



## Final Report

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# **University of Washington Tacoma**



## **Recommendation for Expansion of BS Engineering Degree Programs within The Institute of Technology**

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## Executive Summary

The visit consulting team would like to thank the University of Washington Tacoma, its administrators, faculty, and staff, members from local industry, and representatives for the local community and technical colleges for the time and effort they have all invested to ensure our visit was productive and that we were able to receive candid answers to our questions. We are truly appreciative of the efforts by Mr. Joel Larson and Mrs Noreen Slease coordinating our three day visit.

This review considered input from numerous university and industry stakeholders, recognized the importance of student demographic, reviewed trends in engineering education through the lenses of national organizations,, considered the labor market demand and supply statewide and across Pierce and King Counties, and reflected on collaborations with community and technical colleges on recommendations by the consultant team for engineering degree expansion within The Institute of Technology.

The following findings are presented:

- Based on these national studies, job opportunities for engineers and computer scientists are unprecedented today and in the foreseeable future. From the engineering perspective these studies clearly show the need for most engineering disciplines, with a strong emphasis on mechanical, electrical, civil, and biomedical engineers.
- Based on gap analysis of labor market demand and supply data, both statewide and locally, engineering jobs are available across a number of disciplines. Job postings reviewed locally for Tacoma reflect a greater demand for those with a BSME degree.
- The cumulative transfer population from Highline, Tacoma, Pierce and Green Community Colleges year over year outnumbers that population from other schools with similar engineering programs. Many of these programs have coursework that provide foundations for four-year programs of study in Aerospace, Civil, Industrial or Mechanical Engineering, with coursework supporting a program in Mechanical Engineering more frequently recognized. Capitalizing on pathway programs offered through community and technical colleges will build a sustainable partnership with UW Tacoma, continuing to support its BS undergraduate programs.

The visit consultant team therefore recommends:

- Incorporate in its strategic plan of moving towards a comprehensive school of engineering by:
  - Establishing first a BS engineering program in mechanical engineering. The broad construct of the curriculum provides flexibility to meet many stakeholder expectations. In designing the program and curriculum, we suggest the Institute incorporates themes promoted by national organizations and societies.
  - Establish second a BS engineering program in civil engineering. The laboratory facilities which supports the BS ME program can form the basis of functional laboratory facilities to support BS CE program
    - Within the two established program creates concentrations, tracks, or minor in environmental, industrial and manufacturing engineering.

## Background

The University of Washington system is composed of three academic campuses located in the cities of Bothell, Seattle, and Tacoma. The campus at Seattle, UW Seattle, is the system's flagship campus.

Established in 1990, The University of Washington Tacoma, UW - Tacoma, serves a student body which crosses ethnic, race, family, and generational boundaries. UW Tacoma's mission includes

- *Expand access to higher education in an environment where every student has the opportunity to succeed*
- *Foster scholarship, research, and creativity to address the challenging problems of our time and place*
- *Partner and collaborate for common good*
- *Catalyze the economic and social vitality of the region*

Situated on 46 acres in Pierce County near the Port of Tacoma, the campus architecture revives what was the center of commerce and business afforded by the railways in the late 1880's. Twenty-four buildings have been restored externally to the condition of that time period while these recent innovations have been incorporated within each structure affording faculty, staff and students the latest for research and pedagogy.

UW - Tacoma is composed of eight schools and programs which offer thirty-six undergraduate majors, twenty-nine minors, eleven graduate programs and two professional development programs. The student-body is composed of 699 graduate students and 4288 undergraduate students. These programs are supported by a faculty size of 341.

Launched in 2001, The Institute of Technology offers four undergraduate programs in Computer Science and Systems, Computer Engineering and Systems, Information Technology and Electrical Engineering, two graduate programs in Computer Science and Systems and Cybersecurity and Leadership and one minor in Applied Computing. The Institute has EAC-ABET accredited programs in Computer Engineering and Systems, Computer Science and Systems and Information Technology. The Electrical Engineering program was added in fall of 2017 and is expected to undergo its initial accreditation after graduating its first cohort of students. The Institute's stated mission is

- *To provide the highest quality computing, engineering, science, and technology education for a diverse population and engage in research and innovation that benefits the community by fostering social mobility and economic development*

In addition, the Institute's faculty participate in two centers, one for data science and the second for information assurance and cybersecurity. Its thirty-three member faculty is supported by thirteen staff. The Institute's programs comprise 13% of the university's undergraduate population and 24% of the university's graduate population. The student demographic at UW Tacoma includes 54% from diverse backgrounds and 64% of first year students whose parents do not have college degrees. The Institute has EAC-ABET accredited programs in Computer Engineering and Systems, Computer Science and Systems and Information Technology. The Electrical Engineering program was added in fall of 2017 and is expected to undergo its initial accreditation after graduating its first cohort of students. *Given that UW Tacoma admits a large percentage of its undergraduate students as transfer students, meeting the academic goals of this population will play heavily when deciding how to grow program offerings.*

## Drivers for Growth

A number of factors will promote the adoption of new program(s) which include State support to expand four year curriculum offerings, opportunities to improve the employment opportunities for the local community and surrounding region, and capacity demands on infrastructure.

### The State Proviso

The 2013-15 biennial budget (3ESSB 5034) passed by the Washington State Legislature included \$4,459,000 of state funds for the UW to increase enrollments in both engineering and computer science degree programs. The distributions of funds, through the Proviso 13-15, included \$684,000 for the UW Tacoma.

### The Capital Budget Request

The 2017-19 Capital Budget Request provided by the University of Washington itemizes allocations to support the growth of university's academic programs, hiring new faculty and for infrastructure expansion and improvements. As part of this request, The University of Washington requested \$0.5 million in 2017-19 State funds for the Pre Design of new UW Tacoma Building. The proposed building will support

- State Mandate to Increase Enrollment with the addition of new four year curriculum in addition to achievement and post-secondary learning results
- Provide for capacity growth of all programs to meet expected utilization by 2019
- Provide for lab space for anticipated degree programs in Mechanical Engineering, Cybersecurity, Industrial Engineering, and Environmental Engineering
- Become the potential home of the Milgard School of Business and offer programs of study leading to a Bachelor of Arts in Business Administration (BABA), Master of

## Business Administration (MBA), Master of Accounting (MAcc), and Freshman Direct Admissions

### The Campaign for the Institute of Technology

The promise of UW Tacoma rests in offering programs and degrees that meet its mission, that have demand from students, and meet the employment demand locally and regionally.

Resources to support these endeavors are provided through the State's biennial budget process.

The campaign for the Institute of Technology highlights the following as important:

- Providing Access to a High-Quality In-Demand Education
- Fostering Workforce Creation for Changes in Local/Global Economy
- Transforming the Lives and Opportunities of our Students
- Stimulating Economic Development of our Region
- Creating Centers of Research in High-Tech

### The Consultant's Charge

In light of the State Proviso and the 2017-19 Capital Budget Request, the consultants were charged to provide their recommendations for expansion of undergraduate engineering degree programs to be offered in the Institute of Technology.

### The Process

Perspectives on the UW Tacoma - its beginnings and future, its administration and programs, its faculty and student body, and its role in the community and region - were captured from a number of stakeholders through face-to-face interviews and group meetings. A total of thirty-three individuals participated in these meetings which took place over a three day period, November 15-17, 2017. Students, as a constituent group, were not included in these discussions. In addition, the team toured the UW - Tacoma campus, classrooms, and laboratories, including the FABLAB Makerspace, visited and toured the Center for Urban Waters, Highline College, Pierce College, and Bates Technical College. Since a large percentage of students enter UW Tacoma after completing degree requirements in pre-engineering or technology programs either at community or technical colleges, a survey of their programs of study offered and course requirements were reviewed. Schools in both Pierce and King Counties were considered. Within Appendix A, a list is provided of those who took part in this process.



## Engineering Landscape - A National Perspective

There are several national organizations which promote engineering research and education. From these we include perspectives from the American Society of Civil Engineers (ASCE), the American Society of Engineering Education (ASEE), the American Society of Mechanical Engineers (ASME), the Engineering Accreditation Commission of ABET (EAC-ABET), the National Academy of Engineering (NAE), and the National Science Foundation (NSF).

### ASEE - Engineering Degrees and Enrollment

From 2015 to 2016 the number of students awarded bachelor's degrees in engineering rose by 6%, above the average 5.4% annual increase of bachelor degrees in engineering since 2007. Engineering Science and Engineering Physics and Computer Science (inside Engineering) had the largest percentage increases in 2016 over the previous year: 24% and 23%, respectively.

In 2015-2016 there were 112,721 engineering bachelor's degrees awarded in engineering. Mechanical engineering was the largest with 26,816 degrees (23.8%) followed by computer science (inside engineering) with 13,483 (12%), electrical engineering with 11,892 (10.6%), and civil engineering with 11,464 (10.2%). Electrical/Computer engineering and mining engineering had a decrease of 17% and 8%, respectively, which was the largest percentage decline from 2015 to 2016.

From 2015-2016 engineering enrollment grew slightly from 2014-2015. Computer science (inside engineering) had the largest increase over the previous year with an 11% gain. Undergraduate enrollment in engineering in 2015-2016 was 654,885. Mechanical engineering was the largest with 134,765 (22.4%), computer science (inside engineering) with 72,689 (11.1%), other (means not traditional engineering degree programs) with 52,914 (8.1%), electrical engineering with 51,247 (7.8), and civil engineering with 48,778 (7.5).

Undergraduate engineering enrollment grew by 57% since 2007, an average increase of 5.7% per year. Mechanical engineering is the largest and has been for over 10 years, followed in order by electrical engineering, computer science (inside engineering), and civil engineering.

### ABET - Program Accreditation

ABET, Inc., is a nonprofit, non-governmental accrediting agency for programs in applied and natural science, computing, engineering and engineering technology. It is recognized as an accreditor by the Council for Higher Education Accreditation. ABET accreditation provides assurance that a college or university program meets the quality standards of the profession for which that program prepares graduates.

ABET accredits programs, not institutions. The organization provides specialized accreditation for post-secondary programs within degree-granting institutions already recognized by national or regional institutional accreditation agencies or national education authorities worldwide.

ABET's accreditation is voluntary, and to date, over 3,800 programs at more than 770 colleges and universities in 31 countries have received ABET accreditation. Approximately 85,000 students graduate from ABET-accredited programs each year, and millions of graduates have received degrees from ABET-accredited programs since 1932. Since 2012 more programs are accredited under the electrical engineering curricular than any other curricular area, figure 1. The mechanical and civil engineering curricular areas are the next two followed by the computer engineering and computer science curricular areas, respectively.

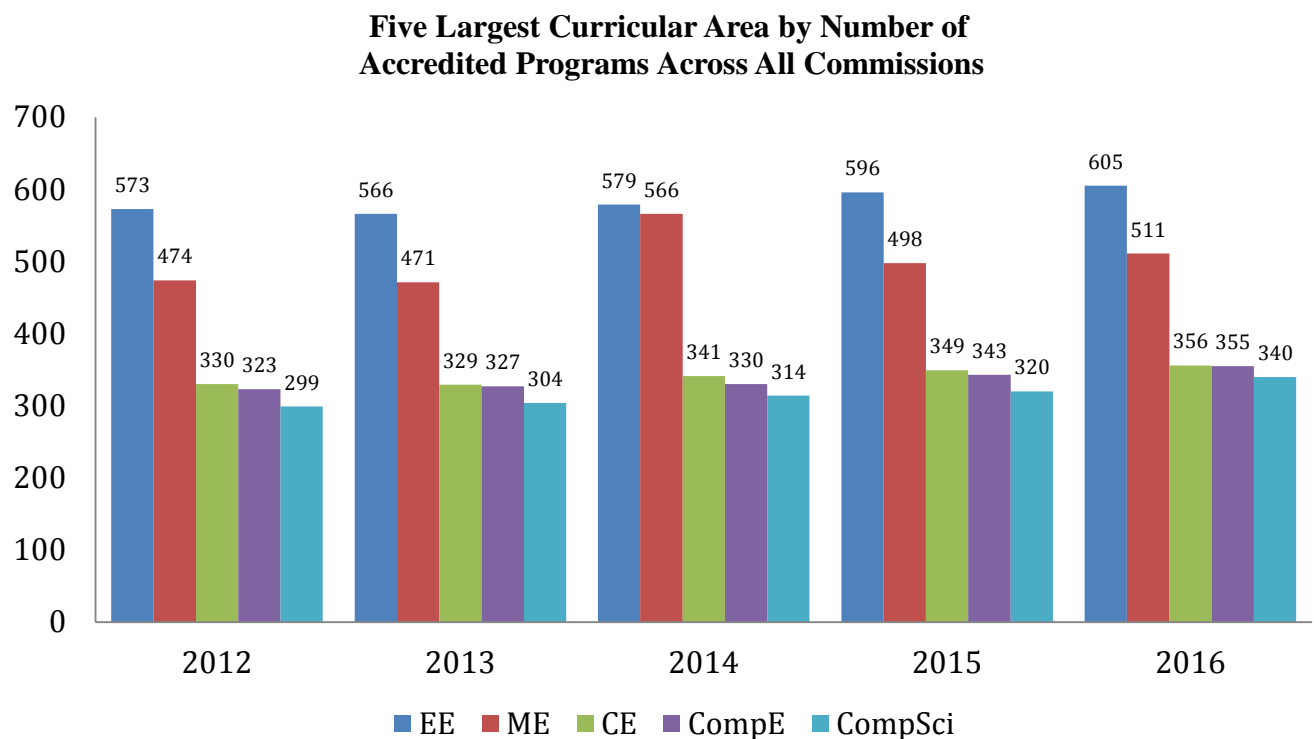


Figure 1 Trends in Accreditation by Curricular Area

## NAE - The Engineer of 2020 and Educating the Engineering of 2020

*The Engineer of 2020 (2004)* imagines the future and attempts to predict the role engineering will play in the future. The case is made that social issues (population, health and the global economy) are central to engineering practice in the future, and argues for the need to place engineering practice in an advanced technological context driven by breakthrough technologies, such as biotechnology, biology, chemistry, nanotechnology, materials science and information technology. It further argues that while past responses to the increase in engineering knowledge entailed creating new undergraduate engineering disciplines, this subdivision of knowledge may

be an inappropriate response in academia, and in the future, core knowledge advances should be applied to achieve interdisciplinary solutions to engineering problems.

*Educating the Engineer of 2020 (2005)* continues the themes of the Engineer of 2020 in the practice of engineering. It notes the increasing complexity and scope of engineering systems. In addition, the domains of engineering interest now include the biological/nano-materials/information areas. These areas are based on ever smaller and smaller spatial and time scales, which necessitates melding together the physical, life, and information science knowledge areas. Changes in the practice of engineering include increasing use of multidisciplinary teams, and a widening difference between engineering science and engineering practice and an internationalization of the global engineering workforce. The report also makes note of the decreasing fraction of US born or educated engineers in the world-wide engineering profession, which signals a change in the social context of engineering. Forces on the professions include the global population increase (primarily in developing countries) and in many countries at or below the poverty level, an increase in life expectancy, and intertwined global economies.

#### NAE - Grand Challenges

The NAE issued 14 Grand Challenges for Engineering in 2010. The report identifies these grand challenges as starting points where engineers can provide leadership in the development of innovative and sustainable solutions to the challenges facing the world's societies. They are:

- Make solar energy economical
- Provide energy from fusion
- Develop carbon sequestration methods
- Manage the nitrogen cycle
- Provide access to clean water
- Restore and improve urban infrastructure
- Advance health informatics
- Engineer better medicines
- Reverse-engineer the brain
- Prevent nuclear terror
- Secure cyberspace
- Enhance virtual reality
- Advance personalized learning
- Engineer the tools of scientific discovery

## NSF Sponsored 5XME Workshop (2007)

The NSF sponsored 5XME Workshops explored necessary transformative change in mechanical engineering education and research in the USA. The 2007 workshop report proposed that the primary challenge for mechanical engineering education in the USA is to educate mechanical engineering who will provide five times the valued added, as compared to the global competition.

## ASCE – Raising the Bar

ASCE's Raise the Bar strategic initiative seeks to advance the profession and the public welfare by actively supporting the national movement to raise educational requirements for licensure of future professional engineers. Currently, the educational requirements for professional engineer licensure call for an accredited bachelor's degree in engineering. Under Raise the Bar, future PEs would also need a master's degree in engineering

OR

an additional 30 credits of graduate or upper level undergraduate courses in engineering, science, mathematics and professional practice topics completed inside or outside a university setting.

The additional post-baccalaureate education would not apply to engineers already licensed before the effective date of a new law (generally anticipated to be at least 8 years after actual passage).

## ASME Vision 2030

The ASME Vision 2030 "Creating the Future of Mechanical Engineering Education" Phase 1 Report was issued in June 2012. The report presents data on the status and long-term outlook for mechanical engineering and mechanical engineering technology education from industry leaders, department heads, faculty, engineering deans, and practicing engineers (including engineering management), and government agencies. The report makes the case for the need for substantial change in the educational process, and presents possible scenarios for change.

Their recommendations came from through a combination of surveys, open sessions at ASME National meetings, and workshops with over 1,400 industry managers, 1,100 early-career engineers, and 80 mechanical engineering department heads/chairs, and a review of the literature. The recommendations are:

- Richer practice-based engineering experiences for students
- Development of students' professional skills to a level equal to their technical skills
- Include more focus on innovation and creativity
- A new balance of faculty skills within a program (practice AND research-based faculty)
- Provide increased curricular flexibility

- Create greater diversity among students and faculty

*Based on these national studies, job opportunities for engineers and computer scientists is unprecedented today and in the foreseeable future. From the engineering perspective these studies clearly show the need for most engineering disciplines, with a strong emphasis on mechanical, electrical, civil, and biomedical engineers.*

## Employment Landscape in Washington State, Pierce and King Counties

Opportunities for employment after graduation are important considerations for any institution when deciding whether or not to add or eliminate programs of study. One source of information is sponsored by Washington State. The Employment Security Department monitors unemployment statistics, jobs and training opportunities, financial data including employer taxes, development opportunities for employers, labor market statistics and current information. Statewide and county-wide information can be obtained. As with the Bureau of Labor Statistics, the State labor statistics available are based upon specific degree disciplines and not the skills, knowledge and abilities afforded by degree completion. From a local perspective, current job postings are available from online sources such as Indeed.com, USAJOBS or Monster.com databases, which offer more descriptive details for a position

### Demand and Supply Report

The labor market demand-supply report provides a gap analysis for detailed occupations along with comparisons of online job postings. The definition of the occupations included in this analysis is prescribed by O\*Net Online<sup>1</sup>, identified as a source for these definitions used by databases nationwide. Included in this report are the following definitions for Demand, Supply and Gap:

- *Demand - (Total Online Job Postings) are the total number of job postings from HelpWanted Online for an occupation that have been active at least one day during the month.*
- *Supply - The total number of unduplicated potential job seekers as defined by having activity with the UI system. These individuals may or may not be actual claimants who receive benefits.*
- *Gap - The difference between supply and demand for a given occupation. A positive gap number indicates that there are more total job postings for a Workforce Development Area during the month than there were potential job seekers based on Washington states' UI system. A negative gap number indicates that there were more potential job seekers from the Washington state UI system for that occupation than there were total job postings.*
- *Percent of selected area workforce who live outside the area and commute into work is obtained from U.S. Census inflow/outflow data. The analysis scope includes all jobs, and is not limited to primary and/or private jobs.*

Demand, Supply and Gap data is provided in Tables 1 and 2 for Washington State and for Pierce and King Counties, respectively. Two occupation categories are provided, all occupations and all engineers. For November 2017 data, positive gap analysis indicates more job posting than potential job seekers. Table 3 provides a detailed gap analysis by engineering discipline for the state and for King and Pierce Counties. On a statewide basis 4 of 15 listed engineering

disciplines – Aerospace, Agricultural, Biomedical and Marine and Naval Architects – all indicate more potential job seekers than job postings. For Pierce County 5 of 15 listed engineering disciplines – Aerospace, Biomedical, Marine and Naval Architects, Mechanical and Nuclear– all indicate more potential job seekers than job postings. For King County, only the listed discipline of Marine and Naval Architects is in this category.

Labor Market Trends for Washington State - November 2017				
	Demand	Supply	Gap	%Commute
All Occupations	135528	52524	83004	2.9%
All Engineers	2952	823	2129	2.9%

Table 1 - Statewide Job Demand and Supply Data

Labor Market Trends for King and Pierce Counties - November 2017				
County	Demand	Supply	Gap	%Commute
King	70879	12517	58362	33.8
Pierce	11983	6229	5754	36.5
<b>All Occupations</b>	<b>82772</b>	<b>18746</b>	<b>64116</b>	
County	Demand	Supply	Gap	%Commute
King	1734	288	1446	33.8
Pierce	91	49	42	36.5
<b>All Engineers</b>	<b>1825</b>	<b>337</b>	<b>1488</b>	

Table 2 - County Job Demand and Supply Data

	Detailed Gap Analysis for Engineering Occupations		
<b>Engineering Occupation</b>	State	Pierce	King
Aerospace Engineers	-33	-5	22
Agricultural Engineers	-1	0	0
Architectural and Engineering Managers	159	1	148
Biomedical Engineers	-2	-1	1
Chemical Engineers	12	0	3
Civil Engineers	559	24	339
Computer Hardware Engineers	65	0	65
Electrical Engineers	286	7	165
Environmental Engineers	146	2	91
Industrial Engineers	756	16	439
Marine Engineers and Naval Architects	-35	-2	-3
Materials Engineers	12	0	8
Mechanical Engineers	204	-2	170
Nuclear Engineers	17	-1	3
Petroleum Engineers	2	0	2
Total	2147	39	1453

Table 3 - County Job Demand and Supply Data



A total of 24 job ads were reviewed to assess demand in and around the City of Tacoma. The Indeed Online database was the source of the ads using the key words of “engineer” and “Tacoma” in the data search fields. Table 4 provides the description of the engineering position, minimum degree requirements, employer and location for each ad. Several ads prescribed more than one engineering discipline as a requirement, and so an indicator was placed in multiple categories to reflect this. Appendix B contains the ads which were reviewed. While some ads listed an engineering discipline others cited a position and referenced the discipline as a component of the degree requirements. Mechanical and electrical engineering disciplines were the two highest cited at 31% and 15% respectively, and both Civil and Industrial engineering each were cited at 10%, figure 2. All disciplines are presented in figure 1. Figure 3 provides job ads by location for Puyallup, Seattle and Tacoma with each recording 21% of the job locations.

Job Title	Degree Req'd	Company	Discipline												Location
			ArchE	AE	Bio	ChE	CE	EE	ENV	GE	IE	Manu	ME	Mat	
Staff Engineer	BS	RH-2 Eng					X						X		Tacoma
Firmware Engineer	BS	Rhino Camera Gear						X							Puyallup
Tooling Engineer	BS	VerAvanti Inc.											X		Redmond
Mechanical Engineer	BS	Globe						X					X		Tacoma
Mechanical Engineer	BS	Parametrix											X		Puyallup
Mechanical Engineer	BS	Pro Sales											X		Puyallup
Civil Engineer	BS	AHBL					X								Tacoma
Project Engineer	BS	Environmental Technologies, Inc.						X		X	X	X	X		Pacific
Quality Process	BS	FreshRealm									X	X			Sumner
Electrical Engineer	BS	Parametrix						X							Puyallup
Project Manager	BS	Novinium						X					X		Seattle
SPTI Senior Project Design Engineer	BS	PSF Mechanical											X		Seattle
Validation Engineer	BS	CMC Biologics			X	X			X	X	X	X	X		Seattle
Enginee II	BS	Toray				X							X	X	Tacoma
Continuous Improvement Engineer	BS	Precision Castparts									X	X			Kent
Project Engineer	BS	City of Tacoma	X				X	X					X		Tacoma
Process Improvement	BS	Blue Origin								X	X	X	X		Kent
Process Engineer	BS	AshGrove				X							X		Seattle
Field Engineer	BS	Alutiiq					X								Ft. Lewis
Fluid Design Engineer	BS	Blue Origin		X									X		Kent
City Engineer	BS	City of Puyallup					X								Puyallup
Cathode Engineer	BS	Modern Electron				X		X					X	X	Bellevue
Civil Engineer	BS	Sound Transit						X							Seattle
Vibration Engineer	BS	Azima											X		Poulsbo
		Total	1	1	1	4	5	8	1	3	5	5	16	2	52
		% of Total	1.9%	1.9%	1.9%	7.7%	9.6%	15.4%	1.9%	5.8%	9.6%	9.6%	30.8%	3.8%	

Table 4 Indeed Job Posting Tacoma

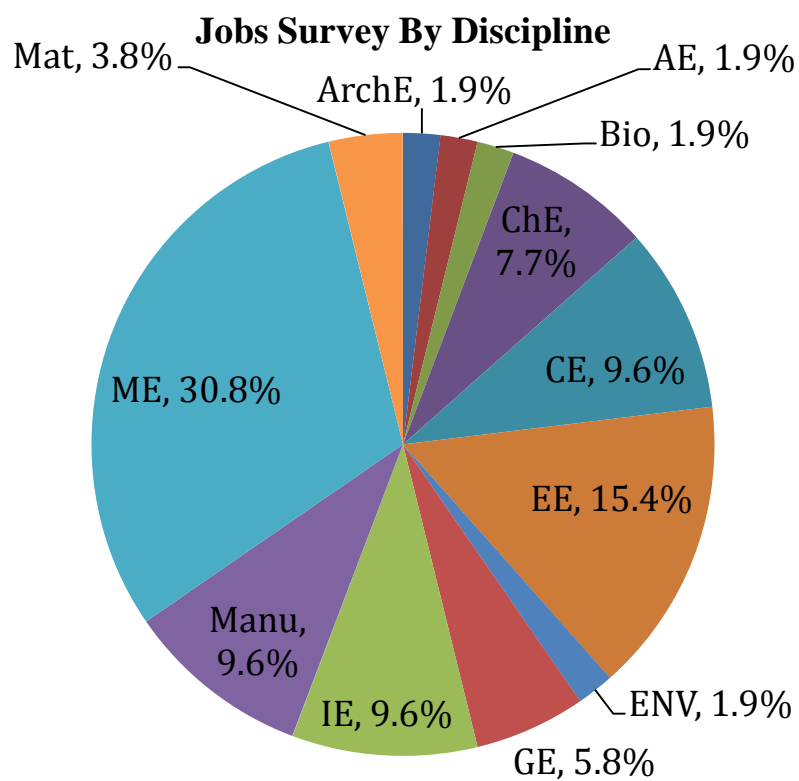


Figure 2 Jobs Survey by Discipline

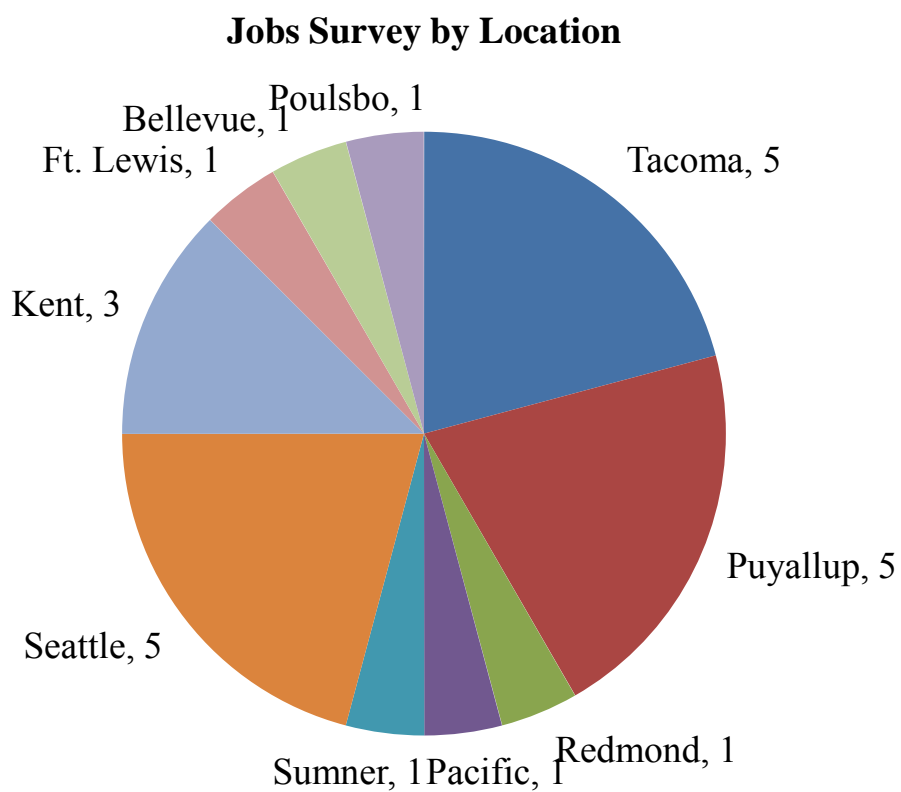


Figure 3 Jobs Survey by Location

*The Washington State Employment Security Department Gap monitors monthly labor market data. The gap analysis of labor market demand and supply data, both statewide and locally, suggest engineering jobs are available across a number of disciplines. Job postings reviewed locally for Tacoma reflect a greater demand for those with a BS ME degree.*

## Educational Landscape - Preparation for the BS Engineering Degree

Transfer rates of students into UW Tacoma has been reported as high as 65% from local Community Colleges and Technical Colleges specifically those within Pierce and King Counties.

Pierce County is the home of Bates Technical College, Clover Park Technical College, Pierce College Puyallup, and Tacoma Community College. The programs of study in Civil and Mechanical Engineering offered at Bates Technical College are supportive of workforce development and do not provide substantive preparation for transfer into a BS engineering program. On the other hand, while Clover Park Technical College provides workforce development as a mission, several of their Associate in Applied Science–T (AAS-T) programs affords students opportunities to gain knowledge, skills and abilities which might prove useful in completing BS Engineering degree programs. These programs require a minimum of 20 transferable general education credits. These AAS-T degrees are Architectural, Composites, Computer Networking and Information Systems Security, Computer Programming, Construction Technology, Environmental Sciences and Technology, Mechatronics, Nondestructive Testing, and Welding. Pierce College Puyallup is one of a few colleges with a designed two-year pre-engineering program that supports transfer into a four-year engineering program. Specific courses offerings in Statics, Dynamics, Mechanics of Materials and Thermodynamics indicate that this program supports the course requirements for a BS in Civil, Industrial or Mechanical Engineering. Tacoma Community College offers six degree options from which students can select as their foundation to transfer into four-year degree programs such as UW Seattle, Seattle University and Gonzaga University. The degree options include coursework in Math, Chemistry and Physics but also have coursework in Statics, Dynamics, Mechanics of Materials and Thermodynamic.

King County is home to Bellevue College, Cascadia College, Edmonds, Green River, Highline, Renton, Shoreline and South Seattle. Bellevue College offers an Associate in Science degrees with major related preparation (MRP) towards BS degrees in Chemical/Bio-engineering, Civil and Mechanical Engineering and Electrical and Computer Engineering. Of particular interest is that the degree requirements for Track II in Civil and Mechanical Engineering include coursework in Engineering Graphics, Statics, Dynamics and Mechanics of Materials. The transfer degree programs at Cascadia, Edmonds, and Green River Community Colleges are similar as those offered at Bellevue with the noted distinction that Track II is identified as Mechanical, Civil, Aeronautical, Industrial, and Material Science Engineering. Highline College offers an Associates of Science in General Engineering. This program of study requires coursework in Engineering Graphics, Statics, Dynamics and Mechanics of Materials among other courses. Renton Technical College provides workforce development in Industrial Engineering which does not support required preparation for a four year BS Engineering degree program. South Seattle Community College has four dedicated transferable degrees in Aerospace, Civil and Environmental, Electrical and Mechanical Engineering, all of which have

published student outcomes. Shoreline Community college offers a AST - Track II in General Engineering and Associate degrees in three distinct areas consisting of Bio and Chemical Engineering, Electrical and Computer Engineering and the areas of Aeronautical, Civil, Industrial, Manufacturing, Material Science, Mechanical Engineering, Plastics and Composites. The AS-T Track 2 MRP Aeronautical, Civil, Industrial, Manufacturing, Materials Science, Mechanical Engineering, Plastics and Composites makes it possible for students to transfer to a number of public and private colleges and universities with junior standing majoring in Aerospace, Civil or Mechanical Engineering.

Figures 4 and 5 present the total number of transfer students since 2011 and the distribution of transfer students into the Institute for 2017 by community colleges. With the addition of a new engineering program, the transfer population into the institute is expected to increase.

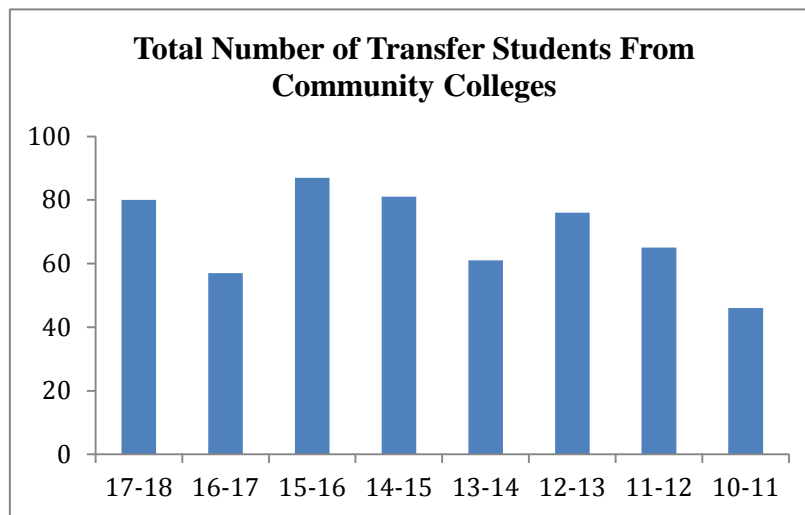


Figure 4 Total Yearly Transfer Populations

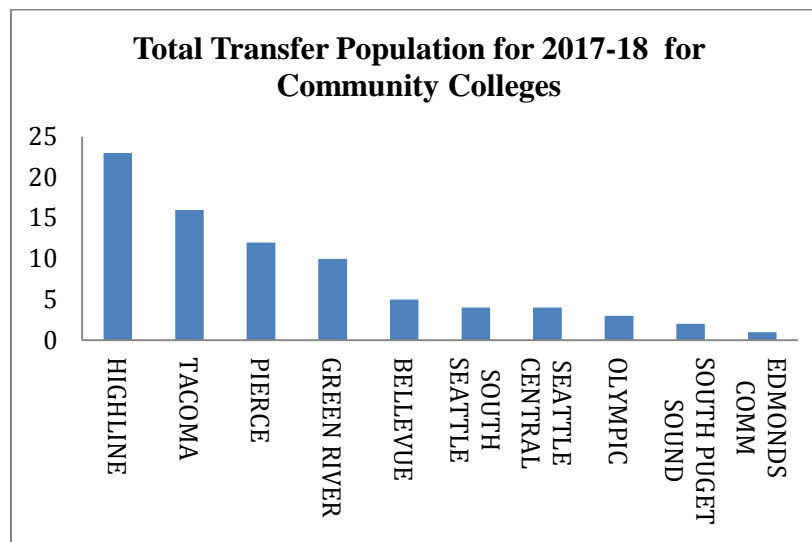


Figure 5 Transfer Populations By College for 2017-18

*The cumulative transfer population from Highline, Tacoma, Pierce and Green Community Colleges year over year outnumbers that population from other schools with engineering programs. Many of these programs have coursework that provide foundations to four-year programs of study in Aerospace, Civil, Industrial or Mechanical Engineering, with coursework supporting a program in Mechanical Engineering more frequently recognized. Capitalizing on pathway programs offered through community and technical colleges will build a sustainable partnership with UW Tacoma continuing to support its BS undergraduate programs.*

## Recommendation for BS Engineering Program Expansion

The UW Tacoma faculty, staff, and administrators have much to be proud of, having developed quality undergraduate degree programs, two of which have been recently ABET accredited, and quality MS degree programs, having renovated facilities/buildings with state-of-the-art equipment with includes significant industry support. This includes a campaign that has raised over \$30 MM of the \$45 MM goal.

As they look to meet the engineering needs of the underserved local industry and a large and growing nearby Naval workforce, and given the national trends in engineering, UW Tacoma will need to expand their BS Engineering programs. From the input we received from the stakeholders that included local industry, faculty, and staff, and considering the local employment landscape, educational landscape, and national engineering landscape, these are our recommendations in priority order. Due to the effort and financial requirements to establish quality engineering degree programs that include faculty, staff, and equipment we are recommending a phased approach.

1. Establish mechanical engineering and civil engineering degree programs with plans for ABET accreditation.
2. Establish environmental engineering and industrial engineering with the inclusion of manufacturing emphasis or minor.

## Comments from Stakeholders

The team interviewed a number of stakeholders over a three day period. Each session started with the narration of a script from the team which stated the reason why the visit was arranged. All stakeholders shared comments openly and with candor. Below are summary comments from them without direct attribution.

### Summary of Comments from Stakeholders Day 1, Wednesday November 15, 2017 – University Administrators, Faculty and Staff.

- As research expectations increases the need for a stronger OSP office will support better research active faculty.
- Faculty have high teaching loads – six courses per year for tenure track and seven courses per year for contingent faculty.
- Current faculty model is 60% tenure-track and tenured, 30% non-tenure-track, and 10% part-time instructors
- Community college students come well-prepared.
- High first generation student population at UW Tacoma. They can't transfer easily to UW-Seattle campus.
- Course buyouts are encouraged however at a level of \$5500 departments or host units find little benefits from them.
- The network of community colleges, Tacoma Community College specifically recognized, provide students with an outstanding education, especially those that enter the Computer Engineering and System and the Computer Science and System programs.
- Preparing students to pursue the BS in Electrical Engineering is not as strong. The BS in Mechanical engineering does have support.
- The Institute is predominately non-white at 60%.
- The Institute is not currently organized by departments but should be considered as programs are added and student enrollment grows.
- The cost of support departments – Math and Sciences – must be considered with addition of any new program in engineering. This will likely impact faculty, infrastructure and scheduling.
- Standards for promotion and tenure are not clear or uniform across units.
- University of Washington sponsored research seed funding are not likely to be awarded to UW –Tacoma faculty.
- Some university partners and supporters have voiced requests to add aerospace, civil and mechanical engineering.



Summary of Comments from Stakeholders Day 2, Thursday November 16, 2017 – Industry representatives, University Administrators, Research Faculty and Community College Faculty and Administrators

- The Center for Urban Waters offers an opportunity to align itself with Environmental Engineering. Research faculty are not well aligned with any department only with the School of Interdisciplinary Arts and Sciences. The University continues to add new facilities and labs as evidenced with the Biomedical Sciences Lab.
- As an employer in Tacoma, I typically hire Electrical, Industrial and Mechanical Engineers, but most are MEs. New employees will need to understand advanced materials, robotics, design processes with exposure to the business and technical components of each. Understanding manufacturing process are important too.
- The proposed building pre-design is flexible.
- Support for faculty in support departments – Math, Chemistry and Physics – can be petitioned to the state for funding.
- The university continues to build industry partnerships which will be instrumental for program growth.
- Some programs at UW – Seattle are enrollment capped, Civil Engineering is one. Civil Engineering at UW – Tacoma would offer an opportunity for students not able to enroll into the major at UW Seattle. City employment demands would support majors in Civil, Construction Management, Environmental, Industrial, and Manufacturing Engineering. A unique title of an engineering program that would work for Tacoma might be Urban Engineering.
- UW Tacoma is an urban serving university with an urban serving mission. The community helped establish the university and they want to continue to help.
- UW Tacoma is one of the fastest growing campuses in the UW system and the community is underserved.
- The local public school district in Tacoma is excellent. It offers a number of programs that prepare students for college including the Start Dual Enrollment program.
- Highline College prepares students to pursue BS degrees in Civil, Computer, Electrical and Mechanical Engineering.
- There are a number of competitions in which students participate including the Pinewood Derby and Tower Design competition.
- Highline has a large diverse population. Women in pre-engineering number roughly 7 of 40.
- Would like to see a phased approach to new programs.

Summary of Comments from Stakeholders Day 3, Friday November 17, 2017 – Industry representatives, University Administrators, and Community College Faculty and Administrators.

- Over 60% of the students at Highline Community college are students of color
- Pierce two year program mirrors the first two years of a BS in Mechanical Engineering.
- Student advising is available across both campuses for those students interested in engineering.
- Pathway to Promise is a well-supported program providing career and academic guidance.
- The Math and Science Academy is a summer preparatory program.
- Bates Technical College interested in developing collaboration with UW –Tacoma.
- NAVSEA needs a diverse engineering workforce. Puget Sound employs 60% civilian, Bangor 90% civilian and Keyport 90% civilian. Puget Sound has more need for civil engineers and Keyport has facilities in advanced manufacturing and rapid prototyping that need mechanical engineers. The Bremerton Naval Shipyard hires large percentage of civil engineers.
- Keyport sponsors a number of senior project design teams at Prairie View, Montana State and Washington State. Opportunities exist for future collaborations.
- About two thirds of their approximately 1500 employees at Keyport are engineers, mainly computer, electrical, and mechanical engineers with the emphasis on electrical and mechanical.

The team would like to share with the administration a number of observations that surfaced numerous times while interviewing faculty. These statements are presented

1. The current unit's name, The Institute of Technology, while steeped in history does not promote well its mission and vision.
2. Tenure-track faculty in the Institute have teaching loads that are not supportive of the Institute's research expectation for faculty promotion and tenure.
3. Teaching expectations/loads will likely impact future hiring of research faculty.

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## Appendix A - List of Administrators, Faculty, and Industry Leaders interviewed.

### **UW Tacoma**

- Mark Pagano, Chancellor
- Tye Minkler, Vice Chancellor Finance & Administration
- Josh Knudsen, Vice Chancellor Advancement
- Mentha Hynes-Wilson Vice Chancellor Student and Enrollment Services
- Jill Purdy, Interim Executive Vice Chancellor of Academic Affairs
- Micheal Wark, Assistant Vice Chancellor of External Relations
- Anne Bartlett, Dean School of Interdisciplinary Arts and Science
- Raj Katti, Dean Institute of Technology
- Bryan Goda, Chair Information Technology
- Yan Bai, Chair Master of Cybersecurity and Leadership
- Diane Young, Director Social Work and Criminal Justice
- Ali Modarres, Director Urban Studies
- Andrew Fry, Director of Industry Partnerships
- Ka Yee Yeung, Associate Professor and Vice Chair Faculty Assembly
- Massimiliano Laddomada, Professor
- Jie Sheng, Associate Professor
- Zaide Chavez, Academic Administrator
- Joel Baker, Center for Urban Waters
- David Hirshberg, Center for Urban Waters
- Ed Kolodziej, UW Seattle, Center for Urban Waters

### **NAVSEA**

- Jeremy Asmussen, Branch Head Code 40

### **Globe Manufacturing**

- Calvin Bamford, Owner  
Co-Chair UW Tacoma Campaign

### **City of Tacoma**

- Mike Slevin, Environmental Service Director, City of Tacoma
- Geoff Smyth, Environmental Services, City of Tacoma
- Jim Parvey, Office of Environmental Policy and Sustainability, City of Tacoma
- Chris Larsen, Engineering Division Manager, Department of Public Works, City of Tacoma

### **Tacoma Power**

- Joe Tellez, Chief Technology Officer
- Chris Mattson, Power Generation Manager

### **Bates College**

- Josh Clearman, Campus Dean for Advanced Technology

**Pierce College**

- Thomas Bronson, Dean Natural Sciences and Mathematics
- Allen Mann
- 

**Highline College**

- Wei Peng
- Dusty Wilson

## Appendix B - Committee Bio's



**WILLIAM W. PREDEBON, PhD**  
**J. S. Endowed Department Chair and Professor**  
**Department of Mechanical Engineering-Engineering Mechanics**  
**Michigan Technological University**

Dr. William W. Predebon earned his B.S. degree from the University of Notre Dame in 1965 and his M.S. and Ph.D. degrees from Iowa State University in 1968 and 1970, respectively. From 1971 through 1975 he worked as a mechanical engineer for the U.S. Army Ballistic Research Laboratory (now the Army Research Laboratory). In 1975 he joined the Department of Mechanical Engineering-Engineering Mechanics at Michigan Technological University as an assistant professor. He was promoted to Associate Professor with tenure in 1978 and Professor in 1984. He was Associate Chair and Director of Graduate Studies from 1993 to 1997. He was elected Chair of the Department in August 1997. He is now in his 21st year as department chair. In 2015 he was selected as the J.S. Endowed Department Chair. He has held summer appointments at Argonne National Laboratory, Southwest Research Institute, Honeywell, Inc. and Alliant Techsystems, Inc.

Dr. Predebon is a fellow of ASME. His awards include the Michigan Tech Diversity Award in 2015, ASME Dedicated Service Award in 2014, the Michigan Tech Blue Key Student Honor Society Clair M Donovan Award in 2013, the Michigan Tech Black Student Organization's 1st Annual Martin Luther King Jr. Award in 2007, the Michigan Tech SAE Outstanding Service Award in 2002, charter inductee to the Michigan Technological University's Academy of Teaching Excellence in 1998, the Michigan Association of Governing Boards of Colleges and Universities Distinguished Faculty Award in 1985, the Michigan Technological University Distinguished Teaching Award in 1984, and the U.S. Army Ballistic Research Laboratory Commendation in 1973.

Dr. Predebon's professional activities include American Society of Mechanical Engineers (ASME) Engineering Education, chair (2015 – 2018); ASME Engineering Education, chair elect, (2014); ASME Committee on Engineering Education (2014 – present); ASME Board on Student Programs, Student and Early Career Development Sector, committee chair (2013 – 2014); ASME Department Heads Executive Committee, chair (2010 – 2012), vice-chair (2008 – 2010), secretary (2006 – 2007), at-large member (2004 – present); and ASME Biennial Mechanical Engineering Department Benchmarking Study, chair (2000 – present).

Dr. Predebon's research includes mechanical behavior, characterization and processing of ceramics, shock deformation and dynamic fracture of metals and ceramics, impact phenomena, computer simulation of wave phenomena, explosive-metal interaction, fragmentation, and engineering education. His research usually involves experimental, analytical and computational elements and has been supported by NSF, DoD and other government agencies, and industrial partners such as Honeywell, General Dynamics and Alcoa.



**Oscar Barton, Jr, Ph.D., PE**  
**Professor and Chair**  
**Department of Mechanical Engineering**  
**George Mason University**

Oscar Barton, Jr., PhD, PE is a Professor and founding chair of the Department of Mechanical Engineering at George Mason University. A native of Washington, D.C., he received his BS in Mechanical Engineering from Tuskegee (Institute) University, his MS in Mechanical Engineering and PhD in Applied Mechanics from Howard University in 1993. Barton joined the faculty of the Mechanical Engineering Department at George Mason University fall 2014, after completing a 22---year career at the US Naval Academy.

Barton's research focuses on the development of approximate closed form solutions for linear self---adjoint systems, those that govern the responses of composite structures, and the analysis of dynamic systems. More recently, he investigated the dynamic response of flexible composite structures subject to periodic and random excitation. He has mentored numerous midshipmen through independent research projects and has directed two Trident Scholars, the Naval Academy's flagship research program. He has published over 50 journal and conference articles on these topics.

In the 163---year history of the US Naval Academy, Barton is one of only three African---Americans to obtain the rank of tenured full professor and the first to achieve this milestone in the Division of Engineering and Weapons, Division I. In 2010, Barton assumed the role of chairman of the mechanical engineering department, responsible for its strategic leadership and planning of its faculty, midshipmen---student body, curriculum and resources. During his time as chair, the department revived and accredited the General Engineering program and created the nuclear engineering program, the first ever offering at the academy. The mechanical engineering department is the largest in the division with a faculty of 42 civilian and military professionals and provides a vibrant research and academic environment in energy and propulsion, nuclear energy and structures and materials. As an undergraduate department, research is key to its currency. The department's annual research budget is just over \$2 million.

Barton is actively involved in curriculum development and program assessment. He chaired ASME Committee on Engineering Accreditation and is the Chair-Elect for its Committee on Engineering Education. He serves a Commissioner for Engineering Accreditation Commission of ABET, Inc. and will become a Member-At-Large on the Executive Committee. He holds a professional engineering license in the State of Maryland.



## Appendix C – Jobs Ads Retrieved from Indeed Database

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## Fluid Design Engineer - Early Career

US-WA-Kent

**Category** Vehicles & GSE

### Overview

As part of a small, passionate and accomplished team of experts, you will design, develop, and test fluid systems for various spaceflight systems. You will share in the team's impact on all aspects of fluid systems design and operation. This position will directly impact the history of space exploration and will require your dedicated commitment and detailed attention towards safe and repeatable spaceflight.

### Responsibilities

- Engage in the entire design cycle of fluid subsystems including conceptual design, thermo-fluid modeling, structural layout and analysis, integration, test and mission support
- Designing and routing individual fluid subsystems (i.e., propellant feed, pressurization, reaction control) including procurement, integration support, and discrepancy resolution
- Designing fluid component groups (i.e., solenoid valves, regulators, pressure vessels) including specification, procurement, processing, and discrepancy resolution of specific components
- Structural design and analysis of fluid subsystems including developing 3D models, assembly and detail drawings, interface control documents, bill of material management and FEA
- Fluid component and subsystem level testing including test planning, test execution, data reduction, and analysis
- Project planning, scheduling and cost estimation

### Qualifications

- Minimum of a B.S. degree in mechanical or aerospace engineering
- 1-5 years of internship or industry design experience in aerospace or equivalent type fluid systems and components
- Working knowledge of fluid components such as valves, regulators, and fittings
- Knowledge of fabrication, integration processes and quality control relative to tubes/piping and machined components
- Working knowledge of materials and treatments
- Must be a U.S. citizen or permanent resident (current Green Card holder)

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- Proficiency in 3D CAD programs (Creo Pro/E and Pro/E Piping)
- Knowledge in the use of FEA analysis tools (ANSYS preferred)
- Experience with the application and use of welding
- Experience with cryogenic systems
- Experience with GD&T (ASME Y14.5)

### Options

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**Blue Origin offers a phenomenal work environment and awesome culture with competitive salaries.**

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## Process Improvement Engineer

US-WA-Kent

**Category** Safety and Mission Assurance

### Overview

As part of a small, passionate and accomplished team of experts, you will be responsible for continuous improvement of business and operational processes for various spaceflight systems. You will share in the team's impact on all aspects of Continuous Improvement. You will be responsible for improving processes and process development within a corporate culture that emphasizes accountability, discipline, and attention to detail at all levels. You must have a passion for solving complex problems and providing operable solutions; act with minimal direction and on your own initiative; and be adaptable as you will work on a variety of applications and systems. We are looking for an individual that can help teams determine and implement innovative process improvement initiatives that will support sub-orbital and orbital launch vehicles, as well as engine production and development. You will report to the Blue Origin Director of Safety and Mission Assurance. This position will directly impact the history of space exploration and will require your dedicated commitment and detailed attention towards safe and repeatable spaceflight.

### Responsibilities

- Work with engineers, technicians, and business personnel to review, improve and develop processes that support products in development and production environments
- Utilize LeanSixSigma, DMAIC, and IDOV tools including process mapping, Kaizen, Failure Mode and Effects Analysis (FMEA), etc. to dramatically improve cycle time, defects and waste.
- Work with stakeholders to develop and improve integrated business and operational processes.
- Mentor and educate company employees on process improvement. This will include development and presentation of training materials.
- Lead or coach on causal analysis activities to drive to root cause and corrective action and implementation
- Participate in the regular review of discrepancy reports, lessons learned and development of preventive actions

### Qualifications

#### Required

- Minimum of a B.S. in Engineering or Science
- 10 years of industry experience in an engineering or production field with at least 5 years process improvement experience in a manufacturing environment

- demonstrated track record of resourcefulness and success from previous assignments and working with interdisciplinary and cross-functional teams.
- Familiarity with AS9100 or ISO9000 Quality Management System and/or related quality systems and programs
- Must be a U.S. citizen or permanent resident (current Green Card holder)

### Desired

- Experience in R&D, Development and Production environments, preferably in aerospace, medical devices, or other engineered products.
- Experience in a small company and/or startup environment.
- Quality assurance experience in rocket engine production environment.
- Prior supervisory or managerial experience.
- MBA or equivalent level of experience.
- Ability to travel to other sites to lead Continuous Improvement events.

### Options

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AHBL is continuously looking for talented professionals to join our team. AHBL offers a competitive salary and excellent benefits including health insurance; 401(k) plan; paid vacation, sick time, and holidays; incentive-based bonus plan and lots more. To learn more about the benefits of working at AHBL, [click here](#).

Our Tacoma office overlooks Commencement Bay in Old Town, just a block away from the Ruston Way Waterfront. To learn more about Tacoma, visit the [Tacoma Regional Convention & Visitor Bureau](#). In Seattle, our office is located on 6th Avenue and Seneca, adjacent to Freeway Park, and close to downtown shopping and restaurants. Check out [Seattle's Convention and Visitors Bureau](#) to find out more about the area attractions. Our Spokane office is located in the Courtyard Office Center just south of the historic Davenport Hotel. More information about the heart of the Inland Northwest can be found at [Spokane Regional Convention & Visitors Bureau](#). In the Tri-Cities, our office is located on Sandifur Parkway in Pasco, near the Columbia River. More information about the Pasco, Richland, Kennewick area is at [Visit Tri-Cities](#).

AHBL is an Equal Opportunity Employer. We embrace diversity at all levels of our organization and we provide equal opportunity without regard to race, color, religion, sex, sexual orientation, age, national origin, genetic information, disability, or veteran status.

Below is a list of the current openings with our company. Click on the job title to learn more about the opening. This listing may not be viewable from a mobile phone/ tablet. If you are unable to see our current openings, please visit <http://jobs.jobvite.com/ahbl> or use a desktop computer.

## Entry-level Civil Project Engineer

Apply

Civil Engineering • Tacoma, Washington

---

### Description

AHBL is looking for recent **civil engineering graduates** who are eager to shape their own future and grow with our quickly expanding company. We value professional development, diversity of project types, and a culture of collaboration. If you agree, you might be perfect for our team!

#### THE COMPANY

Founded in 1969, AHBL's 100-person multi-disciplinary staff works on projects of local and regional significance from our four offices. Our team includes civil engineers, structural engineers, landscape architects, planners, and surveyors. Unlike firms who focus their staff in narrow markets, we believe in well-rounded design professionals who are given the

...firms who focus their staff in narrow markets, we believe in well rounded design professionals who are given the opportunity to work on a wide range of public and private projects. This approach brings exciting challenges every day and fosters creativity and better problem solving skills. Some of our current projects include the resort-style hotel at Chambers Bay, the Tacoma Convention Center hotel in downtown Tacoma, a new barracks building at JBLM, and Tahoma High School, the largest high school in the state.

#### THE POSITION

We are seeking an **entry-level Civil Project Engineer** to join us in our headquarters in Tacoma, WA. This position includes opportunities to:

- Work with senior engineers and project managers in the design of public and private civil projects such as streetscapes, site development, grading, drainage, sanitary sewer and water distribution.
- Gain exposure to a wide range of projects, including municipal buildings and roadways, military infrastructure, urban infill sites, subdivisions, K-12 projects, college campuses, and commercial/retail developments.
- Gain a better understanding of cross-discipline collaboration through work with our five in-house services.

Our ideal candidate will have:

- A BSCE with an EIT
- Previous site design experience with grading, drainage, sanitary sewer, water distribution, and/or roads through internships or school projects.
- Knowledge of AutoCAD & Civil 3D preferred.

#### THE LOCATION

Avoid a long commute work in AHBL's Tacoma office and live in affordable South Sound. We are located in historic Old Town with scenic views of the Puget Sound, Mount Rainier, and the Olympic Mountains. Enjoy your lunch breaks on Ruston Way or walk to several local restaurants and cafes. When you get back to the office, park in our free, private lot behind the building.

#### EXTRAS

AHBL's Pour at Four project sharing series; monthly brownbags with lunch provided; and company-paid professional organization memberships are just a few of the ways we encourage professional development in a fun atmosphere. Our culture of collaboration is rewarded through annual profit sharing bonuses, generous employee allowances for team building, and Connections Crew, our peer-to-peer onboarding program.

AHBL is an Equal Opportunity Employer. We embrace diversity at all levels of our organization and we provide equal opportunity without regard to race, color, religion, sex, sexual orientation, age, national origin, genetic information, disability, or veteran status

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## Cathode Engineer

Engineering | Bellevue, WA, United States

### Cathode Engineer

Modern Electron has an immediate opening for a materials engineer, physical chemist, surface scientist, chemical engineer, mechanical engineer, or electrical engineer. A highly qualified engineer is needed to work on the product R&D team, and will be responsible for innovation and production of vacuum electronic devices using the company's groundbreaking technology and processes. A successful candidate will work on the implementation of existing thermionic cathode technology into new geometries. You will work with a team of physicists, chemists, material scientists, mechanical engineers, electrical engineers, and technicians. This position will report to our Director of Engineering.

Modern Electron is a start-up company dedicated to generating cheap, modular, and reliable electricity for all. Expensive mechanical engines and turbines based on 19th-century technology still generate the majority of the power used worldwide. We seek to replace them with paper thin heat-to-electricity generators. Venture capital funding is committed to our vision. We're at the early stage of commercialization, with enormous potential for learning, impact, and growth in a small and collaborative team setting. We value our ability to move fast to outpace larger companies and achieve what they cannot.

#### REQUIRED SKILLS, KNOWLEDGE, AND ABILITIES:

- Experience with thermionic cathodes, e.g. tungsten cathodes, oxide-coated cathodes, barium dispenser cathodes, lanthanum or cerium hexaboride cathodes
- Experience with design, assembly, and troubleshooting with cathode geometries, cathode guard rings, sintering processes, welding, etc
- Experience and knowledge with the surface chemistry, materials preparation, and physics of low work function and/or cathode materials (e.g. Ba, Cs, LaB<sub>6</sub>, CeB<sub>6</sub>, impregnated tungsten, scandate, multi-alkali, etc.) in both film and vapor form (e.g. sodium vapor lamps)

#### ADDITIONAL PREFERRED SKILLS:

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- Extensive expertise and experience with design, purchase, assembly, and integration of high vacuum and ultra-high vacuum equipment, and improvements/maintenance of these systems is a huge plus!
- Experience with commercial vacuum electronic devices, e.g. field emission devices, klystrons, gyrotrons, traveling wave tubes, thermionic cathodes, and/or photocathodes

#### MINIMUM QUALIFICATIONS:

B.S. in Physics, Chemistry, Materials Science, Physical Chemistry, Chemical Engineer, Electrical Engineering, Mechanical Engineering, or a related field. Demonstrated experience with thermionic cathode development and vacuum electronics. At least 5 years of prior industrial experience preferred.

We are an equal opportunity employer

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## Apply to Job

First name (Required)

Last name (Required)

Email (Required)

Phone number

Website

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### Job Attributes

**JOB ID**

16477

**REQ. ID**

2

**REQ. CODE**

PRO.041.17

**CATEGORY**

Engineering

**LEVEL**

Not Defined

**JOB TYPE**

Full-time

**HIRES NEEDED**

1

**EDUCATION**

Not Defined

**LOCATION**

US - WA - Kent

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## Continuous Improvement Engineer

US - WA - Kent

### Job Description

#### Role Summary

As the Continuous Improvement Engineer, your primary objective is to support ProCoat's Continuous Improvement program by being a key contributor and facilitator of Lean and CI initiatives throughout the plant. This position facilitates teams in the collection and analysis of operational data, identification, prioritization, and implementation of TPS tools and CI events and projects. This position plays a key role in the journey to achieve Operational Excellence in our organization.

#### As The CI Engineer, You Will:

- Understand that a respect for people is not optional.
- Present, facilitate, and lead assigned process improvement events using methods of team building, team energizing, data gathering and analysis, problem solving, project management, and presentation skills
- Provide follow-up to kaizen and CI projects to monitor the progress of planned improvement implementation to assure timely action, appropriate management support, and achievement of expected benefits. Use appropriate measurement, analysis, and evaluation methods to accurately identify and document process improvements in regards to safety, productivity, cost savings, COPQ, etc.
- Develop reports of overall CI activities, including accomplishments, participation, projected activities, and anticipated needs
- Coach and mentor employees on Lean and CI methods and tools
- Coordinate with related departments and functions to assure appropriate information flow and understanding of overall process improvement direction
- Participate in and coordinate the development of event scopes and scheduling of events
- Assist in training of plant personnel in the CI process
- Provide technical problem solving support to plant teams in support of the Lean and CI deployment
- Conduct Kaizen activities
- Assist in Policy Deployment/Hoshin Kanri process

#### Qualifications/Requirements

- Bachelor's Degree or equivalent experience
- 2 years' experience in a CI role

#### Desired Characteristics

- Strong leadership skills
- Lean or Six Sigma training
- Functional knowledge of ERP systems and the production floor operational environment
- Understanding of chemical processing; plating, painting, anodizing is a strong plus
- Working knowledge of Microsoft Office (Word, Excel, and PowerPoint)
- Good oral and written communication skills and comfortable with public speaking

Precision Castparts Corp. is an equal opportunity employer committed to recruit, hire, train, and promote in all job categories without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, disability, veteran status or other status protected by applicable law.

**Continuous Improvement Engineer**  
US - WA - Kent

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<b>Job Title</b>	Senior Electrical Engineer
<b>Department</b>	Water
<b>Job Location</b>	Puyallup, WA
<b>Job Type</b>	Full-Time Regular
<b>Position Id</b>	PSO1726
<b>Job Description</b>	<p><b>SENIOR ELECTRICAL ENGINEER (#PSO1726)</b></p> <p>Parametrix, a leading engineering, planning and environmental sciences firm, is seeking a SENIOR ELECTRICAL ENGINEER to join our Puyallup or Seattle, WA location. This position will join our established, talented team of electrical engineers, designers, programmers and I/C professionals. Our Electrical Team is a part of our Water Resources Division.</p> <p><b>WHO YOU ARE:</b></p> <p><b>Leader:</b> Electrical Engineer with BSEE, PE and substantial experience 10+ years consulting for municipal and/or industrial water and wastewater collection/distribution and treatment plant infrastructure and the ability develop, grow and mentor through successful management of key projects and sharing of technical knowledge.</p> <p><b>Relationship-focused:</b> Strong interpersonal and communication skills to manage projects and clients, and promote collaboration.</p> <p><b>Electrical Marketing:</b> Establish professional relationships with direct exposure to clients. Facilitate and ensure top client relationships. Act as the primary interface with key clients to ensure services are meeting their needs and expectations. Promote relationships with key teaming partners.</p> <p><b>Knowledgeable:</b> Project experience with water/waste water systems including experience with PLC's, SCADA; industrial control networks, wire/wireless telemetry, relay control logic, process instrumentation; and industrial power experience including 480Y power distribution; motor control including VFD's; standby generators, National Electrical Code, and classified spaces and lighting.</p> <p><b>Project Management:</b> Serve as the PM on major projects, responsible for overall QA/QC, project oversight, and client management. Proven skills in leading a team of professionals in delivery of successful projects. Commitment to comprehensive communication &amp; collaboration.</p> <p><b>WHAT WE OFFER:</b></p> <p>Employee Ownership and Employee Stock Contribution</p> <p>Competitive salary and signing bonuses, relocation assistance and individual performance bonuses</p> <p>Exciting project work and a talented &amp; collaborative team</p> <p>Flexibility in regard to work location and a commitment to work/life balance</p> <p>If the above description sounds like you and you wish to be considered, please submit a letter of interest and resume through our website:</p> <p><a href="http://www.parametrix.com">www.parametrix.com</a></p> <p>Parametrix Inspired People... Inspired Solutions... Making a Difference.</p> <p>It is our company policy and culture to provide equal opportunity to all persons based on ability and fitness to perform job duties regardless of race, religion, color, national origin, gender, sexual orientation, age, marital status, veteran status, or disability status.</p>
<b>Recruitment Status</b>	Accepting Applications

### EEO Policy

It is our company policy and culture to provide equal opportunity to all persons based on ability and fitness to perform job duties regardless of race, religion, color, national origin, gender, sexual orientation, age, marital status, veteran status, or disability status.

*Should you need reasonable accommodations to facilitate the application process, please email us ([mailto:careeropportunities@paramatrix.com](mailto:mailto:careeropportunities@paramatrix.com)) or call 888-863-5128.*

To view the firm's complete Equal Employment Opportunity and Affirmative Action Program, click here (/docs/default-source/default-document-library/eeopprogram\_updated201792900dd1d9e45a9dbaeef0000cb96be.pdf?sfvrsn=0).  
 View Equal Employment Opportunity is the Law (http://www.parametrix.com/docs/default-source/default-document-library/eeopost.pdf?sfvrsn=2) poster.  
 View the DHCCP Pay Transparency (https://www.doi.gov/dhccp/pdf/pay-transp\_formattedESQASD08c.pdf) poster.

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## WHO WE ARE

### INSPIRED PEOPLE MAKING A DIFFERENCE

We are engineers, scientists, planners, surveyors, and construction managers dedicated to providing outstanding client service to our clients. We are employee-owners who each have a stake in the company and are responsible for contributing to its success. We are passionate about each and every project we work on. We are committed to the communities that we serve and give back through donations and volunteering. We are environmental stewards, committed to sustainability and enhancing our natural resources.

We are Parametrix—inspired people developing inspired solutions that make a difference!

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Season's Greetings from the employee-owners of...

([HTTPS://WWW.FACEBOOK.COM/164791463218/POSTS/10156851797453219](https://www.facebook.com/164791463218/posts/10156851797453219))



Employee-owners in our Boise office once again...

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## PARAMETRIX BLOG (/BLOG)

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(/BLOG/PARAMETRIX-BLOG/2017/12/11/PARAMETRIX-HAS-OFFICES-IN-7-OF-THE-HIPPEST-CITIES-IN-THE-NATION)

What

Job title, keywords or company

Where

City, state, or zip

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## Embedded Firmware Engineer

Rhino Camera Gear • Puyallup, WA 98372

\$90,000 - \$120,000 a year

### Job Summary

For the last two years we have been making motor controlled products for filmmakers. Our future products include iPhone control, motion planning and control, advanced power management, and video streaming. We are looking for someone who can architect these sorts of complex systems, write the firmware that runs on the various embedded systems that make up these products, and take a leading position with the rest of our team to execute on the design of these products. We want to work with someone who is ready to sit down and get their hands dirty but who can also step back and help make big picture decisions and execute on them.

### Responsibilities and Duties

- Lead firmware development for a new motion controlled device
- Work with electrical engineering, industrial design, and mechanical engineering to come up with system architecture for new products.
- Maintain current codebase for current products when issues present themselves.
- Design and execute communication protocols between connected products.
- Design and execute embedded user interfaces and embedded behavior.

### Qualifications and Skills

- 5+ years of experience working with C and C++ in embedded systems.
- Familiarity with basic mechanics used for motion planning and kinematics. Must be comfortable working with basic college level engineering math.
- Willingness to solve problems no matter what.
- Experience working with ARM processors.
- Experience with UART, I2C, USB host, BLE and WIFI.
- Experience with stepper motor and DC motor control.
- Experience with linux development environment including GCC, git, and makefiles.
- Experience writing bare metal graphics drivers.

### Nice to have

- Embedded linux experience.
- Electrical engineering experience.
- Experience with NRF52, STM32, and Cypress PSoC systems.

### Benefits

- Highly competitive salary

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- 401K \* Full medical, dental, vision
- 50% off Rhino gear for you and friends/family
- Quarterly company events and trips

Job Type: Full-time

Salary: \$90,000.00 to \$120,000.00 /year

Job Location:

- Puyallup, WA 98372

Required education:

- Bachelor's

Required experience:

- working with C++: 3 years

Required language:

- English

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» **Apply Now**

Please review all application instructions before applying to Rhino Camera Gear

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## Engineering Project Manager

Novinium 18 reviews - Seattle, WA

At Novinium you'll find that our culture is fueled by fun and teamwork. We are driven to succeed and our core values of safety, quality, integrity, innovation and learning inspire us to be the best at what we do. We believe everyone can make a positive impact to move the company forward, while maintaining healthy work/life balance. World headquarters is in Kent, WA, an easy reverse commute from Seattle and the Eastside.

### Position Summary

The Engineering Project Manager leads the effective development, implementation and launch of engineering projects. This position runs key engineering projects including reviews, suggests new product development strategies, and serves as a hands-on resource for the team. In addition, this position develops technology and technical market intelligence for use in product development, modeling risk-benefit analyses, and aiding in establishing engineering priorities.

### Responsibilities

- Manage and run complex engineering and product development projects from ideation to launch
- Develop project plans and dashboards, providing regular status updates to the engineering team and company leadership
- Develop and manage a project team, ROI, and risk assessment processes and criteria
- Develop detailed project analyses and resource management recommendations to deliver projects on-budget and on-time
- Provide hands-on electrical and/or mechanical engineering and design expertise to the Engineering team
- Pursue and develop new product ideas as directed
- Liaise with stakeholders from operations, finance, sales, marketing and supply chain
- Manage and interact with external manufacturers and suppliers

### Requirements

- 3+ years' experience with a mechanical and/or electrical engineering background
- 1+ year of experience as a project manager with established project management skills for \$1M+ projects
- Bachelor's degree in engineering required, Master's degree in engineering or business preferred
- Familiarity with industry standard ROI, risk and staging models, as well as Go-No-Go review processes, Six Sigma, PACT, RWW, stage gating, or other standard engineering review processes
- Mathematical / statistical skills relating to risk, DOE setup, and analysis preferred
- Excellent communication skills
- Demonstrated problem solving and analytical ability
- Demonstrated leadership in small team environments

### Working Conditions

- This position works in a typical office environment

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Novinium offers a competitive salary and comprehensive benefits package, including medical, dental, vision, life insurance, disability, paid time off, paid holidays and a 401(k) plan with a company match.

#### About Novinium

Novinium is the only full-service power cable expert that partners with utility companies of all sizes to keep their networks operating at peak performance, using the most advanced, cost-efficient, environmentally friendly methods available. Novinium's founder and CEO invented the revolutionary technology behind underground cable rejuvenation 30+ years ago, and the company continues to champion ways to keep power flowing to those who depend on it. We are also a proud recipient of best places to work award from Seattle Met Magazine.

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[map](#)[Email Us](#)[Apply Now](#)**TITLE****Staff Engineer -  
Civil/Mechanical****ABOUT THE  
ORGANIZATION**

RH2 Engineering is a privately held, employee-owned multidisciplinary engineering firm that's been partnering with municipalities and public utilities in the Pacific Northwest since 1978. We focus on helping our clients develop and maintain their infrastructure by delivering sustainable and cost-effective solutions that meet their current needs while proactively planning for future growth.

**DESCRIPTION**

Staff engineers are involved in a variety of projects involving the planning, design, and construction of water, wastewater, irrigation, and stormwater systems, as well as transportation facilities. This position requires a competent individual capable of successfully solving difficult problems that require adaptation and modification of standard engineering techniques, procedures, and criteria. Must be capable of devising new approaches to problems encountered. This position may require limited travel to project sites or between RH2 office locations.

Candidate must have excellent written and verbal communication skills, as well as strong analytical and problem solving skills. This position requires an individual capable of applying intensive and diversified knowledge of principles and practices to a broad area of assignments. The chosen candidate must be a team player, a flexible self-starter, and willing to take on challenging assignments.

**POSITION  
REQUIREMENTS**

- Civil or Mechanical engineering degree and 0 to 4 years of experience
- BSCE or BSME is required, although students in the final stages of their senior year will also be considered.
- Strong working knowledge of standard design software, including AutoCAD.

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WA  
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**Environmental Specialist** in

Autodesk Civil 3D, and Microsoft Excel or similar software is preferred

Bothell, WA  
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Posted on: 12/10/2017  
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LOCATION Tacoma

EOE STATEMENT We are an equal employment opportunity employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, gender, national origin, disability status, protected veteran status or any other characteristic protected by law.

TAGS Engineer, Civil, Mechanical

THIS POSITION IS CURRENTLY ACCEPTING APPLICATIONS.

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### City Engineer

(<http://agency.governmentjobs.com/puyallup/job/jobID=1907230&sharedWindow=C>)

[f](#) [t](#) [g+](#) [in](#) [e](#) **APPLY**

<b>Salary ①</b>	\$108,408.00 - \$138,768.00 Annually	<b>Location ①</b>	Puyallup, WA
<b>Job Type</b>	Regular Full-time	<b>Department</b>	OFFICE OF THE CITY ENGINEER
<b>Job Number</b>	ENG-17-ADM-009		
<b>Closing</b>	Continuous		

DESCRIPTION	BENEFITS	QUESTIONS
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#### Definition

The City of Puyallup invites qualified applicants for City Engineer. This is an open continuous job posting with first review on December 1, 2017.

The city is seeking a strong, experienced leader for the Office of City Engineer, overseeing a department of 18 employees in the divisions of Capital Improvements, Development Review, Transportation and Stormwater. This is supervisory, professional and administrative work in directing the Office of the City Engineer in accordance with state law, federal law, and the City of Puyallup Municipal Code.

The City Engineer will develop, implement and maintain processes and systems to facilitate the effective operation of the Engineering functions, determine strategic goals based upon present and future service demands, manage division supervisors, providing leadership and resources to meet departmental goals and objectives, and ensure the effective and efficient utilization of department personnel, funds, equipment and facilities.

Work performance is reviewed through periodic reports on department projects, objectives and goals. Considerable and frequent contact is maintained with the City Manager, other department directors, City Council, representatives of state and local governments, consulting engineers, vendors and the public. Work is performed primarily in the office setting with occasional visits to construction sites in the field. This position will require the attendance of evening meetings.

The City of Puyallup is situated at the foot of Mount Rainier, just east of Tacoma and about 45 minutes south of Seattle. The city has gained prominence as a regional commercial and service center for Pierce County. Over the past 30 years, single-family and multi-family residential construction has continued to increase, with the creation of several large new neighborhoods and a major commercial core in the City's South Hill area. With a population of approximately 40,500, the city offers an array of recreational and community events making Puyallup a vibrant place to live, work and play.

The City of Puyallup offers a competitive benefit package, including excellent medical, dental and vision insurance coverage for employees and their dependents.

#### Essential Functions

- Oversee the delivery of municipal engineering services including development review, capital projects, stormwater and transportation.
- Establish department goals, objectives and priorities; develop implementation strategies and timelines; monitor and measure performance; implement corrective action as needed.
- Participate in, and provide leadership to, City-wide long-range, strategic planning activities in coordination with the City Manager.
- Select, train, motivate, and evaluate department personnel; assign work activities, projects and programs; work with employees to correct deficiencies; and when appropriate implement discipline and termination procedures.
- Establish and maintain effective working relationships with department staff, city staff, officials, local and state representatives, consultants, vendors, and the public.
- Prepare and ensure fiscal responsibility of the department budget; forecast funds needed for staffing, equipment, materials and supplies; monitor and approve expenditures; and implement adjustments.
- Develop, implement and maintain departmental policies and procedures.
- Oversee the review of private development plans and specifications including short plats, subdivisions, and legal descriptions.
- Oversee City capital improvement projects; provide estimates and forecasts of costs for long-range improvement projects; and develop annual budget and staffing request for such projects.
- Provide professional engineering assistance to developers, the general public and other outside agencies regarding maintenance and repair activities.
- Respond to citizen comments and complaints relating to engineering activities; and recommend resolution to projects as necessary.
- Prepare clear and concise technical reports on various engineering projects including those receiving federal financial aid.
- Administer collective bargaining agreements with relevant employees, ensuring contract compliance; handle grievance procedures and participate in contract negotiations.
- Update existing and establish new street construction standards, codes, and regulations.

- Serve as staff on a variety of boards, commissions and committees; prepare and present staff reports and other necessary correspondence.
- Attend and participate in professional group meetings; stay current in the field of engineering.
- Safely drive city vehicles to work sites and off-site meetings.
- Maintain confidentiality of sensitive and confidential materials.
- Maintain regular, reliable and punctual attendance.
- Perform related duties and responsibilities as required.

#### **Qualifications**

##### **Knowledge of:**

- The principles and best practices of civil engineering as applied to municipal public works projects.
- The principles and practices of public works project administration.
- Modern methods and techniques used in the design, construction and inspection of public works projects.
- Laws, regulatory codes and professional standards applicable to design and construction of public works projects.

##### **Ability to:**

- Plan, implement successfully and evaluate effectively division policies and procedures.
- Supervise efficiently the design and construction inspection of complex public works projects.
- Perform successfully and according to professional standards, civil engineering work of a municipal nature.
- Use current computer technology and recommend technical upgrades for use by staff.
- Communicate effectively, orally and in writing.

##### **Menu**

- Gather and analyze data and develop clear, concise and comprehensive reports, correspondence and other written materials.
- Present technical material in a clear and concise manner to various groups.
- Plan, direct and evaluate the work of subordinates.
- Create and meet schedules, time lines and work independently with little direction.
- Work on multiple, concurrent tasks, with frequent interruptions.
- Effectively work in a team environment, contribute openly, respectfully disagree, understand the ideas of others, listen well and work for consensus.
- Establish and maintain effective working relationships with the City Manager, city officials, representatives of federal and state agencies, subordinates, consulting engineers, contractors and the public.
- Safely drive city vehicles to work sites and off-site meetings.
- Maintain confidentiality of sensitive and confidential materials.
- Maintain regular, reliable and punctual attendance.

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#### **Education and Experience:**

Six years of supervisory professional level civil engineering work experience of a municipal nature, and graduation from a college or university with a Bachelor's degree in Civil Engineering; or substituting graduate level course work or training in Civil Engineering or Engineering Management for up to one (1) year of the required experience.

#### **SPECIAL QUALIFICATIONS:**

- Possession of registration as a Professional Engineer in the State of Washington.
- Possession of or the ability to obtain, and maintain throughout employment, a valid Washington State driver's license.

#### **Physical Characteristics and Work Environment**

Constant use of sight, hearing, and speech abilities necessary to perform essential functions and to communicate with others. Constant fine finger manipulation and use of hands and arms in reaching/handling/fingering/grasping while operating office equipment and computers, preparing written documentation, handling paperwork, etc. Frequent sitting, may be extended at times, while doing desk activities. Frequent bending/twisting at waist/knees/neck while working at desk, worktable, or moving from sitting to standing position. Frequent standing in combination with walking (short distances) throughout work shift in office areas. Occasional lifting/carrying up to 25-pound documents, materials, file boxes, etc. Occasional pushing/pulling force up to 10 pounds opening doors, drawers, and moving materials. Occasionally required to negotiate rough or uneven terrain on field site visits and in inclement weather. Requires mental acuity to ensure thorough mental analysis of situations in a fast-paced environment. Works primarily indoors in a climate-controlled office environment with low noise levels, with occasional field site visits and public meetings, including evening meetings.

#### **SELECTION PROCESS**

Only applications that include the response to the Supplemental Questionnaire will be accepted. Those applicants whose qualifications most closely correspond to the City's current needs will be contacted for oral interviews and/or testing. The appointing authority may conduct second interviews.

**Notification** – Following submission of application, an email acknowledgment receipt of application is given. Persons selected for an interview and/or testing will be notified by email, normally within 15 working days following the closing date on the job announcement.

**Not Selected** – No formal notification is usually sent by the City to applicants not selected for an interview or test. Should the same or another position open for which the applicant wishes to apply, he/she must apply online for each new opening.

#### **GENERAL INFORMATION**

**Essential Functions** – The statements contained herein reflect general details as necessary to describe the principal functions for this job, the level of knowledge, skills and abilities typically required and the scope of responsibility, but should not be considered an all-inclusive listing of work requirements. Individuals may perform other duties as assigned including work in other functional areas to cover absences or relief, to equalize peak work periods, or to balance the workload.

**Hours of Work** – Normal work hours are Monday through Friday, 8:00 a.m. to 5:00 p.m., with one (1) hour lunch. Some after-hours meetings and projects may be required.

**Union Affiliation** – This position is a non-represented position.

**Equal Employment Opportunity** – The City of Puyallup is an Equal Employment Opportunity (EEO) employer and does not discriminate in any employer/employee relations based on race, color, religion, sex, sexual orientation, national origin, age, marital status, disability, genetic information, veteran's status or any other basis protected by applicable discrimination laws.

**Background** – The City of Puyallup will need to obtain the proper background and criminal history information pursuant to RCW 43.43.030/032 for positions where the employee will or may have unsupervised access to children, developmentally delayed persons or vulnerable adults.

**Disability** – In compliance with the Americans with Disabilities Act, disability will be considered only in the context of an applicant's ability to perform essential functions of the job and to determine reasonable accommodation. **JOB OPPORTUNITIES** in the job application and/or selection process for employment will be made upon request with reasonable notice. Please contact the Human Resources Department for further information. The physical demands described in this job announcement are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

**Identification** – Applicants who are offered employment with the City are required to provide proof of identity and authorization to work in the United States within three days of date of hire, as required by the 1986 Federal Immigration Reform and Control Act. A list of acceptable documents verifying identity and authorization to work will be provided to those who are offered employment.

**Drug-Free Workplace** –The City of Puyallup is a drug-free, tobacco-free workplace.

**Note** – The provisions of this job announcement do not constitute an expressed or implied contract. Any provision contained herein may be modified and/or revoked without notice.

**Agency**  
City of Puyallup

**Address**  
333 S Meridian  
  
Puyallup, Washington, 98371.

**Website**  
<http://www.cityofpuyallup.org> (<http://www.cityofpuyallup.org>)

**JOB OPPORTUNITIES**  
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**ACCOUNT**  
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## Project Manager / Architect / Engineer

(<http://agency.governmentjobs.com/tacoma/job/1910084&sharedWindow=0>)

[f](#) [t](#) [g+](#) [in](#) [e](#) **APPLY**

<b>Salary ①</b>	\$87,339.20 - \$111,945.60 Annually	<b>Location ①</b>	Tacoma, WA
<b>Job Type</b>	Non-Classified	<b>Department</b>	Public Works
<b>Job Number</b>	2082-C17	<b>Division</b>	PW Facilities Management

### DESCRIPTION BENEFITS QUESTIONS

#### Position Description

The City of Tacoma, Public Works Department, Facilities Division, is recruiting for an Appointive full-time position with professional expertise in the areas of Project Management, Architecture and/or Engineering. We are seeking an outgoing, highly motivated person who is interested in diverse and challenging projects to join our dynamic Team. The Facilities Division provides project delivery for a wide range of building related projects; including architectural planning, energy efficiency, building systems, remodels/renovations, and new construction.

If the below list of personal traits sounds like you, then you are just the type of person we are searching for to join our team!

- Outgoing, positive personality who enjoys leading project teams on exciting building projects, from project planning through project close-out.
- Excellent interpersonal communication skills,
- Strong personal motivation and drive – an ambitious and committed self-starter
- Interest in a wide array of interesting project types and challenges.

#### POSITION DESCRIPTION:

This position is responsible for the development and implementation of various facility related projects, and is responsible for performing advanced planning, scheduling, coordination, developing specifications, cost estimates and possibly sealing plans for new projects, as well as planning and coordinating major alterations to existing City-owned buildings and facilities. The successful candidate for this position will work closely with project sponsors and stakeholders to ensure project deliverables and requirements are met. The incumbent will negotiate, execute and administer various agreements with consultants, contractors, suppliers and agencies in order to ensure successful project delivery.

#### Essential Duties:

- Coordinate with Project Teams to administer projects; direct and review the work of consultants and contractors to ensure compliance with code and project requirements. In depth knowledge of technical information, permitting and procurement processes.
- Develop, recommend and manage overall project scope, schedule, budget and quality control; ensure project is timely and meets budget; recommend and incorporate project modifications and adjustments.
- Measure and evaluate project performance; review work of consultants; ensure compliance; direct the work of Independent special inspections required for code compliance.
- Manage timelines and procurement of various contracts and agreements; develop procurement documents and requests for qualifications, proposals and bids; negotiate, execute and administer agreements with consultants, contractors, suppliers and agencies; integrate the work of multiple agreements and resources.
- Obtain require approvals; oversee change orders and process payments; support close-out requirements; archive and retain project records; conduct post-project analysis.

#### The Principles that Guide Us:

Tacoma, the *City of Destiny*, has a workforce of dedicated, talented and open-minded employees with unique skills and perspectives. We embrace innovation and strive for excellence and community engagement in all that we do. The Principles that Guide Us, *Integrity, Service, Excellence and Equity*, speak to the values that we embody as City of Tacoma employees, and represent the core of our work in public service.

#### Physical Requirements and Working Conditions:

- This is a professional environment with most activities occurring in an office setting with periodic field visits to facilities and active construction sites.
- Periodic field work consists of in-the-field assessment of sites and collaboration with consultants, contractors and inspectors that are part of the project's team.
- Position may require driving, sitting, standing or walking for long periods of time, and may require the use of ladders for field inspections.

#### City of Tacoma Recruitment Information:

One of the primary goals of the City of Tacoma Equity and Empowerment Initiative is that the City of Tacoma workforce reflects the community it serves. We actively



work to eliminate racial and other disparities and we welcome candidates with diverse and/or multicultural skill sets and personal experiences. Our goal is for Tacoma to be an inclusive and equitable place to live, work and play.

#### **JOB OPPORTUNITIES**

##### **Qualifications**

The exact classification for the candidate selected will be determined by the candidate's qualifications, and will be one of the three classifications enumerated below. The salaries for each classification are the same.

**1) Senior Engineer:** four year degree from an accredited college or university in civil, mechanical or electrical engineering or related architectural/engineering discipline and five years' experience as a licensed Professional Engineer or over 10 years work experience in Department's required technical specialty in lieu of a professional engineering license (such as Registration as Architect).

**2) Project Manager:** Bachelor's degree in engineering, architecture or related field. Minimum four years progressively responsible experience in engineering or architecture and construction project management. Project Management Professional (PMP) certification is desired.

**3) Professional Engineer:** Professional Engineering License at time of appointment with maintenance thereafter.

##### **PREFERRED AND HIGHLY DESIRED QUALIFICATIONS:**

- Experience in municipal facility project planning, design, procurement and construction management.
- LEED Accredited Professional.

##### **LICENSING, CERTIFICATIONS AND OTHER LEGAL REQUIREMENTS:**

Current Washington State Driver's License at time of appointment.

##### **Knowledge & Skills**

###### **COMPETENCIES:**

###### **Analysis**

Use data and information in a clear and rational process to assess and understand issues, evaluate options, form accurate conclusions, and make decisions. Gather, assemble, analyze and evaluate facts to draw logical conclusions, make proper recommendations and prepare clear, concise, and comprehensive written reports which require displaying and presenting statistical, graphical, and other reporting methods to audiences of varying technical sophistication.

###### **Management**

Plan and organize work to meet schedules and objectives. Lead matrixed, cross-functional and cross-departmental project teams to achieve project goals and objectives. Build cohesive and results oriented teams.

###### **Leadership**

Establish and maintain cooperative and effective working relationships with co-workers, the general public, and other municipalities and federal agencies. Ability to lead small to large working teams. Establish, coordinate and direct work teams to accomplish assigned tasks to a successful completion. Ability to work as a team member in a supporting or managing role. Ability to coordinate multi-disciplined project teams.

###### **Problem Solving**

Use intelligence, common sense, hard work and tenacity to solve particularly difficult or complicated challenges. Employ expertise and credibility, evaluate and resolve complex or sensitive issues and problems.

###### **Communications Effectiveness**

Effective communication both verbal and in writing including the compilation of reports, presentations and records; and interacting respectfully and sensitively with individuals and groups to develop and maintain productive relationships and achieve results. Makes excellent customer service the standard, responding to changing customer needs, and helping customers implement complete solutions.

###### **Professionalism**

Conduct all assignments in a professional and timely manner. Work with confidentiality and discretion. Maintain professional skills that apply to all aspects of field of assigned specialty through continued education and/or training. Model effective group behavior such as listening, discussing, negotiating, encouraging and motivating. Maintain current knowledge of industry by reading and interpreting applicable ordinances, rules, regulations, practices, policies and procedures.

###### **Program Management**

Appropriately prioritize and concurrently provide guidance and consultation on multiple programs, integrating many factors into decisions, and ensuring that work progresses toward achieving goals and objectives.

###### **Results Orientation and Initiative**

Effectively direct and integrate all aspects of a project, ensuring that work progresses toward achieving goals and objectives on schedule and within budget. Collect, evaluate, and interpret data to develop fact-based recommendation. Remain current on City and industry standards, ordinances, rules, regulation, policies and procedures.

###### **Technical**

Proficient in architectural engineering practices and principles within the field of expertise. Experience in complex project design and the preparation of engineering plans, technical specifications, cost estimates and bid documents. Ability to negotiate the means to attain regulatory compliance with agencies. Ability to be innovative and make independent decisions.

##### **Selection Process & Supplemental Information**

**Our City:**

With a population over 200,000, Tacoma is the second largest city in Washington, bordering the shores of Commencement Bay. We are a diverse, progressive, international city that serves as a gateway to the Pacific Rim and the rest of the world. Named one of the most livable areas in the country by Livability.com, Tacoma and the surrounding area is a playground for outdoor and maritime enthusiasts. Our businesses are vibrant, our parks are beautiful, our schools are exceptional and our housing is affordable.

When you work for the City of Tacoma you'll enjoy a healthy work/life balance, the potential for flexible schedules with some job classifications, continuing education programs, leadership pathways, wellness incentives and a total rewards benefits program. We welcome you to take a look at our website and discover how the City of Tacoma can make your next career move part of our combined destiny:

<http://www.cityoftacoma.org/> (<http://www.cityoftacoma.org/>)

<http://www.traveltacoma.com/> (<http://www.traveltacoma.com/>)

<http://www.cityoftacoma.org/new hires> (<http://www.cityoftacoma.org/new hires>)

The City of Tacoma believes that each employee makes a significant contribution to our success. This job description is designed to outline primary duties, qualifications and job scope. The omission of specific statements of duties does not exclude them from the position if the work is similar, related or a logical assignment to the position.

Interested individuals must **complete the online application and attach** a detailed resume and cover letter that includes major responsibilities and accomplishments related to this position.

Candidates who are eligible for Veteran's Preference scoring criteria must attach a copy of their DD-214 member copy 4, (proof of military discharge form) at time of application, to be eligible for review for Veteran's Preference, with redacted birth date and social security numbers.

This is a competitive selection process. Your application will be reviewed and evaluated on the basis of education, certifications, professional license and related experience. Applicants who meet the minimum qualifications and who most closely correspond to the City of Tacoma's needs will be eligible for further consideration. Those who meet the minimum qualifications will be placed on a referral list for review and potential interview selection. Appointment is subject to passing a pre-employment background and references check.

Supplemental questions regarding an applicant's experience and training are also included in the application form. These questions will be used to assess candidate minimum qualifications and to provide additional information to the hiring managers regarding candidate experience.

**NOTE:** This is a continuous recruitment until the ideal candidate is discovered. The first review will consist of application materials received before 8:00 am, December 29, 2017, and may result in an invitation to interview. A second review of application materials received after this time will be conducted if the first review round does not reveal the ideal candidate. If necessary, the second and any potential subsequent review of application materials received will occur every two weeks after December 29, 2017. It is in the best interest of all candidates to ensure your application materials are submitted via our on-line process before the date of the first review.

**Communication from the City of Tacoma:**

We primarily communicate via email during the application process. Emails from cityoftacoma.org and/or governmentjobs.com must be placed on your safe domain list to ensure that you receive notifications in a timely manner. As a precaution, you may also want to check your junk email folders.

The online application system requires you to enter a substantial amount of information. Be prepared to spend at least an hour entering information. In order for your application materials to be considered, all information must be submitted by the closing date and time listed on this job announcement.

For assistance with the NEOGOV application process, or questions regarding this job announcement, call the Human Resources office at (253) 591-5400 before 5:00 pm of the closing date of the job announcement.

**Agency**

City of Tacoma

**Address**

Human Resources Department  
747 Market Street  
Tacoma, Washington, 98402-3764

**Phone**

253-591-5400

**Website**

<http://www.cityoftacoma.org> (<http://www.cityoftacoma.org>)

**JOB OPPORTUNITIES**  
**(/CAREERS/TACOMA)**

**ACCOUNT**  
**(/CAREERS/TACOMA/APPLICATIONS/SUBMITTED)**

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<b>Job Title</b>	Mechanical Engineer
<b>Department</b>	Water
<b>Job Location</b>	Puyallup, WA
<b>Job Type</b>	Full-Time Regular
<b>Position Id</b>	PSO1701
<b>Job Description</b>	<p><b>MECHANICAL ENGINEER (#PSO1701)</b></p> <p>Parametrix is seeking a Mechanical Engineer to join our growing, outstanding team of water professionals in the Puget Sound Region. We are conveniently located in Puyallup with a large office, open-concept design, access to Bradley Lake Park and free parking.</p> <p><b>WHO YOU ARE:</b></p> <p><b>Experienced:</b> Bachelor's Degree in Mechanical Engineering and 8+ years of mechanical system design, preferably water/wastewater project experience for an A&amp;E consulting firm and PE license.</p> <p><b>Talented:</b> Experience and success in supporting, executing and delivering tasks and phases on complex projects including concepts, designs, drawings, specifications, and reports</p> <p><b>Technically Focused:</b> Can help deliver varied Water/Wastewater treatment facility and pumping station projects within our team by providing system evaluation and design. Knowledge of hydraulic and process calculations and AutoCAD Civil 3D (and preferably Revit MEP). HVAC design experience would be a plus</p> <p><b>Collaborator:</b> Strong team orientation and the ability to successfully integrate and collaborate within the water division and across all disciplines</p> <p><b>Creative and Driven:</b> Think out of the box and has a passion for water and an entrepreneurial spirit.</p> <p><b>WHAT WE OFFER:</b></p> <p><b>An Established, Collaborative Team:</b> A talented team of mechanical, civil, electrical &amp; structural engineers that collaboratively work across disciplines and offices to serve a mix of local, state, federal, tribal and private clients, primarily within the Pacific Northwest</p> <p><b>Exciting water project work:</b> Responsibilities will include planning, designing and construction services for municipal water and wastewater facilities</p> <p><b>An Excellent Reputation:</b> We have an excellent reputation for challenging and award-winning projects. Examples include: the Calistoga Setback Levee and Nisqually Wastewater System Improvements  <a href="http://www.parametrix.com/who-we-are/awards-industry-rankings">http://www.parametrix.com/who-we-are/awards-industry-rankings</a></p> <p><b>Employee Ownership and Competitive Compensation/Generous Benefits:</b> We are 100% Employee-Owned with an outstanding Employee Stock Ownership Plan. We offer an industry competitive package with details shared and discussed in the early stages of candidate conversations.</p> <p>If the above description sounds like you and you wish to be considered, please submit a letter of interest and resume through our website:</p> <p><a href="http://www.parametrix.com">www.parametrix.com</a></p> <p>Parametrix  Inspired People... Inspired Solutions... Making a Difference</p> <p>It is our company policy and culture to provide equal opportunity to all persons based on ability and fitness to perform job duties regardless of race, religion, color, national origin, gender, sexual orientation, age, marital status, veteran status, or disability status.</p>
<b>Recruitment Status</b>	Accepting Applications

APPLY

It is our company policy and culture to provide equal opportunity to all persons based on ability and fitness to perform job duties regardless of race, religion, color, national origin, gender, sexual orientation, or disability status.

Should you need reasonable accommodations to facilitate the application process, please email us (<mailto:info@careeropportunities@parametrix.com>) or call 888-363-5126.

To view the firm's complete Equal Employment Opportunity and Affirmative Action Program, click here ([/docs/default-source/default-document-library/eeoprogram\\_updated201782900dd1d9e46a9dbacff000cb96be.pdf?sfvrsn=0](#)).

View Equal Employment Opportunity is the Law (<http://www.parametrix.com/docs/default-source/default-document-library/eeopost.pdf?sfvrsn=2>) poster.

View the OFCCP Pay Transparency ([https://www.doi.gov/ofccp/pdf/pay-transp\\_formattedESQ4508c.pdf](https://www.doi.gov/ofccp/pdf/pay-transp_formattedESQ4508c.pdf)) poster.

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## WHO WE ARE

### INSPIRED PEOPLE MAKING A DIFFERENCE

We are engineers, scientists, planners, surveyors, and construction managers dedicated to providing outstanding client service to our clients. We are employee-owners who each have a stake in the company and are responsible for contributing to its success. We are passionate about each and every project we work on. We are committed to the communities that we serve and give back through donations and volunteering. We are environmental stewards, committed to sustainability and enhancing our natural resources.

We are Parametrix—inspired people developing inspired solutions that make a difference!

[FACEBOOK.COM/PARAMETRIXINC](#) [HTTPS://TWITTER.COM/PARAMETRIX\\_INC](https://twitter.com/parametrix_inc)

[HTTP://WWW.LINKEDIN.COM/COMPANY/PARAMETRIX](http://www.linkedin.com/company/parametrix) [HTTPS://WWW.INSTAGRAM.COM/PARAMETRIX\\_INC](https://www.instagram.com/parametrix_inc)



Season's Greetings from the employee-owners of...

[HTTPS://WWW.FACEBOOK.COM/164791463218/POSTS/10156851797453219](https://www.facebook.com/164791463218/posts/10156851797453219)



Employee-owners in our Boise office once again...

[HTTPS://WWW.FACEBOOK.COM/164791463218/POSTS/10156851119878219](https://www.facebook.com/164791463218/posts/10156851119878219)



Parametrix employee-owners in Boise got into...

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Parametrix employee-owners had their 3rd Annual...

[HTTPS://WWW.FACEBOOK.COM/164791463218/POSTS/10156848896428219](https://www.facebook.com/164791463218/posts/10156848896428219)

## PARAMETRIX BLOG (/BLOG)


### CHECK OUT OUR NEWEST BLOG

Oregon Department of Transportation Holds Ribbon Cutting for Newberg Dundee Bypass Project

[/BLOG/PARAMETRIX-BLOG/2017/12/21/OREGON-DEPARTMENT-OF-TRANSPORTATION-HOLDS-RIBBON-CUTTING-FOR-NEWBERG-DUNDEE-BYPASS-PROJECT](#)

# Process Engineer

Cement Manufacturing

 Apply with LinkedIn

Apply now

Posted: December 7, 2017

Full-Time

Seattle, WA, United States

## SUMMARY

Performs duties pertaining to the entire cement manufacturing process. Analyzes the process and suggests ways to improve operations. Uses independent judgment in performing responsibilities.

## SUPERVISION RECEIVED

Works from general policies and objectives. Refers to supervisor when clarification or interpretation of organizational policy is in question.

## PRIMARY DUTIES & RESPONSIBILITIES

- Analyzes the cement production process – raw materials to finish milling – and implements changes as needed for optimal operating conditions in terms of fuel efficiency, electrical efficiency and production rate.
- Demonstrates pyroprocessing expertise in performing regular responsibilities. Participates in the training of the control room operators on the proper ways of using plant equipment. Works closely with shift process teams to ensure mills and pyro lines are consistently operated at peak efficiency.
- Performs programming of the plant's programmable control systems and provides maintenance, documentation and improvements for computerized process systems. Performs performance testing and measurements on production equipment. Maintains equipment performance records including wear part life history.
- Provide technical support to the Production Department in achieving its objectives of maximizing plant production of quality controlled cement in the most efficient and cost effective manner.
- Optimization of process areas by testing, data gathering, sampling and the application of in-house expertise to provide progressive solutions to enable continual improvement in all aspects of the production process.
- Performs relief duties for supervisor as needed.
- Performs other job related duties as assigned.

## Knowledge/Skills/Abilities

Knowledge of pyroprocessing, thermodynamics, heat transfer, air flow and related principles. Working knowledge of PLC systems and instrumentation techniques and guidelines. Demonstrated analytical, problem solving, organization, and verbal and written communication skills needed.

## Education

B.S. Degree in chemical, Metallurgy or Mechanical engineering.

## Experience

Five years progressive experience in a similar or related position.

## Equal Opportunity Employer/Protected Veterans/Individuals with Disabilities

The contractor will not discharge or in any other manner discriminate against employees or applicants because they have inquired about, discussed, or disclosed their own pay or the pay of another employee or applicant. However, employees who have access to the compensation information of other employees or applicants as a part of their essential job functions cannot disclose the pay of other employees or applicants to individuals who do not otherwise have access to compensation information, unless the disclosure is (a) in response to a formal complaint or charge, (b) in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or (c) consistent with the contractor's legal duty to furnish information.

Strong Foundations. Strong Future.

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Job title, keywords or company city, state, or zip

## Project Engineer

Environmental Technologies, Inc. - Pacific, WA  
Job Summary

Small growing company that produces large scale equipment, is seeking a reliable person to help this company with design and engineering on large scale fish transfer and feeding systems. Any experience in marketing and sales is welcomed, as we strive to go into as many markets as possible. This is a great opportunity for someone who is efficient in design, engineering, product development, and has an interest in working with sales staff to promote, educate, and work as a team to develop new products, and further engineer our existing designs. A second or third language is a plus. We encourage Arm Force Veterans to apply. Experience with control systems, PLC's, and programming is highly desirable.

### Responsibilities and Duties

This person will be responsible for communications with all staff, customers and occasionally, vendors. This position may require occasional travel. This is an in-house position, work hours are from 8am to 5pm Monday through Friday.

### Qualifications and Skills

Candidates should process the following:

Degree from accredited university in Engineering.

Desire to work with others in order to achieve company goals.

Ability to communicate by phone and in person with clients and staff.

May be required to travel on occasion.

Communication in English and second or third language a plus.

Job Type: Full-time

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Please review all application instructions before applying to Environmental Technologies, Inc..

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Project Engineer

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14 days ago

Project Engineer

Michael Page US - Seattle, WA

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## Quality Process Engineer

FreshRealm 2 reviews - Sumner, WA  
**FreshRealm: The Power of Fresh Thinking**

FreshRealm is a pioneering platform helping to empower the food industry to deliver better solutions for their customers who are redefining their relationship with food. Founded 3 years ago with deep food and tech DNA, we got our start with substantial funding and strategic partnership agreements from two well respected publicly traded companies.

Our mission is to bring quality healthy, fresh food to the masses in innovative ways that saves time and reduces waste. We do this by offering a Retailer and Merchant delivered suite of solutions including national prepped food supply, unique IP fulfillment and delivery, curated in-store and at-home meal kits and an eCommerce platform designed to turn any retail brand, category merchant, celebrity chef or lifestyle tastemaker into a viable meal-kit business.

### Quality Process Engineer at FreshRealm

**This position will be based in Sumner, WA - with the first 2 weeks training at our Indianapolis, IN or Riverside, CA Facility**

Establish and maintain quality control of pack and sanitation operations. Setup & maintain the equipment used in our Food Packer operations (Computers, Scan Guns, Printers and Scales). Ensure processes are followed at all times to help establish a culture of quality that promotes customer satisfaction and positively impacts the financial performance of FreshRealm. Setup and execute training program and maintain training records. Champion continuous improvement efforts and defect reduction initiatives to establish an effective Quality Management System (QMS).

#### Major Responsibilities:

- Through effective influence management instill a quality culture at pack and sanitization operations.
- Lead by example, conduct thorough quality investigations. FreshRealm's vision of quality is that everyone owns quality and that quality is not a cop like department, quality collaborates, trains, educates and solves problems by working with the teams.
- Own the quality system and hold operation accountable for following the quality system.
- Own the CAPA process and drive CAPAs to closure, following up on progress, tracking time to closure, recurrences and overall CAPA effectiveness.
- Own document control.
- Create and maintain quality scorecards and effectively communicate results to FreshRealm and our partners and drive continuous improvement to meet business goals.
- Identify and analyze operational and quality problem areas, understand the most relevant issues and put processes in place to mitigate and manage risks.
- Setup computers, printers, scan guns, scales at packing facilities.
- Train employees on their job responsibilities, quality system and document control. Create and maintain training records.
- Partner with all employees and management to deliver quality improvement solutions.
- Create process documentation, design and improvement.
- Perform with minimal supervision and once given general assignments, prioritize and execute tasks. Must be a self-starter, detail-oriented, able to support and lead multiple

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projects, possess excellent communication skills, work well with a team, interact with multiple levels and function well within the organization and with strategic partners.

#### Qualifications – Knowledge, Skills and Abilities

- 1-3 years experience in quality, or engineering related field
- Knowledge of quality systems, CAPA Systems, Change Control
- Process driven
- Highly skilled in influence management.
- Strong familiarity with Google Sheets, Slides, Docs
- Able to install and configure computer systems, diagnose hardware and software faults and solve technical and applications problems.
- Highly developed communication skills including preparing and presenting results, findings and alternatives, and influencing management decision-making.
- Bachelor's Degree - Engineering - new grads are welcome to apply!
- Eligible to work in the United States with no Sponsorship required

Job Type: Full-time

Job Location:

- Sumner, WA

Required education:

- Bachelor's

Required experience:

- CAPA Management: 1 year
- Process Management: 1 year
- Quality Control: 1 year

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Quality Engineer

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**NEOGOV**

**Job Title:**SENIOR CIVIL ENGINEER  
**Closing Date/Time:**Wed, 12/27/17 5:00 PM Pacific Time  
**Salary:**\$81,617.00 - \$102,022.00 Annually  
**Job Type:**Full-Time  
**Location:**625 Building, Seattle, Washington

General Purpose: <http://agency.gov/secure/dhhs-rum/soundtrans/definit.cbr?action=viewmt&initID=120510&headref=120510X.InkSearchParams>

(2) **SENIOR CIVIL ENGINEERS (Sounder, A&E and Operations)** – These senior civil engineers will support Sounder, A&E On-call faster, BRT and Operations in technical and design support during planning, design and construction capabilities. The successful applicant will report to the Corridor Design Manager for Sounder and Small Projects. He/She will also support assignments to one or more projects as directed by the Corridor Design Manager for Sounder and Small Projects.

This job posting may be used to fill multiple positions

Essential Functions:

The following duties ARE NOT intended to serve as a comprehensive list of all duties performed by all employees in this classification, only a representative summary of the primary duties and responsibilities. Incumbent(s) may not be required to perform all duties listed and may be required to perform additional, position-specific duties.

- Oversees and coordinates all engineering, planning, design, and construction work for transit facilities, involving multiple consultants and contractors, directs work assignments, ensures adherence to quality, budget and schedules, coordinates the administration and approval of assigned projects and project elements by assisting project directors with coordination of the schedule, scope, and budget of assigned projects or project elements, and provides updated schedule information as necessary.
- Serves as a day-to-day project manager for the coordination and development of plans, specifications, general and special conditions, estimates, schedules, and other documentation necessary for advertisement of projects; supports the pre-award review and approval of project contracts; controls project costs; and actively supports pre-award activity, including staff reports concerning RFI responses, meetings and presentations to board members, and preparation of staff reports.
- Coordinates the development and preparation of contract document packages for a variety of construction projects including civil facilities, trackwork, structural, geotechnical, specifications, traffic, utility, roadway, architectural, mechanical, electrical, light rail systems (including traction power, signals, and communications), and other elements; coordinates physical and temporal interfaces with multiple contracts to deliver the completed project including, listing all safety and critical civil and system components and their interfaces, suppliers and subcontractors and their interfaces, identifying utility interfaces and critical coordination milestones, and identifying system integration testing procedures and schedules; reviews civil and systems contract drawings and specifications for compliance with project requirements, compares designs in multiple contracts in order to ensure proper turn, fit, and function and coordination and integration; provides cost resolution assistance; and identifies agreement with contractor procurement interfaces; manages design support teams during construction working with construction management staff, consultants, contractors, and third parties.
- Plans, develops, negotiates, and administers formal agreements and permits with third parties, including state and local agencies, utilities, and private property owners, as required for the delivery of assigned projects, works with real estate, legal, contracts, project control, operations, maintenance and other Sound Transit departments in coordination and development, coordinates construction with third parties including reviewing construction work and schedule with cities and utilities, coordinating third party work for schedule and access, addressing questions and concerns due to construction activities, and receiving and documenting final approvals.
- Performs technical level duties in support of assigned engineering design and construction programs; develops and applies design criteria, engineering standards, technical criteria, and quality control and assurance procedures; performs technical review of a variety of plans, agreements, and documents, oversees and manages day-to-day construction inspection activities, verifies and monitors materials and equipment delivered and accepted; tracks and ensures approved changes are being installed properly; identifies and documents non-conformance and close-out works; manages milestones as stipulated in the contract; supports design team by reviewing RFIs, submittals, and project record documents after construction is complete.
- Develops equipment and facilities numbering and naming conventions and develops equipment matrices in order to assist in identifying equipment interfaces with power, data, and structural supports during design and to support operations and maintenance of an integrated transit system.
- Serves as right-of-way expert in property rights and property acquisition, works with the engineering design teams to identify temporary and permanent property rights that are required, coordinates and works with agency real estate, legal, and property management divisions; creates property acquisition cost estimates and schedules; represents civil engineering in negotiations with property owners, in mediations, and in trials; works with construction management and outreach during construction to interpret property rights, interface with the private property owners, investigate property owner claims, and administer temporary construction easements; after construction, works with Agency Operations and Facilities to interpret property rights acquired from private properties, to develop property maintenance plans, and to negotiate access agreements with property owners.
- Reviews budgets for construction contract and construction management contract, reviews pay applications for construction contracts, and provides recommendations for requests for payment (RFP) responses; reviews and provides input to assigned project directors and managers by identifying critical engineering issues, evaluates alternative solutions, and provides recommendations for the preferred approach; organizes and provides technical expertise and administrative support to the construction management teams.



<ul style="list-style-type: none"> <li>Responds to questions and inquiries from the general public, consultants, contractors, engineering professionals, and Agency staff regarding information related to area of assignment.</li> <li>Provides support to the department/division and others in matters as directed; serves as staff on a variety of boards, commissions, and committees; prepares and presents staff reports and other necessary correspondence; attends and participates in professional group meetings; maintains awareness of new trends and developments in the fields related to area of assignment; incorporates new developments as appropriate; ensures processes, policies and practices are interpreted and applied consistently and effectively; ensures accountability and compliance with all current and applicable state and federal laws, Agency policies and procedures, rules and regulations.</li> </ul>
<b>Minimum Qualifications:</b>  <b>Education and Experience:</b> Bachelor's Degree in civil engineering, or closely related field and six+ years of civil/architectural engineering design and construction experience that includes significant experience with project and contracts management experience, preferably in a rail or transit related environment, OR an equivalent combination of education and experience.  <b>Required Licenses or Certifications:</b> <ul style="list-style-type: none"> <li>Possession of a valid Washington State Drivers License.</li> <li>A valid Professional Civil Engineer License issued by the State of Washington.</li> </ul> <b>Required Knowledge of:</b> <ul style="list-style-type: none"> <li>Operations, services, and activities of engineering and construction programs.</li> <li>Complex principles and practices of civil engineering.</li> <li>Senior professional and/or technical expert knowledge of industry engineering principles and practices.</li> <li>Agency design criteria manuals, policies and procedures, standard contract documents.</li> <li>Engineering consulting services and methods including reports, studies, cost estimates, plans, and specifications.</li> <li>Preparation of construction specifications in various formats.</li> <li>Surveys, legal descriptions, title reports, and deeds.</li> <li>Property rights, outside agency real estate practices, outside agency engineering practices and standards; property acquisition under condemnation; State Laws (RCWs) related to property rights.</li> <li>Recent developments, current literature, and sources of information related to innovations and trends in civil engineering design and development.</li> <li>Contract and procurement strategies and management principles.</li> <li>Performing negotiations and partnering with local jurisdictions and agencies, utilities, contractors, and community groups.</li> <li>Risk assessment and strategic planning.</li> <li>Pertinent federal, state, and local laws, codes, and regulations as they apply to civil engineering programs and operations, including municipal codes, design and construction standards and planning documents.</li> <li>Techniques to work effectively under pressure, meet deadlines, and adjust to changing priorities.</li> <li>Principles of business letter writing and basic report preparation.</li> <li>English usage: spelling, grammar, and punctuation.</li> <li>Modern office procedures, methods, and equipment including computers and computer applications such as word processing, spreadsheets, and statistical databases.</li> </ul> <b>Required Skill in:</b> <ul style="list-style-type: none"> <li>Utilizing personal computer software programs affecting assigned work and in compiling and preparing spreadsheets and reports.</li> <li>Establishing and maintaining effective working relationships with other department staff, management, vendors, outside agencies, community groups and the general public.</li> <li>Interpreting and administering policies and procedures sufficient to administer, discuss, resolve, and explain them to staff and other constituencies.</li> <li>Applying advanced principles and practices of civil engineering related to area of assignment.</li> <li>Demonstrating a positive customer service orientation with both internal and external clients.</li> <li>Performing advanced level professional engineering duties involved in the design and development of a variety of engineering projects.</li> <li>Applying project management techniques and principles and defining a detailed project scope and control scope as a means of achieving overall project objectives.</li> <li>Preparing, reviewing, interpreting, analyzing, and modifying complex engineering plans, drawings, specifications, contract documents, and engineering reports for conformance to professional standards and approved budgets.</li> <li>Reading and reviewing parcel maps and assessors' maps.</li> <li>Writing and reviewing complex property agreements and easements.</li> <li>Administering change orders.</li> <li>Presentation development and public speaking skills.</li> <li>Applying appropriate oral and written communication techniques to various individuals.</li> <li>Interpreting and applying applicable federal, state, and local policies, laws, and regulations.</li> <li>Preparing and analyzing complex data and comprehensive reports.</li> <li>Applying advanced project management and program development techniques and principles.</li> <li>Working cooperatively with other departments, Agency officials, and outside agencies.</li> <li>Developing and/or monitoring program/project operating budgets, costs, and schedules.</li> </ul>
<b>Physical Demands/Work Environment:</b> <ul style="list-style-type: none"> <li>Work is performed in a standard office environment.</li> <li>Subject to standing, walking, bending, reaching, stooping, and lifting of objects up to 25 pounds; may occasionally be exposed to dangerous machinery, extreme weather conditions, physical harm, hazardous chemicals, and extreme noise when conducting site visits and working in the field.</li> </ul> <p>The Agency promotes a safe and healthy work environment and provides appropriate safety and equipment training for all personnel as required.</p> <p>It is the responsibility of all employees to follow the Agency safety rules, regulations, and procedures pertaining to their assigned duties and responsibilities, which could include systems, operations, and/or other employees.</p>

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## Senior Mechanical Engineer

Globe Machine Manufacturing 2 reviews +

Tacoma, WA

\$110,000 a year

**Job Title:** Senior Mechanical Product Design Engineer

**Department:** Engineering Department

**Reports to:** Mechanical Engineering Manager

### SUMMARY:

Since 1917, Globe Machine has been a manufacturer of industrial machines, systems, and plants for advanced composites, building products, and pulp & paper.

Our Senior Mechanical Product Design Engineers are responsible for conceptualizing and executing industrial machine designs as well as leading teams of designers and drafters. This role works autonomously reporting to the Mechanical Engineering Manager. This is a senior level position serving as an integral role within a design team of engineers and designers in conceptualization of robust, varied, and cost effective systems that function in real world environments.

### ESSENTIAL DUTIES AND RESPONSIBILITIES:

#### Technical Design

- Utilize AutoCAD computer-aided design (CAD), including AutoCAD Inventor (3D) system and peripheral equipment to generate design concepts of mechanical equipment to meet company standards and customer specifications.
- Design/engineer systems of equipment, as well as individual pieces of equipment, that work together to meet overall production throughput meeting customer requirements.
- Develop testing procedures and lead data collecting during shop testing.
- Analyze product or equipment specifications and performance requirements to determine mechanical designs.
- Plan, design or modify mechanical or electromechanical machinery.
- Review drawings and specification manuals to determine mechanical design.
- Prepare and direct preparation of mechanical layout and detailed drawings and schematics.
- Direct and coordinate manufacturing or building of mechanical equipment and drafting as needed.
- Prepare testing specifications and conduct tests of equipment under operational conditions to investigate design proposals for improvement of equipment performance, or to obtain data for further development, standardization, and quality control.

#### Document Control

- Edit and oversee the preparation of operating manuals for designed equipment and systems.
- Prepare BOM's and manufacturing drawing packages.

#### Cross-Departmental Collaboration

- Collaborate with manufacturing to develop delivery schedules and communicate these schedules with the

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customer.

- Collaborate with the controls department to design new products and technologies within timeline and budget.
- Collaborate with Engineering Manager and Corporate Project Manager to review design specifications of equipment.
- Partner with Parts Department and vendors to research parts specifications to ensure compatibility with equipment design and budgets.
- Partner with controls engineering department to ensure proper assembly and performance of mechanical equipment.
- Provide hands-on instruction to shop personnel regarding specifications of mechanical equipment.
- Provide technical information concerning equipment manufacturing techniques, materials, properties and process advantages.

#### Customer Support

- Interface with end user regarding system performance/production requirements, delivery and installation planning.
- Travel to customer site to oversee installation and/or start-up of equipment and supervise final performance testing at site as required.

#### QUALIFICATIONS:

- BSME/BSEE degree or comparable training/schooling in mechanical design engineering required.
- Minimum of eight years hands on engineering experience required.
- Minimum of three years' experience leading teams or direct management responsibilities required.
- Proven proficiency with AutoCAD 2012, Microsoft Office, and Inventor 2012 or SolidWorks required.
- Experience with MS Project a plus.
- Minimum of seven years' experience in a manufacturing environment desired.
- Demonstrated knowledge of industrial handling/packaging machinery design required.
- Experience with motor and reducer sizing, chain, gear belt, v-belt and direct drive sizing and application, as well as sizing and application of hydraulic and pneumatic actuators, such as cylinders, motors, air bags, grippers, and rotary actuators required.
- Demonstrated knowledge of mechanical, electrical, hydraulic, pneumatic, motion and control components required.
- Expertise and applicable knowledge in one or more engineering disciplines or proprietary products required.
- Proven track record of creative thinking and the application of engineering principles and solutions to technical and performance problems.
- Experience with Autoclave design desired.
- Proven attention to detail with an emphasis on drawing specifications required.
- Strong written and verbal business communication skills a must.
- Proven track record of being self-motivated, working with minimal supervision, and leading and partnering with diverse team members required.
- Ability to handle multiple priorities efficiently, retain a sense of urgency and meet strict timelines required.
- Conduct oneself with the highest level of professionalism and ethical standards.

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## SPTI Senior Project Design Engineer

PSF Mechanical, Inc - Seattle, WA

### Summary

The SPTI Senior Project Design Engineer is responsible for layout, design and coordination of assigned building projects. The primary responsibilities of the SPTI Senior Project Design Engineer will be the development and production of HVAC and plumbing construction documents.

### Responsibilities:

- Develop and evaluate system concepts and options to determine the best design and engineering solution for each project based upon the project scope
- Design mechanical systems including the preparation of all engineering calculations including load calculations, equipment selection and layout throughout the life of the project
- Work with code authorities as required for approval of the plans or if code related questions arise
- Distribute of all approved drawings and specifications
- Coordinate with other design team members including the architect and the electrical and structural engineers to ensure mechanical systems are integrated with all trades
- Work with engineering manager to manage design manpower budget and update budget to reflect revisions or changes in scope
- Work as a team member with construction team project manager and fabrication and installation crews
- Mentor less experienced engineers
- Performs additional tasks as assigned

### Education & Experience:

- A Bachelor of Science degree in Mechanical Engineering
- Able to read architectural, structural, and mechanical plans; HVAC and plumbing knowledge is a plus
- Proficient in Microsoft Office Products, i.e. Word, Excel, PowerPoint and Outlook
- Ability to work independently with minimum supervision or in a team atmosphere
- Strong organizational and analytical skills
- Able to effectively interact with customers, service technicians, field personnel, sales and office staff
- Possesses strong verbal, written, analytical, persuasion and interpersonal skills
- Able to consistently set goals and meet deadlines and adapt to flexible responsibilities

### Physical Demands:

- Able to participate in job walk-throughs which include climbing ladders, squatting and other similar physical demands in a wide variety of weather conditions
- Able to see, hear well (either naturally or with correction) and speak clearly
- Also includes: sitting, standing and bending; repetitive motions of hands and wrists due to frequent computer use
- Must be capable of working extended hour days when job/business needs demand

### Additional Information:

- Type: Full-Time
- Experience: Experienced

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- Compensation: Salary

Job Type: Full-time

Required education:

- Bachelor's

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## Tooling Design Engineer

VerAvanti Inc. - Redmond, WA

**Job Purpose: Tooling Design Engineer**

Develops tooling, fixtures, and test stations for state-of-the-art automation manufacturing systems used to manufacturing life-saving medical devices.

**Required Skills/Qualification: Tooling Design Engineer**

### Machine / Tool Design

- Design responsibility in all phases of process, from requirements development through build and test.
- Design of at least one semi- or fully automatic machine, including tolerance management
- Equipment selection (stages, actuators, pneumatics, sensors, etc)
- Design for schedule (e.g. rapid prototyping)
- Validation and testing in IQ, OQ, PQ environment

### Process/tool development experience

- Mechanical assembly, to tolerances < .001"
- Fluid dispensing
- Adhesive bonding
- Catheter assembly/tip forming
- Laser welding

### Process development:

- Have experimentally or analytically defined nominal process parameters for any type of production process
- Highly valued specific applications: fluid dispensing, adhesive bonding, laser welding, catheter assembly/forming.

### Documentation:

- Must have written technical procedures and reports in an engineering environment.

### Solid Works CAD

- Be able to draft at the speed of thought!
- Target: 1,000 hours MIN experience within last 5 years
- Skills will be considered in lieu of experience; performance is key \*

### Team dynamics/culture

- Follows direction
- Self driven; sense of urgency
- Finish line oriented

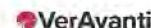
**Total of 5yrs work experience, minimum.**

### EDUCATION:

- Bachelors of Science or Mechanical Engineering preferred; Masters acceptable
- A proven track record of performance considered in lieu of a technical degree.

**Desired Skills/Qualifications: Tooling Design Engineer**

- Process development experience - fluid dispensing, adhesive bonding, catheter assembly/forming, laser welding



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VerAvanti Inc.

VerAvanti Inc. is a privately held company based out of Redmond, WA. We are a medical device company eager to complete the development of...

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- Medical device experience - worked in an ISO certified production environment
- Medical device manufacturing (ISO certified) desired
- Optical component handling
- Process optimization experience
- Electrical experience
- Industrial robotics
- Cleanroom experience
- Startup company experience

Job Type: Full-time

Required education:

- Bachelor's

Required experience:

- tooling design: 5 years
- Solid Works: 5 years

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### Job Details

<b>Requisition Number</b>	<b>17-0040</b>
<b>Post Date</b>	<b>12/20/2017</b>
<b>Job Category/Dept</b>	<b>Technical</b>
<b>Title</b>	<b>Engineer II, Technical</b>
<b>Shift</b>	<b>Days</b>
<b>City</b>	<b>Tacoma (Frederickson)</b>
<b>State</b>	<b>WA</b>
<b>Description</b>	<p><b>SUMMARY:</b> Provides support to the process and application technology for the carbon-fiber resin impregnation plant. Responsibilities encompass maintaining consistent quality of product production, and the development and improvement of the process and facilitation in helping new programs develop. Plant environment includes the presence of resins, epoxies, and other chemicals, and is tobacco-free.</p> <p><b>ESSENTIAL JOB DUTIES:</b></p> <ul style="list-style-type: none"><li>▪ Focus Areas:</li><li>▪ Prepreg process and product development.</li><li>▪ Resin development and resin testing.</li><li>▪ Qualification &amp; Composites Testing.</li><li>▪ Customer and Technical Laboratory assistance.</li><li>▪ Equipment development.</li><li>▪ Production and quality issues including discrepancy investigation, Statistical Process Control and production support.</li><li>▪ Develops and maintains raw and intermediate material specifications and qualifications of modified material and new suppliers and technical focal for resolution of supplier quality problems.</li><li>▪ Obtains and analyzes information about market trends including patent searching.</li><li>▪ Promotes manufacturing process improvement and development through an understanding of the process, and provides product and process engineering support.</li><li>▪ Supports/directs Qualification activities of new equipment or product.</li></ul>



Toray Composites (America), Inc.  
19002 50th Avenue East  
Tacoma, WA 98446  
ATTN: Human Resources  
Tel: (253) 846-1777  
Fax: (253) 846-3897

- Develops and maintains good relationships with both internal and external customers through technical service and program management support.
- Maintains up-to-date Process Control Documentation, MSDS, Condition Tables and other technical documents.
- Works as a lead team member to solve problems generated in production.
- Jointly responsible for maintaining a safe working environment and implementing safe operating procedures to ensure an accident-free record, and for maintaining compliance with all waste/environmental regulations.
- Assists in supervision of lower grade engineers.
- Coordinates teamwork with outside departments and outside support services.
- This job description in no way implies that these are the only duties to be performed by the associate. At all times, employees will be required to follow any instruction and to perform any other duties within this or a lower job level upon the request of the supervisor. At times employees may also be required to perform higher level duties.

#### Requirements

##### JOB REQUIREMENTS:

Ability to set priorities. Ability to be a good team player. Must be able to get along well with diverse personalities and cultures. Must have focus on quality, cost, and safety. Must have strong math competence (statistics, differential calculus, integral calculus, etc.). Must have the ability to climb stairs. Must have the ability to move within production areas. Must be able to perform the essential functions of the position with or without accommodation.

##### EXPERIENCE/KNOWLEDGE/SPECIALIZED TRAINING REQUIRED:

Bachelor's degree in chemical engineering, materials science, mechanical engineering, or related discipline and three plus years' experience in composite related field, or equivalent combination of education and experience, required. Personal computer experience in Microsoft applications such as Excel, Word and Access, required. The legal right to work in the U.S. and comply with Export Control Regulations required. This position involves working with technologies and information which are subject to U.S. export control regulations. Under these regulations, Toray Composites must review certain candidate information including citizenship, basis of United States work authorization and country of origin. This information will be used for export control screening purposes only.

- Equal Opportunity Employer/Protected Veterans/Individuals with

Disabilities.

- Please view Equal Employment Opportunity Posters provided by OFCCP [here](#).
- The contractor will not discharge or in any other manner discriminate against employees or applicants because they have inquired about, discussed, or disclosed their own pay or the pay of another employee or applicant. However, employees who have access to the compensation information of other employees or applicants as a part of their essential job functions cannot disclose the pay of other employees or applicants to individuals who do not otherwise have access to compensation information, unless the disclosure is (a) in response to a formal complaint or charge, (b) in furtherance of an investigation, proceeding, hearing, or action, including an investigation conducted by the employer, or (c) consistent with the contractor's legal duty to furnish information. 41 CFR 60-1.35(c)

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## Validation Engineer I

Location: **SEATTLE - Bothell, WA**  
Company Order #: **1865**  
# of openings: **1**

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### Description

#### Company Overview:

CMC Biologics (CMC), a wholly-owned subsidiary of Asahi Glass Company (AGC), is one of the industry leading CMOs in reliability, technical excellence, and quality — Right and On Time. AGC is a \$12B Japanese-owned and publicly traded company based in Tokyo with over 50,000 employees in 30 countries.

With three facilities in the USA and Europe, CMC Biologics provides fully integrated biopharmaceutical development and manufacturing solutions to clients globally. The Company has proven expertise in delivering custom solutions for the scale-up and cGMP manufacture of protein-based therapeutics for pre-clinical, clinical, and commercial production.

CMC is experiencing growth in customer base and revenue, expanding personnel and manufacturing capacity as well as distinguishing itself in the market with unique technology offerings for clients.

#### Job Summary:

CMC Biologics is seeking an energetic and enthusiastic individual with a strong background in Validation or Engineering to join the Validation Team within the Quality Group. This position will primarily contribute to the qualification of new equipment, and the maintenance of a validated state for existing equipment.

#### Job Responsibilities:

- Qualification/requalification of facilities, utilities, manufacturing and analytical equipment including automated equipment
- Validation of steam sterilization processes
- Validation of equipment cleaning cycles
- Application of validation/engineering concepts and company procedures to generate validation protocols and reports
- Evaluation of specifications to determine test scripts and acceptance criteria
- Deviation resolution including mechanical troubleshooting and root cause analysis
- Technical review of validation deliverables

#### Job Requirements:

- Bachelor's degree in Life Sciences, Engineering, or related discipline with 3+ years of experience
- Good mechanical aptitude
- Knowledge of system validation "life-cycle" concept
- Capable of independent planning/organization/execution of personal workload.
- Ability to manage multiple simultaneous projects and deadlines
- Must have excellent written communication skills to develop and write technical presentations and documentation
- Must be capable of effectively presenting information to managers and coworkers
- Previous experience in a regulated pharmaceutical/medical technology environment a distinct plus

*CMC Biologics offers a highly competitive compensation package and a friendly, collaborative culture that values personal initiative and professional achievement. EOE*

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## Vibration Engineer

Azima - Poulsbo, WA

\$65,000 - \$85,000 a year

Azima is looking for a full time Vibration Engineer to be located at their Poulsbo, WA office.

Successful candidate will support a condition based maintenance program for rotating machinery that primarily uses vibration analysis.

Candidates should be able to

- Travel away from Poulsbo approximately one week per quarter
- Obtain a US Government Secret Security Clearance
- Understand internal configuration of components within rotating machinery

Full job description:

### DUTIES:

- Serve as subject matter expert for rotating machinery configuration and testing using narrow band vibration analysis.
- Develop technical and administrative procedures to standardize the Ships Force Vibration planned maintenance methods, and operations to meet US Navy policy and objectives.
- Research rotating machinery internal configuration and create CAD drawings of external views as well as schematic representations of the rotating assembly. Requires experience with reading Navy Technical Manuals and internet searches.
- Utilize a computer (PC) based program to create CAD drawings and to maintain a database of Vibration Test and Analysis Guides (VTAGs) used by the US Navy.

### QUALIFICATIONS REQUIRED:

Combination of education and experience – education, training, and/or technical experience that furnished (1) a thorough knowledge of the physical and mathematical sciences underlying professional engineering principals, and (2) a good understanding, both theoretical and practical, of the engineering sciences and their application to mechanical / electrical engineering. The adequacy of such background must be demonstrated by two or more of the following:

- **US Navy Experience** --Successful completion of at least an E5 rating in a billet requiring qualification in a US Navy steam or diesel propulsion plant. The ideal candidate will have qualified on a Naval Nuclear Propulsion Plant.
- **Academic Courses** --BS Degree in Mechanical/Marine engineering with Level II Vibration Certification.
- **Work Experience** --Successful completion of at least 5 years employment where the primary duty was the operation, maintenance, repair, and overhaul of systems that utilize a significant amount of large rotating machinery. Several examples are heating, ventilation, air conditioning (HVAC), industrial refrigeration, municipal waste water processing, steel or aluminum processing, mining, power generation, and marine propulsion.
- **Other Experience** -- Four years exp. in operation and calibration of vibration data acquisition and processing instrumentation and field exp. in recording vibration spectra;

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including exp. in at least three of the following skills; in-place balancing of rotating machinery, fault diagnosis from vibration spectra; preparation of VTAG information, operation of CAD systems, service and repair of vibration recording and analysis instruments, training of personnel in vibration analysis techniques.

Job Type: Full-time

Salary: \$65,000.00 to \$85,000.00 /year

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