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November 5, 2014

Mark Wolken
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Subject: Smith Island Rail Terminal - Traffic

Dear Mr. Wolken,

Thank you for asking TSI to assist you by comparing a forecast of the traffic impacts for the proposed Smith Island Rail Terminal with the established Cedar Grove Compost facility that is located on Smith Island in Everett, Washington. This report includes the following:

- An understanding of changed conditions;
- A summary of the Cedar Grove composting operations;
- A forecast of Rail Terminal operations trip generation;
- A comparison of the Cedar Grove and Smith Island Rail Terminal operations; and
- Conclusions based on these traffic operations characteristics.

Understanding of Conditions and Proposed Improvements - Based on our conversations, my meeting with you, and a field visit to the site, I understand the underlying Smith Island property owners plan to establish a freight intermodal facility that will serve log exports, compost export to other intra and interstate users, automobiles from/to roll-off/roll-on ships serving the Port of Everett, and some miscellaneous freight transfer relating to Everett-Snohomish County industry. This rail terminal is proposed to be constructed at the same site of the existing Cedar Grove Compost facility that was previously analyzed by TSI in 2008.

In addition to on-site roads and new rail facilities, a new private site access from 34th Avenue NE will be developed. The existing private access road (36th Place NE) and at-grade rail crossing will be replaced by a new private access road. The new road is proposed to be located about 850 feet south of the 36th Place NE and will be grade separated from the railroad, passing under the rail tracks. The site will continue to serve Concrete Nor'west and Cedar Grove Compost. A general area plan is illustrated in Figure 1.

This analysis is intended to forecast and compare the future traffic volumes/circulation characteristics with the Smith Island Terminal with the originally anticipated traffic volume levels associated with a Cedar Grove Compost facility alone. There is no anticipated change in the Concrete Nor'west operation or observed traffic volume levels except for the relocated private site access road.

Summary of the Existing Development – In 2008 the Cedar Grove Composting Traffic Impact Analysis was forecast to generate about 288 vehicles trips per average day. During the morning and afternoon peak hour this development was forecast to generate 61 and 25 vehicle trips per hour respectively. The majority of these trips are made by large trucks.

Current records show that the actual volumes are lower than forecasted levels mainly due to larger capacity trucks. During peak months, the daily volumes are 274 trips per day. Average daily traffic volumes are 192 one-way vehicle trips per day according to scale records maintained by Cedar Grove.

Concrete Nor'west is permitted to generate 185 daily trips. No traffic counts of their operations were available but observation of operations indicate their traffic volumes are below the permitted levels.

Estimate of the Proposed Rail Terminal Operations - A forecast of trips associated with the proposed new intermodal rail and existing users are summarized below. This forecast is based on a combination of observed truck activity at Cedar Grove and forecasts of likely new users. Forecasts are expressed in terms of average conditions which is consistent with the previous 2008 traffic analysis and the generally accepted practice for analyzing traffic impacts. A description of the anticipated operations are presented for each use below.

Cedar Grove Compost – The Cedar Grove Compost operation is expected to operate at existing levels. Counts made by Cedar Grove at their scales show the average daily volume to be 192 average daily trips. It is estimated that the AM and PM peak hour volume associated with this level of daily traffic is 41 vehicles per hour and 17 vehicles per hour respectively. Use of rail to ship bulk and packaged finished compost to intra and interstate users will likely reduce the number of Cedar Grove truck trips by 25 truckloads or 50 trips per day. To insure a conservative analysis no such reduction was assumed.

Cedar Grove Compost will access the site via a relocated private, grade separated access road. As noted above, the new road is located south of the existing access road, reducing the potential for conflict between entering and exiting trucks and southbound through vehicles exiting from SR 529 on the southbound slip lane. Further, this private access road will be grade separated from the railroad tracks which will enhance safety by eliminating vehicle/rail conflicts, particularly as rail activity increases. Further, the long delays and vehicle queues experienced by trucks at the existing at-grade crossing will be eliminated reducing the likelihood of trucks queuing on the public road waiting for a train to clear the crossing.

Logging Export – Logs will be hauled from Montana and Idaho by rail to the Smith Island Terminal intermodal rail yard, unloaded from the rail cars and stacked on the site. Each day, logging trucks will be loaded and driven to Formark Log Yard (Miller Shingle) where the logs will be processed through a bark stripper, banded in bundles, tipped into the Snohomish River and assembled into rafts. The rafts will be towed out to ships anchored in Possession Sound, loaded onto the ship and transported to the Pacific Rim. Until a private access road adjacent to the railroad right of way is constructed linking Formark Log Yard with the Cedar Grove site, the logging trucks will travel between the Smith Island Terminal site and Formark Log Yard via the new Smith Island Terminal access road, 34th Avenue NE and the Formark Log Yard access road.

Thus, trucks will travel on the public road system for a distance of only 700 feet. This route is depicted in Figure 2.

It is estimated that about 1,650 tons of logs will be transported between the Smith Island Rail Terminal and Miller Shingle on a typical day. Each truck load can handle 25 tons of logs per load, resulting in 132 daily one-way truck trips (66 truckloads). Activity will be distributed evenly throughout the day so the AM and PM peak hour volumes are expected to be up to 20 trips per hour including employee commute trips.

Automobile Off and On Loading – Three to four times per month ships transporting parts and assembly sections for manufacturers in the Everett area will make port in Everett. These ships have a car deck that bring new vehicles from the Pacific Rim to the United States. Used and new American cars are often loaded onto the ships for the return voyage.

The cars are driven off the ship onto the dock where car transporter trucks are scheduled and waiting. Once loaded the car carrier trucks drive along Marine View Drive onto Smith Island and are off loaded in a staging area. If there are new or used cars destined for the return voyage, they are loaded onto the car carrier trucks and transported back to the Port of Everett where they are driven onto the ship. The new cars are loaded onto car carrier rail cars at a later date and transported by rail to inland or west coast destinations.

Each ship carries about 650 cars. Each car transporter truck carries about 10 cars per carrier truck load. Therefore, each shipload of cars generates about 65 truck trips (130 one-way truck trips) on the day when the ship is in port and off-loading. Since dockside time is costly, these transfer operations generally occur in a single day. Like the logging operations this activity is distributed evenly throughout the day so the AM and PM peak hour volume is about 10 trips per hour on the three to four days each month the ships are at the Port of Everett. On an average daily basis, this peak daily volume converts to about 19 trips per weekday.

Other Intermodal Transfers and Miscellaneous Employee – There are other businesses that rely on rail to transport oversized items from other parts of the county to the Northwest. Some of this activity is currently occurring at the Delta Rail Yard. Some existing activity and other new activity that requires intermodal transfer of freight could occur at the Smith Island Terminal site. Since such activity is not contracted at this time, an average daily truck volume of 40 to 60 trips per day is included for demand forecasting purposes. This estimate also includes some miscellaneous employee and delivery/service trips beyond that accounted for above. The peak hour traffic volume estimate is 5 to 10 vehicle trip per hour during the AM and PM peak hours.

The combined traffic volume from all users of the site is summarized in Table 1 below. This shows the average daily vehicle volume will be 393 vehicle trips per day. During the AM and PM peak hour the total volume is 69 vehicles per hour and 45 vehicles per hour respectively.

Table 1 – Smith Island Rail Terminal Trip Generation Summary

User	Average		
	Daily	AM Peak Hour	PM Peak Hour
Cedar Grove Compost ²	192	41	17
Logging Export ³	132	20	20
Automobile Transfer ⁴	19	3	3
Other Intermodal Transfers & Employee ⁴	50	5	5
TOTAL	393	69	45

Comparison of Cedar Grove Composting Approvals and the Smith Island Rail Terminal Forecasted Traffic– As noted above, Cedar Grove Compost operation was forecast to generate 288 daily trips. Based on the Smith Island Rail Terminal forecast above, the site could generate an average of 393 trips per day and 45 trips during the PM peak hour. This represents an increase of about 100 vehicles per day over the previously forecast levels at the site intersection with 34th Avenue NE. During the afternoon peak hour this increase is expected to be about 20 trips per hour over previous forecasts.

To check if this increased trip generation presented any new impacts that were not identified in the previous 2008 Cedar Grove Compost TIA, a level of service analysis was made at the intersection of the proposed new access road and 34th Avenue NE. This analysis found the level of service is LOS B with an average vehicle delay of 10.4 seconds. This is a very good level of service.

While the volume at this intersection increases, the impact on the public road network is decreased from the levels forecast in the 2008 Cedar Grove Compost Traffic Impact Analysis. The forecasted Cedar Grove traffic was forecast to use a network of City and regional streets and highways.

In contrast, the trip length for new Smith Island Intermodal Terminal users will be significantly reduced as compared to the previously anticipated Cedar Grove Compost business because destinations are local rather than regional. The log export operation will impact less than 700 feet of 34th Avenue NE and only two intersections. The automobile transfer operation will impact only a small portion of the Smith Island road network. Marine View Drive and other city streets are already impacted by existing auto transport operations so there is no net new impact on these roads. Other intermodal freight users are either served by regional carriers or are serviced in existing rail yards like the Delta Yard. Thus, Smith Island Rail Terminal users have negligible net new impact on the City road network outside of Smith Island.

Another change in the proposed Smith Island Intermodal Terminal is the change in the private site access. First is will be located about 850 feet south of the existing private access road. This will place the intersection further away from the toe of the southbound SR 529 slip ramp. While the proximity of the existing access drive is not a documented safety hazard (likely due to very low through (slip ramp) traffic volumes), the existing geometry is not ideal. Relocation of the site access road further south will enhance sightlines and safe stopping sight distance.

Further, the existing 36th Place NE crosses the railroad at grade with no crossing protection. The increased frequency and length of trains using this section of track could add to queues and

potential safety conflicts. The proposed Smith Island Rail Terminal proposes to shift the private site access south along the southerly edge of the property and construct the road under the rail track to eliminate the at grade rail crossing. This will not only eliminate rail/vehicle conflicts but will also eliminate delays and vehicle queues associated with the existing rail operations. Accordingly, this change of access will create a noticeable safety benefit.

Conclusions – Based on the review above, TSI finds that the volumes on peak days may exceed the peak trip generation forecasted in the 2008 Traffic Impact Analysis by about 100 vehicles per day on a typical day and 20 new trips during the PM peak hour.

While this trip generation represents a site-generated traffic volume increase, the impact on the City and regional road network and associated background traffic will be reduced because new site users will only rely on a limited amount of the local Smith Island road network.

Finally the relocation of the site access drive and grade separation from the railroad would improve both safety and reduce queuing on 36th Place NE at the rail crossing.

Accordingly, TSI concludes that any impacts due to increased trip generation are off-set by 1) the localized travel patterns that reduce trip length and impact on the City and regional public road system; and 2) the relocation of the site access that will reduce congestion and improve safety for all vehicles using this section of 34th Avenue NE. Thus, TSI believes that no additional mitigation is warranted as a result of the changed use of this site.

I trust this provides you with an understanding of traffic impacts of the proposed Smith Island Intermodal Rail Terminal. If you or the City have any questions regarding this review, I invite your call.

Sincerely,
Transportation Solutions, Inc.



David D. Markley
Principal
Attachments

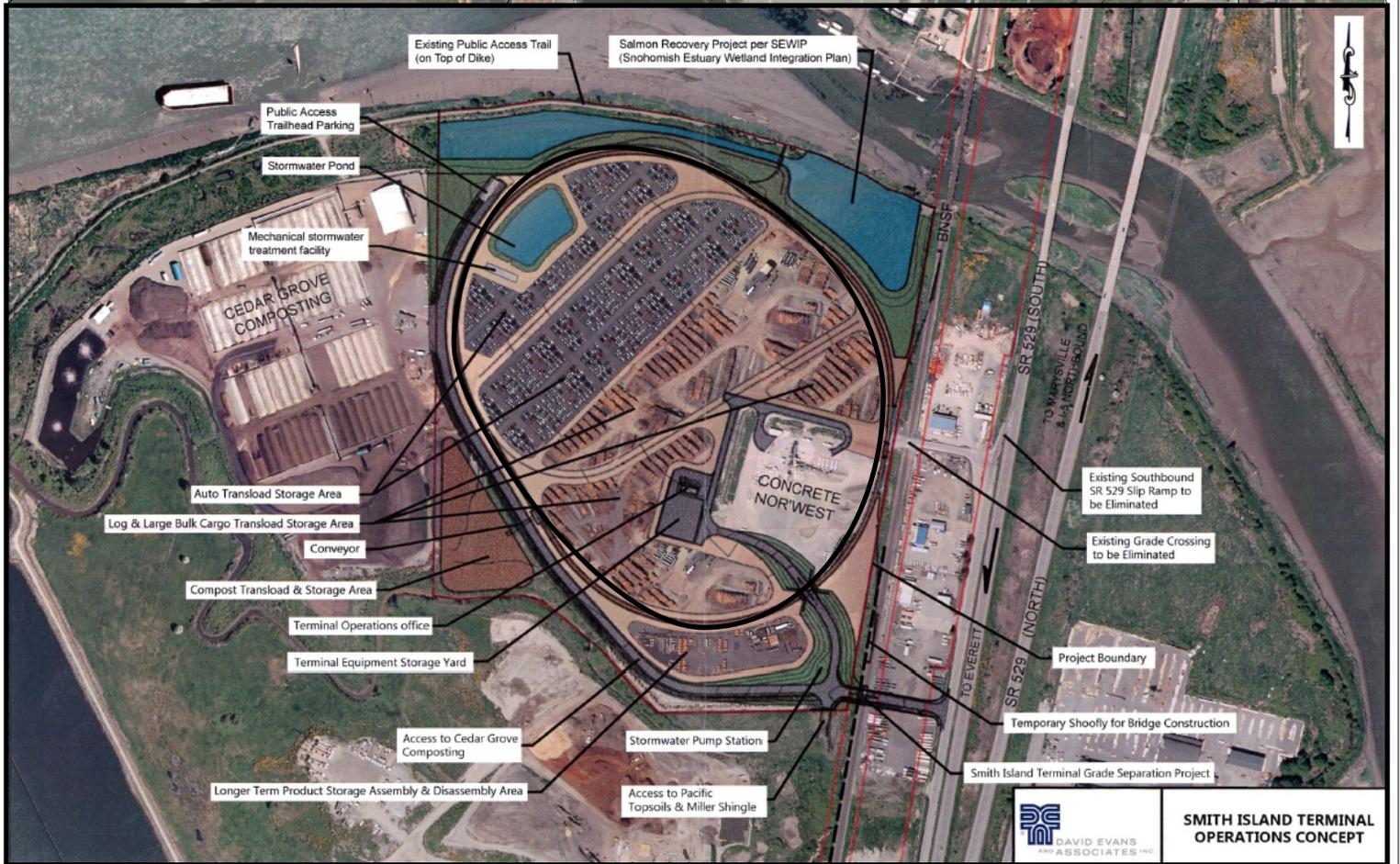
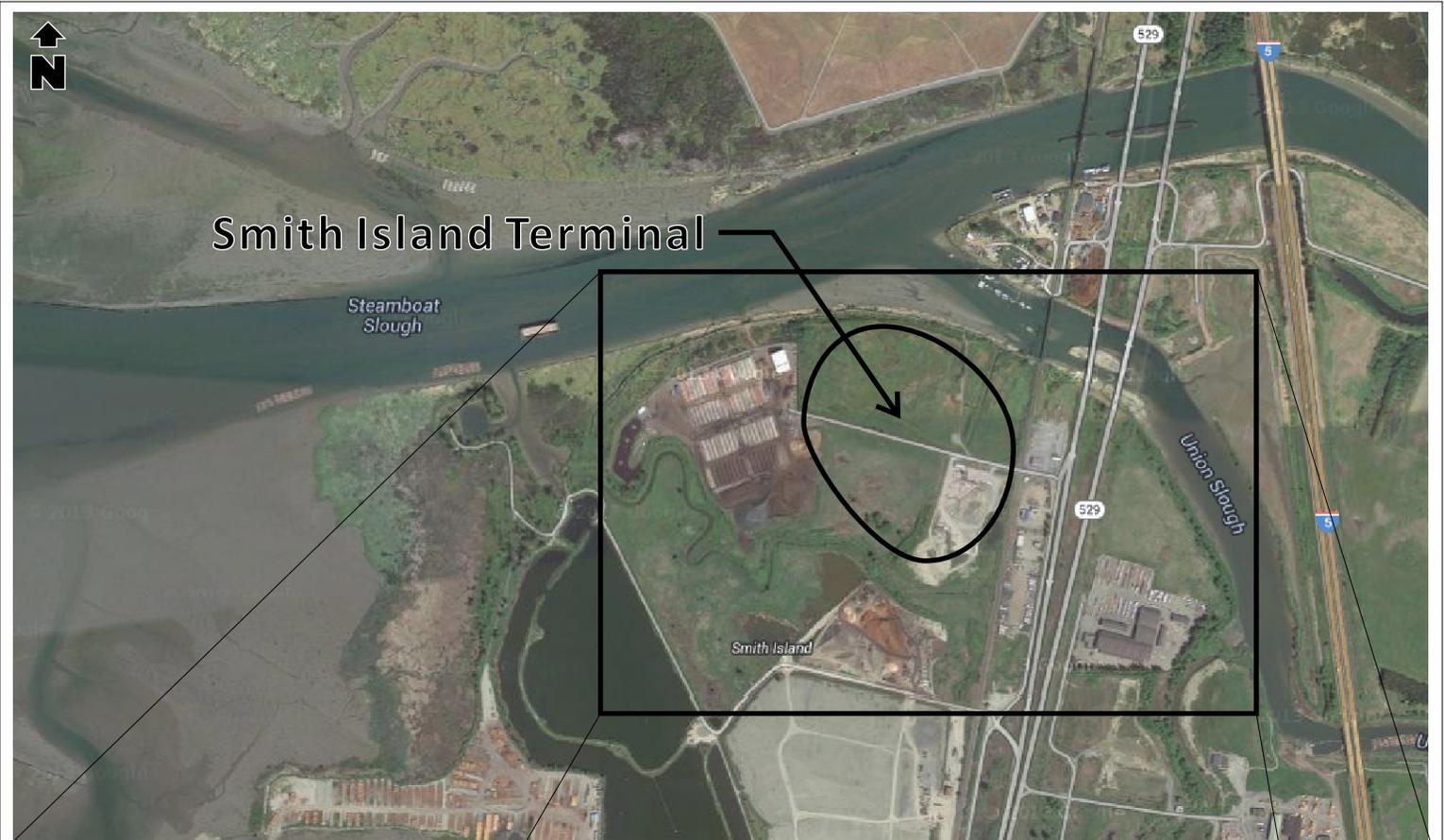
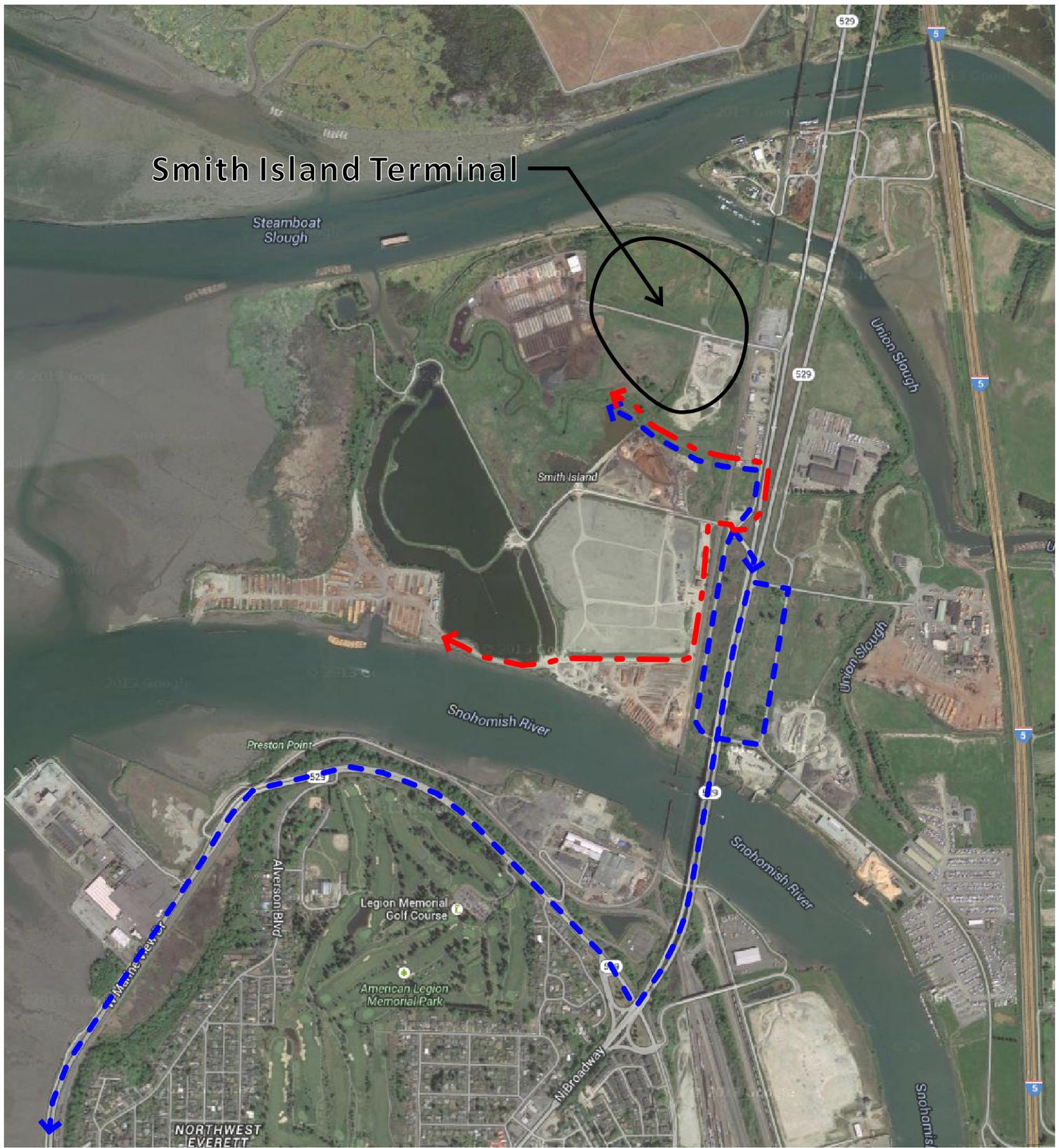


Figure 1:
Smith Island Terminal Site Concept



Smith Island Terminal

- - - Log Export Route
- - - Auto Carrier Route



Figure 2:
Smith Island Terminal Primary Truck Route

Smith Island Terminal
 Smith Island, Everett, WA