



ARCHITECTS

SCHREIBER  
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WHITEHEAD



## **STE(A)M EDUCATION CENTER**

Project No. 2021-103

### **Pre-Design Services**

### **Statement of Qualifications**

April 13, 2021

April 13, 2021

**Mr. Gary Wendleken**

Department of Enterprise Services  
Engineering & Architectural Services  
1500 Jefferson Street SE  
Olympia, WA 98501

**RE: Statement of Qualifications**

STE(A)M Education Center Pre-Design Services  
Shoreline Community College  
Project No. 2021-103

Dear Mr. Wendleken and Members of the Selection Committee:

Negotiations in Olympia suggest that the 2021-23 capital budget may support community and technical colleges at a level not seen for many biennia. With potential design funding for Shoreline Community College's STE(A)M Education Center, the college is wise to jumpstart the pre-design process for this long-planned facility. The STE(A)M Education Center offers the potential for efficiencies and synergies between the disparate fields of Nursing, Math, Music, and Music Technology, and sets the stage for new successes both planned and unknown. The team you select for the pre-design will play an instrumental role setting up this project for success.

SSW Architects has deep knowledge of STEM and STE(A)M-focused academic facilities. For over 33 years we have provided a full range of A/E services for clients throughout the state, with eighty percent of our work focused on higher education. Our body of work includes a number of firsts, including the first LEED-certified facility in the SBCTC system (the Corporate Education Center at Lake Washington Institute of Technology) and the first LEED Platinum higher education facility in the state (Angst Hall at Skagit Valley College). We have served five universities and twenty-two community or technical colleges, including Shoreline Community College. We believe clients benefit from long-term relationships with their architects and we have been fortunate to enjoy repeat selection by nearly all our clients.

Our design philosophy is tailored to the needs of public agencies. We are pleased to offer a planning and design team with a combination of talent, skills, and experience in solving facilities needs for active learning communities. We believe above all that no matter the scale and budget, a successful project is realized through a dynamic and inclusive process. We also recognize that in the public project environment, the number of individuals and groups having a stake in the successful outcome can be quite large. SSW Architects is experienced in working with committees, building users, facilities staff, administration, students, and the larger public. To ensure that all stakeholders are heard, we employ an open, interactive team approach. Our philosophy recognizes that each stakeholder brings to the project individual knowledge and experience which combines to produce results far greater than the sum of individual contributions. It is our first and continuing task as designers to listen to, and be receptive to, the wealth of ideas that Shoreline and DES will bring to the STE(A)M Education Center.

We meet our commitments and deliver on our promises. You will find SSW Architects a genuine team player, applying planning expertise, talent, and technical skill when and where they will be most effective. Thank you for considering us to be part of your team.

Respectfully,



**Stephen Starling**, AIA, Principal

## EXECUTIVE SUMMARY

### Introduction

Schreiber Starling Whitehead Architects is committed to improving our community. We do this by creating architecture that reflects our client's vision, respects the fabric of place, and celebrates the beauty of the Pacific Northwest.

### Qualifications of Key Personnel

**Stephen Starling, AIA** - Principal-In-Charge: 33 years experience. Past roles include PIC for predesigns at Miller Hall (University of Washington), Seattle Maritime Academy and Wood Technology Center (Seattle Central College), and the Lindbloom Student Union (Green River College).

**Ross Whitehead, AIA** - Planning Principal: 29 years experience. His experience includes leading OFM pre-design studies for Everett Community College, Lake Washington Institute of Technology, Bates Technical College, Cascadia College, The Evergreen State College, and the Washington Military Department.

**Tam Ly, AIA** - Project Manager: 16 years experience. Past roles include Project Manager for the Medical Mile Health Science Center (Bates Technical College) and Samuelson STEM Center (Central Washington University), Project Architect for the Pacific Tower Renovation (Department of Commerce), and Architect for the Allied Health Building (Lake Washington Institute of Technology).

**Juliet Anderson, AIA** - Project Architect: 14 years experience. Past roles include Project Manager the Building B Classroom and Lab Renovation (Bellevue College) and Project Architect for the Building 27W and Building 31 Renovations, allied health and information technology facilities for the Cascades Job Corps Center at Sedro Woolley.

Our team includes equally experienced consultants with expertise in higher education facilities, healthcare education, and acoustically-controlled environments, many with prior experience on the Shoreline campus.

### Relevant Experience

We consider the following Schreiber Starling Whitehead projects most relevant to the Shoreline STE(A)M Education Center:

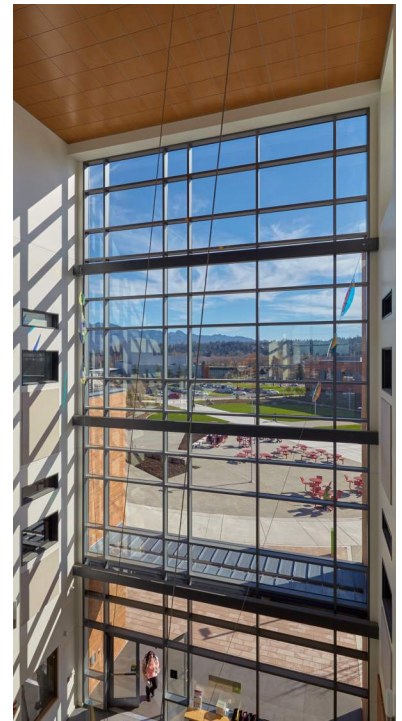
- Center for Design - Lake Washington Institute of Technology (LWTech)
- Baker Hall Pre-Design - Everett Community College
- Learning Commons - Whatcom Community College
- Center for Science & Technology (CC4) Pre-Design - Cascadia College
- Samuelson STEM Center - Central Washington University
- Lewis Hall - Skagit Valley College
- Pacific Tower Health Education Center/Renovation - Seattle Central College/ Department of Commerce
- Allied Health Building - LWTech

### Life-Cycle Cost Analysis Experience

With 90 percent of our work being for state agencies, all our major capital projects take life cycle costs into consideration during the pre-design and design phases. Our experience in LCCAs and ELCCAs includes use of OFM's Life Cycle Cost Model (LCCM) and Life Cycle Cost Tool (LCCT). We know our clients' operations and maintenance budgets are never generous. Our design philosophy values flexible spaces made from robust materials, MEP systems that are not just efficient but easy to maintain, and high-performance building envelopes, all of which contribute to low life-cycle costs.

### Sustainable Design Experience

Our commitment to sustainability is exemplified by our body of work, which includes the first LEED-certified SBCTC facility (LWTech's Corporate Education Center at Redmond) and the state's first LEED Platinum higher education facility (Angst Hall at Skagit Valley College). SSW has led the design and construction administration efforts for 8 Silver, 5 Gold, and 1 Platinum LEED-certified buildings.



*Atrium at Lewis Hall,  
Skagit Valley College*



*Lewis Hall, Skagit Valley College*

## INTRODUCTION

Founded in 1987, we are a team of seventeen thoughtful and motivated architects and planners, equipped with proven project delivery methods and supported by technically proficient consultants sharing our core values. As the focus of our practice is entirely in the public sector, we have developed an understanding of the unique project delivery requirements for municipal, state, and federal agencies. We work at all scales and offer a full range of architectural services including:

- Capital Funding Request Assistance
- Functional Programming
- Project Feasibility/Pre-Design Studies
- Master Planning
- Building Condition Evaluation
- Site Design
- Building Design
- Renovation
- Restoration (including restoration of historic properties)
- Adaptive Reuse
- Building Envelope Improvement (including roofing replacement)
- Interior Design

Our firm is highly service-oriented. We are proud of the fact that our first clients are still clients, and that with nearly all our clients we enjoy repeat selection. Planning for future major capital projects is a central element of our commitment to client service. Our reputation for effective capital planning is well known; of the 24 projects added to the SBCTC pipeline in 2018, we assisted in the Project Request Reports for ten of them. Our process derives its strength through an inclusive and interactive project partnership with the project stakeholders. We draw upon our significant breadth of experience, yet each project is viewed with openness to different solutions. Our projects are delivered on time and within budget. All our work consistently reflects our core values of simplicity, flexibility, and durability, while being responsive to the greater context of environmental sustainability and community enhancement.





*Learning Commons, Whatcom Community College*

## **QUALIFICATIONS OF KEY PERSONNEL**

The experience, enthusiasm, and commitment of the talented individuals comprising Schreiber Starling Whitehead Architects are the most valuable resources that we offer our clients.

All professional staff at Schreiber Starling Whitehead Architects are graduate architects, some with multiple-discipline educational training. Our professional staff have an average experience level of over sixteen years and a long history of working together. Schreiber Starling Whitehead Architects is a very stable firm with an average staff tenure of nearly eleven years.

We pursue an integrated team approach to each project, where our role is that of key facilitator, design leader, and advocate for project success. Our process recognizes that each member of the team brings to the design effort individual knowledge and experience that combine to produce results greater than the sum of their parts. Each individual must be allowed to contribute unique concerns and knowledge to the final product in order to achieve true success. The resulting work reflects the shared wisdom, ideas, and talents of our clients and staff.

## **Staffing Strategy, Consultants, and Diversity Commiitment**

Our firm is founded on the core belief that consistent and genuine principal involvement is essential to building long-term relationships with our clients and assuring the most effective outcomes for their projects. Our principals lead all pre-design and planning studies we perform, and remain actively involved in all design work.

Developing fully functional projects well-integrated within their contexts requires an extensive team effort. As we assemble our team we look for any specific issues or unique conditions that align with the capabilities of specific consultants. On the following pages we present firms and key personnel we believe are optimum for Shoreline College. This is a cohesive team with a strong collaborative history achieved over multiple years and projects. We offer not just expertise in the design of active learning facilities, but a truly integrated team with demonstrable technical expertise and a history of inspired project solutions. This team will need no "learning curve" to be effective immediately following selection. When selected as your architect for the STE(A)M Education Center we will work with you to finalize the composition of this team and the time commitments necessary to meet college needs.

Schreiber Starling Whitehead assists our clients in meeting their diverse business participation goals. We understand the intrinsic value of project teams that truly represent the diverse voices of our society and the benefits gained when these voices are empowered. From our perspective as a small business we engage other small businesses on nearly all of our projects, as well as minority-, women-, and veteran-owned business enterprises.



**Education:**  
Master of Architecture  
Montana State University,  
1987

Bachelor of Architecture  
Montana State University,  
1987

**Registration:**  
Washington, 1995

## **Stephen Starling, AIA**

Project Role: Principal in Charge

Time Commitment: Predesign: 40%; Design: 60%; Construction: 20%

Stephen brings his extensive experience as a practical problem-solver to his role as the STE(A)M Education Center PIC. Stephen's focus is always on client service, evidenced by the fact that all the agencies with whom he has worked continue to seek him out for their projects needs. Stephen uses his talent to balance aesthetics, program, and budget during every step of planning and design. He strives to achieve a balance of a project's function and context to create meaningful architecture and successful buildings that support user needs, desires, and aspirations.

### *STEPHEN'S REPRESENTATIVE EXPERIENCE:*

#### **Washington Department of Transportation**

Transportation Building Preservation Pre-Design - *Planner*

#### **University of Washington**

Miller Hall Renovation Pre-Design - *Principal-in-Charge*

#### **Green River College**

Lindbloom Student Union (including Pre-Design) - *Principal-in-Charge*

#### **Seattle Central College**

Seattle Maritime Academy (including Pre-Design) - *Principal-in-Charge*

Wood Technology Center (including Pre-Design) - *Principal-in-Charge*

#### **Lake Washington Institute of Technology**

Allied Health Building Pre-Design - *Project Manager*

#### **Central Washington University**

Samuelson Student Union Building Pre-Design - *Architect*

## **Ross Whitehead, AIA**

Project Role: Planning Principal

Time Commitment: Predesign: 60%; Design: 5%; Construction: 0%

Atypical of practicing architects, Ross' early front-line experience as a contractor gives him a unique understanding of the regulatory, bidding, and construction process, and enables him to produce very biddable and constructible documents. His construction experience solidified his understanding of the critical need for early alignment of scope and budget through the pre-design process. While in graduate school, Ross was one of three individuals responsible for design and construction of "The Fremont Troll," a community-owned sculpture located under Seattle's Aurora Bridge.

### *ROSS' REPRESENTATIVE EXPERIENCE:*

#### **Lake Washington Institute of Technology**

Center for Design (including Pre-Design) - *Principal-in-Charge*

Allied Health Building - *Principal-in-Charge*

#### **Bates Technical College**

Medical Mile Health Science Center (including Pre-Design) - *Principal-in-Charge*

#### **Everett Community College**

Baker Hall Pre-Design - *Principal-in-Charge*

#### **Cascadia College**

Center for Science and Technology (CC4) Pre-Design - *Principal-in-Charge*

#### **Department of Labor - Cascades Job Corps**

Building 27W and Building 31 Renovations - *Principal-in-Charge*

#### **The Evergreen State College**

Seminar I Renovation Pre-Design - *Principal-in-Charge*

#### **Seattle Central College/Department of Commerce**

Pacific Tower Health Education Center/Renovation - *Project Manager*



**Education:**  
Master of Architecture  
University of Washington,  
1991

BS, Civil Engineering  
Washington University,  
1985

**Registration:**  
Washington, 1999



**Education:**  
Master of Architecture  
Columbia University, 2004

BS in Environmental Design,  
University of Colorado, 2001

**Registration:**  
Washington, 2015

### **Tam Ly, AIA**

Project Role: Project Manager

Time Commitment: Predesign: 40%; Design: 80%; Construction: 60%

On each of his projects, Tam combines a commitment to careful planning and a rigorous appreciation for design coupled with energetic oversight of the construction process. Most recently Tam has served as Project Manager for our Bates Technical College Medical Mile Health Science Center progressive design-build project, which has strengthened his innate ability to inspire a high degree of performance from contractors.

#### *TAM'S REPRESENTATIVE EXPERIENCE:*

##### **Bates Technical College**

Medical Mile Health Science Center (including Pre-Design) - *Project Manager*

##### **Central Washington University**

Samuelson STEM Center - *Project Manager*

##### **Department of Commerce**

Pacific Tower Renovation - *Project Architect*

##### **Lake Washington Institute of Technology**

Allied Health Building - *Architect*



**Education:**  
Master of Architecture  
University of Washington,  
1999

BFA in Art and Art History,  
University of Colorado, 1993

**Registration:**  
Washington, 2007

### **Juliet Anderson, AIA**

Project Role: Project Architect

Time Commitment: Predesign: 20%; Design: 100%; Construction: 100%

Juliet brings over 14 years experience developing high-quality and well-coordinated documents, including serving as Project Manager on the current renovation of classrooms and science labs at Bellevue College's Building B and as Project Architect for allied health facilities at the Cascades Job Corps Center at Sedro Woolley. Her commitment to achieving excellence in all aspects of the planning, design, and construction of her projects has been lauded by both clients and contractors.

#### *TAM'S REPRESENTATIVE EXPERIENCE:*

##### **Bellevue College**

Building B Classroom and Lab Renovation - *Project Manager*

##### **Highline College**

Campus Office Relocations - Building 12 - *Project Manager*

##### **Edmonds College**

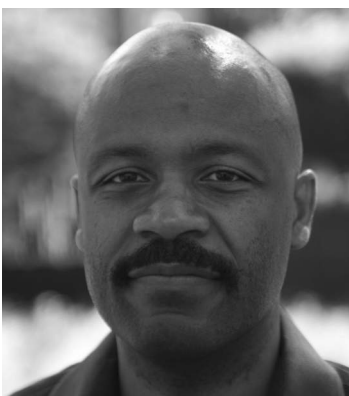
Lynnwood Hall Tenant Improvements - *Project Manager*

##### **Department of Labor - Cascades Job Corps**

Building 27W and Building 31 Renovations - *Project Architect*

##### **Central Washington University**

Samuelson STEM Center - *Architect*



### **Roz Estimé**

#### **The Estimé Group - MBE**

Project Role: Health Education Planner

The Estimé Group's experience covers a broad range of science and health facility planning project types; including allied health, healthcare & medical facilities, basic science research, chemistry, medicinal chemistry, micro and molecular biology, environmental testing, biotechnology, and pharmaceutical, vivarium, BSL-3 and vivarium facilities, and specialized quarantine facilities.

Led by Roz Estimé, The Estimé Group applies technical expertise to identify efficient and creative solutions to lab planning and medical planning for medical research, hospital, clinic, and college/university clients. The challenge in healthcare and laboratory



planning is the design of effective flexible environments that support future growth and facilitate both individual and collaborative work. To meet this challenge The Estimote Group designs facilities to fulfill the functional requirements of each user group's unique needs through a collaborative process involving the entire project team. In programming workshops Roz will gain a detailed understanding of the primary function of each space, determine the space requirements, identify critical support and office adjacency relationships, and define the specific equipment and infrastructure required to support the program. The expertise Roz brings to the STE(A)M Education Center will make the design process more efficient, more manageable, and cost-effective. Beginning in pre-design, he will help the program stakeholders make informed decisions based on thorough analysis of their needs. In so doing Roz will help the project team avoid the time-consuming mistakes and lost opportunities too common in the development of STEM facilities.

*ROZ'S REPRESENTATIVE EXPERIENCE:*

**Bates Technical College**

Medical Mile Health Science Center (*with SSW*)

**Seattle Central College**

Pacific Tower Health Education Center (*with SSW*)

**Lake Washington Institute of Technology**

Allied Health Building (*with SSW*)



**Marjorie Lund, PE, SE, DBIA**

**Lund Opsahl - WBE**

Project Role: Lead Structural Engineer

Since 1997, Seattle-based WBE structural engineering firm Lund Opsahl offers a deep level of knowledge and experience across a wide range of building types. Services include new building structural designs, assessments, and evaluations; seismic retrofits; adaptive reuse; historic building renovations; sustainable buildings; master planning and studies; construction support engineering; tenant improvements; and special structures.

Marjorie's State experience spans decades, including both new and existing structures on 24 WA State higher education campuses, including 10+ years of project experience at Shoreline Community College. Her work began with a 27-building structure assessment for the 2009 Campus Master Plan. Not only does she have knowledge of the original structures, but she was on the planning team for the STE(A)M Education Center PRR and is the structural engineer for the new HSAMCC, the FOSS building entry renovation, and many other remodels. Her critical campus knowledge of Shoreline's original structures, work on the most recent college projects, cross-discipline building and pre-design experience, and teaming history with SSW, will offer unique, critical support for this project.

*MARJORIE'S REPRESENTATIVE EXPERIENCE:*

**Shoreline Community College**

STE(A)M Education Center Project Request Report  
Health Science and Advanced Manufacturing Building  
Master Plan and Seismic Assessment (*27 buildings*)

**Lake Washington Institute of Technology**

Center for Design (*with SSW*)  
East Building Common Areas Remodel (*with SSW*)

**Olympic College**

Shops Building Remodel (*with SSW*)

**University of Washington**

Miller Hall Pre-Design (*with SSW*)





**Darren Schwend, PE, LEED AP  
Notkin/P2S**

Project Role: Lead Mechanical Engineer

Notkin/P2S offers expertise in mechanical systems designed to reduce energy and water consumption, lessen reliance on hazardous materials, and minimize impact to the environment. They assist clients in obtaining rebates from electric, gas, and water utility companies, including metering that allows deductive wastewater credits. Notkin/P2S works with owners to understand their energy and sustainability goals, helping them make informed decisions. Reasonable access to replace equipment as the facility ages is also a focus of the firm's designs.

Notkin/P2S strives to provide the lowest energy consumption possible within project budgets on all its projects. The advanced simulation software they use provides owners the information they need to make decisions that truly integrate the building envelope, building orientation, lighting systems, and HVAC systems.

Darren is a versatile mechanical engineer and experienced project manager in the conception, design, and execution of mechanical systems for higher education and healthcare facilities. His extensive work for Washington state institutions includes the Lake Washington Institute of Technology, University of Washington, Washington State University, Seattle Central College, and Green River Community College. At healthcare facilities such as EvergreenHealth and the University of Washington Medical Center, Darren leads the development of innovative systems to support complex needs involving advanced medical equipment, 24/7 operations, and highly sensitive environments. Darren's collaborative approach to working with owners, architects, and other team members consistently delivers projects that satisfy complex project needs.

*DARREN'S REPRESENTATIVE EXPERIENCE:*

**Lake Washington Institute of Technology**

Center for Design (*with SSW*)

**South Seattle College**

Automotive Technology Renovation and Expansion (*with SSW*)

**Green River College**

Lindbloom Center (*with SSW*)

**Seattle Central College/Department of Commerce**

Pacific Tower Health Education Center/Renovation (*with SSW*)



**Sean Bollen, PE  
Wood Harbinger**

Project Role: Lead Electrical Engineer

Wood Harbinger's 90 employees provide a full range of electrical design services and technology consulting. Founded in 1967, Wood Harbinger is an employee-owned firm, with principals actively involved in the design, quality control and management of all projects. Wood Harbinger's professional engineers and designers bring to each project practical, real-world experience; active support for the owner's vision for the project; and a focus on sustainability and life cycle costs. Wood Harbinger's design philosophy encompasses a hands-on, pro-active approach that encourages active collaboration with the owner's representatives, other design disciplines, and the contractor. Our system designs emphasize energy efficiency, environmental quality, system flexibility for future growth, constructability, and ease of maintenance and operation.

Sean has 26 years of experience providing the electrical design for commercial, educational, healthcare, governmental, and industrial projects. His expertise includes design and commissioning of medium and low voltage power distribution, motor controls, interior and exterior lighting, and fire protection systems.

*SEAN'S REPRESENTATIVE EXPERIENCE:*

**Lake Washington Institute of Technology**

Center for Design (*with SSW*)

Allied Health Building (*with SSW*)

**South Seattle College**

Automotive Technology Renovation and Expansion (*with SSW*)

**Green River College**

Lindbloom Center (*with SSW*)

**Seattle Central College/Department of Commerce**

Pacific Tower Health Education Center/Renovation (*with SSW*)



**Ding Ye, PE**

**Reid Middleton, Inc.**

Project Role: Lead Civil Engineer

Reid Middleton also has extensive project experience with community colleges ranging from surveying, land use entitlements, SEPA, master planning, structural and civil engineering design, and construction phase assistance. They have an established history and quality reputation for designing infrastructure solutions and have provided these services on over 164 projects for community colleges. Reid Middleton has been the lead civil engineer for Shoreline Community College for 20 years and provided civil engineering services for the STE(A)M Education Center Project Request Report (PRR) in 2017. As a result, its team understands Shoreline Community College's operations, facilities, and people. The firm is thoroughly familiar with the campus infrastructure and has completed more than 21 projects at the campus which means that it brings to the college a proven record of design success.

Ding has 24 years of experience in civil, environmental, and construction engineering. He has completed 12 projects for Shoreline Community College. His unique and broad range of capabilities includes site development, environmental restoration, construction management, and purchasing. Ding's specific experience is in general site development and stormwater management, including water system, sanitary sewer, erosion control, site grading, drainage, hydraulics calculations, stormwater detention/retention, water quality, and computer modeling.

*DING'S REPRESENTATIVE EXPERIENCE:*

**Shoreline Community College**

Health Sciences and Advanced Manufacturing Building

Campus Master Plan

Street Frontage Improvements

**United States Navy**

Building 44 Improvements (*with SSW*)



**Jennifer Munde, PLA**

**Osborn Consulting** - DBE/WBE

Project Role: Landscape Architect

Osborn Consulting understands the need for durable and easy-to-maintain facilities that are specifically tailored to each client's budget and staffing, creating site designs that are beautiful, inspiring, and cost-effective. Their staff is skilled at collaborating closely with protect teams and identifying client's unique needs. It is Osborn's mission to design spaces with multiple uses, providing rich experiences that support the social environment and level of quality needed for today's public works.

Jennifer is an urban designer and landscape architect with 25 years of experience designing and managing public projects, providing site design and analysis, leading coordination with architects and engineers, creating conceptual design graphics for

community meetings and collaboration, and creatively including sustainable practices as a baseline in all projects. Her project experience ranges from neighborhood parks and schools to urban design master planning for transit-oriented developments. She excels at collaborating with multiple disciplines, using her drawing skills and background in architecture, fabrication, and landscape architecture, ultimately interpreting and expressing these varied points of view in her designs.

*JENNIFER'S REPRESENTATIVE EXPERIENCE:*

**Lake Washington Institute of Technology**

Center for Design (*with SSW*)

**Everett Community College**

Early Learning Center

**Northwest Career and Technical Academy, Mt Vernon Campus**

Mount Vernon Campus



**Erik Miller Klein, PE, INCE Board Certified**

**Tenor Engineering Group** - *SBE*

Project Role: Acoustical Design (including Music and Music Technology spaces)

Erik started Tenor Engineering Group to bring evidence-based design to your project's acoustical performance goals. Tenor envisions a collaborative design process that utilizes the science of acoustic design to achieve measurable high-performance results. Their team strives to be a leader in educating the design community on the applied science of acoustics to empower designers, contractors, and users to really "hear" their space. Tenor's team of engineers leverages research to optimize noise and vibration control solutions for your building and occupants. They volunteer to assist in the writing and supporting standards writing organizations such as ASHRAE, ASTM, ANSI, FGI, and WELL Standard. Tenor is ready to elevate acoustic design to fit your needs.

*ERIK'S REPRESENTATIVE EXPERIENCE:*

**Lake Washington Institute of Technology**

Center for Design (in process) (*with SSW*)

East Building Common Areas Remodel (*with SSW*)

**University of Washington**

Hans Rosling Center for Population Health



**John Langer**

**John Langer Consulting** - *Veteran-Owned Business*

Project Role: Cost Estimating

Since 1991, John has been providing cost estimating, scheduling, value analysis, and constructibility review services to clients in the Pacific Northwest. After spending more than twenty-two years working for general contractors, John developed an independent cost consulting practice where he develops check estimates for projects prior to bid, conceptual estimates for proposed projects, and provides third-party estimates for change orders or claims analysis. He has completed more than \$750 million in check estimates and developed in excess of \$900 million in conceptual and pre-bid cost estimates. Additionally, he has completed over 120 constructibility reviews for owners and architects and has participated in more than 100 value analysis studies and facilitated 25 of those.

*JOHN'S REPRESENTATIVE EXPERIENCE:*

**Lake Washington Institute of Technology**

Center for Design - *with SSW*

**University of Washington**

Miller Hall Renovation Pre-Design (*with SSW*)

## RELEVANT EXPERIENCE

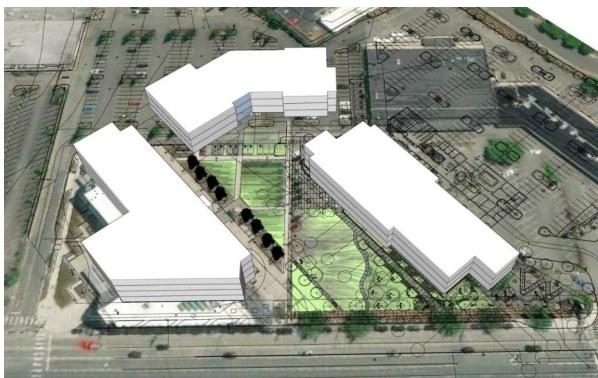
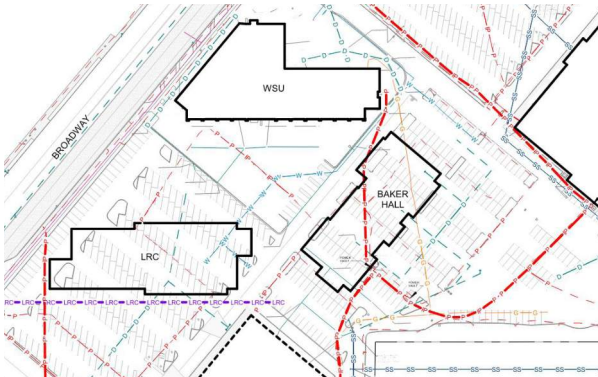
### Predesign Experience

Schreiber Starling Whitehead Architects has successfully completed dozens of predesigns for public agencies. These predesigns have been instrumental in legislative appropriations exceeding \$500,000,000. Our deep knowledge of the state's OFM project budget/funding process allowing us to effectively package predesign documents for rapid OFM review and approval. All our submitted predesign have resulted in fully-funded projects. In just the past three years we have been involved in ten predesign studies:

- Baker Hall Replacement Pre-Design - Everett Community College
- Miller Hall Renovation Pre-Design - University of Washington
- Renovation & Expansion of the Anacortes Readiness Center Pre-Design - Washington Military Department
- Center for Design Pre-Design - Lake Washington Institute of Technology
- Transportation Building Preservation Pre-Design, Olympia - WSDOT
- Life Skills Training Center Pre-Design - Washington State School for the Blind
- Academic & Physical Education Building Pre-Design - Center for Deaf and Hard of Hearing Youth
- Center for Science and Technology (CC4) Pre-Design - Cascadia College
- Medical Mile Health Science Center Pre-Design - Bates Technical College
- North County Pre-Design - Clark College

The following recent pre-designs are particularly applicable to the STE(A)M Education Center:

### BAKER HALL REPLACEMENT PRE-DESIGN Everett Community College



Schreiber Starling Whitehead Architects led the pre-design planning effort for this future design-build project. The Baker Hall Replacement will house EvCC's Business programs (General Business, Accounting, Economics, and Business Technology), Theatre program, and Computer Information Systems programs (Information Technology, Computer Support Specialist, Systems Administrator, Cybersecurity Analyst, and Network Administrator). Similar to the STE(A)M Education Center concept, at first glance these programs may not seem like natural collaborators, but each has qualities which combine to make a more powerful educational experience. In addition to instruction spaces, the building includes general-access collaboration rooms, instructional support spaces, and specialized labs. To promote cohesion all faculty offices are located in common suites. The building's signature feature is its black-box theater, capable of serving as performance venue, instructional lab, and college/community event space.

Challenges included establishing common systems for all instruction spaces to promote shared use while accommodating specific program needs. This included incorporating the acoustic separation requirements for Theatre classes and the protection of high-value equipment for CIS. Significant effort was spent on assessing the cost implications of design-build project delivery, as the project funding established in the PRR had been based on design-bid-build delivery.

While ultimately not included in the final report, the predesign included extensive programming with the college's Music program. Music needs included classroom space, a piano lab, and rehearsal/practice space.

The pre-design report was approved by OFM in April, 2021. EvCC anticipates the 49,000 gsf, \$32.5M project will receive funding for both design and construction in the state's 2023-25 capital budget.

*Top to bottom: Site utility analysis, site massing study, and floor plan diagram from pre-design report; Baker Hall Replacement, Everett Community College*



## CENTER FOR DESIGN PRE-DESIGN

### Lake Washington Institute of Technology



Top to bottom: Site plan diagram (pre-design phase), interior rendering (SD phase); Center for Design, Lake Washington Institute of Technology

The Center for Design continues our professional relationship with LWTech begun in 2001. Schreiber Starling Whitehead Architects first participated in early planning of the Center for Design in 2013, and led the successful PRR effort in 2017. We were selected to perform the pre-design in 2019, and the college subsequently expanded our agreement to include full A/E services through construction administration and close-out.

The Center for Design is an immersive STE(A)M facility housing all programs of the college's School of Design and Applied Arts: Applied Design, User-Centered Design, Digital Gaming and Interactive Media, Architectural Technology, and Art. Its concept is based on the premise that creativity is the skill most necessary for career success in design and technology fields, and that creativity is most effectively taught through a merging of traditional STEM and Art training. Key to the building's success will be the spaces shared by all programs, which both contribute to a collegiate atmosphere and better promote applied design and technology programs to the campus community. This includes a large multi-purpose space which will play the role of presentation room, gallery, large-group collaboration space, student lounge, and campus event center. The 49,900 gross-square-foot two-story facility is the first campus building deliberately designed to engage the Kirkland community.

## MEDICAL MILE HEALTH SCIENCE CENTER PRE-DESIGN

### Bates Technical College



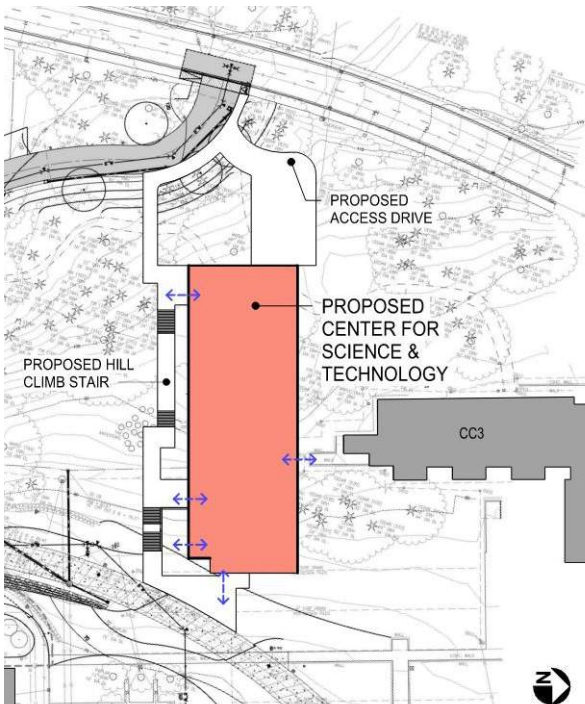
Rendering of east entrance; Medical Mile Health Science Center, Bates Technical College

The Medical Mile Health Science Center, when it opens in Fall 2021, will be the first new building on the Bates Technical College Downtown Campus in nearly 60 years. It will support all healthcare programs offered by the college. Schreiber Starling Whitehead Architects teamed with The Walsh Group on the Medical Mile, Washington's first purely academic progressive design-build project. As a first task SSW led the pre-design effort, facilitating programming workshops with representatives of Bates' Practical Nursing, Nursing Assistant, Dental Assisting, Dental Laboratory Technician, Denturist, Hearing Aid Specialist, Medical Assistant (AMA/CMA), Occupational Therapy Assistant, Phlebotomy, and Simulation Operation Technician programs. The latter program is housed in an extensive simulation suite containing exam and hospital room mockups with associated control rooms, medication dispensing equipment, a mock reception/office space, and debrief facilities. In addition to allied health classrooms and skills development labs, the building has a multi-purpose science lab equipped for Anatomy & Physiology, Chemistry, and Microbiology instruction, including preparation and storage facilities and a cadaver lab. The predesign effort was completed in two months.

The four-story building floats over a parking level which serves patients of Bates' public health clinics and provides preferential parking for bike commuters and charging stations for electric

vehicles. The structural grid was established by the parking layout, with modifications made on subsequent floors to accommodate academic space requirements. Of critical importance to the college, the facility has only negligible impact on Downtown Campus parking capacity while adding 65,000 gsf of modern academic space. The construction cost for this project is \$32M. The facility will first host classes in Fall 2021.

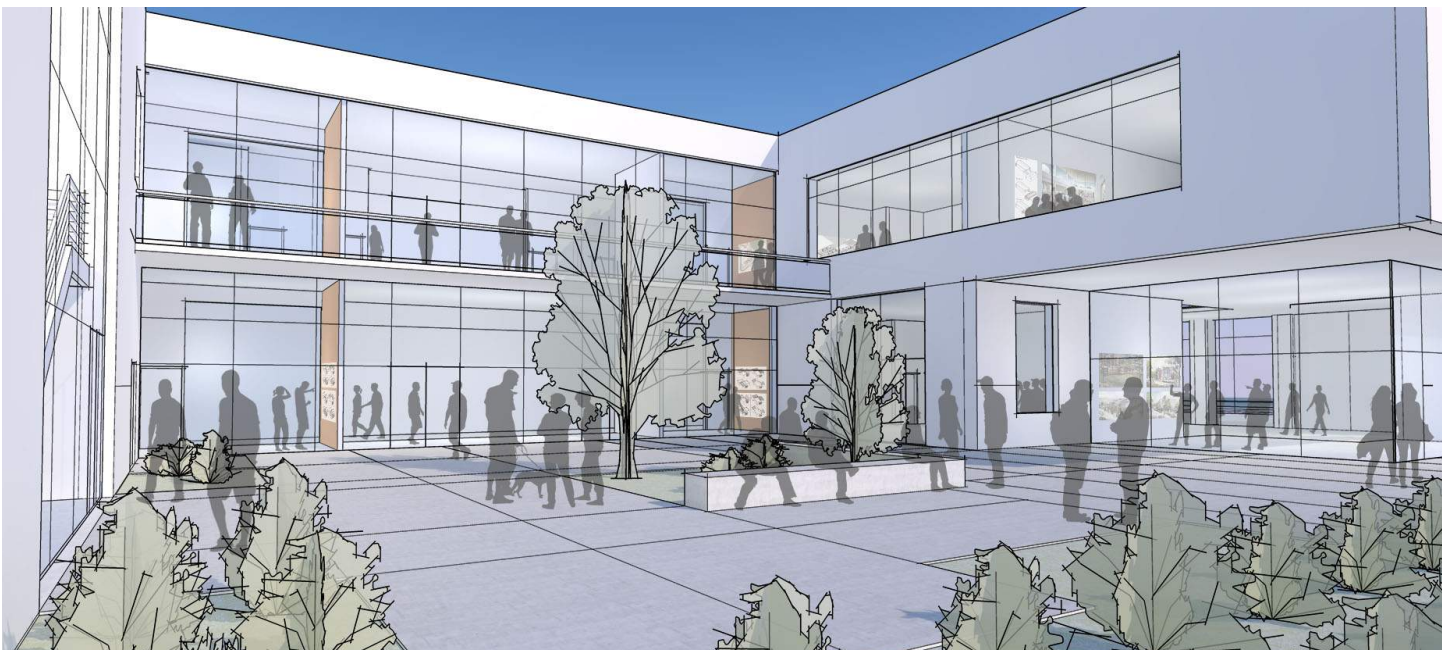
## CENTER FOR SCIENCE AND TECHNOLOGY (CC4) PRE-DESIGN Cascadia College



Site diagram; Center for Science and Technology (CC4),  
Cascadia College

To remain a viable choice for post-secondary education, Cascadia has planned the Center for Science and Technology (CC4) with a focus on improving student access to STEM (Science, Technology, Engineering, and Math) degrees and promoting integration of STEM programs with the humanities. Through the State Board for Community and Technical College's capital project submission process, the Center for Science and Technology entered the capital funding pipeline in 2016. SSW Architects participated in preparation of the successful Project Request Report.

The CC4 predesign study concluded that an all-new Center for Science and Technology located at the heart of campus offers the best opportunity to improve STEM-specific educational outcomes for Cascadia's students. Totalling 54,000 gsf, the CST will satisfy Cascadia's goal of providing access to inclusive STEM education by meeting local demand for access to a college education, expanding the college's STEM offerings, and implementing the college's integrated education model specific to STEM programs. It will increase the college's facility capacity by 600 FTE. The CST will provide students with multiple opportunities to engage in active learning through formal instructional environments and a broad variety of informal practice labs, collaborative workspaces, and student support facilities.



Courtyard concept rendering; Center for Design, Lake Washington Institute of Technology





*Samuelson STEM Center, Central Washington University*

## Major Capital Project Experience

While the STE(A)M Education Center RFQ is for pre-design services only, Shoreline may choose to continue with its pre-design consultant into full A/E services. We have direct experience with each element of the STE(A)M Education Center through major projects we have completed. The table below highlights several of these projects, and how they are directly relevant to Shoreline Community College. Project descriptions follow on the next several sheets.

STE(A)M Education Center Potential Program Elements	Learning Commons	Samuelson Hall	Lewis Hall	Health Education Center	Allied Health Building
	Whatcom Community College	Central Washington University	Skagit Valley College	Seattle Central College	LWTech
					
<b>Performed Pre-Design</b>	✓	✓	✓		✓
<b>STEM Programs</b>	✓	✓	✓	✓	✓
<b>Classrooms</b>	✓	✓	✓	✓	✓
<b>Health Education Labs</b>				✓	✓
<b>Simulation Labs</b>				✓	✓
<b>Math Instruction / Support</b>	✓	✓	✓		
<b>Multi-Media Labs</b>	✓	✓	✓	✓	✓
<b>Complex Site Constraints</b>		✓	✓	✓	✓
<b>Informal Study Spaces</b>	✓	✓	✓	✓	✓
<b>Faculty Offices</b>	✓	✓	✓	✓	✓
<b>Year Completed</b>	2019	2018	2015	2016	2011
<b>Size (gross square feet)</b>	65,000 gsf	140,000 gsf	70,000 gsf	80,000 gsf	83,550 sf
<b>Budget (MACC)</b>	\$22,490,000	\$46,280,000	\$22,600,000	N.A.	\$24,018,000
<b>Final Construction Cost</b>	\$21,891,000	\$42,948,000	\$21,133,000	\$34,461,000	\$22,657,000
<b>Reference</b>	Brian Keeley Sr. Director WCC Facilities 360-383-3375	Bill Yarwood Director Capital Planning 509-963-1120	Tim Wheeler Director SVC Facilities 360-416-7751	Chuck Davis Former Director SCC Facilities 253-680-7389	Casey Huebner Director LWT Facilities 425-739-8252





## PHYLLIS & CHARLES SELF LEARNING COMMONS

Whatcom Community College

Bellingham, Washington

The new Self Learning Commons was envisioned to mesh the reference and research elements of the traditional library while adding exciting new services supporting new technologies and services in a larger and integrated environment.

Services within engage students through tutoring (including a Math Center, Writing Center, and general tutoring rooms), multi-media resources, quiet and collaborative (loud!) study spaces, and provide them tools to conduct their own thoughtful research. These activities encourage critical thinking and creativity - crucial skills as students prepare for a successful career. Active engagement with academic resources in a space filled with natural light and designed for productive interactions will inspire students to learn, persist, and succeed.

Students are multi-tasking digital natives and traditional spaces and functions do not engage all their learning modalities. The new Commons is designed for collaboration across disciplines that were typically "siloeed". A good example is the co-location and integration of a wide variety of media in the Writing Center. This permits students to fully incorporate technologies they learn to communicate ideas through print, video, and audio systems.

The 65,000-sf project includes a 60,000 volume library, 5,000-sf of active-learning collaboration classrooms, drop-in computer access areas, and a wide variety of individual and group study spaces. Its roof-top terrace offers the best views on campus.

The Learning Commons integrates advanced sustainability elements throughout and has achieved LEED Gold certification from the U.S. Green Building Council. SSW Architects' services included leadership of the pre-design study.





## SAMUELSON STEM CENTER

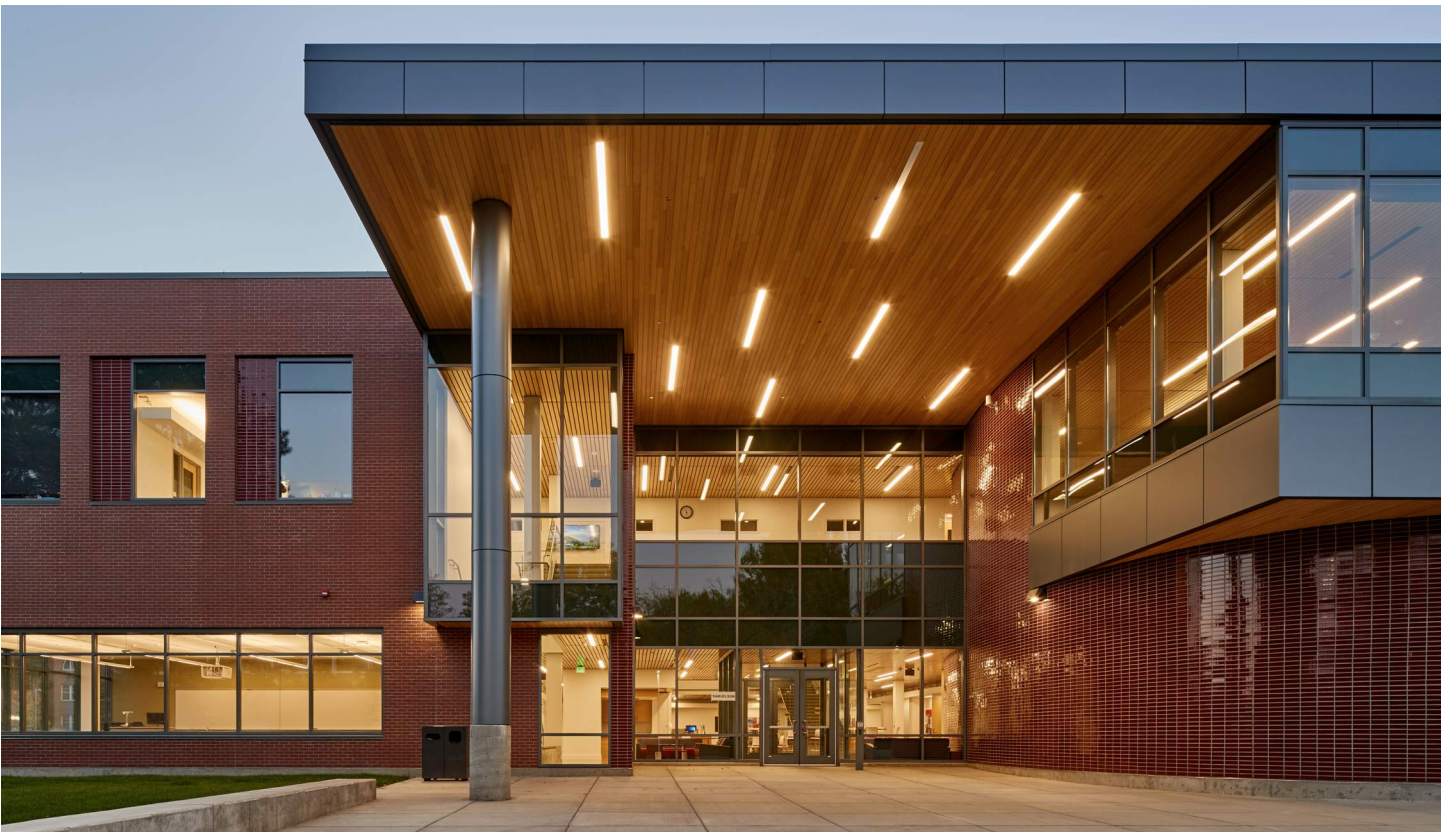
Central Washington University

Ellensburg, Washington



Located in the heart of the Central Washington University campus, the existing 107,000 square-foot Samuelson Union Building (SUB) was a conglomeration of building segments built between 1928 and 1967. After extensive programming and planning with the university administration, faculty and students, the vision of recreating Samuelson as a vibrant center for technical learning was realized in Fall 2018 when the \$45M construction phase was completed. The project involved demolishing 57,750 sf of existing space, renovating the 49,250 sf SUB wing constructed in 1967, and adding 90,750 sf of new construction.

Housing the Departments of Computer Science, Information Technology and Administrative Management, Mathematics, and the Multi-Modal Learning Center, the new Samuelson STEM Center features technology and media-rich learning spaces including learning labs, maker-spaces, informal peer-to-peer break-out spaces, classrooms, labs, and faculty offices. It also houses a Cyber Security Lab and a 5,000 square-foot data center supporting the university's campus-wide IT needs. LEED certification is pending.

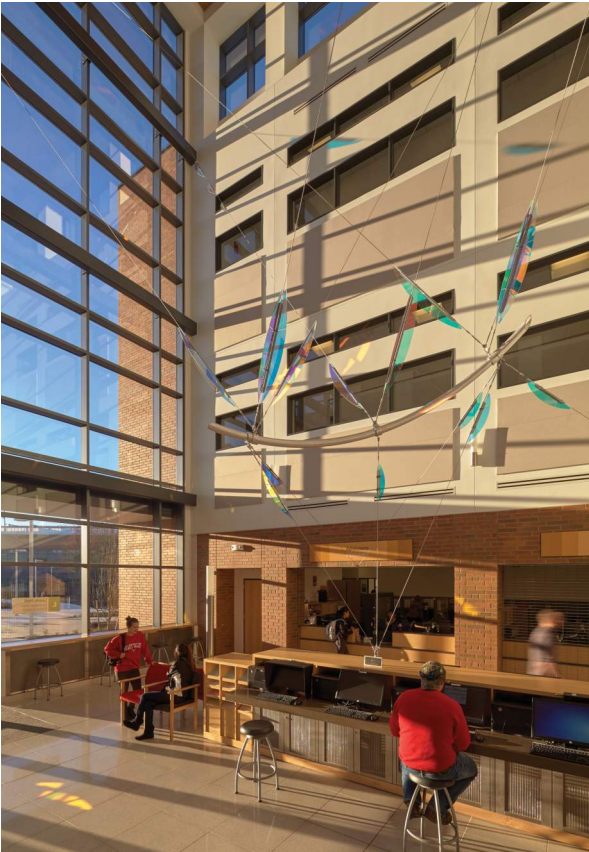




## CHARLES LEWIS HALL

Skagit Valley College

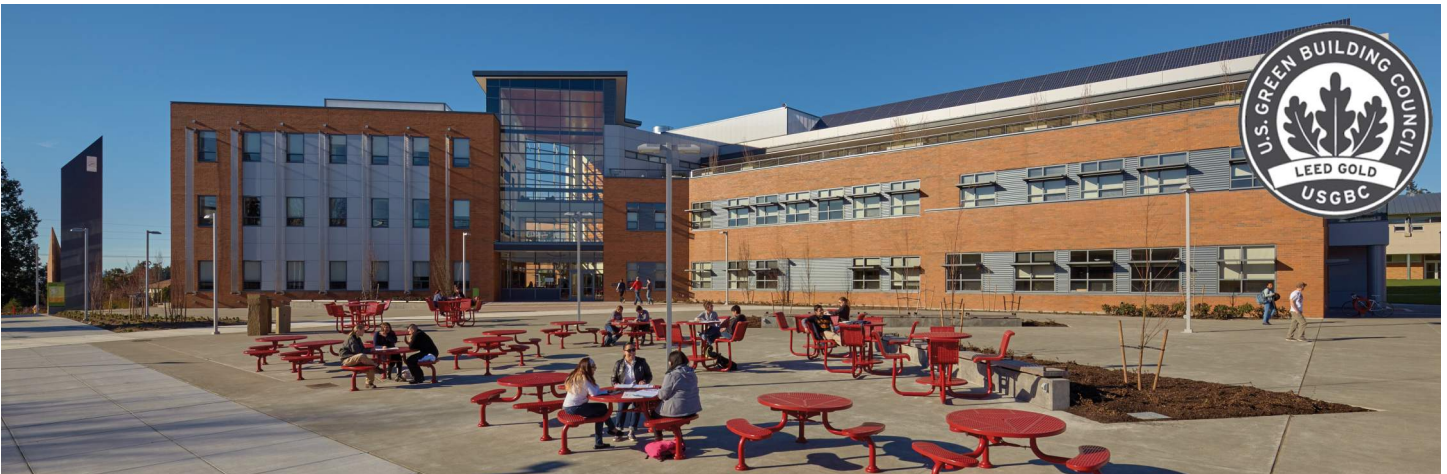
Mount Vernon, Washington



Lewis Hall is the second major new campus building on the Mount Vernon Campus of Skagit Valley College designed by Schreiber Starling Whitehead Architects. SVC's Laura Angst Hall, a science and allied health facility, was the first. Lewis Hall was motivated by the college's lack of an effective, approachable center for student services and a critical need to co-locate the wide range of services available for student success, especially at-risk students.

The new Lewis Hall totals 70,000-sf, with the ground floor offering a welcome "one-stop" center for students. A three-story atrium houses the main information desk, with adjacent service areas providing Cashiers, Registration, Financial Aid, and Admissions. Directly adjacent to the atrium is the main student Advising, Counseling and Adult Basic Education facilities. The second floor houses Tutoring and Testing, in addition to a drop-in Math Center and the Math Department. The English and Literature Department and a drop-in Writing Center are located on the third floor. This floor also features a roof garden plaza.

Skagit Valley College is committed to sustainable design and operation of its facilities, and the new Charles Lewis Hall achieved LEED Gold certification from the U.S. Green Building Council.







## PACIFIC TOWER HEALTH EDUCATION CENTER / RENOVATION

Washington State Department of Commerce  
Seattle Central College  
Seattle, Washington

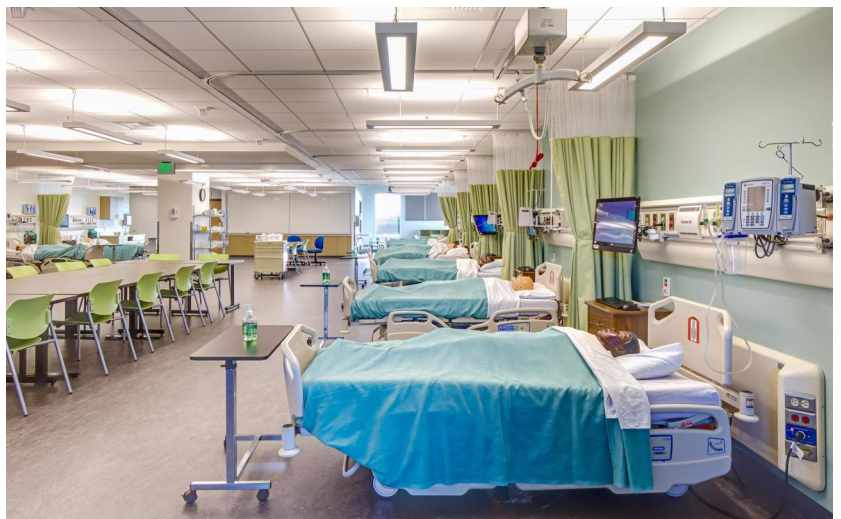
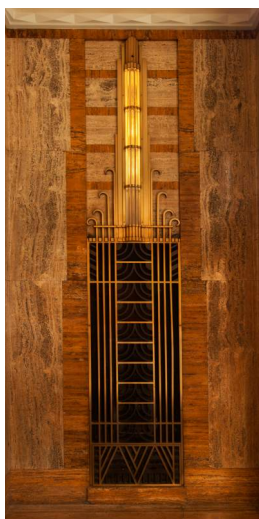
Early in 2013 the Seattle College District was asked by the legislature for input regarding an opportunity of creating a new Allied Health Center in the Pacific Tower, a unique and iconic landmark in the Seattle skyline. While a preliminary programming and concept response typically would involve extensive meetings with faculty and administration and take a number of months, the district needed to respond within weeks. Due to our having recently completed new health education buildings of a similar scale and scope, the district enlisted our help under our state On-Call Architect agreement to develop an initial list of academic, lab, and support spaces that could serve 300-FTE, and to develop “test-to-fit” concept diagrams organizing the space over several floors.



Subsequent to that study, the Washington Department of Commerce, also through our On-Call agreement, engaged our team to conduct a thorough investigation of the core and shell of the Pacific Tower as part of its due-diligence in preparation for entering a long-term lease. Using the State Lease Standards as our guide, our team evaluated all building elements including code compliance as well as determining the expected service life of the installed equipment. Our recommendations included immediate correction of accessibility and envelope deficiencies, and systems improvements, totaling \$3.4 million. We also provided a recommendation for mid- and far-term improvement/operation costs over the expected 30-year life of the lease.



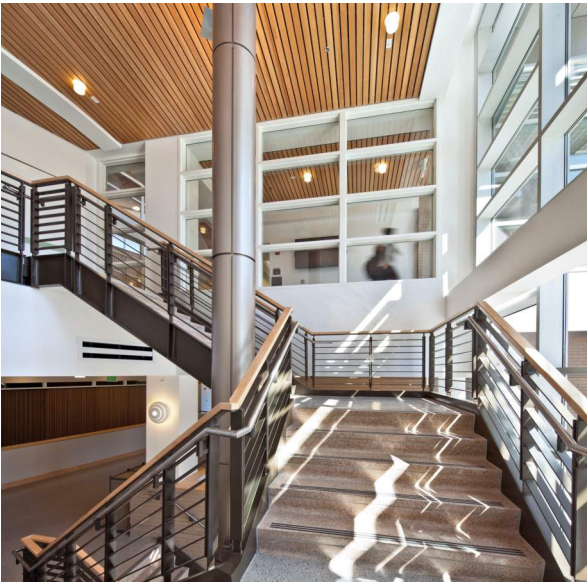
Ultimately, we were selected by the Department of Commerce as architect for not just the College’s spaces but for the remaining 120,000 gross square feet of space in Commerce’s lease. Our scope included improvements to the historic building’s envelope including its windows, minor through major tenant improvements for approximately 12 different organizations, structural systems upgrades, and integration of an independent ESCO (Energy Services Company) contract. The City of Seattle has also required that the building be made compliant with current building codes.





## ALLIED HEALTH BUILDING

Lake Washington Institute of Technology  
Kirkland, Washington



The LWTech Allied Health Building provides facilities for all programs of the School of Health Sciences (Certified Nursing Assistant, Practical Licensed Nursing, Registered Nursing, Medical Assisting, Medical Billing and Coding, Physical Therapy Assistant, Occupational Therapy Assistant, Funeral Service Education, Health Sciences and Public Health). The building also houses the Washington Network for Innovative Careers, a high school skills center offering allied health programs (Dental Assisting and Medical Assisting). The new building includes flexible technology-rich general classrooms for both college and rental use, and a five-room simulation suite each with an associated control room. A portion of the facility is designed for future use as a health clinic operated in partnership with a community health care provider.

Schreiber Starling Whitehead Architects developed a design that connects the new 83,550-sf three-story building with the existing LWTech East Building, providing direct links to an existing dental clinic and campus fitness center. It is also the only campus building offering direct on-grade access to parking.

The building organization extends an existing atrium and provides multiple informal student gathering spaces for collaborative learning. The building received LEED Silver certification.





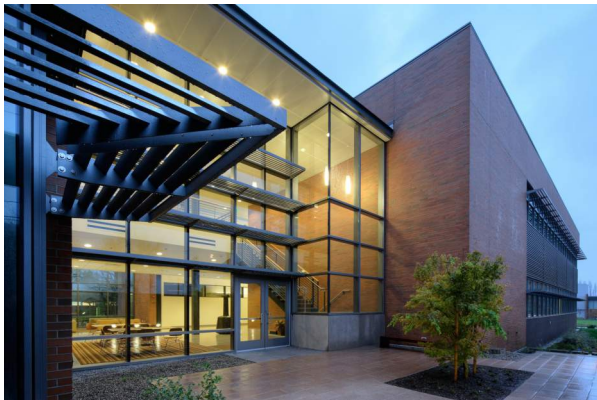
## PAST PERFORMANCE

### Project Philosophy

No matter the scale, a successful public project is best achieved through a dynamic and inclusive process. This process identifies and meets the goals, needs, and aspirations of the building users while respecting its context and enhancing the environment. It is a dynamic process in that it evolves as the project evolves, and inclusive in that all interested parties are encouraged to participate. We view our primary role in this process as that of facilitator.

We also recognize that in the public project environment, the number of individuals and groups having a stake in the successful outcome can be quite large. Schreiber Starling Whitehead Architects is experienced in working with committees, building users, facilities staff, administrators, and the larger public. To assure that all stakeholders are involved, we employ an open, interactive team approach. As with our expectations for the A/E team, our philosophy recognizes that each stakeholder brings to the project individual knowledge and experience which combines to produce results far greater than the sum of individual contributions. Strong leadership, open communication skills, and recognition of the tensions inherent in this process provide us the ability to guide the core committee toward the owner's goals for the project. Assisting the group in sorting priorities and incorporating various agendas to reach a consensus is handled in a creative and thorough manner.

In addition to our technical knowledge and experience, we bring an attitude of openness to each project. It is our first and continuing task as designers to listen to, and be receptive to, the wealth of ideas that the facilities staff and building users bring to each project. We know some of those ideas are clear and ready for development. We also understand that often others of those ideas need a supportive forum, a well-run meeting, or a fast and accurate technical response to take shape and be ready for use. That is at the heart of our philosophy and approach—a supportive open-minded process backed by experience and technical knowledge.



*Laura Angst Hall, Skagit Valley College. This was the first LEED Platinum higher education facility in the state.*

### Pre-Design Approach

Our predesign effort will employ on-site workshops intended to provide clear and welcoming opportunities for input by all project stakeholders. Through these events we will test the project concept established by the PRR against current college needs and available funding.

Workshop topics include generating the building program and space requirements, establishing value goals to measure subsequent phasing and/or cost decisions, documenting both inter-functional and intra-functional relationships, and identifying supporting infrastructure needs (security, mechanical, electrical, data, telecommunications, special equipment, etc.). This raw information will be distilled into a program of required features that, when validated by the users, will serve as the functional model from which conceptual design alternatives will be developed.

A central purpose of the OFM predesign process is the investigation of alternate solutions. During the planning workshops we will apply our planning skills to brainstorm possible solutions to a wide range of project issues. Between workshops our team will analyze each alternate solution to determine its appropriateness and the degree to which it meets the project goals and program needs. The results of our analyses will be brought back to the stakeholders for verification. As the alternates are further developed, costs and implementation schedules will be developed for each. At this point the college will have considerable material to enable an informed selection of the preferred alternate, which will receive detailed attention as our planning team prepares the final report.

Too often in state-funded projects it is evident once the predesign process begins that the requested budget is inadequate to realize all the facilities or equipment needs outlined in the PRR. Realized later in the design process, this typically means that the users'



*Top to bottom: Simulation suite at SCC's Pacific Tower; simulation facility (during visit of Governor Jay Inslee) chemistry lab, and Nursing skills lab at SVC's Laura Angst Hall; neonatal ICU skills lab at LWTech's Allied Health Building*

needs are compromised or the ability to maximize the program benefit of the funding spent is lost. We believe that the key to assuring that this doesn't happen is set in the programming process we conduct in predesign. Our role in this process is to assist the stakeholders to complete work left unresolved from prior planning work and to identify potentially changed conditions. We then ally current "real-world" knowledge of the construction market and public funding process to confirm project goals are achievable. The budget verification analysis we perform at this time goes deeper than simply applying published area costs to the program space total. We look at the program, site development, systems performance, design, and schedule needs, and identify those that are unique. We then ensure that the budget identifies and addresses the cost impact of each unique issue.

The implementation schedule for both design and construction will be a key element of the STE(A)M Education Center predesign. We will develop scenarios that take into account various outcomes for legislative appropriation, municipal land use constraints, permitting, and code updates to help Shoreline decide upon a project schedule that best balances these factors and assures the highest use of funding on what really matters - development of a STE(A)M Education Center that best meets student needs now and in the future.

## Design Approach

Schreiber Starling Whitehead Architects bases our design process on the belief that quality design lies in creating spaces that integrate into their surroundings, producing spaces in harmony with their context. The appearance of our projects becomes as varied as their function and location, and our only style is the expression of use and user vision—not of changing fashion.

During the earliest phase of design we have the ability to achieve the most significant positive impacts on the project. The most important initial task for the design team is to verify that perceived needs are actual needs, and that the highest priority elements are achievable within the budget. We will meet with project stakeholders to identify primary drivers, establish goals, agree on the definition of project success, and work collaboratively to establish functional relationships, uncover and test concepts, and finally define a course of action. Armed with project goals and measures of success, we will explore possible synergies as well as obtain early jurisdictional input to synthesize a conceptual design response to the project.

In our process there is a strong sense that each project develops uniquely from the inside out and that each user's experience within it is extremely important. The specific attention placed upon the project's individual nature and the technical resolution of the program details allow our working process to anticipate unusual design problems or environments.

## Experience with Active Campuses

Removing three existing buildings and constructing a new STE(A)M Education Center within the heart of a busy college campus will require careful planning and proactive





*Building 1500 Roofing Replacement and HVAC Improvements, Shoreline Community College*

implementation. With eighty percent of our work being for higher education clients, we know that minimizing campus disruption is a baseline expectation. Prior to forming Schreiber Starling Whitehead Architects, our founding principals worked in healthcare design. On healthcare projects, maintaining uninterrupted operations and minimizing disturbances was essential, sometimes literally a matter of life and death. Their experiences formed the basis for our decision-making process, wherein the disruptive potential of each element of work - whether it be dust, noise, utility disruption, etc. - is taken into account and mitigation measures are included in the construction documents to eliminate or reduce their impacts on campus occupants and operations.

### **Permitting Agencies**

Having successfully completed projects throughout the state, including at Shoreline Community College, we have proven our ability to develop the documentation necessary to meet local permit requirements. To ensure timely project approval and issuance of permits, we will work closely with the city and other authorities having jurisdiction and develop the permit documents such that permit submittals occur as early as possible and with the greatest likelihood of smooth processing.

### **Document Production and Quality Assurance Control**

The STE(A)M Education Center Pre-Design report will be scrutinized both at the SBCTC and at OFM. It is essential that the document be comprehensive and that it be accurate. Delays to OFM's approval, due to a poorly assembled report, places the timely release of project funding at risk and jeopardizes the orderly progression of the remaining project. Quality assurance and control begins at pre-design. ***As a testament to the efficacy of our QA/QC system, of the dozens of pre-designs we have submitted to OFM not one has been returned with comments or concerns.***

For our design work, providing clear, concise, and complete information to the contractor is the primary goal of our document review and quality assurance process. Schreiber Starling Whitehead Architects continually strives to achieve quality construction documents that are both biddable and constructible. Biddable documents ensure that all bidders can clearly understand the scope of the project and that the contract price will be at or below the established budget. Constructible documents also ensure that the project costs do not escalate through the construction phase due to errors or omissions.

Our project manager supervises and coordinates the team documentation efforts and is directly involved in the production of the contract documents. We pay particular attention to coordination of the various disciplines. As the project design and documentation develops, we create and issue plan bases to each discipline and require each discipline to exchange electronic files of each others' drawings in order to facilitate the coordination of trades. We also specify minimal standards of documentation which reduces the potential for errors during construction. As a final for conducting a detailed coordination review of all drawings and specifications to resolve conflict or ambiguity.



A measure of the success of our quality control program is the low incidence of change orders encountered during construction resulting from document errors or inconsistencies. ***We have averaged less than two percent changes attributed to design errors/omissions on all projects completed to date.***

### **Budget Management**

The goal of project cost management is to provide a fully-functional facility within the budget parameters established by our clients. A critical role of pre-design is to demonstrate that the project as conceived is achievable - i.e. that scope and cost are aligned - or if not to put in place measures necessary to establish that alignment. To that end our team's independent cost consultant, knowledgeable of the local construction economy, will provide concept-level estimates during the pre-design process.

To balance scope and cost during design, we use a three-part budget management process. The first part is based on the precept that accurate estimating begins with the designers' understanding of the cost implications of their decisions. At the start of design the project team establishes initial quantities and quality expectations, from which they develop preliminary area-based costs. This allows for budgeting project elements that may not yet be "on paper." We minimize "design inflation" by assigning responsibility for each cost element to individual team members. The second part of our process is concurrent with design development. As details are generated and materials selected, costs are developed for each item of work and the material, product, and systems options are measured against initial and life-cycle costs to provide maximum value for expense. Our final design phase cost management step is the development of detailed, independent estimates at project milestones. Our cost consultant John Langer confirms quantities and applies current cost data, verified by suppliers and contractors, then determines the likely bid climate to generate progressively more detailed cost estimates. ***We have averaged bid-to-estimate accuracy of +/- 5% on projects bid to date.***

### **Schedule**

Schreiber Starling Whitehead Architects maintain vigilant project management through a task-based scheduling system to ensure that contract schedules are met or bettered. The specific actions necessary to accomplish project tasks are identified, assigned to team members, and given maximum duration and intermediate review timelines. Regular team meetings permit the management team to forecast possible shortfalls and to commit additional staff and team resources to meet the schedule milestones.

The majority of our work has been for academic institutions that operate on a rigid academic calendar. These clients simply cannot tell students that they must defer their education until next quarter while their building is under construction. As such, our firm's culture places great importance on schedule compliance on all projects, academic or otherwise. Our history of meeting schedule milestones and staging the projects for on-time completion is one of the reasons that our clients continue to select Schreiber Starling Whitehead Architects for repeat projects.



*The design of new elements borrowed from features of the historic fabric; Pacific Tower Renovation, Seattle Central College/Department of Commerce*



## LIFE CYCLE COST ANALYSIS EXPERIENCE



SSW Architects, Notkin/P2S, and John Langer each have direct and extensive experience providing life-cycle and energy life-cycle cost analyses for our projects, including use of OFM's Life Cycle Cost Model (LCCM) and Life Cycle Cost Tool (LCCT) processes. We have used the LCCM in all our recent pre-designs to compare alternate solutions and to support the preferred solution.

As the illustration indicates, over 30 years of a building's life the present value of maintenance, operations, and utility costs is nearly as great as the initial project costs. As we explore design alternatives for the STE(A)M Education Center, we will develop estimates of the total cost of the building, from initial construction through operation/maintenance. By comparing life cycle costs for various design configurations, we will explore trade-offs between low initial costs and long-term cost savings, identify the most cost-effective system for a given use, and determine how long it will take for a specific system to pay back its incremental cost.

### **Operations & Maintenance Cost Benchmarking**

During the predesign phase of the STE(A)M Education Center, we will develop a "benchmark budget" with design and construction cost estimates based upon the approved C-100 and data from past projects. Concurrently we will work with the Shoreline Facilities staff to set an O&M benchmark using their historical operations and maintenance data from existing campus buildings for those components that apply to this project.

### **Comparative Analysis**

During the Schematic Design (SD) and Design Development (DD) phases, the design team will make increasingly detailed decisions about the final design for the building, including mechanical, electrical, structural, telecommunications, and plumbing systems. During this period, we will conduct a series of analyses comparing the total costs of various building system options.

### **Study Categories**

The design team will assess the value to the project of up to 14 possible life cycle cost (LCC) comparisons in six general categories. Within each category, the specific comparisons involve options for addressing the same need. The following are examples of the 14 comparison areas, illustrating how they are applied to an actual project. Specific systems or options considered will vary with the type, scale, and intended use of the building.

#### ***Energy Systems***

1. Centrally connected vs. stand-alone systems
2. Alternative energy systems (e.g., solar photovoltaics, solar thermal, fuel cells)
3. Equipment options for stand-alone systems (energy modelling of alternatives e.g., air-cooled chillers vs. VRF/DOAS, vs. refrigerant-based direct-expansion [DX] units)

#### ***Mechanical Systems***

4. Air distribution systems (e.g., variable volume vs. constant volume, overhead vs. underfloor)
5. Water distribution systems (e.g., various piping systems and pumping options)

#### ***Electrical Systems***

6. Indoor lighting sources and controls
7. Outdoor lighting sources and controls
8. Distribution (e.g., transformers, buss ducts, cable trays)

#### ***Building Envelope***

9. Skin and insulation options
10. Roofing systems (various materials and insulation methods)
11. Glazing, daylighting, and shading options

#### ***Siting/Massing***

12. Solar orientation, floor-to-floor height, and overall building height
13. Landscape, irrigation, and hardscape options

#### ***Structural Systems***

14. Systems/materials selection (e.g., steel vs. concrete, cast-in-place vs. pre-cast)

## SUSTAINABLE DESIGN EXPERIENCE

We have successfully designed and certified the following LEED buildings:



### Platinum

- Laura Angst Hall (Science & Allied Health Building), Skagit Valley College



### Gold

- Self Learning Commons, Whatcom Community College
- Charles Lewis Hall (Academic & Student Services Building), Skagit Valley College
- Seattle Fire Station 28, Seattle Fire Department
- Seattle Fire Station 38, Seattle Fire Department
- Fort Lewis Readiness Center, WA Military Department



### Silver

- Lindbloom Student Center Green River College
- Allied Health Building Lake Washington Institute of Technology, Kirkland Campus
- Salish Hall Green River College
- Corporate Education Center Lake Washington Institute of Technology, Redmond Campus
- Missile Assembly Building #3 United States Navy
- Wood Technology Center Seattle Central College
- Colin Building Addition South Seattle College
- Maritime Academy Seattle Central College

We realize that the most important challenge facing the architectural profession today is the design and construction of buildings that promote environmental and occupant health. The most sustainable thing any of us can do is to create successful, long-lasting buildings that embrace natural processes and require the least effort and cost to maintain. For our firm, it's not just about receiving the points; whether LEED, Net Zero, or any other sustainability measuring tool, sustainable design is at the core of our practice.

Common green features we incorporate in our designs include access to fresh air, connection to nature, daylighting, views and vistas, personal control/customization of workspaces, flexibility, low-cost comfort (thermal, olfactory, noise and vibrations, and ergonomic) and informal, shared amenities. Our site designs typically include drought-tolerant and native plantings, cut-off light fixtures, and electric vehicle charging stations. Our approach to sustainable design not only achieves reduced utility costs, but also contributes to improved productivity and well-being of the building's occupants and neighborhood.

### LEED: Leadership in Energy and Environmental Design

Schreiber Starling Whitehead Architects has long been a member of the United States Green Building Council and we have several LEED-accredited professionals on our team to guide the design of our projects along LEED standards. Capital funding of public projects can never be characterized as plentiful, and it is frequently difficult to achieve mandated LEED certification levels. We are very proud of our ability to achieve and exceed sustainable building goals within available budgets. We also have direct experience in developing grant proposals and rebates for on-site energy generation. For Skagit Valley College's Angst Hall we wrote a grant application to OFM which resulted in receiving a \$360,000 grant for a 30-kw photovoltaic system. This system had sufficient impact for Angst Hall to be the first LEED Platinum-certified higher education facility in the state.



Photovoltaic array, Angst Hall, Skagit Valley College. This system supplies 3% of the building's power.







ARCHITECTS

SCHREIBER  
STARLING  
WHITEHEAD

901 FIFTH AVE. #3100

SEATTLE, WA 98164

206-682-8300

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