

## WSDOT SR509 Phase 1 Alignment

Noise Barrier Analysis Summary

8/2/2019

### Analyzed Wall 3

#### Predicted Sound Levels

Impacted Receptor (KC Parcel ID)	Existing Sound Level (2015)	No Build Sound Level (2045)	Build Sound Level (2045)	Build Sound Level with Abatement (2045)
0246000052	62 dBA	Not calculate as receptor is too far from active highway.	66.3 dBA	Not calculated - abatement failed feasible criteria. Barrier Analysis showed insertion loss of 5 dB not possible.

Build sound level w/ abatement = 63.3 dBA.

Noise wall insertion loss: 66.3 - 63.3 = 3 dB

Only Impacted Receptors Reported

#### Barrier Analysis - Abatement

Feasible Criteria		Reasonable Criteria				
Majority of 1st row receptors receive 5 dB insertion loss?	Wall Area (sqft)	Majority of 1st row receptors receive 5 dB insertion loss, and one with 7 dB?	Wall Area (sqft)	Wall Cost	Wall Allowance	Reasonable?
FAIL	-	-	-	-	-	-

Barrier failed feasible criteria, further analysis not performed.

### Analyzed Wall 4

#### Predicted Sound Levels

Impacted Receptor (KC Parcel ID)	Existing Sound Level (2015)	No Build Sound Level (2045)	Build Sound Level (2045)	Build Sound Level with Abatement (2045)
0869650340	63 dBA	Not calculate as receptor is too far from active highway.	66.6 dBA	61.6 dBA
0869650330	63 dBA	Not calculate as receptor is too far from active highway.	66.1 dBA	58.9 dBA

Noise wall insertion loss

66.6 - 61.6 = 5 dB

66.1 - 58.9 = 7.2 dB

Only Impacted Receptors Reported

#### Barrier Analysis - Abatement

Feasible Criteria		Reasonable Criteria				
Majority of 1st row receptors receive 5 dB insertion loss?	Wall Area (sqft)	Majority of 1st row receptors receive 5 dB insertion loss, and one with 7 dB?	Wall Area (sqft)	Wall Cost	Wall Allowance	Reasonable?
Yes	2080	Yes	2160	\$111,478	\$72,254	FAIL: Wall cost higher than allowance.

Barrier Failed Reasonable Criteria