



# City of Seattle

## Department of Planning and Development

Diane M. Sugimura, Director

### CITY OF SEATTLE

#### ANALYSIS AND DECISION OF THE DIRECTOR OF THE DEPARTMENT OF PLANNING AND DEVELOPMENT

##### Major Public Project Construction Variance

**Application:** Request for a Major Public Project Construction Variance (“MPPCV”) from the maximum permissible sound level requirements of the Noise Control Code, Seattle Municipal Code (“SMC”) Chapter 25.08, during construction of the University Link light rail tunnel and underground station box at the Capitol Hill Station site. This variance application pertains only to the above-ground construction activities required to support tunneling and other below-ground operations that need to take place during nighttime hours, as those hours are defined in SMC 25.08. This work will be performed by a contractor under Sound Transit’s University Link Contract U230, a component of the University Link Light Rail Project.

**Project No.:** 3011006

**Site Address:** 100 Broadway East

**Applicant:** Central Puget Sound Regional Transit Authority (Sound Transit)

#### SUMMARY OF PROPOSED ACTION

The proposed action is related to Sound Transit’s University Link Light Rail Project which consists of 3.15 miles of double-track light rail transit alignment extending from the existing Pine Street Stub Tunnel northward to the University of Washington. The tunnel will pass below two freeways, the Lake Washington Ship Canal, Volunteer Park and numerous residential and commercial structures. Two new below ground stations with above-ground station entrances will be constructed along the route: one on Capitol Hill and the other at the University of Washington near Husky Stadium. The University Link alignment and station locations were adopted and approved by the Seattle City Council in 2007, after approval by the Sound Transit Board in 2006.

On May 12, 2008, the Department Planning and Development (“DPD”) issued the Analysis and Decision of the Director for Master Use Permit Application No. 3007888, which approved demolition of existing structures and a Temporary Use Permit for the construction staging area for construction of the tunnels and station. The current application requests a MPPCV from the nighttime noise limits in SMC 25.08.410 and 25.08.420, so that some of the work authorized by the prior MUP decision can occur at night.

The tunnels for University Link will be excavated by tunnel boring machines ("TBM") operating from the construction staging areas at the two station sites. At the University Station site, two separate TBMs will be launched and will simultaneously bore approximately two miles of the north-bound and south-bound tunnels terminating at the Capitol Hill Station site. Spoils from this segment of tunnel will be removed by haul trucks from the University Station construction staging site for disposal at an off-site location. A separate TBM will be launched from the Capitol Hill site (the site of this application) and will bore the remaining one mile of northbound and south-bound tunnels in separate drives to connect with the Pine Street Stub Tunnel. Spoils from this segment of tunnel will be removed by haul trucks from the Capitol Hill Station construction staging site for disposal at an off-site location.

To support the tunneling, excavation, and underground construction activity, a certain amount of noise-producing surface activity is necessary. As noted below, this variance does not apply to construction of above-ground structures at the Capitol Hill Station or to preliminary site excavation, nor does it apply to daytime construction activities at the site.

On October 29, 2009, the applicant submitted a complete application for this MPPCV to DPD. The applicant submitted additional information on December 18, 2009, and most recently on March 24, 2010. This MPPCV is requested pursuant to SMC 25.08.590 and 25.08.655 to allow construction noise generated on site to exceed the maximum permissible sound level during nighttime hours (between 10:00 p.m. and 7:00 a.m. on weekdays and between 10:00 p.m. and 9:00 a.m. on weekends and legal holidays) as specified in SMC 25.08.410 and 25.08.420. These provisions of the Code limit nighttime project sound levels to 47 dBA in receiving areas zoned as "Residential" and 60 dBA in receiving areas classified as "Commercial".

Based on the most current anticipated construction schedule provided by Sound Transit, the duration of the requested variance involving nighttime construction activities is expected to extend over an approximate 36-month period, potentially starting as early as late 2010 and ending in late 2013.

## **BACKGROUND**

It is the express intent of the City as stated in the Noise Control Code to "control the level of noise in a manner that promotes commerce; the use, value, and enjoyment of property; sleep and repose; and the quality of the environment." SMC 25.08.010. The standards for issuing a noise variance are stated in SMC 25.08.590, and the specific standards for issuing a MPPCV are stated in SMC 25.08.655. DPD's rules governing the issuance of noise variances are set forth in DR 3-2009.

In their application materials submitted for this MPPCV, the applicant identified the closest residential area most likely to be affected by the nighttime noise, presented data on existing sound levels and projected construction sound levels, provided documentation of sound levels for specific activities and equipment, and outlined required noise mitigation proposals to be followed by the contractor. The applicant provided examples of construction activities at the site which require continuous work for the activities to be performed in a safe and efficient manner, most notably the operation of the TBM and the pouring of the large concrete slab necessary for the assembly of the TBM.

Section 3.5 of Sound Transit's application comprises the Noise Management and Mitigation Plan ("NMMP") required by SMC 25.08.590D. The applicant's NMMP includes a description of the type of construction activities and equipment that will generate noise during nighttime hours. The NMMP describes how the exterior sound level limits of the Code will be exceeded by not more than 6 dBA in residential properties closest to the construction site. The NMMP also includes prescriptive specifications for noise control at the construction site that require the applicant's contractor to implement measures to establish compliance with the nighttime noise limits established in the variance application. Mitigation measures include noise walls around the perimeter of the site; limitations on truck operations and site equipment; and sound level monitoring throughout the construction project. The applicant's proposal also includes procedures and programs for effectively monitoring, evaluating and resolving public complaints by taking appropriate corrective measures. A 24-hour construction "hotline" will be maintained by the applicant. DPD will act as an independent third party by providing oversight on night-time work to ensure that the public's interest is represented and that the contractor strictly adheres to the Noise Control Code and permit conditions.

The applicant also has stated that there are other general public benefits of the variance including an earlier completion of the project which will introduce public transportation and other benefits to the populations served by the light rail line and substantial cost savings to the public. Some of the mitigation actions taken at the Capitol Hill Station site, such as the noise walls, will also provide a benefit during daytime hours of construction and would not otherwise be required by the code.

DPD held a public meeting on February 11, 2010 to take public comment on the variance application. As required by DPD Director's Rule 3-2009, Section D.2, notice of the February 11<sup>th</sup> public meeting was published in the Capitol Hill Times on January 20, 2010 (more than 21 days prior to the meeting). Notice was also published in DPD's Land Use Information Bulletin on January 14, 2010. At the same time notice was mailed to residents within the immediate vicinity of the sound sources covered by the application.

Public comments and letters from citizens were received and considered during the preparation of this Analysis and Decision. Copies of all written public comments received by DPD are contained in the DPD file. Public comments on the variance application were considered only in relation to the noise impacts of the proposed activity.

DPD retained the services of BRC Acoustics and Technology Consulting ("BRC") to assist in reviewing and analyzing the variance application. BRC reviewed the MPPCV application, attended the public meeting and reviewed the written public comments. BRC prepared two written reports to DPD: 1) an acoustical review dated March 15, 2010 and, 2) a follow-up review dated March 25, 2010.

Sound Transit is the "lead agency" for purposes of SEPA compliance. A Final Supplemental Environmental Impact Statement (FSEIS) was issued by Sound Transit in April 2006 for the North Link light rail transit proposal which includes University Link. The actions proposed in this application (i.e., nighttime project sound levels during the construction phase) were disclosed and evaluated in the FSEIS. The Federal Transit Administration, acting as lead agency under the National Environmental Policy Act, issued its Record of Decision in June 2006.

### **FINDINGS**

In accordance with DPD Director's Rule 3-2009, Section E, the following standards for a MPPCV were considered in reviewing the application.

1. Whether the applicant's information and analysis is accurate and complete (i.e., does it contain all of the elements required by the code).

The information submitted by the applicant, including the technical analysis submitted by the applicant's noise consultant, The Greenbusch Group, Inc. has been reviewed by DPD and BRC and has been determined to be accurate and complete.

2. The physical characteristics of the sound proposed to be emitted pursuant to the variance.

Construction of the University Link tunnels operating from the Capitol Hill Station site will be by one TBM, making two separate runs. Although noise generated by underground tunnel boring operations and construction of the tunnel itself should not be noticeable at the surface, surface support operations for the underground mining and construction will require use of noise-producing heavy equipment, such as, but not limited to backhoes, bulldozers, muck trains, cranes, conveyers, concrete mixers and batch plants, concrete and other delivery trucks, dump trucks and loaders, as well as smaller equipment, such as air compressors, generators, and ventilation fans. The MPPCV application, which includes a detailed technical noise study, lists the anticipated sound levels produced by the nighttime equipment that will be used on the site. The application also includes predicted nighttime project sound levels at the closest residential and commercial receiving sites. The existing nighttime ambient conditions and the predicted project sound levels are summarized below.

During the period of September 17 to September 21, 2009, the applicant took measurements of existing ambient sound levels at three residential sites identified as representative of nighttime noise – sensitive land uses adjacent to the eastern boundary of the construction site. These sites are all residential receiving properties for purposes of the sound level limits in SMC 25.08.410. One location was a single-family residence mid-block on 10<sup>th</sup> Avenue East (118 10<sup>th</sup> Avenue E.). The other two locations were the rooftops of the apartment buildings, one at the southeast corner of 10<sup>th</sup> Avenue E. and E. John Street (128 10<sup>th</sup> Avenue E.) and the other at the northeast corner of 10<sup>th</sup> Avenue E. and E. Denny Way (1002 E. Denny Way). In late 2004, as part of the analysis included in the Environmental Impact Statement for the light rail project, the applicant also took measurements of ambient sound levels at one other sensitive noise receptor to the north of the construction site, the six-story apartment building at the northeast corner of Broadway East and E. John Street (200 Broadway East). This site is a commercial receiving property under SMC 25.08.410. The results of these measurements are set forth in the MPPCV application and technical report submitted on October 29, 2009 and summarized in the Table 1 below.

**Table 1. Pre-Construction Ambient Sound Levels – Capitol Hill Station,  $L_{eq}$ , dBA re: 20  $\mu$ Pa**

<i>Location</i>	<i>Average Daytime Noise Level (7:00 a.m. – 10:00 p.m.) <math>L_{eq}</math></i>	<i>Average Nighttime Noise Level (10:00 p.m. – 7:00 a.m.) <math>L_{eq}</math></i>	<i>Average Nighttime Noise Level (12:00 a.m. – 5:00 a.m.) <math>L_{eq}</math></i>
<i>200 Broadway E, 2nd floor</i>	<i>70<sup>1</sup></i>	<i>65<sup>1</sup></i>	<i>63<sup>1</sup></i>
<i>1002 E Denny Way, rooftop</i>	<i>60</i>	<i>55</i>	<i>54</i>
<i>118 10<sup>th</sup> Ave E, 2nd floor elevation</i>	<i>59</i>	<i>54</i>	<i>53</i>
<i>128 10<sup>th</sup> Ave E, rooftop</i>	<i>60</i>	<i>56</i>	<i>54</i>

*1. Average values calculated by The Greenbusch Group from hourly data reported by Puget Sound Transit Consultants.*

Source: North Link Construction Noise Study, September 27, 2005; Puget Sound Transit Consultants, The Greenbusch Group (see Table 5.1 in the Greenbusch Report)

For purposes of this analysis of the proposed MPPCV, the quieter late night ambient measurement between 12 a.m. and 5 a.m. is used to determine the baseline nighttime sound level, even though the Code would allow use of the higher sound levels between 10 p.m. and 7 a.m.. As shown in the Table 1 above, the late night ambient sound level at the residential receiving sites along 10<sup>th</sup> Avenue E. is 53 to 54 dBA; and 63 dBA at the commercial receiving site to the north at 200 Broadway East.

Based on the applicant's October 29, 2009 submittal, as modified on March 24, 2010, the applicant proposes to install ¾" exterior grade plywood noise walls around the perimeter of the site, as follows:

- A solid 8-foot high wall along the western side of the construction site (Broadway frontage) and wrapping around approximately the western half of the southern boundary;
- A solid 12-foot high wall along the western two-thirds (approximately) of the northern boundary (E. John Street frontage), and a solid 24-foot high wall along the eastern one-third of the northern boundary of the construction site;
- A solid 24-foot high wall along a portion of the eastern boundary of the construction site ( 10<sup>th</sup> Avenue E. frontage); and
- A solid 16-foot high wall along the eastern half of the southern boundary of the site and along a portion of the eastern boundary (Nagle Place frontage).

The applicant proposes that the variance allow project sound to exceed existing late-night ambient sound levels by no more than 6 dBA in residential receiving districts and by no more than 7 dBA in commercial receiving districts. Sound Transit thus proposes that nighttime limits imposed by the variance be 70 dBA (Leq) or less in commercially-zoned areas and 60 dBA (Leq) or less in residentially-zoned areas. These proposed limits are set forth in the last two columns of Table 2 below.

**Table 2.** Proposed Variance for Nighttime Hourly Sound Level, dBA re: 20 µPa

Location	Code Level, L <sub>eq</sub>	Predicted Maximum Project Sound Level, L <sub>eq</sub> <sup>1</sup>	Existing Late-Nighttime Ambient Sound Level, L <sub>eq</sub> <sup>2</sup>	Maximum Increase of Project Sound Level Over Late-Nighttime Ambient Sound Level, L <sub>eq</sub>	Proposed Variance Project Sound Level, L <sub>eq</sub>
Northern properties E. Olive and E. John (commercial district)	60	65	55-63 <sup>3</sup>	-	<b>65</b>
Northern property with greatest increase (918 E John St)	60	64	57 <sup>3</sup>	7 <sup>2</sup>	<b>65</b>
Eastern residences 10th Ave E. (residential district)	47	60	53-54	-	<b>60</b>
Eastern property with greatest increase (1002 E Denny Way)	47	60	54	6	<b>60</b>
Southern properties south of E. Denny Way on Broadway Ave E. (commercial zone)	60	57	63 <sup>4</sup>	-	<b>60<sup>5</sup></b>
Southern property with greatest increase (1732 Broadway E)	60	57	63 <sup>4</sup>	N/A	<b>60<sup>5</sup></b>

Western properties south of E. Denny Way on Broadway Ave E. (commercial zone)	60	69	63 <sup>4</sup>	-	<b>70</b>
Western commercial property with greatest increase (1831 Broadway E)	60	69	63 <sup>4</sup>	6	<b>70</b>
Western properties E. Denny and Harvard Ave E (residential zone)	47	60	60	-	<b>60</b>
Western residential property with greatest increase (810 E Denny Way)	47	60	60 <sup>3</sup>	0	<b>60</b>

1. See also Table A-9 in the Appendix to the October 27, 2009 Greenbusch Report.
2. At one property the project sound is predicted to exceed the ambient sound level by 7 dBA during times when the gate on E. John Street is open to allow haul trucks to leave the site. This property is a one-story building containing a locksmith and is not in residential use. Other northern commercial properties are 5 dBA or less.
3. Ambient levels were approximated for properties between measurement data points.
4. Sound levels were assumed to be similar as those measured at 200 Broadway E.
5. No variance is requested at this location because the project sound is predicted to be less than the 60 dBA allowed by the Code.

Source: North Link Construction Noise Study, September 27, 2005; Puget Sound Transit Consultants, The Greenbusch Group (see Table 9.2, modified on March 24, 2010)

Table 2 summarizes the information from Table 6 of the MPPCV application as updated in the Greenbusch Response to Expert Comments dated March 24, 2010. Table 2 demonstrates that for most residential properties the increase over ambient sound levels will be 3 dBA or less, which is below the threshold at which most people can detect an increase in sound levels. It is only at the top floors of two buildings, at 1002 E. Denny Way and 1831 Broadway E, that the increase in project sound over ambient is predicted to be between 4 and 6 dBA.

As noted in the first two rows of Table 2 above, the proposed variance sound level of 65 dBA for the northern properties will allow project sound to exceed ambient sound by 7 dBA in this area. However, this increase will occur at only one property, 918 E. John St., where project sound is predicted to be 64 dBA and ambient sound is 57 dBA. This 7 dBA increase will occur when the gate on E. John Street is opened at night to allow haul trucks to leave the site. This property is a one-story commercial building used as a locksmith shop and is not expected to be used during the nighttime hours during which the variance would be in effect.

3. The proposed times and proposed duration of the sound to be emitted.

As noted in the Background Section above, the applicant is requesting a variance to work from 10 p.m. to 7 a.m. on weekdays and from 10 p.m. to 9 a.m. on weekends and legal holidays for work associated with the construction of the light rail tunnel during a thirty-six (36) month time period, starting as early as late 2010 and ending in late 2013. As required by SMC 25.08.655D, the MPPCV will be subject to review by DPD after one year of operation with an opportunity for public comment.

4. The topography and population density of the area in which the sound is proposed to be emitted.

The topography of the project area is relatively flat with a slight grade change from west (high) to east (low). The pre-project ground surface elevations vary from about elevation 335 feet

(above sea level) on the west side to about elevation 325 feet on the east side. An 80 –foot deep excavation will be made for the station box and tunnel portal.

There are a variety of uses and zoning classifications immediately surrounding the project site. Properties to the west which front along Broadway and Broadway East are zoned Neighborhood Commercial 3 (NC3) and developed with commercial and mixed-use (residential and commercial) structures, one to three stories in height. Properties directly across the street (E. John Street) from the northern boundary of the site, and, properties abutting the southern boundary of the site are also zoned NC3. Northern properties are developed with a six-story multi-family apartment and one and two story commercial structures. The abutting southern property is developed with a funeral home and its open parking lot. Properties directly across the street (10<sup>th</sup> Avenue E. and Nagle Place) from the eastern boundary of the site are zoned Lowrise 3 (L-3) and are developed with two, three-story multi-family structures and one and two-story single-family residential structures along 10<sup>th</sup> Avenue E. and a public park (Cal Anderson Park) to the east of Nagle Place.

#### 5. Whether the public health and safety is endangered.

It is generally accepted that very high levels of noise have adverse physical impacts on humans including, but not limited to, hearing damage. Many standards apply to occupational exposures at high levels for prolonged periods of time. For example, the Occupational Safety and Health Act mandates a hearing conservation program by employers if sound levels exceed 85 dBA continuously over an 8-hour workday. If sound levels exceed 90 dBA continuously over an 8-hour workday, hearing protection is required. The project sound level limits proposed under this Variance Application will maintain sound levels well below the 85 dBA level, in a range where no hearing protection is required.

The amount of noise that can cause sleep disruption or deprivation can vary significantly from person to person. The results of the Federal Aviation Administration Report No. F.AA-EE-85-2, titled Aviation Noise Effects, show that 10% of the studied population experienced awakening from sleep at single-event maximum sound levels of 50 dBA and experienced a change in sleep state at single-event maximum sound levels of 39 dBA. Since typical northwest residential construction affords approximately 25 dBA of noise reduction between exterior and interior sound levels, the corresponding exterior sound levels that would have produced sleep disturbance in the FAA study are single-event maximum sound levels of 75 dBA and 64 dBA, respectively. It should be noted that these studies involved aviation rather than construction noise and responses to construction noise may differ.

The increases from on-site nighttime project sound levels that are sought by the applicant and the resulting noise levels will likely affect some people but are not expected to cause a danger to public health or safety. The impact of short-duration single events will be addressed by limiting the hourly L<sub>max</sub> to 10 dBA over the hourly L<sub>eq</sub>.

#### 6. Relative interests of the applicant, other owners or possessors of property likely to be affected by the noise, and the general public.

The interests of the applicant in the construction of this proposed essential public facility are described in the application. Noise generated from the above-ground work needed to support tunnel operations cannot comply with the nighttime sound level limits required by the Noise Control Code. Noise-producing above-ground construction activities and equipment are required to support around-

the-clock operation of the TBM. Ventilation fans and power generators are needed at the surface to provide fresh air to the workers in the tunnel and a reliable power source for the underground equipment. Above-ground loading and unloading of materials to and from the tunnel and removal of muck from the tunnel is also required to efficiently maintain continuous tunneling operations. The only way to comply with sound level limits is to prohibit tunneling during nighttime hours. To do so would cause unsafe working conditions, would increase the risk of voids in the soil and subsidence of the surface above the tunnel, and would produce a hardship to the public because it would take longer and add more cost to complete the project.

While the conditions imposed on this variance will require additional cost, effort and flexibility on the part of the applicant, they are not expected to cause undue hardship. The applicant appropriately identifies the most affected residential receiving properties as the residences on 10<sup>th</sup> Avenue East, directly to the east of the proposed construction, and in the six-story apartment building to the north (200 Broadway). By installing the proposed noise walls and implementing the other mitigation measures described in the application, on-site project sound levels will be reduced to insignificant levels at most all properties, and to only a moderate level of impact at the upper floors of the two apartment buildings along 10<sup>th</sup> Avenue E. and at the building at the corner of E. John Street and Broadway East. This reduction of project sound levels to reasonable limits at the closest residential receiving properties will provide a public benefit. The analysis provided by Greenbusch in its Technical Noise Analysis and in its Response to Expert Comments demonstrates that the height of the noise walls is appropriate for this project site because higher walls would result in only a minor decrease in project sound that would not be noticeable at most receiving properties.

The interests of the general public also will be served by the safe completion of this transportation project and by the shorter overall construction period that nighttime construction will make possible.

#### 7. Whether the proposed noise mitigation approaches are likely to be effective.

The applicant's NMMP includes mitigation that will be implemented during the proposed nighttime construction activities. DPD will provide oversight of the night-time work to ensure that the public interest is protected and that the contractor strictly adheres to the Noise Control Code and the conditions imposed by this Analysis and Decision. DPD will assign a Noise Program Specialist who will serve as the city's primary contact for noise related issues at this site. Representatives of the applicant with authority to stop work will be present on the project site during all work hours to ensure that mitigation measures are being followed. The applicant will also implement and maintain the public outreach and community involvement provisions described in the NMMP, including a 24-hour construction hotline.

DPD's noise consultant, BRC, concurs that the applicant's proposed noise walls around the perimeter of the construction, together with other on-site mitigation described in the MPPCV application, will be effective in reducing project sound levels such that impacts to the surrounding residential uses will be minimal.

In addition to the requirements of DR 3-2009 that are discussed above, an applicant for a MPPCV must demonstrate that the standards in SMC 25.08.655A are met:

A. The Administrator may grant a major public project construction variance to provide relief from the exterior sound level limits established by this chapter during the construction periods of major public projects. A major public project construction variance shall provide relief from the exterior sound level limits during the construction or reconstruction of a major public project only to the extent the applicant demonstrates that compliance with the levels would:

1. Be unreasonable in light of public or worker safety or cause the applicant to violate other applicable regulations, including but not limited to regulations that reduce impacts on transportation infrastructure or natural resources; or
2. Render the project economically or functionally unreasonable due to factors such as the financial cost of compliance or the impact of complying for the duration of the construction or reconstruction of the major public project.

With regard to subsection 1, the applicant has demonstrated that it is not possible to operate the equipment necessary to support nighttime tunneling activities, e.g., ventilation fans, power generators, and equipment to load, unload, and transport construction materials and soil, without violating the nighttime noise limits in SMC 25.08.410 and 420. The applicant also has demonstrated that worker safety will be compromised if the TBMs do not operate as continuously as possible, including during nighttime hours, so as to minimize the risk of ground movement around the TBMs and tunnel lining. Similarly, there will be an increased risk to public safety if the TBMs do not operate continuously so as to minimize the risk of voids in the soil, subsidence of the surface, and damage to surface structures.

With regard to subsection 2, the applicant has demonstrated that, if the TBMs do not operate as continuously as possible, including at night, there will be substantial delay in completion of the tunnels and commencement of light rail transit service to Capitol Hill and the University of Washington, as well as increased cost to the public that is funding the light rail transit tunnels.

### CONCLUSIONS

1. Findings numbers 1 through 7 above are adopted as Conclusion number 1.
2. Proper notice was given of the proposed variance and the required public meeting took place.
3. Requiring Sound Transit to comply with the nighttime noise limits in SMC 25.08.410 and 420 would be unreasonable in light of the increased risks to both worker safety and public safety that would result from halting nighttime operation of the TBMs. The delay and increased cost that would result from compliance with SMC 25.08.410 and 420 would render the project economically and functionally unreasonable.
4. Practical known and available mitigation measures for reducing the nighttime project sound levels and their effects on nearby residents are described in the application and will be incorporated into the project.
5. Chapter 25.08 provides adequate authority to mitigate the impacts of nighttime construction activity at the subject site and, pursuant to the SEPA Overview Policy in SMC 25.05.665; no additional mitigation is required pursuant to SEPA.
6. Based upon the written information submitted by the applicant and interested citizens, statements made at the public meeting, federal guidelines and the current body of scientific knowledge, there is no known danger to public health and safety if mitigating measures are put in place and followed, as provided in this Decision and Order.

### DECISION AND ORDER

This variance is GRANTED for the noise related to the nighttime construction activities described in this Analysis and Decision and the applicant's submittal of October 29, 2009, subject to the following:

1. This variance is subject to the conditions set forth below and to all requirements, specifications, standards, limits, and other mitigation measures identified by the applicant in its original application submitted on October 29, 2009, as revised in its submittals dated December 18, 2009 and March 24, 2010, collectively "the application". Specifically, the applicant is required to fully follow and execute all of the noise control measures identified in the application and its appendices and attachments in addition to the provisions set forth in this Decision and Order. If there is a conflict between the noise mitigation and control requirements or specifications of the application and this Decision and Order, the requirements of this Decision and Order shall be followed.
2. Nighttime project sound levels shall not exceed the proposed limits specified in Table 2 on page 6 of this Analysis and Decision. These sound level limits are intended to ensure that nighttime project sound levels will not exceed the ambient sound level of residential properties by more than 6 dBA (Leq) during the following schedule:

Weekdays 10:00 p.m. to 7:00 a.m.

Weekends (including legal holidays) 10:00 p.m. to 9:00 a.m.

In addition, Lmax shall not exceed 10 dBA over the allowed Leq during these same hours.

3. All noise walls proposed by the applicant shall be installed per Sound Transit's Noise Management and Mitigation Plan (dated October 29, 2009 and as modified on March 24, 2010) and prior to commencement of nighttime noise-producing construction activities on the site. The height of the walls shall be those specified in the report dated March 24, 2010.
4. The applicant or its Contractor shall submit to DPD a final Noise Management and Mitigation Plan (NMMP) (herein "the Plan") a minimum of thirty (30) days prior to commencement of nighttime construction activities at the site. Approval of the final Plan shall be obtained prior to commencement of nighttime construction activities at the site. The Plan shall be specific to the construction method(s) used in mining the light rail tunnels, including compliance tracking that is consistent with the application to DPD for review (Sections, 3.5, 4.0, 4.1, 4.2, 4.3, 4.4, 5.0, 5.1 and 5.2 of the Application dated October 29, 2009 and the letter dated March 24, 2010). Additionally, the Plan shall include provisions for Contractor worker-doors to be incorporated into the noise walls to allow egress for workers. The Plan shall also address the location of construction gates, and the schedule of those gates that will be open at night as well as those which shall be closed after 10 p.m. The locations of all off-site noise monitoring sites proposed by the applicant and/or its Contractor shall be included in the Plan subject to approval by DPD.
5. Fourteen (14) days prior to the commencement of activity that is subject to this variance, the applicant shall provide notice of such commencement to the Administrator and to those community members who were notified of the original application. The form and content of the notification must be approved by the Administrator.
6. The applicant or its Contractor shall be responsible for the implementation of the Noise Management and Mitigation Plan. Implementation of this plan includes adherence to the NMMP by all contractor and sub-contractor work affiliated with this application. The applicant or its Contractor shall be responsible for all station area equipment being used on site whether being used by the Contractor or sub-contractor. If barriers are used to mitigate sound, the Contractor shall be responsible for the provision of such barriers.

7. This variance shall expire thirty-six (36) months from the commencement of nighttime construction.
8. Violation of any condition of this variance will result in a review of the conditions imposed by this variance, and possible imposition of new conditions or revocation of this variance.

Dated this 19 of April, 2010

Diane Sugimura, Director  
Department of Planning and Development  
& Administrator, Chapter 25.08 of the Seattle Municipal Code

### **APPEAL**

The Noise Control Code SMC 25.08 provides that any person aggrieved by the denial, approval, or the terms and conditions imposed on a variance or by the extension of a variance by the Administrator, may appeal such decision to the City of Seattle. Hearing Examiner pursuant to the provisions of the Seattle Municipal Code Section 25.08.610.

Appeals of this decision must be received by the Hearing Examiner no later than ten days following the date of the decision and be accompanied by a check for \$50 made payable to the City of Seattle.