SSA acoustics
Stewart · Burt · Nelsen · Esselstrom

July 27, 2022

Cheryl Paul
J5 Infrastructure

Re: Acoustical Report – AT&T OL0734 Olympia Mission Creek
Site: 1818 4th Avenue E, Olympia, WA 98506

Dear Cheryl,

This report presents a noise survey performed in the immediate vicinity of the proposed AT&T telecommunications facility at 1818 4th Avenue E in Olympia, Washington. This noise survey extends from the proposed equipment to the nearest properties. The purpose of this report is to document the existing conditions and the impacts of the acoustical changes due to the proposed equipment. This report contains data on the existing and predicted noise environments, impact criteria and an evaluation of the predicted sound levels as they relate to the criteria.

Code Requirements

The property is within the City of Olympia zoning jurisdiction on property with an HDC-1 zoning designation. All of the receiving properties are zoned HDC-1. Olympia Municipal Code 18.06 identifies HDC-1 as within a Commercial District.

The proposed new equipment includes equipment support cabinets and an emergency generator. The equipment support cabinets are expected to run 24 hours a day. The generator will run once a week during daytime hours only for maintenance and testing purposes.

Olympia Municipal Code 18.40.080 identifies Commercial properties as Class B EDNA and limits noise from equipment on a Class B EDNA property as follows:

Class B EDNA Receiver: Noise is limited to 65 dBA during daytime hours. During nighttime hours, between the hours of 10 p.m. and 7 a.m, the maximum permissible sound level is to 60 dBA.

Ambient Conditions

Existing ambient noise levels were measured on site with a Svantek 971 sound level meter on July 21, 2022. Measurements were conducted as close to the proposed location as possible and the property lines in accordance with the State of Washington code for Maximum Environmental Noise Levels WAC 173-60-020. The average ambient noise level was 53 dBA.

Predicted Equipment Sound Levels

24-Hour Operation Equipment
The following table presents a summary of the equipment and their associated noise levels:

Table 1: Equipment Noise Levels

Equipment	dBA (each)	Quantity	Combined dBA @ 5 ft
Delta ESOF030	65 dBA @ 5 ft	1	65
Total dBA (All cabinets combined)			**65**

Methods established by ARI Standard 275-2010 and ASHRAE were used in predicting equipment noise levels to the receiving properties. Application factors such as location, height, and reflective surfaces are accounted for in the calculations.

The equipment will be located at grade surrounded by a chain-link fence. The nearest receiving property is approximately 19 feet south of the equipment. The following table presents the predicted sound levels at the nearest receiving property:

Table 2: Predicted Noise Levels: Proposed Equipment Cabinets

Line	Application Factor	S
1	Sound Pressure Level at 5 ft (dBA), Lp1	65
2	Distance Factor (DF) Inverse-Square Law (Free Field): DF = 20*log (d1/d2)	-12 (19 ft)
3	New Equipment Sound Pressure Level at Receiver, Lpr (Add lines 1 through 3)	**53**

As shown in Table 2, the sound pressure level from the proposed equipment is predicted to be 53 dBA at the nearest receiving property to the south, which meets the 60 dBA nighttime code limit. Noise levels at other receiving properties, which are further away, will be lower and within code limits.

Emergency Equipment

The proposed equipment includes one Kohler 30REOZK 30 KW generator with a sound enclosure which has a sound level of 65 dBA at 23 feet. The generator will be located at grade surrounded by a chain-link fence. The nearest receiving property is approximately 29 feet south of the generator. The following are the predicted sound levels at the receiving property:

Table 3: Predicted Noise Levels: Proposed Emergency Generator

Line	Application Factor	S
1	Equipment Sound Pressure Level at 23 ft. (dBA), Lp1	65
2	Distance Factor (DF) Inverse-Square Law (Free Field): DF = 20log (d1/d2)	-2 (29 ft)
3	New Equipment Sound Pressure Level at Receiver, Lpr	63

As shown in Table 3, the sound pressure level from the proposed generator during test cycle operation is predicted to be 63 dBA at the nearest receiving property to the south, which meets the 65 dBA daytime code limit. Noise levels at other receiving properties, which are further away, will be lower and within code limits.

Please contact us if you have any questions or require further information.

Sincerely,
SSA Acoustics, LLP

Steven Hedback
Acoustical Consultant