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**Technical Memorandum**

To: Farm Impacts Analysis Impacts Appendix

Date: December 22, 2014

Subject: Trash Study

Using Google Earth Aerial photographs and Google Earth Streetview photographs, I inventoried trash along a two mile stretch of Highway 18 located one mile southwest and one mile northeast of the entrance to the Riverbend landfill. I also used the same tools to inventory trash for a two mile stretch of Highway 221, located approximately 10 miles to the east.

**Background:**

The first attached map depicts the two stretches of highways inventoried. The second and third maps reflect the points at which trash was identified along each highway.

According to Google Earth, the aerial for Highway 18 is dated July 6, 2012 and the Streetview photographs are dated September 2014. The aerial for Highway 221 is dated July 14, 2014 and the Streetview photographs used to identify the trash are dated September 2013. Google Earth Streetview photographs are of adequate resolution to depict trash of moderate size, such as small cups. Very small items such as cigarette butts or similar were not identified. Thickness of roadside vegetation varied throughout both study areas, but in general road shoulders and ditches were of low vegetation.

According to Oregon Department of Transportation (ODOT) 2013 Traffic Volumes publication ([http://www.oregon.gov/ODOT/TD/TDATA/tsm/docs/TVT\\_2013.pdf](http://www.oregon.gov/ODOT/TD/TDATA/tsm/docs/TVT_2013.pdf)), Highway 18 - also known as "ODOT SALMON RIVER HIGHWAY NO. 39", had an average daily traffic volume of **12,900** at the subject location.

According to the same publication, Highway 221, also known as "ODOT SALEM-DAYTON HIGHWAY NO. 150" had an average daily traffic volume between **2000 and 2200** in 2013, at the study location.

**Results:**

Based on the Google Earth study, there were **35** pieces of trash identified along Highway 18 near the landfill. Of which 22 were located southwest of the landfill and 13 are located to the northeast. There were **108** pieces of trash identified along Highway 221.

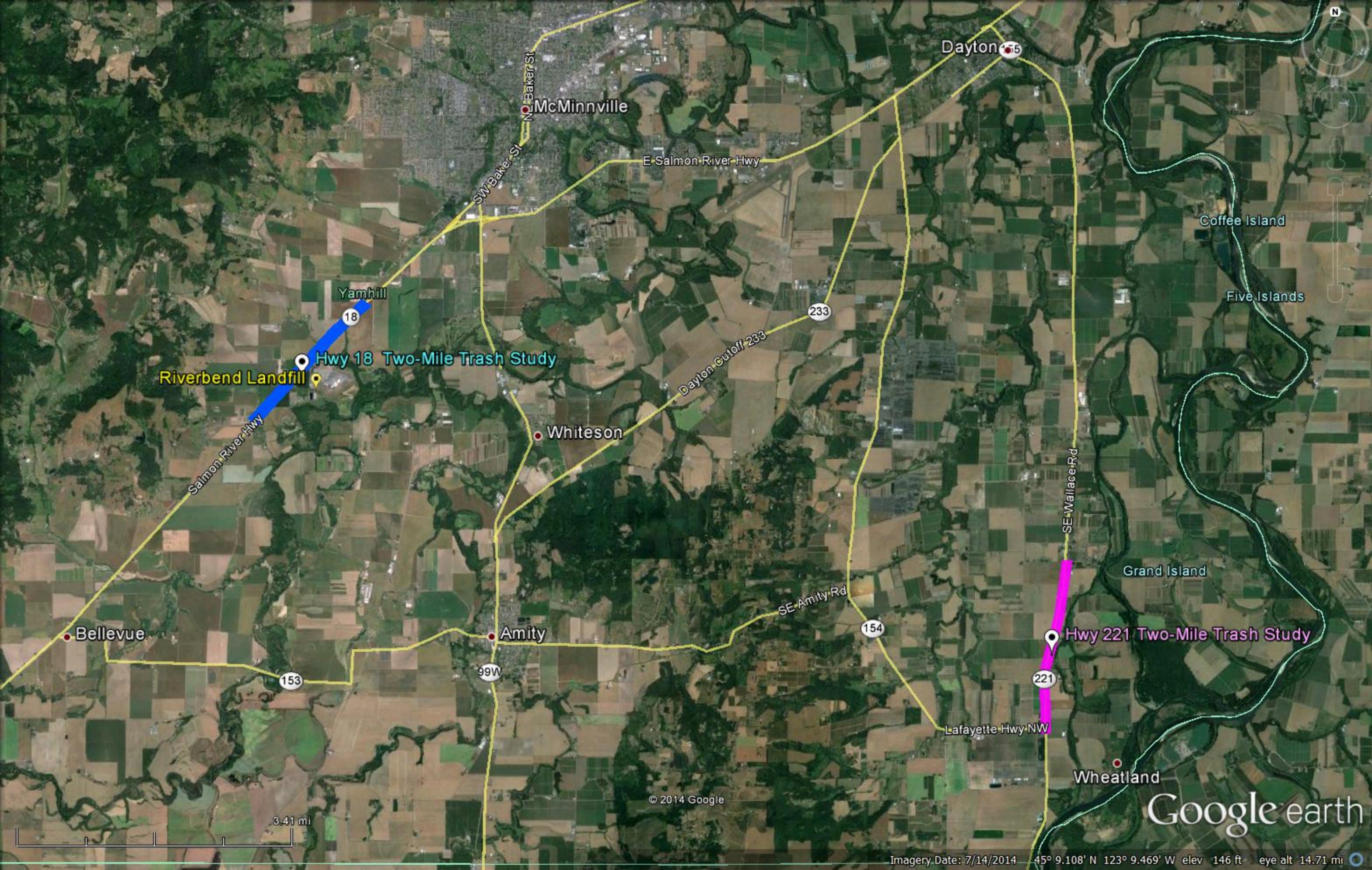
The following illustrates a comparison of trash on a per-mile and per-vehicle basis.

Trash Summary		
	Highway 18	Highway 221
Trash Per Road Mile	17.5	54
Trash Per Vehicle	0.0027	0.0514

CSA Planning, Ltd.

Michael Savage  
Associate

cc. Jay Harland, File



Riverbend Landfill

Hwy 18 Two-Mile Trash Study

Hwy 221 Two-Mile Trash Study

McMinnville

Dayton

Yamhill

Whiteson

Amity

Wheatland

Coffee Island

Five Islands

Grand Island

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Google earth

3.41 mi

Imagery Date: 7/14/2014 45° 9.108' N 123° 9.469' W elev 146 ft eye alt 14.71 mi



SW McCabe Chapel Rd

SW Handley Ln

SW Masonville Rd

SW McPhillips Rd

SW Oldsville Rd

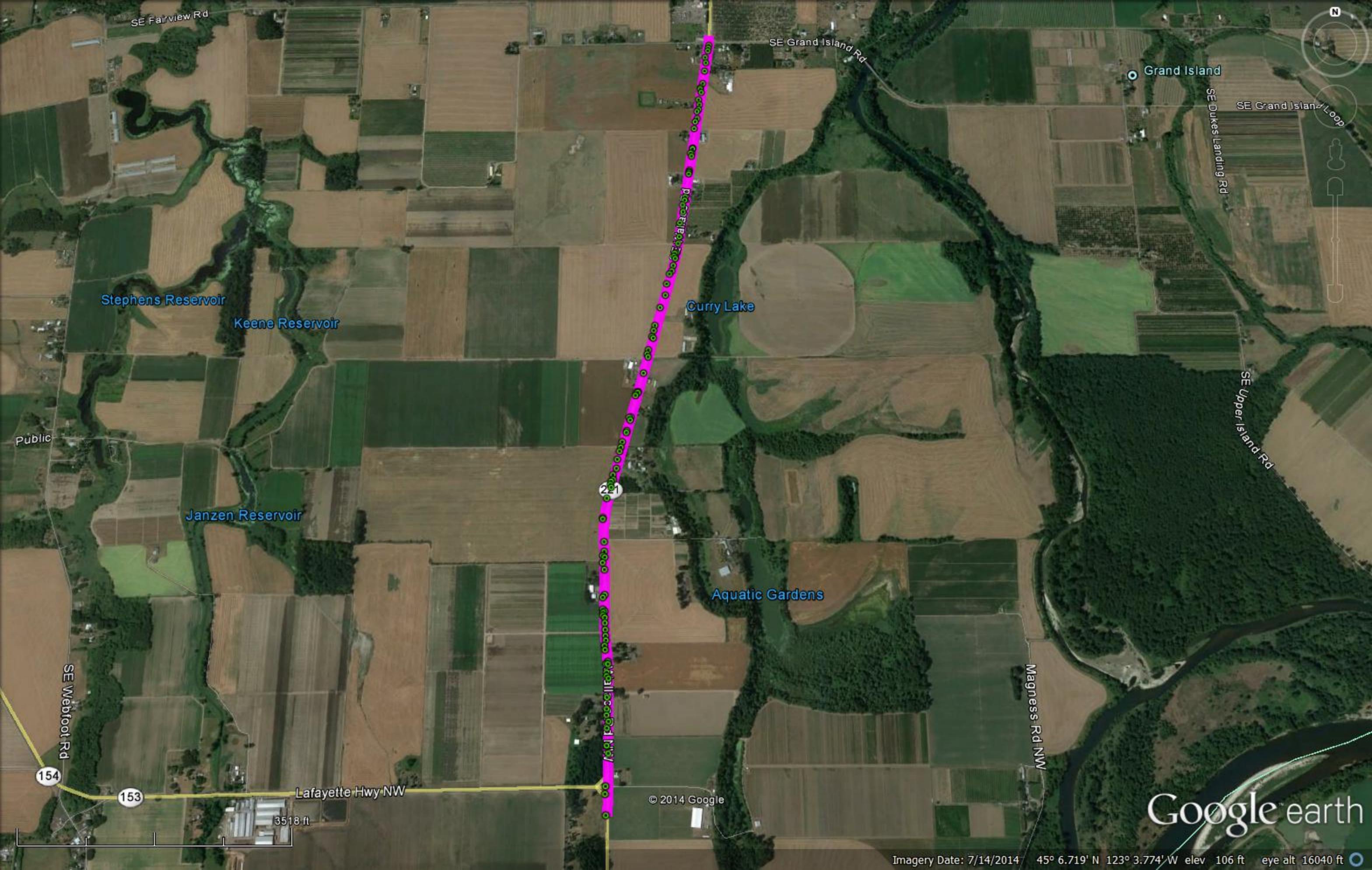
3001 ft

Riverbend Landfill

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Google earth

Imagery Date: 7/6/2012 45° 9.854' N 123° 15.052' W elev 161 ft eye alt 12971 ft



SE Fairview Rd

SE Grand Island Rd

Grand Island

SE Dukes Landing Rd

SE Grand Island Loop

Stephens Reservoir

Keene Reservoir

Curry Lake

Public

Janzen Reservoir

SE Upper Island Rd

21

Aquatic Gardens

SE Webfoot Rd

154

153

Lafayette Hwy NW

Magness Rd NW

3518 ft

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Imagery Date: 7/14/2014 45° 6.719' N 123° 3.774' W elev 106 ft eye alt 16040 ft