aerial 2) and had been there for many years until around 2009. Now, only the concrete pad is left.

The 1959 aerial photograph of Sexton Mt. Pass also clearly shows the paved 1921 - 1922 Pacific Highway and the Applegate Trail North Pass segment (Aerial 2; Map 2; Map 3). The details for the Applegate Trail South Pass are not quite as evident, but are visible (Aerial 2).

IV. APPLEGATE TRAIL I (ATI) NORTH SEXTON PASS I-5 EAST (1,060')

This section is a synthesis of the work of five field trips to the Applegate Trail I North Sexton Pass I-5 East (Appendices A-B & D-F).

- 1. October 18, 2011
- 2. October 21, 2011
- 3. October 23, 2011
- 4. October 28, 2011
- 5. November 15, 2011

Per the 1940 OR Construction Right of Way Map⁹, the length of the North Sexton Pass I-5 East is 1,060' from ("Y" Road No. 1 to Clearing Before I-5 Sign) (Maps 2 & 5). This is also the ground measurement.

There is little left of the old Smith orchard. What remains is north of the old 1940 Smith homestead complex (Map 2; Aerial 1) in the area north and northeast of the "New Access/Fire I-5 Road Bed" (Map 5).

A. "Y" Road No. 1 to "Y" Road No. 2 (760')

"Y" Road No. 1 and Station ATI 0+00 are located 200' downhill adjacent to the I-5 fire road (Photo 2; Map 5).

1. Station ATI 0+00

Name: "Y" Road No. 1 (jct. I-5 Fire/Access Road and ATI North Sexton Pass I-5 East; Photo 2) GPS Elevation: 2,016' GPS Mark No. 407

42° 36' 12.4" North Latitude

123° 22' 55.0" West Longitude

- Course: 166" magnetic; 183" true/346" magnetic; 003" true (used 17" east declination)
- Width of Road: 16' wide at 50' downhill from "Y" Road No. 1 (hard to see downhill shoulder of road bed; all road widths are shoulder to shoulder).
- Uphill Ditch: Yes/No
- Middle Erosion Ditch: Yes/No
- Downhill Shoulder: Berm Yes/No; Rocks Yes/No
- Material In Road: Dirt or Rock (macadam)

2. Station ATI 1+00

Name: Unnamed (Photo 3) GPS Elevation: 2,002' GPS Mark No. 408

42° 36′ 13.5″ North Latitude 123° 22′ 54.9″ West Longitude

• Course: 346" magnetic; 003" true

Width of Road: 15' plusUphill Ditch: Yes/No

• Middle Erosion Ditch: Yes/No

Downhill Shoulder: Berm Yes/No; Rocks Yes/No
Material In Road: Dirt or Rock (macadam)

10/28/2011

Photo 3. Rene On Applegate Trail Between Stations ATI 0+00 & ATI 1+00

3. Station ATI 2+00

Name: Unnamed GPS Mark No. 409 GPS Elevation: 2,001'

42° 36′ 14.4″ North Latitude 123° 22′ 55.0″ West Longitude

• Course: 356" magnetic; 013" true

Width of Road: 17'Uphill Ditch: Yes/No

• Middle Erosion Ditch: Yes/No

Downhill Shoulder: Berm Yes/No; Rocks Yes/No
Material In Road: Dirt or Rock (macadam)



Photo 4. Mike & Kelly At Station 7+60

4. Station ATI 3+00

Name: Unnamed GPS Elevation: 1,992' GPS Mark No. 410

> 42° 36′ 15.7″ North Latitude 123° 22′ 55.7″ West Longitude

• Course: 356" magnetic; 013" true

Width of Road: 21'Uphill Ditch: Yes/No

• Middle Erosion Ditch: Yes/No

• Downhill Shoulder: Berm Yes/No; • Rocks Yes/No

• Material In Road: Dirt or Rock (macadam)

5. Station ATI 4+00

Name: Unnamed GPS Elevation: 1,983' GPS Mark No. 411

> 42° 36' 16.4" North Latitude 123° 22' 54.4" West Longitude

• Course: 168" magnetic; 185" true/348" magnetic; 005" true

Width of Road: ??Uphill Ditch: Yes/No

• Middle Erosion Ditch: Yes/No

Downhill Shoulder: Berm Yes/No; Rocks Yes/No
Material In Road: Dirt or Rock (macadam)

6. Station ATI 5+00

Name: Line-Of-Rocks GPS Elevation: 1,979' GPS Mark No. 412

> 42° 36′ 17.2″ North Latitude 123° 22′ 54.2″ West Longitude

• Course: 348" magnetic; 005" true

Width of Road: 23'Uphill Ditch: Yes/No

• Middle Erosion Ditch: Yes/No

• Downhill Shoulder: Berm Yes/No; Rocks

Yes/No

• Material In Road: Dirt or Rock (macadam)

7. Station ATI 6+00

Name: Path Course Change GPS Elevation: 1,971' GPS Mark No. 413

> 42° 36′ 18.2″ North Latitude 123° 22′ 54.4″ West Longitude

• Course: ??

Width of Road: 25'Uphill Ditch: Yes/No

• Middle Erosion Ditch: Yes/No

• Downhill Shoulder: Berm Yes/No; Rocks

Yes/No

• Material In Road: Dirt or Rock (macadam)



Photo 5. Joe & Jim Brushing At Station 7+60

8. Station ATI 7+00

Name: Tire, & Two Creosoted I-5 Row Posts GPS Elevation 1,908' GPS Mark No. 398

42° 36′ 19.4″ North Latitude 123° 22′ 53.7″ West Longitude

Course: ??Width of Road:

• Uphill Ditch: Yes/No

• Middle Erosion Ditch: Yes/No

• Downhill Shoulder: Berm Yes/No; Rocks Yes/No

• Material In Road: Dirt or Rock (macadam)

B. "Y" Road No. 2 to Clearing Before I-5 Sign (300')

9. Station ATI 7+60

Name: "Y" Road No. 2 (Two Dead Incense Cedar over Road Bed; Photos 4 & 5)

GPS Elevation 1,934' GPS Mark No. 418

> 42° 36′ 19.8″ North Latitude 123° 22′ 53.8″ West Longitude



Photo 6. Joe On Trail Near Station ATI 10+60

Course:

Width of Road:

Material In Road: Dirt or Rock?

10. Station ATI 8+00

Name:

GPS Elevation 1,938' GPS Mark No. 419

42° 36′ 20.0″ North Latitude 123° 22′ 53.8″ West Longitude

Course:

Width of Road:

Material In Road: Dirt or Rock?

11. Station ATI 9+00

Name: Unnamed GPS Elevation 1,924' GPS Mark No. 420

42° 36′ 21.5″ North Latitude 123° 22′ 53.8″ West Longitude

Course: Width of Road:

Material In Road: Dirt or Rock?

12. Station ATI 10+00

Name: I-5 Culvert GPS Elevation 1,912' GPS Mark No. 421

> 42° 36′ 22.0″ North Latitude 123° 22′ 54.3″ West Longitude

Course:

Width of Road:

Material In Road: Dirt or Rock?

13. Station ATI 10+60

Name: North End Of ATI At Cleared Area Near I-5 (1,060' mark; Photo 6)

GPS Elevation ???' GPS Mark No. 421

42° 36' ??.?" North Latitude 123° 22' ??.?" West Longitude

Course:

Width of Road:

Material In Road: Dirt or Rock?

C. I-5 Sign Next to Freeway

14. Station ATI 11+40

Name: I-5 Sign Next to Freeway (182' From End Of ATI to I-5 Sign; Photo 7) GPS Mark No. 394

42° 36' 23.70" North Latitude 123° 22' 54.00" West Longitude

The large north-bound blue I-5 sign at Station ATI 11+40 is just beyond the end of ATI along its course. Across I-5 is the south-bound parking area which is used to walk to South Rat Creek JA-15. The I-5 sign can been seen on Google. Its message follows.

"Exit 71

GAS COVERED BRIDGE GAS STORE & STATION"



Photo 7. North Bound I-5 Sign

V. TELEGRAPH LINES & APPLEGATE TRAIL AT SMITH HILL PASS

There were two telegraph lines and one long-distance telephone line that existed at Smith Hill Pass in 1940 before the 1921 - 1922 Pacific Highway road base was cut in 1941. This section identifies the relationship of the 1864 Collins Telegraph Line and the 1886 - 1887 Postal Telegraph Line to the Applegate Trail at Mt Sexton Pass.

- 1. 1864 Collins Telegraph Line
- 2. 1886 1887 Postal Telegraph Line
- 3. 1920s 1950s AT&T Overhead Long Distance Telephone Lines

When the research and field work for the original Smith Hill Pass was started the goal was understanding the relationship of the Smith Hill Pass to the gradient of the 310' segment of the Applegate Trail at South Mt. Sexton Pass. The working hypothesis was that knowing the gradient of the 310' segment and projecting it to the Smith Hill Pass summit would be another analysis component that could assist in the conclusion that the 310' segment was the Applegate Trail. The calculations were very close to what was expected and the working hypothesis was verified (*Gradient Measurement Field Trip: 310' Segment Of Applegate Trail At Mt. Sexton Pass*).³

More importantly the gradient research project created a new analysis element that independently proved the 310' segment was the *Trail* without the10 previous research and analysis elements summarized at Hugo's Applegate Trail web site for trail inventory brochures 18B through 18L (http://www.hugoneighborhood.org/inventorybrochures.htm).

- 1. 1853 Military Road
- 2. 1855 Oregon General Land Office Survey
- 3. 1864 Collins Telegraph Line
- 4. 1886 1887 Postal Telegraph Line
- 5. 1941 Grants Pass Daily Courier Picture At Mt Sexton Pass
- 6. 2005 Metal Detection Survey
- 7. 2005 Big Tree Boring Analysis
- 8. 2010 Topography & Grade Analysis
- 9. 2010 Chain Tree
- 10. 2011 Trail Rock

The eleventh (11th) research and analysis element is the 1940 OR Construction *Right of Way Map, Sexton Mt. Section. Pacific Highway, Josephine County.*¹¹ This map proves conclusively that from a scientific "engineering" point of view and cultural point of view (i.e., 1864 Collins Telegraph Line poles) that the 310' segment on the south Mt. Sexton Pass is the old *Trail*.

The Postal Telegraph lines and AT&T long distance telephone lines were usually located on similar routes (perhaps 50 to 100 feet apart). They also both tended to be located in the mountains along the old stage routes (usually along side the roads).

In 1940 the 1864 Collins Telegraph Company line poles were still there along the old county road. This is the location of the *Trail* ca., 1853 - 1855; it is much straighter than the later 1910s road or the 1921 - 1922 paved Pacific Highway which included switchbacks for motorized vehicles at a lesser gradient. It includes the 310' segment of *Trail* at South Mt. Sexton Pass and its continuation over the pass and north (Maps 2, 3, & 5; Tables 3 & 4, Appendix G). The line is adjacent to the Upper County Road which includes the 310' segment of *Trail* (Map 3); there are no pole locations located along the parallel Lower County Road. At the north end of ATI North Sexton Pass I-5 East there is a north-north-west course change to Applegate Trail Site JA-15 Rat Creek on the section line for Sections 14 & 23 (Map 6).

In 1940 the 1886 - 1887 Postal Telegraph Company line poles were still there (Maps 2 & 3). Only 900' of the 4,100' line was along the Applegate Trail (22%). The other 78% of the line was not along any road, and located cross-country off road. At South Mt. Sexton Pass the PT Line passes through the CT Line. In the middle of the 900' line section it looks like one line where the CT Line and PT Line crossed (i.e., the PT pole line locations' course is to the north away from CT line to the section line for Sections 14 & 23.

In summary, the 1940 OR Construction ROW Map independently proved the 310' segment was the *Trail* and the 1,060' ATI North Mt. Sexton Pass I-5 East was also the location of the original *Trail* (i.e., they were the same road).

VI. JR OF APPLEGATE TRAIL SOUTH RAT CREEK (JA-15)

A. Hugo Emigrant Trails Committee Work

The General Land Office (GLO) survey recorded that the 1893 *Trail* site "South Rat Creek JA-15" (i.e., Grants Pass and Canyonville Roads) was east 13.10 chains (13.1 chains = 864.6') on a true line between sections 14 & 23 from the section corner for 14, 15, 22, and 23. The Grants Pass and Canyonville Road's course was recorded as north and south.

The HETC had been researching, mapping, and marking the *Trail* South Rat Creek site JA-15 since 2005. In 2010 the GLO Field Research SubCommittee was again working on JA-15. The two previous visits had found that the ground had a large amount of vegetation down and many survey stakes. It was speculated this ground disturbance was part of the I-5 widening project producing apprehension that the new I-5 fill could cover the JA-15 site and the *Trail*.

JA-15 is in ODOT's I-5 ROW at section line between sections 14 & 23. The following information is from the GLO survey.

SOUTH RAT CREEK POI

Road POI Name South Rat Creek ■ JA-15. **POI ID Code** OR-AT-00-34-06-14/23-E-JA-15.

1893 GLO Survey Notes for POI Pages 462 - 463. Subdivisions of T. 34 S., R. 6 W. - Thence I run N89°13′E. [<u>East</u>] on a true line bet [between] Secs [sections] 14 & 23 Var 19°E at 9 a.m.

Chains

- 11.70 A Stream 3 lks. wide course North, ascend + 250? [11.70 chains = 772.2'; 3 links = 23.76"]
- **13.10** Grants Pass and Canyonville Roads course N. and S. (13.1 chains = 864.6'; Rat Creek was 92.4' from road]
- 79.96 Corner at Sections 13, 14, 23, & 24 [79.96 chains = 5,277.36']

Latitude & Longitude of JA-15 Calculated

42° 36' 30.25" North Latitude 123° 22' 55.60" West Longitude

There is a survey monument with a yellow cap by Surveyor Hull on the section line between sections 14 & 23 approximately one foot west of the I-5 ROW fence line. A yellow metal surveyor "K-Tag" was on a tree close to the Hull monument reads: T.34S., R.6W., Section 23. It showed an "x" on a figure of a section. The "x" was on the north boundary of the very northwest forty acres. The information on the sign located the yellow capped monument on the section line. A visual alignment of the ribbons at the yellow capped monument with ribbons to the west in Rat Creek located the section line right at the tire on the "Fiber Cable Route".

According to the GLO survey notes Rat Creek and the *Trail* were 92.4' apart. On the ground tape measures found Rat Creek to be 78' from the yellow capped monument. The GLO survey of 92.4' from Rat Creek to the *Trail* would place the *Trail* approximately 13' east of the I-5 fence line if Rat Creek is in the same location today as in 1893. An interpretative sign was staked February 5, 2010 on a 90" azimuth bearing and a distance of 92.4' on section line from middle of Rat Creek (Hugo Neighborhood Association & Historical Society and Josephine County Historical Society. March 8, 2010. JR Of Applegate Trail South Rat Creek (JA-15). Final Brochure 19 of Applegate Trail GLO Surveys Brochure Series. Hugo, OR).

B. 1940 Oregon Construction Right-Of-Way Map

The GLO survey recorded that JA-15 (i.e., Grants Pass and Canyonville Roads) was east 13.10 chains (13.1 chains = 864.6') on a true line between sections 14 & 23 from the section corner for 14, 15, 22, and 23. The Grants Pass and Canyonville Roads course was recorded as north and south.

The course of the old road on the ground was north and south. The course of the old road on the 1940 OR Construction ROW Map was north and south (i.e., 189" azimuth for 178' at which point the road's course turned southeast at 162" azimuth).

An analysis of the 1940 OR Construction ROW Map's⁹ plotted location of the west boundary of the old wagon road was within 13' of the 1893 GLO surveyed *Trail* site JA-15 (Map 6).

VII. PRELIMINARY ANALYSIS

This publication "Applegate Trail I North Sexton Pass I-5 East: I" is preliminary and will be updated by "Applegate Trail I North Sexton Pass I-5 East: II" in the sense of incorporating later research and field pedestrian surveys by the GLO Field SubCommittee, HETC.

The archaeological technique of pedestrian survey, also called surface survey or reconnaissance survey, involves walking the surface of an archaeological site or large region in stratified patterns, and either marking the location of identified artifacts, or collecting a sample for further investigation. The field method is an established practice for providing data on settlements in large regions, and is usually considered one part of an investigation strategy.

The minimum objectives are that the following information will be inventoried and/or verified for all ATI stations during the surface surveys.

Coordinates(i.e., GPS Latitude & Longitude)Elevation(i.e., GPS, Map Interpretation, feet)Gradient(i.e., Abney slope measurements)

Trail Course (i.e., True Azimuth) **Trail Width** (i.e., Width in Feet)

Ditches (e.g., Uphill Ditch, Middle Erosion Ditch, etc.)

Downhill Shoulder (e.g., berm, rocks, line-of-rocks, etc.) **Trail Material** (e.g., dirt, granite, rock, macadam, etc.)

Photo Monitoring (i.e., Key Observation Point: while standing at the station, pictures are

taken in north, east, south, and west directions). The process is repeated

once a year or more if there is activity in the area.

Topographic Traces: Physical or Topographical Evidence (e.g., trace, depression,

swale, rut, erosion feature, etc.)

Artifacts Wagon parts, pottery fragments, barrel hoops, line-of-rocks, telegraph post

remnants, etc.

The following terms are trail terminology representing topographical evidence (MET Manual (page 16). They are used for the purpose of standardizing the definition of terms used to describe real or possible emigrant wagon trails. Geomorphic evidence equals topographical evidence as expressed by weathering of an emigrant trail through erosional processes represented by traces, depressions, swales, ruts, and erosion features.

Trace: General term for any original trail remnant.

Depression: Shallow dip in surface, often very faint and difficult to see.

Swale: A depression, but of deeper dimensions and with sloping sides.

Rut: Deep depression, without a center mound and having steep sides.

Erosion Feature: A trace of any sort that has been deepened and altered by subsequent wind

and/or water action. Sides and bottom irregular.

Track: Visible trace caused by compacting of surface or discoloration due to salt

evaporation on alkali flats. Little or no depression. Often seen as streaks

across an alkali flat.

Scarring: Irregularly wide flat surface, devoid of vegetation, that no longer shows

any wagon depressions or swales. Often seen trailing through sagebrush

flats in an uneven pattern.

Two-track: Parallel wheel tracks separated by center mound. Typically an

unimproved ranch road used by motor vehicles.

Improved Road: Improved Road or Secondary Road: Bladed, graded, crowned, gravelled,

oiled or blacktop roads usually having side berms, curbs or gutters.

The Smith Hill Pass was unnamed until the 1890s. The 1846 - 1853 ingress and egress to the pass was narrow and difficult for wagon passage, especially the north slope after the pass. It was improved with pick and shovel by Brevet Major B. Alvord, United States Army, in 1853, but was still steep in ascent and descent and difficult for wagon passage. These steep passage areas are where artifacts such as wagon parts, pottery fragments, and barrel hoops are commonly located. They are the remains of wagon breakdowns or abandoned provisions (MET Manual (page 9).

Background Information

Gradient of the 310' Trail Segment (\propto): 6.5 Degrees/11.5 Percent^{3&4}

Gradient

Pass Name	Elevation*	I-5 Northbound	I-5 Southbound
		Climb**	Climb **
Canyon Creek	2,020'*	Grade: unknown	Grade: unknown
Stage Road Pass	1,830'*	Grade: 5.00 %	Grade: 6.00 %
Smith Hill	1,730'*	Grade: 6.74 %	Grade: 6.12 %
Sexton Mountain	1,956'*	Grade: 6.31 %	Grade: 6.50 %

^{*} Elevations are from the National Weather Service Forecast Office. Downloaded September 20, 2011 from http://www.wrh.noaa.gov/pqr/elevations_cascades.php.

The elevation at Mt. Sexton Pass according to a sign at its summit is 1,960'. This is a difference of four (4) feet from the National Weather Service Forecast Office elevation.

Grades Information Added December 29, 2011

"Some of the steepest grades on the Interstate Highway System are located in southern Oregon, between Hugo and Glendale. Most freeway climbs are built on grades of 5.0 percent or less. In

^{**} Maximum grades are from the following ODOT information downloaded December 29, 2011.

southern Oregon, a northbound I-5 driver will climb Sexton Mountain (maximum grade 6.13 percent), Smith Hill (6.74) and Stage Road Pass (5.00). Southbound I-5 drivers will encounter a 6.00 percent grade at Stage Road, 6.12 at Smith Hill, and 6.50 on Sexton Mountain."

Source: I-5: Glendale to Hugo Paving and Sexton Climbing Lane, Frequently Asked Questions (http://www.oregon.gov/ODOT/HWY/REGION3/docs/I-5-Glendale-Hugo-FAQ.pdf)
Source I-5: Glendale to Hugo Paving & Sexton Climbing Lane
(http://www.oregon.gov/ODOT/HWY/REGION3/glendale-hugo1.shtml)

Soil Survey USDA, Soil Conservation Service. 1983. *Soil Survey of Josephine County*,

Oregon.

Mt. Sexton Pass 48F Josephine gravelly loam, 35 to 55 percent north slopes (pages 67 - 68,

Sheet No. 19. The soil 48F is approximately 750' in a north-south

direction on both sides of the pass.

ATI¹ 1D Abegg gravelly loam, 12 to 20 percent slopes (pages 15 - 17, Sheet No.

 19^2)

Analysis: Abegg is basically alluvial/colluvial soil, and according to the SCS, it's well drained, and is comprised of gravelly, very gravelly, or extremely gravelly soil. This is about as good as you can get for traveling by covered wagon. So, while some areas may have been "swampy", this shows that some areas were likely far from it.

Footnote 1. 1,060' Applegate Trail I North Sexton Pass.

Footnote 2. Soil Survey of Josephine County, Oregon Map Sheet No. 19.

VIII. SUMMARY

The 10 research and analysis elements (Section V) summarized at Hugo's *Trail* web site for trail inventory brochures 18B through 18L are substantial evidence that the 310' segment is the *Trail*.

The 1940 OR Construction ROW Map was the 11th research and analysis element and independently proved the 310' segment was the original *Trail* since ca., 1853 - 1855, and the 1,060' ATI North Mt. Sexton Pass I-5 East was also the location of the original *Trail* (i.e., they were the same road). The 1940 OR Construction ROW Map proved conclusively that from a scientific "engineering" point of view and cultural point of view (i.e., 1864 Collins Telegraph Line poles) that the 310' segment on the south Mt. Sexton Pass is the old *Trail*.

The average width of the Upper County Road (310' segment) at 9' was narrower than the average of the Lower County Road at 11'. The Upper County Road had the post locations of the 1864 Collins Telegraph Line adjacent to it. The Lower County Road had no telegraph post locations.

The 1,060' ATI has two sections.

- 1. The 760' "Y" Road No. 1 to "Y" Road No. 2.
- 2. The 300' "Y" Road No. 2 to Clearing Before I-5 Sign.

The 760' "Y" ROAD NO. 1 to "Y" Road No. 2 had the post locations of the 1864 Collins Telegraph Line and the 1886 - 1887 Postal Telegraph Company Line adjacent to it.

The 300' "Y" Road No. 2 to Clearing Before I-5 Sign had the post locations of the 1864 Collins Telegraph Line adjacent to it, but not the 1886 - 1887 Postal Telegraph Company Line that continued north.

The course of the 300' "Y" Road No. 2 to clearing before I-5 Sign connected with JA-15 per the 1940 drawing. The GLO survey recorded that JA-15 (i.e., Grants Pass and Canyonville Roads) was within 13' of JA-15 per the 1940 drawing.

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Other members of the GLO Field Review SubCommittee and Josephine County Historical Society made significant contributions to the development and finalization of this document in actively participating in field trips (e.g., education, brushing, establishing courses, measuring bearing and distances, GPS marks, calculating latitude and longitude, mapping, taking pictures, marking trail, etc.); researching and interpreting GLO survey notes; researching and interpreting Josephine County, Oregon survey notes and plats; reviewing, studying, and interpreting the 1940 Oregon Construction ROW Map⁶; and reviewing and editing this document.

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Appendices

Appendices A through F are separate minutes documents not attached.

Appendix A.	October 18, 2011 Field Trip To North Sexton Pass I-5 East
Appendix B.	October 21, 2011 Field Trip To North Sexton Pass I-5 East
Appendix C.	October 21, 2011 Visited Applegate Trail Interpretive Center Museum
Appendix D.	October 23, 2011 Field Trip To North Sexton Pass I-5 East
Appendix E.	October 28, 2011 Field Trip to North Sexton Pass I-5 East
Appendix F.	November 15, 2011 Field Trip To North Sexton Pass I-5 East

Appendices G and H are part of this document.

Appendix G. Stations Of North Sexton Pass I-5 East (Attachment)
Appendix H. Stations Of North Sexton Pass I-5 East (Attachment)

Appendix G. 1940 Oregon Construction ROW Map Tables

Table 1. Measurements of Smith Buildings From 1/4 Corner: Sections 22 and 23°			
Buildings ¹	Dimensions	Distance from 1/4 Corner ²	Comments
Barn	25' x 42'	750' E; 340' N	Assumption: Old Smith barn
Ch. Ho.	10' x 10'	1,075' E; 570' N	Chicken House
Ho. 1	40' x 32'	975' E; 460' N	Assumption: Old Smith house
Ho. 2	15' x 25'	1,050' E; 430' N	House
Gar.	12 x 15'	960' E; 390' N	Garage
Но. 3	25' x 25'	960' E; 310' N	House
Hog Ho.	12' x'10'	1,195' E; 475' N	Hog House ³
Weather Bld	6' x 8'	835' E; 185' N	U.S. Weather Bureau Storage Building
"No name"	30' x 20'	890' E; 45'N	This is the only parallelogram symbol with hash marks inside its boundaries. This symbol is not identified and the meaning of the hash marks is unknown.

^{1.} Building: Ch. Ho. = chicken house; Ho. = house; gar = garage.

^{2.} Distance is from the quarter corner (1/4) of sections 22 and 23, T.34S., R.6W., W.M. as measured to the approximate center of buildings. All identified buildings have a square or rectangle shape. The exception is the one unidentified parallelogram.

^{3.} The location of the "Hog House" was definitively found by Malcolm Drake, Kelly Rarey, and Mike Walker on a field trip to the area.

Table 2. Roads⁹

The paved Pacific Highway is located on the 1940 Drawing No. 5B-28-11 and the 1998 Merlin Quad (Maps 2 - 7). On Map 2 it is 1,000' east of 1/4 corner of sections 22 and 23, T.34.S., R.6 W., W.M.⁹ It is 80' east of the Smith barn and 138' east of the fence west of the barn.

The Eastern Up Ridge Road is located on the 1940 drawing and the 1998 Merlin Quad (Map 2 Map 4, & Map 7). This corner is 310' east of the middle of the old Pacific Highway across from the Smith Barn. The Eastern Up Ridge Road is located on the 1940 drawing and the 1998 Merlin Quad; they match per an overlay test.

The Eastern Up Ridge Road is located on the 1998 Merlin Quad. Its southwestern most corner is 50' east of the realigned Pacific Highway per 1998 Merlin Quad. ¹³

The Western Up Ridge Road is located on the 1940 drawing and found on ground.⁹

Maple Creek at the Old Pacific Highway is 250' south of the east-west 1/4 section line of Section 23, T.34.S., R.6 W., W.M.⁹

Table 3. 310' Segment of Applegate Trail at South Mt. Sexton Pass⁹

The 310' Segment Of Applegate Trail At Mt. Sexton Pass is located on Oregon Highway Drawing. No. 5B-28-11 (Map 3). The "South Edge" of the 310' Segment is located 505' East and 598' South from the 1/4 corner of sections 22 and 23, T.34.S., R.6 W., W.M.⁹ The "South Edge" is the middle of the county road where it first intersects the right-of-way for the Pacific Telephone and Telegraph line.

The average physical width of the 310' Segment of the Applegate Trail was 9' on the ground (Upper County Road). Drawing measurements ranged from 8' -10', but predominately 8' - 9' from the 1940 drawing, within 310' of Pacific Telephone and Telegraph ROW crossing.

The average physical width of the Lower County Road from the 1940 drawing was 11' and ranged from 11' - 13'.9

The average course of the Upper County Road was 44.5 " true azimuth per the 1940 drawing.9

The average 2011 gradient of the northern part of the 310' Segment Of Applegate Trail was 6.5 Degrees/11.5 Percent.³

Table 4. 1,060' Segment of Applegate Trail at North Mt. Sexton Pass⁹

The 1,060' Segment of Applegate Trail I (ATI) at North Mt. Sexton Pass I-5 East is located on Oregon Highway Drawing. No. 5B-28-11 (Map 5). The "South Edge" of the 1,060' Segment is located 870' East and 720' North from the 1/4 corner of sections 22 and 23, T.34.S., R.6 W., W.M.⁹

The average physical width of the 1,060' Segment of the Applegate Trail in the south was 19.5' on the ground (ranged from 16' - 25'). Drawing width averaged 16.5' and ranged from 15' - 21'.9

The average course of the 760' road from "Y" Road No. 1 to "Y" Road No. 2 was 006" true azimuth per the 1940 drawing. 9

After course change, the average course of the 300' road from "Y" Road No. 2 to clearing before I-5 Sign was 354" true azimuth per the 1940 drawing. 9

Table 5. 60' Strip For Telegraph & Telephone Lines Over Mt. Sexton Pass⁹ 1920s - 1950s AT&T Overhead Long Distance Telephone Lines. This line which was established in the 1920s is completely independent of the existing roads.

The 60' strip for the telegraph and telephone lines is located on Oregon Highway Drawing. No. 5B-28-11 (Maps 2 - 3; Maps 5 - 6). The right-of-way (ROW) is identified as "To Pac Tel & Tel Co" (Pacific Telephone and Telegraph Company). In 1940 the lines were still overhead and west of the pass.

South Mt. Sexton Pass. 1,800' of ROW on a course of 005" /185" true azimuth. The south end of the ROW is the "South Edge" of the 310' Segment is located 505' East and 598' South from the 1/4 corner of sections 22 and 23, T.34.S., R.6 W., W.M. The "South Edge" is the middle of the county road where it first intersects the ROW for the Pacific Telephone and Telegraph Company line (Map 3).

North Mt. Sexton Pass. 1,440' of ROW on a course of 010" /190" true azimuth. The north end of the measured ROW is the section line for Sections 14 & 23 paralleling and east of Rat Creek (Map5).

APPENDIX H. APPLEGATE TRAIL I FOR NORTH SEXTON PASS I-5 EAST

Linear Road Features

Understanding the Applegate Trail and its evolution at North Mt. Sexton Pass east of I-5 is fascinating. This understanding has created a need for the description of four linear Trail/Road features. Road feature No. 2, 1,060' "Applegate Trail I (ATI) For North Sexton Pass I-5 East" is the most significant as it is the original location of the Applegate Trail (Trail).

1. New Access/Fire I-5 Road (200')

2. Applegate Trail I (ATI) For North Sexton Pass I-5 East (1,060')

"Y" Road No. 1 to "Y" Road No. 2 (760') &

"Y" Road No. 2 to Clearing Before I-5 Sign (300')

3. Applegate Trail II (ATII) For North Sexton Pass I-5 East (1,300')

"Y" Road No. 1 1 to "Y" Road No. 2 (760') &

"Y" Road No. 2 to Highway Marker Post (540')

4. Applegate Trail III (ATIII) For North Sexton Pass I-5 East (1,853')

"Y" Road No. 1 1 to "Y" Road No. 2 (760') &

"Y" Road No. 2 to beyond the Highway Marker Post at I-5 Ditch (1,093')

The following station information is for a section of the Applegate Trail I (ATI) for North Sexton Pass I-5 East which is 1,060' long.

Stations	Sta'	Distance	Distance From Beginning Of ATI Project
Station ATI	0+00	0'	Starting Point Of ATI Project - "Y" Road No. 1
Station ATI	1+00	100'	100' from beginning point
Station ATI	2+00	200'	200' from beginning point
Station ATI	3+00	300'	300' from beginning point
Station ATI	4+00	400'	400' from beginning point
Station ATI	5+00	500'	500' from beginning point
Station ATI	6+00	600'	600' from beginning point
Station ATI	7+00	700'	700' from beginning point
Station ATI	7+60	760'	760' from beginning point - "Y" Road No. 2
Station ATI	8+00	800'	800' from beginning point
Station ATI	9+00	900'	900' from beginning point
Station ATI	10+00	1,000'	1,000' from beginning point
Station ATI	10+60	1,060'	1,060' from beginning point: End of ATI Project
Station ATI	11+40	1,140'	1,140' from beginning point - I-5 Sign