

Big Sky Acoustics, LLC

PROJECT PROFILE: HOTEL



PROJECT: SPRINGHILL SUITES
WEST BANK LANDING
Great Falls, Montana



Big Sky Acoustics was tasked to analyze the building envelope design of the West Bank Landing Hotel. Noise level measurements were completed to quantify the existing ambient noise levels, and the data was used to predict the noise levels inside guestrooms due to exterior noise sources. The site location is adjacent to a 4-lane roadway, a rail spur and the Missouri River.

BSA's SERVICES AND SOLUTIONS:

- BSA evaluated the Marriott daytime and nighttime design standards that limit the intrusion of exterior noise sources into guest rooms.
- The dominant noise sources throughout the 5-day measurement period were trains and jets. The maximum $L_{eq}(h)$ noise levels were 64 dBA (day) and 53 dBA (night).
- Using the exterior measurements, BSA predicted the interior noise levels based on the noise reduction (NR) of the exterior wall construction and the proposed guestroom balcony door, window and thru-the-wall AC units.
- The predicted 38 dBA (day) and 30 dBA (night) interior noise levels due to trains and jets did not exceed the design standards inside the guestrooms.
- BSA provided acoustical design recommendations, including window glazing, door specifications and AC unit sound transmission class (STC) requirements.



BSA's acoustical design services ensured the high expectations of Marriott and their guests would be met.