



FEATURED SERVICE: 3D LASER SCANNING

STORMWATER PROJECT GAINS NATIONAL ATTENTION

NEW ENGINEER JOINS WILSON TEAM

HAPPY HOLIDAYS



Pedestrian Bridge, Boulevard Park, Bellingham, WA

FEATURED SERVICE: 3D LASER SCANNING

One of the most interesting services we offer is 3D laser scanning. At its essence is the ability to quickly collect data from large, irregular surfaces by creating a dense point cloud, which is used to generate a three-dimensional model with exceptional accuracy. In fact, the virtual models of structures, such as buildings and bridges, are accurate within 1/4-inch. Our survey staff utilizes this technology in a variety of ways depending on the needs of our clients.

The pedestrian bridge shown in the image above is an 80-foot long, heavy-timber structure spanning the BNSF mainline rail tracks running through Bellingham. It serves as a key access point for pedestrians using Boulevard Park, a popular waterfront amenity. It also carries a pressurized wastewater line recently upgraded by civil engineers at Wilson. After structural damage to the bridge was discovered by City of Bellingham staff, our structural engineering department manager, Charles Waugh, P.E., S.E., designed emergency strengthening elements, installed in 2016, and studied options for longer-term repair. The image of the bridge was generated by our Trimble TX5 laser scanner and consists of millions of individual points. Capturing the complexity of the bridge from the ground rather than manually measuring the structure and entering field data in the office saved considerable time and also helped our field personnel minimize their risk of fall exposure.

Perhaps the most compelling aspect of 3D scanning is the efficiency it brings to projects. An example is a separate bridge rehabilitation project completed by Mr. Waugh for Glenhaven Lakes Club in 2016. The subject bridge had solid primary structural support elements, but much of the secondary structure required replacement due to decaying wood and a need for substantially increasing the load rating of the bridge. Many of the compromised wooden elements were replaced by steel support components manufactured offsite using 3D scan data. When those components were installed they fit together perfectly, avoiding delays and costs associated with modifying or redoing them. The result was cost-effective replacement of the bridge deck and strengthening of the support structures with minimal impact to the natural environment.

Other applications of the Trimble TX5 laser scanner include mapping subterranean structures, data capture of overpasses and intersections, structural mapping of architectural detail, detecting structural deflection, and historic preservation documentation. If you have any questions about our 3D scanning services or would like to discuss potential uses for your projects, please contact Survey Manager Tom Brewster, PLS, by email at tbrewster@wilsonengineering.com or phone at 360.733.6100, x231.



Stormwater Treatment Facility, Bellingham, WA

PADDEN ESTUARY WATER QUALITY PROJECT RECOGNIZED

One of our recent stormwater projects earned mention in an industry newsletter with national distribution earlier this year. The June issue of *SiteSolutions* featured a detailed profile of this innovative project. *SiteSolutions* is published monthly by Contech Engineered Solutions based in Ohio, with sixty offices serving all fifty states. The profile is featured alongside three other notable projects located in Michigan, Maryland, and Missouri.

The Padden Estuary stormwater treatment facility utilizes cutting-edge techniques and materials

for removing over 12 tons of suspended solids, 9 tons of hydrocarbons (fuels, oils and grease), all trash, and several other contaminants from about 42-million gallons of stormwater annually. The low-impact facility then discharges treated stormwater to Padden Creek, which flows into Bellingham Bay via Padden Estuary. The facility treats runoff from 90 acres of urban area located in Fairhaven Village. Water quality in the estuary is expected to improve dramatically as a result of removing such a substantial volume of pollution, greatly enhancing conditions in this vital habitat for native salmonids and a host of other species.

The client for this important project was the City of Bellingham. The project manager was Michael Matthes, P.E., LEED AP ND, the structural engineer was Charles Waugh, P.E., S.E., and the contractor was Faber Construction. To read the *SiteSolutions* article, please follow this [link](#).



Kenna Wurden-Foster

WILSON ADDS NEW ENGINEER TO STAFF

Please join us in extending a warm welcome to the newest member of our team, Kenna Wurden-Foster, EIT. Kenna comes to us from Seattle where she worked in the wastewater industry. She has a Master's degree in Civil and Environmental Engineering from the University of Washington and brings a wealth of knowledge relating to wastewater treatment and facility design, with an emphasis on MBR systems.

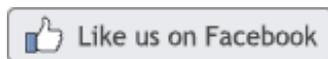


Photo: Anthony Cavender

HAPPY HOLIDAYS

On behalf of all 29 staff here at Wilson Engineering we wish you a happy upcoming holiday season! It has been a busy year of growth and transition, including a fresh look for our company website and logo, a few staff changes, attendance at several industry conferences, and some exciting new projects. We are grateful for the support of our business associates throughout the Pacific Northwest, and look forward to serving our clients well in 2019. May the New Year offer many rewarding opportunities for personal and professional growth to each of you.

STAY CONNECTED



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For more information about Wilson Engineering's civil, structural and survey services, please contact us by phone at 360.733.6100 or email at info@wilsonengineering.com.

Wilson Engineering has provided solutions to clients throughout the Pacific Northwest since 1967.