GeoEngineers

Statement of Qualifications

Washington State Department of Transportation

Geotechnical Engineering & Project Delivery (Area 2)

Packet A

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Criteria 1: Qualifications/Expertise of Firms on Team

GeoEngineers has provided geotechnical engineering in Washington since 1980, and in that time we have worked on 599 projects for WSDOT, 185 of which included geotechnical services. We have more than 175 staff, including 58 geotechnical engineers in WSDOT's Area 2, and we are prepared to deliver exceptional client service across the State. We have organized a team of senior-level geotechnical professionals distinguished by their experience and skills relevant to this contract, and we believe our team includes the most qualified group of experts in the state to work alongside your staff.

We also have a robust internal inclusive contracting program focused on building relationships, mentoring, and partnering with small and diverse business enterprises to provide them with meaningful work on our projects. To help WSDOT meet its Diverse Business Enterprise (DBE) inclusion goals for this contract, GeoEngineers would be happy to bring in certified women-owned geotechnical firms, such as **Clarity Engineering, LLC** and/or **Ciani & Hatch Engineering PLLC** to support individual task orders. Both firms are founded by senior-level geotechnical engineers we have strong relationships with and trust to provide WSDOT with technically excellent geotechnical engineering.

A. GEOTECHNICAL ANALYSIS & DESIGN EXPERIENCE

GeoEngineers was founded by geotechnical engineers, therefore we have decades of experience performing geotechnical analysis and design. The following pages illustrate this depth of knowledge by describing three of our relevant highway projects for WSDOT where we stamped recommendations for geotechnical design.

EXPERIENCE AREAS	RELEVANT PROJECTS		
	SR 520 Floating Bridge East Approach & Landings	SR 167/I-405 Direct Connector Interchange	SR 530 Skaglund Hill Vic. to C-Post Road Vic. Emergency Roadway Reconstruction
1. Retaining Walls	■	■	■
2. Highway Bridges	■	■	
3. Spread footing foundations (including bearing resistance and lateral resistance)	■	■	■
4. Driven pile foundations (including axial and lateral resistance and group effects)	■		
5. Drilled shaft foundations (including axial and lateral resistance and group effects)	■	■	
6. Ground improvement		■	■
7. Slope stability	■	■	■
8. Landslide analysis and remediation	■	■	■
9. Excavation and shoring	■	■	■
10. Fill placement and compaction	■	■	■
11. Settlement analysis	■	■	■
12. Analysis of geotechnical laboratory test data, including soil and rock shear strength, soil consolidation, soil compaction, and soil permeability	■	■	■
13. Analysis of geotechnical field test data, geophysical data, and geotechnical instrumentation data	■	■	■

» WSDOT, SR 520 Floating Bridge East Approach & Landings; Medina, Washington

Engineer(s) of Record: Dan Campbell, David Phelps

GeoEngineers led supplemental geotechnical investigations, excavation dewatering, and geotechnical design and construction of the East Approach Bridge (EAB) portion of this complex design-build project.

Construction of Pier 2 of the East Approach Bridge on a spread footing.

These activities included ensuring all portions of the project complied with WSDOT design-build requirements and mandatory project standards including the Geotechnical Design Manual (GDM), Bridge Design Manual (BDM), and Standard Plans and Specifications (SPP) along with AASHTO criteria. Using WSDOT-reviewed design spreadsheets GeoEngineers developed to expedite design processes, extensive use of "over the shoulder" WSDOT reviews, and close coordination with the QA/QC manager resulted in limited review comments and timely approvals of Released For Construction (RFC) and Field Design Change (FDC) technical memorandums. Unique project features included landslide prone slopes and massive spread footings.

The Medina hillside immediately east of Lake Washington is underlain by a thick sequence of highly fractured, glacially over-consolidated Seattle clay. GeoEngineers successfully designed shoring systems and retaining walls to support cuts up to 40 feet deep into these landslide prone soils for construction of the maintenance facility, access road, and the east approach bridge. To ensure stability during and after construction, a detailed instrumentation plan consisting of optical surveys, settlement monitoring rods, slope inclinometers, and vibration monitoring was developed and implemented for the project.

Because of the underlying soft compressible soils at Lake Washington's mudline and over-water work requirements, the RFP conceptual design for the EAB included deep foundations that could have created preferential pathways for contamination during construction. GeoEngineers collaborated with the design-build team to develop an alternative spread footing foundation system for the EAB structures that reduced the amount of in-water work and eliminated pile driving and similar construction techniques that are detrimental to threatened species, while at the same time mitigating the impacts of the soft, compressible lake sediment. This design change required close collaboration with the design-build team's environmental consultants, the contractor, the structural engineer, the geotechnical engineer, and each of their WSDOT counterparts. This resulted in a better approach with fewer environmental impacts.

GeoEngineers designed massive 160-foot by 40-foot by 12-foot-thick shallow foundations to support the bridge. Instead of working only with the geotechnical team assigned to the project, GeoEngineers added the company's best hydrogeologists and numerical modelers from outside the region to augment the team. The design also required close collaboration with the contractor and its temporary works designers to ensure consistency of approach and because the braced sheet pile coffer dams and dewatering systems they constructed to build the massive foundations had to be sequenced such that compressible soils were removed, and construction of the foundations was in the dry without disturbing the underlying glacially consolidated clay. The project was constructed without initiating any slide activity.

» WSDOT, SR 167/I-405 Direct Connector Interchange; Renton Washington

Engineer(s) of Record: Ben Upsall

GeoEngineers provided geotechnical engineering services for this design-build project in Renton. The project included the construction of a direct connector flyover bridge to join the northbound and southbound SR 167 High Occupancy Toll (HOT) lanes with the I-405 High Occupancy Vehicle (HOV) lanes by reconstructing portions of SR 167 and I-405 to accommodate the new direct connector ramps in the median. Project components also replaced the Rolling Hills Creek culvert under SR 167 with a fish-passable structure and moved an existing noise wall to a new location.

Top: oscillated drilled shafts being installed for the SR167 DC Flyover Bridge. Bottom: construction at the Talbot Road bridge widening.

During procurement, the team developed the geotechnical components including a geotechnical scope, budget, and schedule for final post-award design. They were also responsible for oversight of all geotechnical aspects including exploration, testing, design, consultation, construction oversight, geotechnical design team management, and schedule/budget monitoring and delivery.

A challenging aspect of the project was the development of a unique geotechnical approach at the southern approach of the Direct Connect Flyover Bridge to mitigate extremely difficult geotechnical conditions. The soils present under the southern approach embankment consisted of soft silts capable of large amounts of settlement under both static loads and after a seismic event. Constructing a traditional earthen approach embankment would have caused more than 12 inches of static settlement that would have negatively impacted the existing SR 167 roadway and required significant additional repairs and improvements. Instead, we proposed a net-zero load embankment concept. The net-zero load embankment was constructed out of expanded polystyrene, also known as geofoam, with a roadway pavement section placed on top. Geofoam typically had unit weights in the range of 1 to 2 pounds per cubic foot, roughly 75 times lighter than typical embankment fill. However, to balance loads of the pavement section placed on top of the geofoam, we prescribed a specific amount of over-excavation to balance out the loads. The net-zero load embankment was constructed on schedule, did not record any measurable post-construction settlement itself nor did it record any measurable settlement impacts to the adjacent roadway, and continues to function perfectly today, after more than three years.

This project also included a very steep weathered rock slope along the south and east sides of I-405. The team performed intensive slope stability analyses evaluating both the strength of the rock itself and studying the rock formation characteristics such as the strike and dip of the sedimentary rock layers. Permanent cut slopes as well as locally over-excavated tree planting wells were successfully designed and constructed on the slope.

» WSDOT, SR 530 Skaglund Hill Vicinity to C-Post Road Vicinity Emergency Roadway Reconstruction; Oso, Washington

Engineer(s) of Record: Shaun Stauffer, David Phelps

In March 2014, a massive and catastrophic landslide near Oso, Washington spread more than 10 million cubic yards of mud and debris across a half-mile impact zone, obliterating 1.6 miles of SR 530, blocking the Stillaguamish River, and taking 43 lives. GeoEngineers provided emergency response services to aid in the initial clean-up and later was part of the design-build team tasked with reconstructing SR 530.

Top: construction underway on SR 530 following devastating Oso landslide (Bottom).

GeoEngineers divided the geotechnical design into components, then assigned each component to internal design teams to ensure that the project's compressed schedule was maintained—opening six months after the initial landslide, seven days earlier than the contract required.

The three components included the design of the west portion of the roadway over the recent landslide deposits, which included temporary and permanent geosynthetic reinforcement for embankment and pavement stability and required raising the road more than 20 feet in some areas to account for the revised floodplain; design of the east portion of the roadway through a historic landslide deposit, including using horizontal drains to maintain lower groundwater, which leads to increased stability of the landslide-prone hillside; and design for six fish passage culvert crossings to restore connectivity to the Stillaguamish River. Many of its tributaries cross SR 530 and provide critical salmon habitat—a key concern for county and tribal stakeholders during the rebuilding process. GeoEngineers' river specialists worked closely with the design-build team to develop a design that used five aluminized steel, fish-friendly culverts rather than concrete boxes, thereby reducing costs, increasing the speed of delivery, and minimizing the need for additional wing walls, support structures, and excavation.

We also provided construction observation for construction work on SR 530 over the existing landslide deposits and ensured consistency of design parameters and approach across the three concurrent project components. GeoEngineers' geotechnical staff worked many nights and weekends to keep the construction progress moving forward and to help reopen the roadway to minimize the impact on the communities affected by the landslide. The team's design and construction solutions saved more than $5 million dollars compared to the initial engineer's estimate and reopened the new roadway exactly six months to the day of the slide—one of the fastest design-build deliveries in state history.

B. SEISMIC DESIGN EXPERIENCE

GeoEngineers has put a focus on advanced seismic engineering and design with our Performance-Based Engineering team. We are on the leading edge of the industry when it comes to seismic analysis and risk assessment. We have a long history of evaluating the seismic hazards present and determining conditions that require site-specific analysis for evaluation, retrofit, and rehabilitation of existing facilities according to American Society of Civil Engineers (ASCE) Standards 41-06, 41-13, and 41-17.

Our experience on critical infrastructure projects includes bulk fuel and liquid fuel terminals, emergency response facilities, hospitals, schools, and more. Our seismic engineering expertise includes calculating seismic hazards, contributing to the Next Generation Attenuation (NGA)–Subduction Model Project and to the research of the NGA-West 1 (NGA-W1) Model Project funded by the Pacific Earthquake Engineering Research Institute (PEER), and developing tools to determine seismic hazard levels defined by ASCE 41-17. **Our understanding of seismic engineering projects is holistic, and we are mindful of the impact geotechnical design recommendations can have on seismic mitigation programs and subsequent construction costs**.

> "WSF is very pleased with GeoEngineers performance on the Washington State Ferries Seismic Risk Analysis project and highly recommends this engineering firm for other work. The team provided executable mitigation options to improve the seismic performance and reduce seismic risk of the WSF terminals in the Puget Sound. The risk-informed decision making methodology used in their seismic risk assessment allowed WSF to select the optimum retrofit scheme for each terminal in an objective and transparent manner. I have been really impressed with the work their team produces."
>
> Jeri Bernstein, WSF Structures Management Engineer

GeoEngineers is sought after nationally for our expertise with higher end seismic and numerical modeling, such as the peer reviewing we are currently completing for WSDOT's I-5/Marine View Drive design-build project. Examples of three WSDOT projects demonstrating our seismic design experience are presented beginning on the following page.

EXPERIENCE AREAS	RELEVANT PROJECTS		
	SR 108/US 101 Mason-Thurston County Fish Barriers Removal	I-405/NE 132nd Street Interchange	I-405 Renton-to-Bellevue Corridor Widening and Express Toll Lanes
1. Seismic deaggregation	■	■	■
2. Seismic effects on slope stability	■	■	■
3. Seismic effects upon foundations	■	■	■
4. Liquefaction evaluation	■	■	■
5. Liquefaction effects on slope stability	■	■	■
6. Liquefaction effects upon foundations	■	■	■

» WSDOT, SR 108/US 101 Mason-Thurston Counties Fish Barriers Removal; Mason and Thurston Counties, Washington

Engineer(s) of Record: Cora Johnson

GeoEngineers led the development of stream design alternatives during procurement, led preliminary and final geotechnical and hydraulic designs, and provided environmental compliance support for the correction of a bundle of six injunction culverts in Mason and Thurston Counties. Two of the crossings were constructed during summer 2023 and the remaining four are in the final design and permitting processes for construction in 2024.

Top: immediately after clear-grub before construction of fish passage structure at Unnamed Tributary to Skookum Creek at MP 5.50 on SR 108. Bottom: completed fish passage crossing, stream channel and slope grading before plantings.

As Geotechnical Engineer of Record, GeoEngineers' team developed and implemented a geotechnical exploration and laboratory testing program and provided geotechnical parameters in support of structural, foundation, and wall designs. One of the challenges of this project is that the existing SR 108 and US 101 roadway embankments were originally constructed over alluvial deposits that consist of potentially liquefiable and compressible soil. GeoEngineers developed code-based seismic parameters for use in geotechnical and structural analyses, assessed the site soils for susceptibility to liquefaction and liquefaction-induced settlement, and provided recommendations to minimize the impact of these hazards on the proposed structures. Mitigation measures included placing the structures below the bottom of liquefaction to minimize the hazard; over excavating and replacing a portion of the liquefiable soil with engineered fill to provide adequate support for shallow foundation spread footings, developing downdrag loads due to liquefaction settlement on drilled shaft foundations, and recommend the use of wall types, such as mechanically stabilized earth (MSE) walls, to accommodate larger total and differential settlement. GeoEngineers also recommended geotextile reinforcement extending the full width of the embankment at one of the crossings to mitigate potential global instability during and after the design seismic event. We also provided static and seismic lateral earth pressure recommendations for the culverts and wingwalls along with racking parameters for the culvert structures requiring seismic design.

GeoEngineers also developed stream designs including assessment of stream scour potential, sediment sizing, and habitat complexity elements such as meander bars, habitat bounders, Large Woody Material, and off-channel habitat features. Finally, GeoEngineers' Environmental Compliance Manager provided services that included NEPA documentation, permitting through the U.S. Army Corps of Engineers and Washington State Department of Fish & Wildlife (WDFW), obtaining local floodplain development permits, and preparing environmental compliance plans for implementation by the contractor during construction.

» WSDOT, I-405/NE 132nd Street Interchange; Kirkland, Washington

Engineer(s) of Record: Tim Bailey, Dan Campbell

GeoEngineers is the geotechnical engineering lead on the design-build team delivering this project in Kirkland, which is in construction and nearing substantial completion. The project consists of constructing a new half-diamond interchange with a new northbound onramp and a new southbound offramp. Another prominent project element is replacing an existing 48-inch culvert under the I-405 mainline with open channel sections and three fish passage culverts to allow fish passage through the project area. Project improvements required the construction of 20 new retaining walls. These walls include standard plan cast-in-place concrete, block, cantilever soldier pile, soil nail, and unique anchored walls.

Construction of the tieback wall for fish passage below I-405.

As the Geotechnical Engineer of Record, GeoEngineers completed the final exploration program and developed geotechnical recommendations and design criteria for all regaining walls, culverts, and new foundations. The existing I-405 bridges that span 132nd have been augmented at least twice since their original construction, and sections of the bridge are founded on shallow foundations, driven piles, and drilled shafts. The bridge is considered fragile and susceptible to damage from small amounts of differential settlement. The most challenging geotechnical aspect of the project is the design and construction of the anchored walls required to daylight the stream below the existing bridges. The cuts for the channel are adjacent to Piers 3 and 4 of the existing bridges and extend deeper than the bridge's shallow foundations. Complicating the design and construction of the walls is the low overhead environment of working below the existing overpass and underlying soils that consist of fill and alluvial deposits with a high water table. These soils are susceptible to caving when excavated, and they have a high liquefaction potential.

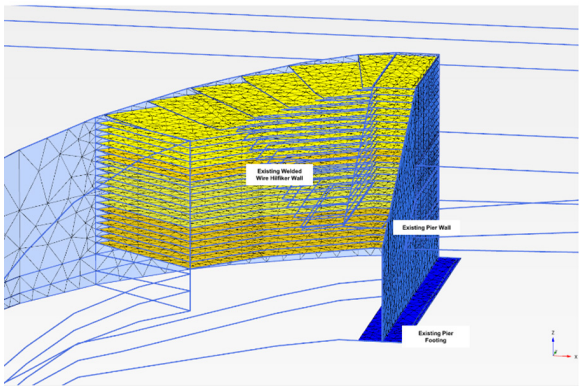
We assessed the potential for liquefaction and lateral spreading as part of our design and evaluated the impact on the existing slopes and bridge foundations, then incorporated those results into our design to ensure the proposed improvements were compatible with the overall seismic performance of the bridges.

GeoEngineers and WSDOT's structural engineering consultant designed an anchored shotcrete wall to support the cut in the fill embankment below Pier 4, and an anchored micropile wall to support the cut adjacent to Pier 3. Designers rarely specify construction means and methods or sequences, but doing so is critical for these two walls as the greatest risk of movement and possible risk to the bridge will occur during the construction of the walls. GeoEngineers completed detailed finite element modeling of each discrete construction sequence to verify the wall could be constructed without damaging the existing bridge. We also developed a geotechnical instrumentation program to monitor wall and bridge performance.

» WSDOT, I-405 Renton-to-Bellevue Corridor Widening and Express Toll Lanes; King County, Washington

Engineer(s) of Record: David Phelps, Ben Upsall

GeoEngineers provided geotechnical services on Segment 1A of the I-405 Renton to Bellevue design-build project near Renton. GeoEngineers was the geotechnical task lead responsible for all aspects of geotechnical characterization, analysis, and design of the various infrastructure components. GeoEngineers was not originally on the design build team selected to provide geotechnical support for the project but was hired after the contract was awarded to augment the geotechnical team capacity and help deliver the project.



Top: construction of along I-405. Bottom: 3D PLAXIS model used to predict the performance of Bridge 17.7 with girder extensions.

The scope of GeoEngineers' work includes the widening retrofit of three existing bridges, a girder extension bridge lengthening of one additional existing bridge, and the design of more than 25 new retaining walls through a corridor with high seismicity, shallow groundwater, and liquefaction susceptible soils. Parts of the corridor are located within historic landslide areas. Dave and Ben worked closely with both the design team and management to integrate the supplemental geotechnical staff.

The girder extension design for Bridge 17.7 proved to be the most challenging as the western bridge approach embankment consisted of a 30-year-old, 50-foot-tall structural earth embankment that was designed long before our currently rigorous seismic design standards were put into place. The new design includes landing the extended bridge on a shallow foundation perched approximately mid-height within the existing SE wall and then underpinning the foundation with soil nails drilled through the existing structural earth wall. The design required a site-specific Probabilistic Seismic Hazard Analysis (PSHA) combined with a 3D finite element model to show that the existing approach embankment could tolerate both the new bridge footing loads and the updated seismic demands. GeoEngineers' seismic experts worked closely with the owner, contractor, and structural engineering designers to complete the 3D finite element modeling. A weekly task force meeting specific to the modeling effort was used to gain insights and comments along the course of the design rather than at the end of design, resulting in zero owner comments on our modeling design once submitted for owner review. This yielded a cost and effort saving design that could be built without completely removing the existing structural earth embankment.

Criteria 2: Qualifications of the Proposed Senior Level Geotechnical Engineer

GeoEngineers has selected **Daniel J. Campbell, PE** to act as the Senior Level Geotechnical Engineer (SLGE) and leader for this contract. His qualifications and familiarity with the items requested in the RFQ are presented in the following pages.

Qualifications

Washington State Professional Engineer: #29633, 1992

Years Experience: 35

Dan was named the ACEC Washington Engineer of the Year in 2019 in recognition of his outstanding contributions to the engineering industry

DANIEL J. CAMPBELL, PE

Senior Principal Geotechnical Engineer

A QUALIFICATIONS & EXPERTISE OF SLGE

Dan has 35 years of experience providing geotechnical engineering and consulting services. He has collaborated on more than 350 transportation infrastructure projects along the West Coast and in Hawaii and has completed 18 design-build projects, including five for WSDOT where he served as the overall Geotechnical Design Lead or Group Manager. Those projects include SR 520 Floating Bridge East Approach and Landings, I-405 South Bellevue Improvements, SR 9/SR 92 Interchange, I-405/NE 132nd Street Interchange, and the I-405/NE 8th Street to SR 520 Braided Ramps-Interchange Improvements. All of those projects were completed in accordance with Load and Resistance Factor Design (LRFD) methodology including AASHTO's seismic criteria as well as the WSDOT GDM.

Dan has a breadth of experience across the spectrum of transportation stakeholder perspectives: he has worked on behalf of the owner developing geotechnical baseline reports and RFP materials; been GeoEngineers' decision maker regarding the business rationale and risk allocation of design-build procurements; and been the geotechnical design manager for several large highway infrastructure projects, working with contractor-led teams that constitute a significant cross-section of the contactor and Architecture/ Engineering communities. Dan's experience facilitates collaborative working relationships among the project owners, contractors, and design teams.

During the 1990s, Dan's seismic work on liquefaction and site-specific studies in the Puget Sound advanced the field and eventually helped launch GeoEngineers' industry-leading seismic-modeling team. He was a key member of reconnaissance teams after the Nisqually, Taiwan, and Northridge earthquakes.

Dan has extensive project management experience and is routinely the principal-in-charge of concurrent projects with annual project budgets of more than $1 million and has a long record of effective budget control. Dan maintains a record of successful project budgets by establishing a realistic scope of services and budget, monitoring the budget appropriately, keeping the client informed, adhering to the scope of work, and notifying all parties as soon as possible if the governing assumptions are found to be invalid or if out-of-scope tasks are required. Dan keeps clients informed about important project developments on a regular basis.

B FAMILIARITY WITH STATE DESIGN AND CONSTRUCTION STANDARDS

As a transportation-focused geotechnical engineer with 35 years in Washington State, Dan has worked on hundreds of projects using the WSDOT GDM, BDM, and AASHTO LRFD Code. Dan marshaled a GeoEngineers' team to co-author, with WSDOT, the first edition of WSDOT's GDM in 2004. Dan's team had, concurrently, up to 10 engineers from five different GeoEngineers offices working on the project. Dan and his team worked as an extension of WSDOT's Geotechnical Division Staff. Dan took the lead in preparing chapters on the planning of geotechnical projects, estimating soil and rock properties, seismic design, and design of cut slopes, embankments, and shoring systems. Particularly, we wrote a chapter on cut and fills for transportation corridor development. This cut and fill chapter combined local and Federal guidelines and standards along with state-of-the-practice design techniques for soil conditions specific to the various geologic environments encountered in Washington, including the Eastern region. The process was collaborative, and the team jointly developed expanded outlines for each chapter. Dan made sure GeoEngineers chapters evolved through a continuous review process with the Geotechnical Division.

To ensure continuity, Dan thoroughly reviewed and edited each chapter before submitting it to WSDOT for its review. Through the review process, the content of some chapters changed substantially from the initial outlines. Working as an extension of the WSDOT staff, Dan demonstrated the ability to seamlessly integrate multiple staff from GeoEngineers. The breadth of company expertise resulted in top-notch technical content and strong familiarity with WSDOT geotechnical policy and guidelines. GeoEngineers was able to adapt to new project needs by communicating regularly with all participants and remaining flexible, and Dan delivered the project on schedule and under budget. The FHWA was pleased with WSDOT's initial GDM and used it as a model for other state manuals.

Additionally, Dan has served as the lead for geotechnical elements of more than 15 WSDOT design-build projects, all with geotechnical designs based on the WSDOT GDM and AASHTO LRFD Bridge Design Specifications. He led the design efforts in supplemental site investigation; drilled shaft, pile, and shallow foundations; roadway embankments (including geofoam); bridge abutments; retaining/noise walls; soil nail walls; slope stabilization and landslide mitigation; pavement design; and seismic design including PSHAs, liquefaction and lateral spreading evaluations, and mitigation of seismic hazards using ground improvement such as compaction grouting, stone columns, and rigid inclusions. He was the primary author of most of the design memos and coordinated construction support for these projects. He is skilled in geotechnical engineering design of elevated structures (bridges and piers); geotechnical engineering design using LRFD methods; seismic design; and geotechnical aspects of urban and complex environmental engineering projects.

C FAMILIARITY WITH PROJECT MANAGEMENT

A key skill of a consulting geotechnical engineer is managing multiple projects with overlapping schedules to ensure project delivery meets the client's schedule and budget. Dan has 35 years of experience doing just this. The stories below illustrate his deep familiarity with project management, optimizing resources, and acting as a subject-matter expert in the engineering industry, especially on complex transportation projects.

- **Chief Operations Officer (COO)**. From 2008 until 2021, Dan assumed the role of GeoEngineers' COO. In this position, Dan was the individual primarily responsible for the day-to-day performance of the company and meeting established annual metrics. Among Dan's responsibilities were balancing workload and resources for project delivery for

GeoEngineers' 400+ employees spanning 18 offices and five core disciplines. During Dan's tenure as COO, the company averaged 2,000 projects per year. In addition to project delivery, Dan was also ultimately responsible for the quality of work product, risk management, business development, and staff development and progression. While COO, Dan still led specific engineering projects and was the geotechnical lead for projects such as WSDOT's I-405 Bellevue Braids and SR 520 Floating Bridge East Approach and Landings design-build projects, and Sound Transit's Lynnwood Link Light rail Extension project. Dan's ability to marshal and manage large, complex, multi-disciplinary teams working across various time zones is exceptional.

- **I-405 South Bellevue**. As GGM for this $124M design-build project, Dan used the AASHTO LRFD design specifications for all the project components. As part of GeoEngineers' services, he also developed several geotechnical design spreadsheets based on LRFD criteria that the WSDOT Geotechnical Division validated for use on this and subsequent WSDOT projects. Project elements included more than 200,000 square feet of retaining walls, stone column ground improvement, four bridges, several new stormwater vaults and ponds, dozens of new sign bridges, illumination, and camera poles, new Hot-Mix Asphalt (HMA) pavement, and Portland Cement Concrete (PCC) pavement rehabilitation. This was only WSDOT's second design-build project and the first in more than a decade. As such, some of the team roles were more fluid and expanded than they are today. In addition to leading and managing all geotechnical aspects of the project, Dan led the pavement design, and the project's Environmental Compliance Manager reported to him as well.

  Dan and his team completed the geotechnical and pavement design and successfully managed environmental compliance on schedule and under budget. Dan seamlessly managed multiple disciplines for this successful project. By sharing on-site office space with the contractor, prime designer, and WSDOT staff, Dan was able to respond to proposed design alternatives, RFIs, and construction challenges at a moment's notice. Because we were co-located with the prime designer, he saw how the structural and civil engineers implemented the geotechnical LRFD input and ensured GeoEngineers approach to future LRFD design is in keeping with the team's needs and the method's expectations.

- **WSDOT/ACEC Structures-Geotechnical Subcommittee**. Dan was a charter member representing the American Council of Engineering Companies (ACEC) on the WSDOT/ACEC Structures-Geotechnical Subcommittee after it evolved from the Structures Subcommittee to include the geotechnical discipline. The subcommittee is comprised of WSDOT subject matter experts from the Headquarters Bridge Office and Geotechnical Division along with transportation industry experts in structural and geotechnical engineering. The objective of the subcommittee is to provide a forum for addressing issues of common interest in or related to project design and delivery for transportation project; strengthening the coordination and collaboration between WSF, WSDOT Bridge and Structures Office, WSDOT Geotechnical Division, and the consulting community; providing suggested revisions and peer review to the WSDOT BDM, WSDOT GDM, WSF Terminal Design Standards Manual, and other WSDOT design and construction standards; proposing revisions to WSDOT-related bridge, structural, and geotechnical aspects for all delivery methods; and providing design review and design feedback for submitted projects.

  Dan was a member of the subcommittee from 2017 to 2020, and the experience was invaluable to developing a deep understanding of WSDOT design manuals, objectives, and procedures.

D FAMILIARITY WITH DESIGN BUILD PROJECT TEAM LEADERSHIP/MEMBERSHIP

For more than 15 years, Dan led GeoEngineers' design-build team and used his knowledge and understanding of WSDOT's projects and specifications to work as an extension of WSDOT's Headquarters Geotechnical Division to support geotechnical document development for design-build projects and later as a subject-matter expert on design-build teams pursuing and completing design-build projects. Examples of these experiences are described below.

- **I-405 Geotechnical Baseline Reports (GBR).** Dan and his team were responsible for developing GBRs for the various I-405 segments; initially through a contract with the Urban Corridors Office (UCO) and later through contracts with the WSDOT Headquarters Geotechnical Division. Dan's team used LiDAR data to model the terrain and provide greater insight into the geology and geotechnical issues that control topography, the development of drainage and wetland conditions, and landslides and sites of potential erosion. All data related to the GBRs was developed in GIS for better analysis and preparation of maps and drawings. Dan was the lead for the initial GBRs for The Kirkland Phase 1, South Renton, and South Bellevue segments of I-405 and other team members led the completion of GBRs for the SR 515 Interchange, Bellevue Braids, and SR 520 to I-5 segment. The initial feedback from WSDOT and UCO's I-405 team was favorable regarding content, thoroughness, and adherence to schedule and budget for the first three completed GBRs. The WSDOT I-405 Team scored GeoEngineers' services a "10 out of 10" on performance evaluations for each of the completed projects.

> "GeoEngineers has maintained the requested schedules and budgets and thrown in extras to make the GBR program as successful as it is. It has been a great pleasure working with Dan Campbell and his well-managed highly technical team of geotechnical engineers."
>
> Tony Stirbys, I-405 GEC Lead Geotechnical Engineer

- **SR 520 Floating Bridge East Approach & Landings.** Dan was the design-build team's Geotechnical Design Manager for the startup of the EAB and the onshore elements east of the bridge in Medina. The project procurement, design, and construction required complying with WSDOT design-build project requirements and Mandatory Standards including WSDOT Standard Plans and Specifications, GDM, and BDM. Key design and construction issues included evaluating and maintaining global stability of the existing steep slope, design, and construction of 160-foot by-40-foot by 12-foot-thick shallow foundations constructed below the static groundwater table on-shore and in-water, temporary dewatering to alleviate artesian groundwater conditions, permanent and temporary shoring wall designs, construction in moderately sensitive silt and clay soils, and design of a driven pile supported maintenance dock. Dan worked with the design-build team to develop an alternative spread footing foundation system for the EAB structures.

  During the design-build phase, he was responsible for the timely delivery and execution of detailed work plans and technical memoranda. Dan developed subsurface investigation, geotechnical instrumentation, vibration monitoring, shoring, and on-shore and in-water temporary dewatering plans that WSDOT reviewed and approved, and the design-build team implemented. He also developed technical memoranda addressing the design and construction

of the east approach bridge foundations, maintenance facility, bridge maintenance dock, temporary and permanent retaining walls and reinforced slopes, stormwater facilities, and sign and gantries foundations that WSDOT approved and released to the design-build team for construction. Dan also worked with the City of Medina by developing a critical areas report to meet the City's Municipal Code requirements.

- In addition to his role as the Geotechnical Engineer of Record for design documents and on design-build teams, Dan was a **charter member representing ACEC on the WSDOT/AGC/ ACEC Design Build Committee** after it evolved from the WSDOT/AGC committee to include ACEC in 2007. The committee is comprised of members from WSDOT's Headquarters Design and Construction groups, along with transportation industry design professionals (ACEC) and the construction community (AGC). The mission of the committee includes:
  - Educating each other about business plans and areas of expertise.
  - Collaborative problem solving by identifying challenges that require collective efforts and devising action plans to address them.
  - Strategic leadership through development of long-term visions for the transportation industry.

  The committee also focuses on improving project delivery and business practices to enhance public confidence in transportation. As part of this committee, Dan established relationships with the key players at both WSDOT and the construction community and participated in the development of how WSDOT delivers its design-build program. Dan ended his time on this committee in 2016; however, this experience provided Dan with unique insight into the various team members' viewpoints on the design-build delivery method.

E FAMILIARITY WITH CONSTRUCTION SUPPORT

The stories below illustrate Dan's experience with WSDOT Standard Specifications for Road Bridge and Municipal Construction, experience evaluating contractor submittals, RFIs, and CRIPs, and evaluating change of condition claims and plan errors.

- **I-405/NE 8th Street to SR 520 Braided Ramps – Interchange Improvements**. Dan, as GDM, and four other geotechnical engineers collaborated with the contractor, lead designer, and WSDOT on this design-build project. The purpose of the project is to reduce congestion on northbound I-405 by separating traffic exiting SR 520 from vehicles entering I-405 at NE 8th Street. The project also reduces congestion on eastbound SR 520 by eliminating the weave of traffic entering from I-405 and exiting 124th Avenue NE. Project improvements include seven new bridges; 26 retaining walls, numerous drainage improvements, and miscellaneous structures, such as sign bridges and illumination poles. Geotechnical design services for the project were provided utilizing AASHTO LRFD design specifications, and construction observation was provided for all significant geotechnical engineering elements. Dan's duties included responsible charge for all the geotechnical engineering elements, managing the geotechnical staff, coordinating with other design and construction team members, and maintaining schedule and budget. During construction, Dan reviewed construction documents such as RFIs, geotechnical required submittals, materials specification sheets, quality test reports, non-conformance reports, and requested field design changes.

- **Subject-Matter Expert for Construction Claims**. Dan's in-depth experience working on all facets of projects from concept through construction, and for owners, other design firms, and contractors has made him a sought-after subject-matter expert for geotechnical/construction-related claims. He has supported both owners and contractors at Dispute Review Board (DRB) hearings and both owners and contractors at trial. These engagements always include an in-depth review and assessment of project documentation, including contracts, design documents, relevant standards and codes, construction file (e.g., RFIs, materials specifications, field reports, daily logs, QA/QC reports), and team communications (e.g., emails and other correspondence). In this role he has supported the City of Seattle in DRB hearings for the Seattle Central Library project, supported Frank Coluccio Construction Company in DRB hearings for the Tolt Pipeline No. 2 in King County, and WSDOT and its designers in claims regarding the SR 99 Tunnel Replacement project, as described below. Dan's experience addressing construction claims may be an invaluable asset to WSDOT to help resolve potential claims expeditiously.
- **Expert Witness Support of SR 99 Tunnel Replacement**. WSDOT and its design consultants retained legal representation to defend a claim from a design-build contractor regarding the adequacy of geotechnical contract documents prepared for the SR 99 Tunnel Replacement project, specifically as they related to the Tunnel Boring Machine (TBM)'s strike of Test Well 2 (TW-2) that delayed the project more than two years and generated more than $600M in cost overruns. The team retained Dan as its expert witness in geotechnical issues and documentation. Dan's focus was on the geotechnical issues associated with the TBM strike, and whether WSDOT and its consultants adequately prepared the GBR and Geotechnical and Environmental Data Report (GEDR) to satisfy the requisite standard of care in notifying the design-build team regarding the test well during the project.

  Dan thoroughly reviewed the project geotechnical documentation developed during design and construction as well as thousands of pages of deposition testimony from the various parties. Dan concluded the Geotechnical Contract Documents met the standard of care, that TW-2 was not an obstruction, and that WSDOT and its consultants provided the design-builder ample information regarding the existence, location, and composition of TW-2 and that the design-builder was responsible for abandoning the well in advance of tunneling through the area. The local court ruled in favor of WSDOT, and upon appeal, the Washington State Supreme Court upheld the decision. In addition to denying the claim from the design-builder for a differing site condition and additional compensation, the court awarded WSDOT $77M for delay-related damages.

Criteria 3: Qualifications/Expertise of Selected Staff

A. SELECTED SENIOR STAFF

As WSDOT identifies tasks to assign under this contract, Dan will act as an extension of the WSDOT Geotechnical Office and will coordinate with WSDOT personnel to complete tasks. Should a need for additional capacity arise, Dan will work with GeoEngineers' senior-level geotechnical personnel to meet your scope, schedule, and budget for each task with the right expertise and experience. Our senior-level geotechnical personnel possess the required credentials in Washington and are described in more detail on the following pages.

Qualifications

Washington State Professional Engineer: #44135, 2007

Years Experience: 20

BENJAMIN M. UPSALL, PE

Principal Geotechnical Engineer

2A. QUALIFICATIONS & EXPERTISE

Ben is a geotechnical engineer with approximately 20 years of professional geologic and geotechnical experience. His geotechnical project experience includes extensive site investigation, analysis, delivery, and management tasks associated with bridge replacement, bridge retrofit, tunnel, culvert, roadway, retaining wall, embankment, slope stability, and demolition design elements for public transportation owners such as WSDOT and SDOT. He has conducted field soil sampling, laboratory soils testing, and has supervised numerous drilling projects. He is familiar with both flexible and rigid pavement design for applications ranging from airport runways and interstate travel lanes to commercial parking lots and sidewalk curbs.

He frequently leads the design efforts in supplemental site investigation, drilled shaft foundations, roadway embankments (including geofoam), bridge abutments, retaining/noise walls, soil nail walls and slope stabilization, and pavement design. He was the primary author of most of the design memos and coordinated construction support for all of these projects. He is skilled in geotechnical engineering design of elevated structures (bridges and piers); geotechnical engineering design using LRFD methods; seismic design; and geotechnical aspects of urban and complex environmental engineering projects.

2B. FAMILIARITY WITH STATE DESIGN AND CONSTRUCTION STANDARDS

Ben served as the lead Geotechnical Project Engineer and/or Project Manager for the design of WSDOTs I-405 Brickyard to SR 527 Improvements, I-405/SR-167 Direct Connector Interchange, SR 99 Tunnel Decommissioning and Demolition, and portions of I-405 Renton to Bellevue Corridor Widening and Express Toll Lanes (ETL) design-build projects, all with geotechnical designs based on the WSDOT GDM and AASHTO LRFD Bridge Design Specifications. Ben is very familiar with the current FHWA design guidelines for driven piles and drilled shafts; and WSDOT Pavement Design Manual. He is well versed with current seismic design criteria in AASHTO and IBC guidelines.

2C. FAMILIARITY WITH PROJECT MANAGEMENT

Ben is an accomplished project manager, with approximately 10 years of experience leading GeoEngineers' team on some of WSDOT's most complex and challenging projects. Examples of his familiarity with project management are his work on the following two WSDOT design-builds:

- **I-405 Renton-to-Bellevue Corridor Widening and ETL**. GeoEngineers was brought onto the design-build team after award to provide geotechnical services for four of the project's bridges and about 25 of the project's 120 new retaining walls. One bridge created a significant design challenge because the design team proposed to use girder extensions to widen the interstate travelling underneath it. The new widened bridge abutment was proposed to be founded on a spread footing perched roughly mid-height on an existing 50-foot-tall and 30-year-old Hilfiker-type MSE wall. Worse yet, the MSE approach embankment quickly curves 90 degrees after the bridge lands on it. Ben quickly realized that it would be very difficult to truth out any kind

of design for the large seismic lateral inertial forces that would be transmitted through the modified bridge structure and into the existing MSE approach embankment. The team knew that the best way to analyze the complex design needed for these loads was to use a 3D PLAXIS model. Ben brought in GeoEngineers' geotechnical modeling team and together, they realized that due to project time constraints, the team would need thorough WSDOT technical review throughout the modeling process as opposed to at the end of the draft design process. Ben knew they would need a channel for regular collaboration, cooperation, and feedback.

To keep things moving smoothly during this modeling and design effort, Ben launched a weekly task force meeting including himself as the geotechnical engineering lead, a geotechnical modeling lead, the structural engineer, a representative from the contractor, and the geotechnical and structural review leads from WSDOT. The goal was to walk through modeling assumptions, design decisions, preliminary results, parametric studies, and all other aspects of this specific model that could come into question during a review of the work upon completion. The group was already familiar with both the bridge design and finite element modeling, and the meetings became a dynamic environment where every detail could be carefully considered. This approach saved time by not only avoiding what could have been multiple review and revision cycles, but it also allowed the parties involved to truly collaborate in a meaningful way. The team estimates that the task force saved more than six weeks of review time. The success of this task force is an excellent example of how purposeful collaboration can elevate project design, speed up approvals, and improve client satisfaction.

- **SR 520 Floating Bridge East Approach & Landings**. Ben worked at another firm on the design-build team tasked with designing the anchors used to permanently moor the floating pontoons of the bridge to the lake bottom. The anchors were required to carry nearly five times the load of the existing bridge anchors. Additionally, the soil conditions at the bottom of the lake were extremely challenging to both characterize and design. Ben served as the GDM for the anchor design component of this project, managing and coordinating as many as six design engineers at any given time. With such an interesting problem at hand in designing these new anchors, it was important to ensure that the design team working for Ben remained focused and efficient. Ben held routine design update meetings and kept his fingers on the pulse of the project engineers' design bearings. This tight management format prevented lost project time and increased costs due to unnecessary or unplanned work being performed. Add on top of that the fact that the schedule was extremely tight, and the design concepts seemed to change almost daily and there was a significant challenge to keep the project deliverables on schedule and the expenditures under the proposed budget.

2D. FAMILIARITY WITH DESIGN BUILD PROJECT TEAM LEADERSHIP/MEMBERSHIP

Ben has worked on 12 WSDOT design-build projects, including as the Geotechnical Group Manager and/or Geotechnical Design Manager on the I-405/SR 167 Direct Connect Interchange and the current work on I-405 from Brickyard to SR 527. Examples of Ben's experience as a subject-matter expert on a team supporting a design-build contract is presented below:

- **I-405 Brickyard to SR 527 Improvements**. Ben is currently leading geotechnical engineering design for this WSDOT design-build project spanning King and Snohomish counties on I-405. The project is focused on six main areas: Northbound and Southbound I-405, NE 160th Street Interchange/Brickyard Park and Ride, SR 522 Interchange, SR 527 Interchange, several fish barrier corrections, dozens of noise and retaining walls, and stormwater management.

- **I-405/SR 167 Direct Connect Interchange**. Ben was the GGM and Associate-in-Charge for this design-build project in Renton. After leading the design-build team in the geotechnical procurement phase design, which included ATC development and final design scoping, he became responsible for oversight of all geotechnical final design aspects of the project including exploration, testing, design, consultation, and construction oversight. Ben managed a large team of geotechnical engineers, geologists, and scientists to efficiently design the project's various infrastructure components including a flyover bridge structure connecting I-405 to SR 167, two new bridge structures on I-405 over Talbot Road, new walls and embankments for roadway widening, noise walls, camera/light/ITS foundation elements, and lightweight approach embankments. As with most design-build projects, the design schedule was heavily compressed to allow for construction to begin as soon as possible. Ben managed his team to be able to meet this aggressive schedule and keep the design and construction teams on schedule. After the final design phase, Ben managed the geotechnical aspects of the final design documentation, construction oversight, and project closeout.

- In addition to his role as the geotechnical engineer of record for design documents on design-build teams, Ben has been a member **representing ACEC on the WSDOT/AGC/ACEC Design Build Committee** since 2016. Since joining the committee, Ben has helped create and revise design-build templates and policy for WSDOT, including chairing the committee to revise and publish the 2023 updates to WSDOT's Organizational Conflict of Interest manual. Additionally, Ben has served as a trainer at WSDOT's internal annual Design-Build Training Summit. His established relationships with the key players at both WSDOT and within the construction community give him unique insight into the various team members' viewpoints on the design-build delivery method and subject-matter expertise for design-build teams working with WSDOT on complex transportation projects.

2E. FAMILIARITY WITH CONSTRUCTION SUPPORT

Ben's experience on dozens of WSDOT and local agency projects in Washington has given him a strong understanding of the WSDOT Standard Specifications, as well as ample opportunity to review contractor submittals and evaluate change of conditions claims and plans errors. An examples of his familiarity with construction support is his work on the **SR 167 Puyallup River Bridge Replacement**. Ben led geotechnical engineering on this WSDOT design-build project to replace an aging steel truss bridge while at another geotechnical firm. The existing truss, supporting northbound lanes, was rolled to the east to a new temporary alignment and was founded on mechanically stabilized earth abutments. The permanent replacement bridge was then constructed in between and close to both the existing southbound bridge and the newly aligned northbound truss bridge. He designed the drilled shafts to withstand the lateral soil forces and artesian groundwater conditions leading to an overall abutment design that significantly improves global stability in the vicinity. The project team limited the risk of vibration-induced settlement on existing bridge structures and utilities by utilizing rotator-oscillator drilling methods.

Qualifications

Washington State Professional Engineer: #36077, 1993

Years Experience: 32

DAVID S. PHELPS, PE

Principal Geotechnical Engineer

2A. QUALIFICATIONS & EXPERTISE

Dave has been a consulting geotechnical engineer in the Pacific Northwest since 1993. He brings more than 30 years of experience in geotechnical design, engineering, and construction observation of transportation structures. His project experience includes providing geotechnical site evaluation by conducting historic review, site reconnaissance, and subsurface investigations. Dave has developed geotechnical design criteria, conducted engineering analyses, and provided and supervised construction observation services for geotechnical aspects of bridges, roads, rails, runways, pipelines, port facilities, and offshore structures. He has worked with design teams from the basis of design through construction providing recommendations for site preparation and earthworks including cut and fill excavation, reinforced earth fills, preloading of sites, stone columns, dynamic deep compaction, and shoring.

He has developed design recommendations for spread footing, drilled shaft, cast-in-place, augercast, and driven pile foundations. He has provided geotechnical design criteria for cast-in-place concrete retaining structures, soil nails, modular blocks, soldier pile walls, and reinforced slopes. His experience includes developing seismic design criteria, evaluating geologic hazards, and providing recommendations for LID, pervious asphalt and concrete pavement, and stormwater infiltration and treatment.

2B. FAMILIARITY WITH STATE DESIGN AND CONSTRUCTION STANDARDS

Dave has worked on many WSDOT and local agency transportation projects and understands state and local regulations, standards, design requirements and construction procedures required by WSDOT, AASHTO, FHWA and other agencies. He works well with agencies through attention to detail, collaboration and “over-the-shoulder” design reviews. Dave has completed designs under WSDOT design-build project requirements and mandatory standards including WSDOT GDM, BDM, and Standard Plans and Specifications. Dave has applied WSDOT standards and design requirements on projects for agencies such as the ports and cities of Seattle and Tacoma. Dave was the principal in charge of several City of Tacoma bridge rehabilitation projects including the Murray Morgan bridge and the Tacoma Avenue South bridge where WSDOT seismic and foundation design standards were implemented.

2C. FAMILIARITY WITH PROJECT MANAGEMENT

Dave’s career spans more than 30 years of consulting engineering, which has led Dave to have exceptional project management skills. He is adept at managing multiple projects with overlapping schedules, prioritizing resources, and supporting multi-disciplinary teams on complex transportation projects in Washington. The projects described below illustrate this experience.

- **I-405 Renton-to-Bellevue Corridor Widening and ETL**. David is the principal and project manager for two bridges along Segment 1A of this design-build project near Renton. He is the geotechnical task lead for four bridges and 25 retaining walls over approximately 3.5

miles of interstate. Dave and his team were responsible for all aspects of geotechnical characterization, analysis, and design of the various infrastructure components. GeoEngineers was hired by the design-builder after the contract was awarded to help the original geotechnical engineer successfully deliver the project.

- **Port of Seattle, Geotechnical On-Call Contract**. Dave led GeoEngineers' contract with the Port of Seattle for on-call geotechnical projects from 2011 to 2014. Through this contract, Dave frequently managed multiple tasks at once, prioritized limited internal and Port resources to ensure task delivery as contracted, and provided geotechnical engineering expertise on multiple projects, including Terminal 117 restoration, Air Cargo Road pavement assessment, stormwater improvements at the South Employee Parking Lot, Shilshole Bay Marina pavement evaluation, Doug Fox Parking Lot service upgrades and improvements, and T-91 security upgrade projects.

2D. FAMILIARITY WITH DESIGN BUILD PROJECT TEAM LEADERSHIP/MEMBERSHIP

Dave has worked on several WSDOT design-build projects, including as the Geotechnical Design Manager on portions of the SR 530 roadway reconstruction following the Oso landslide. He also was the Geotechnical Group Manager for the **US 101/Coffee Creek Fish Barrier Removal** fish passage design-build project. He led the geotechnical design team providing subsurface investigation, development of engineering soil unit designations, culvert and wing wall foundation designs, permanent slopes and roadway embankment and pole foundation designs and was responsible for delivering all of the geotechnical documentation packages. The RFQ design concept was to replace the existing deep culverts under US 101 near Shelton with a similar deep structure, impacting wetlands and a stand of large trees, causing large construction-related traffic delays, and leaving in place approximately 0.5 miles of degraded fish habitat between the US 101 crossing and Coffee Creek's confluence with Goldsborough Creek. GeoEngineers developed an innovative alternative technical concept (ATC) design to re-route the Coffee Creek channel to a new confluence with Goldsborough Creek and collaborated closely with WSDOT, WDFW, and the tribe during procurement to get consensus on the concept. The concept eliminated the US 101 crossing as well as an additional fish passage barrier at a downstream county road, meeting the injunction's highest priority—eliminate crossings where possible. The project avoided wetland impact, improved more than 2,000 linear feet of stream channel, removed two fish barriers, and improved the riparian corridor.

Bottom: fish passage crossing structure installation on a thin, leveling crushed surfacing base course (CSBC), overlaying quarry spalls and geotextile fabric base.

2E. FAMILIARITY WITH CONSTRUCTION SUPPORT

Dave has worked on many WSDOT and local agency transportation projects and understands state and local regulations, standards, design requirements and construction procedures required by WSDOT, AASHTO, FHWA and other agencies. He works well with agencies through attention to detail, collaboration and "over-the-shoulder" design reviews. As the GGM for the US101/Coffee Creek Fish Barrier Removal, David developed the geotechnical criteria for the channel relocation cost-saving ATC.

- **SR 520 Floating Bridge Eastern Approach & Landings**. David was a geotechnical design manager for this WSDOT project, providing an alternative spread footing foundation system that reduced the new bridge's eastern approach's environmental impact and costs and expedited the construction schedule. David led supplemental geotechnical investigations, excavation dewatering and geotechnical design, and construction. The project site access was extremely constrained by steep slopes and the Lake Washington shoreline, requiring careful coordination of temporary and permanent structures. Using both WSDOT-reviewed design spreadsheets that GeoEngineers developed to expedite design processes and over-the-shoulder WSDOT reviews and coordinating closely with the project's QA/QC manager,

  David limited review comments and facilitated timely approvals of released-for-construction and field design change technical memorandums. David's activities included ensuring that the components of the bridge, walls, and miscellaneous structures complied with WSDOT requirements and mandatory project standards, including the GDM, BDM, and Standard Plans and Specifications. He also provided geotechnical design for temporary works including the shoreline modular block retaining wall to facilitate site access. David managed field activities during construction overseeing daily site visits and reviewing field reports to document excavation, anchored retaining wall construction and foundation subgrade preparation.

- **SR 530 Skaglund Hill Vicinity to C-Post Road Vicinity Emergency Roadway Reconstruction**. David led GeoEngineers' geotechnical design services for the six culverts required to restore fish passage following the 2014 Oso landslide. WSDOT faced the daunting task of rebuilding the roadway and reconnecting the affected communities under some of the most difficult conditions the agency had ever faced. David worked with WSDOT and resource agency representatives to refine the basis of the design to modify culvert geometries. This allowed most of the culverts to be aluminized steel spiral rib pipe or pipe arch, a local product that could be furnished under a tight two-month construction window.

Fully functioning road and fish passable crossing on SR 530 one year after emergency repairs following the Oso landslide.

Qualifications
Washington State Professional Engineer: #33250, 1996

Years Experience: 31

SHAUN STAUFFER, PE, LEED AP

Principal Geotechnical Engineer

2A. QUALIFICATIONS & EXPERTISE

Shaun is a principal engineer with more than 30 years of experience focusing on western Washington. Shaun has been a key geotechnical engineer for several transportation and roadway projects for WSDOT and other local agencies including City of Bellevue, City of Redmond, and City of Seattle. Many of these projects have utilized LRFD design procedures. His experience also includes design-build infrastructure projects for Utah DOT, and technical expertise in lateral earth support, slope stability, soft ground engineering, retaining wall alternatives, bridge and structure foundation engineering, shoring design (PS&E level), seismic analysis and LID solutions.

2B. FAMILIARITY WITH STATE DESIGN AND CONSTRUCTION STANDARDS

Shaun has experience with many WSDOT GDM and LRFD projects throughout Washington. He was Principal-in-Charge of the I-90 Hyak Cost-Reduction Incentive Proposal (CRIP) project, SR 530 Emergency Roadway Reconstruction, and SR 167 HOT Lanes project and Associate-in-Charge of the I-405/SR 520 Bellevue Braids. Shaun was GeoEngineers' project manager on the first I-405 Corridor GBR (Kirkland Stage 1) and helped set the stage for the successful completion of the other GBRs, including I-405 Bellevue to Lynnwood HOT Lanes project. Shaun was also Associate-in-Charge on the NE 10th Street Bridge project which incorporated LRFD design. The NE 10th Street work was reviewed by the WSDOT Geotechnical Division and accepted with few comments on the draft report.

2C. FAMILIARITY WITH PROJECT MANAGEMENT

As a consulting geotechnical engineer with more than 30 years of experience, Shaun regularly manages multiple projects with overlapping schedules, prioritizes limited resources to optimize project delivery, and helps multi-disciplinary teams deliver complex transportation projects. Some examples of this experience are described below.

- **SR 530 Skaglund Hill Vicinity to C-Post Road Vicinity Emergency Roadway Reconstruction**. Shaun was the Principal-in-Charge for providing geotechnical design, consultation, and construction observation for repair of SR 530 after the Oso Landslide. Shaun's outstanding project management skills kept the engineering work progressing as fast as the remainder of the design team's project elements. Shaun was able to break the design into three components, then assigned each component to internal design teams to ensure that schedules were maintained. Continuity of the project designs with the team members was maintained through Shaun's oversight and management.

  Shaun's team provided full-time observations during construction to ensure the tight project schedules were achieved. This was critically important for fish passage culvert installations which required full weekend closure of SR 530. During one installation, the contractor experienced difficulties with temporary dewatering and shoring. Shaun stayed on site for 36 hours to develop solutions and assist the contractor so that the culvert could be installed without impacting the closure schedule. Shaun and his team also worked many other nights

and weekends to keep the construction progress moving forward and to reopen the roadway to minimize the impact to the communities affected by the landslide.

- **I-90 Hyak Wall 7 Redesign**. Shaun again served as Principal-in-Charge of the GeoEngineers team supporting this portion of WSDOT's complex Hyak project delivered through a CRIP. Construction of the originally designed Wall 7 soil nail wall was stopped due to constructability issues associated with grout loss in the fill/talus soils. The redesign consisted of eliminating Wall 7, Wall 23, and Slide Curve Bridge and replacing these structures with a geosynthetic wrapped face wall (Wall 707), an extension to Wall 8 (Wall 708), several other smaller walls, and revised rock cuts upslope of the I-90 alignment. Shaun and the team completed additional analysis and provided recommendations for the design and construction of the new/extended walls. They also provided the design, plans, and specifications for temporary wall 707, which was a cantilever soldier pile wall used to provide construction access to construct Wall 707. They also assisted with the review of the rock cuts and surcharge loading on Wall 708 due to blasting surcharges.

  The redesign effort was completed concurrently with the design and construction of I-90 Hyak Avalanche Bridges CRIP project. Shaun worked closely with Atkinson Construction and WSDOT to ensure that both projects received the geotechnical resources necessary to be successful given the time constraints of schedule and winter shutdowns.

2D. FAMILIARITY WITH DESIGN BUILD PROJECT TEAM LEADERSHIP/MEMBERSHIP

Shaun was one of the first geotechnical engineers at GeoEngineers to support WSDOT both as an extension of its own staff to prepare geotechnical documents for design-build projects, and as a subject-matter expert on design-build teams pursuing and delivering WSDOT work. Examples of these experiences are described below.

- **NE 10th Street GBR**. As Associate-in-Charge, Shaun provided the geotechnical baseline report for the NE 10th Street Overpass GBR project as part of GeoEngineers' work under an on-call geotechnical contract with WSDOT. All geotechnical recommendations were per the WSDOT GDM and the AASHTO LRFD bridge design specifications. This project provided much-needed congestion relief (from the existing NE 8th interchange) and important access to emergency health care facilities. The primary project improvements included a new bridge over I-405 using shallow foundations and drilled shafts including a foundation in the I-405 median, numerous MSE retaining walls, and a lightweight fill design, in consideration of potential surcharge loading impacts to the adjacent medical facilities.
- **I-405/NE 8th St to SR 520 Braided Ramps – Interchange Improvements**. Shaun was Principal-in-Charge of providing geotechnical design services to the design-build team delivering this project; he transitioned into lead for the latter half of design and all of construction. Project improvements included seven new bridges: 26 retaining walls, numerous drainage improvements, sign bridges, and illumination poles. GeoEngineers' services included shallow and deep foundation design for bridges; MSE retaining wall design; utility relocates using cut-and-cover and trenchless construction techniques; stormwater improvements; vibration mitigation plans for construction near Overlake Hospital Medical Center; and temporary shoring design, plans, and specifications.

2E. FAMILIARITY WITH CONSTRUCTION SUPPORT

Shaun has served as lead Geotechnical Engineer on numerous design-build and design-bid-build projects with WSDOT, Utah DOT, and other agencies including cities of Seattle, Bellevue, Duvall, Issaquah, Redmond, and Auburn. These projects were all completed using LRFD design procedures and have required the use of the WSDOT GDM, BDM, and Standard Plans and Specifications, and in special circumstances, the WSDOT Highway Runoff Manual. As a project engineer, Shaun also worked with the GeoEngineers team to help research, prepare, and co-author several chapters of the first edition of WSDOT's GDM in 2004.

- **SR 167/8th Street E to S 277th Street Southbound HOT Lanes**. Shaun was Principal-in-Charge of geotechnical design, consultation, and construction observation for this WSDOT design-build project. The project involved widening one lane over an eight-mile stretch of SR 167 in highly variable soil conditions. GeoEngineers' completed more than 125 explorations to characterize the soil and groundwater conditions for the project design. Our recommendations were completed using the requirements of WSDOT GDM and Standard Specifications, and included using a drilled shaft foundation and performing a global stability evaluation for the new two-span bridge over SR 18; performing global stability evaluations and foundation recommendations for approximately 1.25 miles of noise wall; performing global stability, seepage, and settlement evaluations for three stormwater detention ponds; performing infiltration evaluations for more than three miles of Compost Amended Vegetated Filter Strips (CAVFS); and recommendations for drilled shaft foundations for luminaries, signal poles, ramp meters, signs, and CCTV poles. Shaun also provided shoring, dewatering, foundation support, and wall design for a fish passage structure below SR 167 within the project footprint.

  Shaun provided geotechnical observations during construction to ensure that project elements were being constructed as designed. This included observation of drilled shaft installations for the bridge, noise walls and poles and luminaries; evaluation of soil suitability for use as stormwater pond embankment and CAVFS; and foundation subgrade evaluation for the fish passage structure at Jovita Creek. We also assisted in installation of settlement plates prior to embankment construction and evaluated settlement data to inform WSDOT and the contractor when final pavements could be installed to meet the project pavement performance criteria.

- **I-90 Hyak Cost Reduction Incentive Proposal**. Shaun was the Principal-in-Charge for geotechnical design and consultation to modify a design-bid-build project that previous consultants had designed (I-90 Hyak to Keechelus Dam Phase 1C project). The redesign replaced the planned six-lane snowshed structure with two side-by-side elevated bridge structures and was submitted through the WSDOT CRIP process. The bridge structure foundations extend through seismically unstable fill/talus deposits and are found in the underlying bedrock. The redesign saved WSDOT about $650,000 in annual maintenance costs and was much easier to construct.

  GeoEngineers provided geotechnical solutions to make the CRIP cost-effective and worked with design consultants and WSDOT designers to develop a design that the design-builder and WSDOT could all support. We also assisted with value engineering and review of the reinforced rock cuts upslope of the bridges. In addition to the permanent bridge structure designs, GeoEngineers completed full plans and specifications for a 1,200-foot-long temporary soil nail wall to allow the contractor to construct the eastbound bridge. The wall was constructed in 2014 and allowed for maintenance of traffic during bridge construction for all four lanes of I-90.

Qualifications
Washington State Professional Engineer: #51571, 2014

Years Experience: 16

CORA I. JOHNSON, PE

Associate Geotechnical Engineer

2A. QUALIFICATIONS & EXPERTISE

Cora is a licensed geotechnical engineer in Washington with 16 years of professional experience on a wide variety of geotechnical projects. Her professional experience encompasses subsurface exploration plans, soil characterization, slope stability analysis of both natural and artificial slopes, staged construction of embankments over weak and compressible soils, retaining structures for temporary excavations and permanent walls, axial and lateral deep foundation design, lightweight fill embankments designed to reduce static and seismic loading on permanent structures, mitigation of potentially liquefiable soil, soil improvement design, risk assessment and mitigation of landslide hazards, geotechnical report preparation, and scope and budget proposal preparation. Cora manages a variety of projects and tasks for large transportation projects.

In addition, Cora is the assistant discipline lead (ADL) for GeoEngineers' nationwide geotechnical team. In this role, she is tasked with managing the workload, staffing, training, and delivery of the firm's geotechnical work across the U.S.

2B. FAMILIARITY WITH STATE DESIGN AND CONSTRUCTION STANDARDS

Cora has experience with State design and construction standards from dozens of highway projects in Washington. One major project was the **SR 99 Viaduct & Battery Street Tunnel Decommissioning and Demolition**. As Geotechnical Project Manager, she managed the design and construction phases by reviewing engineering calculations, developing geotechnical recommendations memos, coordinating site visits, reviewing field reports, and providing feedback on construction submittals. The project included demolition of the existing SR 99 viaduct structure and filling the Battery Street Tunnel under downtown Seattle to open the new SR 99 Tunnel in 2019. Cora's team completed the design using AASHTO LRFD design specifications and followed SDOT and WSDOT specifications.

2C. FAMILIARITY WITH PROJECT MANAGEMENT

Cora has been managing large transportation projects through design and construction for over a decade. She has balanced competing deadlines on overlapping projects to meet the needs of owners such as WSDOT, SDOT, and Sound Transit. The projects outlined below demonstrate this experience.

- **I-405/SR 167 Direct Connect Interchange**. Cora was the Geotechnical Project Manager and was responsible for reviewing analyses, writing, and reviewing reports, and coordinating construction observation for all geotechnical aspects of the project to meet the Geotechnical Analysis and Documentation and Construction Criteria outlined in the project RFP.
- **SR 99 Viaduct & Battery Street Tunnel Decommissioning and Demolition**. Cora managed the geotechnical team working for the design-builder to deliver this project. She directed the design of project elements, prepared design memos and calculation packages, reviewed comment responses from SDOT and WSDOT, assembled the Final Geotechnical Documentation Package, managed project budget, and completed earned value tracking and invoicing.

In addition to her project management responsibilities, Cora's team characterized subsurface materials to provide design recommendations for demolishing the viaduct, decommissioning the Battery Street Tunnel, building the Temporary Marion Street Pedestrian Bridge, protecting surface slopes near the southern portal of the Battery Street Tunnel and for surface streets and features near the exit of Battery Street Tunnel north of Denny Way. A portion of the Battery Street Tunnel was backfilled using recycled crushed concrete from the SR99 elevated viaduct. Cora worked with the contractor, SDOT and WSDOT to outline the grain size distribution of the recycled material and performance-based criteria for the placement and compaction methods. She also helped create a slope protection system plan to manage the slope beneath the viaduct during demolition. The plan laid out drainage and surface water control measures, made recommendations for erosion control, analyzed the staging and placement of temporary equipment, and included a monitoring plan for inspections during and after demolition. Cora's team also made geotechnical recommendations for surface streets and features near the exit of Battery Street Tunnel near Denny Way. The design was completed utilizing AASHTO LRFD specifications and follows SDOT and WSDOT specifications.

2D. FAMILIARITY WITH DESIGN BUILD PROJECT TEAM LEADERSHIP/MEMBERSHIP

Cora has worked on three WSDOT design-build projects, including traditional infrastructure and fish passage projects. Through these work, she has developed the following geotechnical documents:

- Subsurface Investigation Plan
- Geotechnical Instrumentation Plan
- Geotechnical Special Inspection Plan
- Soil and Rock Properties for Design
- Calculation Verification Package
- Peer Review Qualifications and communications
- Geotechnical Design Memorandum and supporting calculations
- Final Geotechnical Documentation Package

A specific example of Cora's experience as a subject-matter expert on a team supporting a design-build contract is her work on the **SR 108/US 101 Mason-Thurston Remove Fish Barriers** project. She is managing this multi-disciplinary design-build project for GeoEngineers. We are providing stream design, environmental compliance, and geotechnical engineering designs for the correction of a bundle of six injunction culverts. In her role managing this multidisciplinary team, Cora worked closely with the design-build team to select foundation types to support each of the six crossings that optimized RFP requirements and site-specific soil conditions.

She also oversaw the final exploration program and develop geotechnical recommendations for three-sided box culverts supported on shallow foundations, four-sided box culverts bearing on competent soil, and a buried structure supported on deep foundations where deep liquefiable soil was encountered. Due to high seismic demand along the project alignment and the presence of potentially liquefiable soil at a few of the crossings, mitigation measures consisting of overexcavation and replacement loose/soft soil and full width embankment geogrid were incorporated into our

geotechnical design recommendations. These mitigation measures were coordinated with the structural designers to optimize structure design and with stream designers to minimize impact to the crossing. We also worked closely with the project's environmental compliance manager to maintain the excavation footprint within the impact area lines delineated in the relevant permits.

2E. FAMILIARITY WITH CONSTRUCTION SUPPORT

An example of her relevant construction support experience is the work Cora did on the **I-405/SR 167 Direct Connect Interchange** project. Construction support for this complex WSDOT design-build project consisted of large diameter drilled shafts supporting a new flyover bridge structure and two new bridge structures on I-405 over Talbot Road, new walls, embankment and rock cuts to accommodate roadway widening, noise walls on augercast piles, and lightweight approach embankments that were designed to minimize settlement of nearby active traffic lanes and meet global stability requirements for the tall abutment constructed on liquefiable and compressible soil. Cora's team processed data for survey monitoring of settlement plats and survey points on existing sensitive structures and temporary works. One of the key features of this project consisted of widening the existing I-405 bridge over Talbot Road by adding two single-span bridges separate from the existing structure. The new bridge abutments were designed to the current code requirements, whereas the existing abutment slopes were checked under a "Due No Harm" clause to confirm that the existing factor of safety was not negatively impacted by the removal of the existing rockery and the additional of the two new bridges. The existing bridge abutments were supported on shallow foundations and the new bridge abutments were designed to be supported on drilled shaft foundations. Permanent ground anchors were used to support the north abutment slopes for the new and existing bridge.

Installation of ground anchors under the existing I-405 bridge at Talbot Road.

Permanent ground anchors are an active system where the anchor is drilled, grouted, and post-tensioned to lock in the load and minimize displacement which was vital in maintaining stability of the existing abutment slope to keep I-405 open to traffic during construction. The permanent ground anchors are provided the best constructible solution since they can be installed in low overhead and space constrained areas. The permanent ground anchors were installed in a two by six grid to meet the target global stability requirements of the new bridges and in a one by twelve grid to meet the "Due no Harm" global stability requirements of the existing bridge. Nearly 50 permanent ground anchors were installed at a 15-degree inclination with a total length of about 55 feet, which included 15 feet of embedment into weathered sandstone. The permanent ground anchor testing program consisted of performing two sacrificial verification tests prior to production anchor installation, performance testing 15 percent of all installed production anchors, and proof testing the remaining installed production anchors.

Qualifications

Washington State Professional Engineer: #44203, 2008

Years Experience: 21

TIMOTHY D. BAILEY, PE

Senior Geotechnical Engineer

2A. QUALIFICATIONS & EXPERTISE

Tim has provided geotechnical engineering services since 2003 focusing on project management, construction monitoring, geotechnical explorations, and geotechnical design. He has been involved in the design and management of transportation, stormwater, utility, and development projects, including bid-build and design-build work for WSDOT and Sound Transit. Tim has experience with in-depth geotechnical documentation for large projects, having prepared geotechnical recommendations and detailed environmental impact documents for state and federal review. Tim's wide-ranging experience helps him deliver high-quality, cost-effective services tailored to specific project needs, including close coordination with permitting, and he understands how geotechnical project elements impact the natural environment.

2B. FAMILIARITY WITH STATE DESIGN AND CONSTRUCTION STANDARDS

Tim has provided geotechnical engineering services on multiple WSDOT GDM and LRFD projects throughout Washington State. He was the lead geotechnical engineer for recent WSDOT projects at 132nd Street in Kirkland, and for multiple major Sound Transit projects using the LRFD BDM. Tim incorporates LRFD design requirements on most of his projects and completes engineering analysis and design level reports in accordance with WSDOT GDM guidelines for local agency projects across Western Washington. Tim also has used the LRFD methodology on multiple pedestrian and vehicular bridges for local cities and counties. As a standard, Tim references WSDOT GDM guidelines when working on municipal transportation projects in Western Washington.

2C. FAMILIARITY WITH PROJECT MANAGEMENT

Tim is one of GeoEngineers' most experienced project managers, having managed 119 projects in the transportation market alone. This experience includes dozens of projects with multiple, overlapping schedules, requiring prioritization of limited resources, and acting as a subject-matter expert on multi-disciplinary complex projects. The projects described below illustrate this experience.

- **I-405/NE 116th Street Interchange**. Tim managed GeoEngineers' services on this project through an on-call contract with WSDOT's HQ Geotechnical Division. The project consisted of replacing the existing NE 116th Street bridge over the BNSF railroad alignment in Kirkland. The bridge is part of the feeder system into the on- and off-ramps to I-405 at NE 116th Street. The existing bridge lacked traffic flow capacity and was insufficient from a seismic standpoint; it was particularly vulnerable should a liquefaction event occur. And because of historic rail use along the alignment, contamination was suspected in the near-surface soil and groundwater at the site. GeoEngineers designed ground improvement that mitigated the liquefiable and compressible soils while at the same time minimizing the impact on the adjacent infrastructure, including the existing bridge, which was to be relied upon as part of the construction staging to keep traffic flowing during construction. As project manager, Tim helped evaluate alternatives to mitigate the liquefaction hazard while at the same time allowing the existing bridge to remain in service during construction of the new bridge.

Ultimately, ground improvement consisting of compaction grouting was selected, designed (full plans and specifications), and implemented for the project. This project demonstrates Tim's capabilities working for WSDOT on a design-build project where overlapping tasks had to be managed and Tim had to help WSDOT and its design-builder to deliver a complex transportation project.

- **Lynnwood Link Light Rail Extension**. As the GeoEngineers project manager, Tim has provided continuous geotechnical support for this Sound Transit project since 2011, leading the GeoEngineers team through conceptual, preliminary, and final design and construction observation for the L300 contract and portions of the L200 contract. As the project manager and geotechnical engineer of record, Tim worked closely with Sound Transit, WSDOT and large, multi-disciplinary consulting teams to provide appropriate and timely geotechnical recommendations for an elevated guideway, retaining walls, roadway bridges, stormwater facilities, and other improvements for the project, which was delivered as a GCCM contract. Tim has provided geotechnical support through every phase of this project for over 13 years while managing many other projects with overlapping schedules.

2D. FAMILIARITY WITH DESIGN BUILD PROJECT TEAM LEADERSHIP/MEMBERSHIP

Tim has spent most of the last 13 years of his career working as a Sound Transit geotechnical subject matter expert preparing documents for bid-build and design-build contracts. He has also worked as the geotechnical project manager for design-build teams and directly for WSDOT to deliver projects in Western Washington. This experience is described in the projects below.

- **Federal Way Link Extension**. As geotechnical project manager, Tim worked closely with Sound Transit as their owner's representative for geotechnical services to provide valuable geotechnical support from alternatives analysis through preliminary and conceptual design to design-build procurement. Unique challenges with this project included carrying two different alignments through conceptual engineering. The locally preferred alignment was selected along I-5, and the project is currently in construction. Tim worked closely with Sound Transit to develop geotechnical data and baseline reports for design-build procurement, along with contract mechanisms for handling change in conditions. Tim has maintained communication with Sound Transit to collect lessons-learned from challenging subsurface conditions and delays during construction so those lessons can be implemented on future design-build contracts.
- **I-405/NE 132nd Street Interchange**. As the geotechnical engineer of record and GGM, Tim oversaw the final exploration program and developed geotechnical recommendations and design criteria for all regaining walls, culverts, and new foundations. The existing I-405 bridges that span 132nd have been augmented at least twice since their original construction, and sections of the bridge are founded on shallow foundations, driven piles, and drilled shafts. The bridge is considered fragile and susceptible to damage from small amounts of differential settlement.

2E. FAMILIARITY WITH CONSTRUCTION SUPPORT

As geotechnical project manager, Tim works closely with large, multi-disciplinary teams to provide appropriate and timely geotechnical recommendations and subsequent construction observation for complex transportation projects using the WSDOT Standard Specifications. Two examples of his work include:

- **Lynnwood Link Light Rail Extension**. Tim has provided geotechnical support to Sound Transit for this project since 2012, leading the GeoEngineers team through conceptual, preliminary, and final design and construction observation for the L300 contract and portions of the L200 contract. Tim has reviewed hundreds of construction submittals over the past five years including working through numerous changes.
- **I-405/NE 132nd Street Interchange**. The most challenging geotechnical aspect of this project is the construction of the anchored walls required to daylight the stream below the existing bridges. The cuts for the channel are adjacent to Piers 3 and 4 of the existing bridges and extend deeper than the bridge's shallow foundations. Complicating the design and construction of the walls is the low overhead environment of working below the overpass and underlying soils that consist of fill and alluvial deposits with a high water table. These soils are susceptible to caving when excavated, and have a high liquefaction potential. Tim and WSDOT's structural engineering consultant designed an anchored shotcrete wall to support the cut in the fill embankment below Pier 4, and an anchored micropile wall to support the cut adjacent to Pier 3. Designers rarely specify construction means and methods or sequences, but doing so is critical for these two walls as the greatest risk of movement and possible risk to the bridge will occur during the construction of the walls. We completed detailed finite element modeling of each discrete construction sequence to verify the wall could be constructed without damaging the existing bridge. Tim also developed a geotechnical instrumentation program to monitor wall and bridge performance to verify the project as constructed met the tight RFP requirements for bridge movement.

  Through construction, Tim has worked closely with the structural engineer and the general and specialty contractors to collaboratively address and solve issues that have come up during construction. Through it all, he has maintained close communication with WSDOT to keep its representatives informed of what is occurring in the field and what decisions are being made to meet all contractual obligations to deliver a high-quality project.

B. KEY STAFF AVAILABILITY

WSDOT has been one of GeoEngineers' top clients for more than 40 years. Therefore, your work is a top priority in all our Washington offices. Our senior-level engineers are available to devote a significant amount of time to this contract for the next four years, as shown in the chart below.

STAFF AVAILABILITY HOURS/MONTH	YR 1 2024–2025												YR 2 2025–2026		YR 3 26–27	YR 4 27–28
	07	08	09	10	11	12	01	02	03	04	05	06	07-12	01-06	07-06	07-06
Dan Campbell, PE	128	128	128	160	160	160	160	160	160	160	160	160	160	160	160	160
Ben Upsall, PE	16	16	16	16	32	32	32	32	32	40	40	40	96	96	128	128
David Phelps, PE	96	96	96	96	96	96	128	128	128	128	128	128	160	160	160	160
Shaun Stauffer, PE	96	96	96	96	96	96	128	128	128	128	128	128	160	160	160	160
Cora Johnson, PE	32	32	32	32	32	32	64	64	64	64	64	64	96	96	96	96
Tim Bailey, PE	64	64	64	64	64	64	160	160	160	160	160	160	160	160	160	160

Thank you!

We appreciate the opportunity to present our qualifications to provide Senior-Level Geotechnical Engineering services to WSDOT's Area 2. Please do not hesitate to contact Dan Campbell at 425.861.6000 or dcampbell@geoengineers.com with questions.

GeoEngineers

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