



AESTHETICS COMMENTARY

by Frederick Gottemoeller

Simpler is often better. The West Sammamish River Bridge is a great example of this principle. There, keeping things simple was a necessity, not a choice. The project faced major traffic maintenance and environmental constraints, and simplicity made it easier to deal with them. The parallel East Sammamish River Bridge provided a helpful model of a concrete box-girder bridge from which to start, and the availability of standard pre-cast concrete box girders (WSDOT UF60G5) made

building the bridge simpler still. All this simplicity paid off when the COVID-19 pandemic erupted.

The memorable aspect of this bridge is what the designer did with these simple elements. The key details are at the overlook at the midriver pier. Look at the ends of the pier cap: they are slanted at the same angle as the box girder webs. There was no need to insert a different angle. In addition, the concrete bracket supporting the overlook

is a massive concrete shape that appears to be an extension of the similarly massive pier cap.

Finally, the nine vertical “oars” of the monument on the multiuse path provide a vertical element that further delineates the position and importance of the overlook. The lightweight and simply patterned pedestrian railing offers a transparent horizontal feature that doesn’t compete with the visual prominence of the overlook or interfere with travelers’ views from the bridge.


Overall, the new bridge offers an attractive background and setting for the popular recreational attractions surrounding it.

future inspection of the bottom of the bridge deck as required by the Washington State Department of Transportation.

- **Geofoam blocks to mitigate settlement.** The bridge corridor is underlain by highly compressible peat layers, which are prone to settlement. To mitigate long-term settlement due to new roadway approaches at each end of the bridge, the design team recommended using geofoam blocks for the roadway subgrade instead of gravel. The geofoam blocks are extremely lightweight but structurally adequate to support the roadway without inducing any long-term settlement along the corridor. Use of geofoam blocks over the traditional gravel materials substantially shortened the construction duration.

achieve that goal, the latest technology was used to account for climate change, seismic conditions, and the day-to-day needs of the structure over the long term. Given the earthquake risks at the bridge location, seismic resiliency was an important component of the work. To accommodate seismic design requirements for a 1000-year design seismic event and to reduce the seismic demand on the concrete columns and drilled shafts, the design team used seismic isolation bearings to support the bridge superstructure. Although seismic isolation bearings are typically used on complex structures or seismically vulnerable older bridges, the design team specified them for this structure because they are suited for the presence of liquefiable soil layers, which would cause lateral spreading, and for short column heights that could not withstand the seismic displacement demands. A rubber bearing with a lead core was selected for its cost effectiveness and ease of installation.

of a global pandemic. Despite the initial pandemic shutdown, followed by a lengthy concrete delivery drivers’ strike in the area, the design team was able to revise the construction sequences, and make other changes that enabled the project to meet the original construction completion date of fall 2022..

The City of Kenmore wanted more than just a bridge. They wanted transportation solutions for all modes, and a better overall experience for users of this heavily traveled corridor. The result was a successful project that replaced a vital piece of the city’s infrastructure, giving the community an improved experience as they travel through the area. The community and the team were excited to celebrate the bridge’s on-time completion at a ribbon-cutting celebration in August 2022. 

Seismic Resiliency

The previous bridge lasted more than 80 years, and the city wants the new bridge to serve the public for decades to come, with a minimum 75-year service life. To

Conclusion

The team anticipated certain challenges but could not have anticipated the onset

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Nine vertical “oars” at the overlook on the West Sammamish River Bridge multiuse path delineate its position and importance
Photo: Jacobs.

