Meeting Packet

Steilacoom Historical School District #1 Regular Meeting Board of Directors

February 8, 2012
6:40 p.m.

Steilacoom Historical School District #1 Regular Meeting Board of Directors

Pioneer Middle School 1750 Bobs Hollow Lane DuPont, WA

2/8/2012 6:40 p.m.

I. Public Information

STUDY SESSION: The School Board normally convenes at 6:00 pm just prior to the start of the formal Board meeting, to discuss the Board agenda and to have a brief dinner. No decision making is undertaken. These study sessions are open to the Public; however, food is not provided for the general public.

II. CALL TO ORDER

1. Pledge of Allegiance
2. Roll Call
3. Approval of Agenda

III. EXECUTIVE SESSION **(Executive Session)**

per RCW 42.30.110(1)(i) Legal Issues to discuss with legal counsel representing the agency matters relating to agency enforcement actions, or to discuss with legal counsel representing the agency litigation or potential litigation to which the agency, the governing body, or a member acting in an official capacity is, or is likely to become, a party, when public knowledge regarding the discussion is likely to result in an adverselegal or financial consequence to the agency.

IV. RETURN TO PUBLIC SESSION - 7:00 pm

V. COMMENTS FROM THE AUDIENCE **(Information)**

Members of the audience wishing to comment on specific items on this agenda will be allowed to comment briefly during the Comments From theAudience portion of the agenda. Those wishing to speak will please sign the Speaker List in order to be recognized by the Board. Please limit yourcomments to three (3) minutes. The Board will not entertain comments during any other part of the meeting. Remarks of a negative nature singling outspecific employees, other than the Board or Superintendent, will be heard in executive session following the business meeting. The Board reserves theright to terminate presentations containing personal attacks on individuals.

VI. ROBOTICS PRESENTATION - Pioneer MS Students **(Presentation)**

VII. CAREER TECHNICAL EDUCATION REPORT **(Information)**

1. Labor Market

- Pierce County Job CTE Course Correlation.xls (p. 5)

2. Skills Center

- Board PowerPoint PCSC.pptx (p. 45)

3. Classes for 2012-13 School Year

- CTE Course Offerings (p. 48)

VIII. LEGISLATIVE UPDATE **(Information)**

- Legislative Update (p. 49)

IX. APPROVAL OF MINUTES

1. Approval of 1.25.12 Minutes **(Vote)**

- 1.25.12 Regular Meeting Minutes.doc (p. 51)

2. Approval of 1.28.12 Minutes **(Vote)**

- 1.28.12 Special Meeting Minutes.doc (p. 54)

X. CONSENT AGENDA **(Vote)**

The purpose of the consent agenda is to reduce time going through motion, second and voting on issues of common consent. Any Board member can ask for any item to be removed from the consent agenda. There is no discussion of items on the consent agenda. By motion of the Board, remaining items are approved without discussion as part of the consent agenda. Discussion of items removed from the consent agenda occurs immediately following action on the consent agenda.

- A. Approval of January 2012 Actual Payroll (p. 56)
- B. Approval of February 2012 Accounts Payable (p. 65)
- C. Approval of Certificated Personnel Report.pdf (p. 75)
- D. Approval of Classified Personnel Report.pdf (p. 77)
- E. Approval of Steilacoom High DECA Field Trip (p. 79)
- F. Approval of Steilacoom High Pioneer Middle Jazz Ensemble Trip (p. 80)
- Jazz Ensemble Students (p. 81)

XI. NEW BUSINESS

1. Project Lead the Way Course Approval **(Vote)**

- IED Framwork 12-13.docx (p. 82)
- HS_Eng_Pamphlet_2011.pdf (p. 102)
- PLTW Course Approval Form.doc (p. 106)

2. Hazard Mitigation Letter of Agreement **(Vote)**

- Hazard Mitigation In-Kind Match Summary.doc (p. 109)
- Hazard Mitigation Region 5 Letter of Agreement.doc (p. 110)
- Hazard Mitigation.pptx (p. 112)

(Vote)

3. District Network

- District High Speed Data.pdf (p. 116)
- Microwave Links Information (p. 161)
- Microwaver vs. Fiber/Copper (p. 184)

4. First Reading of Policy 2030, Service Animals **(Vote)**

- Policy 2030, Service Animals.pdf (p. 185)

5. First Reading of Policy 3210, Nondiscrimination **(Vote)**

- Policy 3210, Nondiscrimination.pdf (p. 187)

6. Amendment 9 to Agreement with K12 LLC **(Vote)**

XII. COMMENTS FROM THE AUDIENCE **(Information)**

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XIII. BOARD COMMUNICATION

XIV. ANNOUNCEMENTS

XV. ADJOURNMENT **(Vote)**

STUDY SESSION: The School Board normally convenes at 6:00 pm just prior to the start of the formal Board meeting,to discuss the Board agenda and to have a brief dinner. No decision making is undertaken. These study sessions are opento the Public; however, food is not provided for the general public.

Regularly scheduled meetings of the Board of Directors of the Steilacoom Historical School District are digitally recorded.

	A	B	C	D	E	F	I	J	M	N
1	**Title**	**SOCCODE**	**Job Preparation**	**Demand**	**Green Job**	**2010 2nd Qrt. Employment**	**March 2011 Median Annual Wage**	**Total Annual Openings**	**Career Cluster**	**Course Offering**
2	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	471011	3	Demand		1,753	$78,096	41	Agriculture/Natural Resources	
3	Sales Representatives Wholesale and Manufacturing Technical and Scientific	414011	4	Demand		386	$58,191	23	Agriculture/Natural Resources	
4	Landscaping and Groundskeeping Workers	373011	1	Demand		2,483	$28,182	62	Agriculture/Natural Resources	Horticulture
5	Farmworkers and Laborers Crop Nursery and Greenhouse	452092	1	Demand		214	$22,376	11	Agriculture/Natural Resources	Horticulture
6	First-Line Supervisors/Managers of Landscaping Lawn Service and Groundskeepers	371012	2	Balanced		452	$48,980	9	Agriculture/Natural Resources	
7	Nonfarm Animal Caretakers	392021	2	Balanced		829	$21,428	23	Agriculture/Natural Resources	
8	Environmental Engineers	172081	5	Not in demand	Yes	55	$97,405	1	Agriculture/Natural Resources	
9	Power Plant Operators	518013	3	Not in demand	yes	56	$68,449	2	Agriculture/Natural Resources	
10	Water and Liquid Waste Treatment Plant and System Operators	518031	3	Not in demand		174	$58,661	3	Agriculture/Natural Resources	
11	Refuse and Recyclable Material Collectors	537081	2	Not in demand		179	$53,092	6	Agriculture/Natural Resources	
12	Zoologists and Wildlife Biologists	191023	5	Not in demand		65	$47,241	2	Agriculture/Natural Resources	
13	Pest Control Workers	372021	2	Not in demand		97	$39,280	4	Agriculture/Natural Resources	
14	First-Line Supervisors/Managers of Farming Fishing and Forestry Workers	451011	2	Not in demand		68	$36,325	3	Agriculture/Natural Resources	

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15	First-Line Supervisors/Managers of Farming Fishing and Forestry Workers	451011	3	Not in demand		68	$36,325	3	Agriculture/Natural Resources	
16	First-Line Supervisors/Managers of Farming Fishing and Forestry Workers	451011	4	Not in demand		68	$36,325	3	Agriculture/Natural Resources	
17	Pesticide Handlers Sprayers and Applicators Vegetation	373012	3	Not in demand		86	$34,021	2	Agriculture/Natural Resources	
18	Forest and Conservation Workers	454011	3	Not in demand	yes	74	$28,690	2	Agriculture/Natural Resources	
19	Landscape Architects	171012	4			45	$60,964	1	Agriculture/Natural Resources	Horticulture
20	Conservation Scientists	191031	4			42	$55,150	0	Agriculture/Natural Resources	PLTW
21	Purchasing Agents and Buyers Farm Products	131021	4			17	$50,377	1	Agriculture/Natural Resources	
22	Logging Equipment Operators	454022	1			45	$47,668	4	Agriculture/Natural Resources	
23	Crane and Tower Operators	537021	3	Demand		232	$79,334	13	Architecture and Construction	
24	Electricians	472111	3	Demand	yes	2,308	$63,710	67	Architecture and Construction	PLTW
25	Carpenters	472031	2	Demand		3,700	$53,226	82	Architecture and Construction	PLTW/PCSC
26	Carpenters	472031	3	Demand		3,700	$53,226	82	Architecture and Construction	PLTW/PCSC
27	Construction Laborers	472061	1	Demand	yes	2,065	$46,759	31	Architecture and Construction	PLTW/PCSC
28	Hazardous Materials Removal Workers	474041	2	Demand	yes	171	$43,848	8	Architecture and Construction	

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29	Helpers--Carpenters	473012	2	Demand	yes	93	$31,474	4	Architecture and Construction	PLTW/PCSC
30	Construction Managers	119021	3	Balanced		1,195	$92,313	16	Architecture and Construction	
31	Plumbers Pipefitters and Steamfitters	472152	3	Balanced		1,012	$71,758	24	Architecture and Construction	

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32	Operating Engineers and Other Construction Equipment Operators	472073	3	Balanced	yes	1,158	$64,382	25	Architecture and Construction	
33	Cost Estimators	131051	4	Balanced		601	$59,991	21	Architecture and Construction	
34	Heating Air Conditioning and Refrigeration Mechanics and Installers	499021	3	Balanced		607	$51,465	19	Architecture and Construction	
35	Tapers	472082	2	Balanced		456	$49,604	6	Architecture and Construction	
36	Septic Tank Servicers and Sewer Pipe Cleaners	474071	1	Balanced		153	$48,662	7	Architecture and Construction	
37	Telecommunications Line Installers and Repairers	499052	2	Balanced		456	$47,195	15	Architecture and Construction	
38	Roofers	472181	3	Balanced	yes	744	$41,263	17	Architecture and Construction	PCSC
39	Painters Construction and Maintenance	472141	2	Balanced		1,147	$40,078	22	Architecture and Construction	
40	Glaziers	472121	2	Balanced		322	$38,423	14	Architecture and Construction	
41	Helpers--Installation Maintenance and Repair Workers	499098	2	Balanced	yes	318	$23,674	17	Architecture and Construction	PLTW/PCSC
42	Structural Iron and Steel Workers	472221	2	Not in demand	yes	97	$82,045	2	Architecture and Construction	PLTW/PCSC
43	Electrical Power-Line Installers and Repairers	499051	3	Not in demand	yes	235	$78,691	6	Architecture and Construction	
44	Surveyors	171022	3	Not in demand		72	$73,308	2	Architecture and Construction	
45	Pile-Driver Operators	472072	2	Not in demand		66	$72,596	1	Architecture and Construction	
46	Architects Except Landscape and Naval	171011	5	Not in demand	Yes	303	$67,864	8	Architecture and Construction	

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47	Drywall and Ceiling Tile Installers	472081	3	Not in demand		765	$67,737	10	Architecture and Construction	
48	Tile and Marble Setters	472044	2	Not in demand		153	$67,654	5	Architecture and Construction	
49	Construction and Building Inspectors	474011	3	Not in demand	yes	388	$66,262	5	Architecture and Construction	
50	Telecommunications Equipment Installers and Repairers Except Line Installers	492022	3	Not in demand		208	$64,840	7	Architecture and Construction	PCSC
51	Control and Valve Installers and Repairers Except Mechanical Door	499012	3	Not in demand		70	$64,159	0	Architecture and Construction	
52	Architectural and Civil Drafters	173011	3	Not in demand		77	$54,470	2	Architecture and Construction	PLTW/PCSC
53	Mechanical Drafters	173013	3	Not in demand		102	$53,673	4	Architecture and Construction	PLTW/PCSC
54	Paving Surfacing and Tamping Equipment Operators	472071	2	Not in demand		87	$52,467	1	Architecture and Construction	
55	Meter Readers Utilities	435041	2	Not in demand		74	$49,972	1	Architecture and Construction	
56	Excavating and Loading Machine and Dragline Operators	537032	2	Not in demand		76	$49,058	4	Architecture and Construction	
57	Pipelayers	472151	2	Not in demand		102	$46,921	3	Architecture and Construction	
58	Cement Masons and Concrete Finishers	472051	3	Not in demand	yes	200	$44,735	7	Architecture and Construction	
59	Reinforcing Iron and Rebar Workers	472171	3	Not in demand		79	$43,884	2	Architecture and Construction	
60	Brickmasons and Blockmasons	472021	2	Not in demand		192	$41,202	7	Architecture and Construction	
61	Carpet Installers	472041	1	Not in demand		58	$37,254	2	Architecture and Construction	

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62	Cabinetmakers and Bench Carpenters	517011	3	Not in demand		375	$37,038	11	Architecture and Construction	
63	Helpers--Pipelayers Plumbers Pipefitters and Steamfitters	473015	2	Not in demand		104	$33,185	3	Architecture and Construction	
64	Fence Erectors	474031	2	Not in demand		139	$32,151	4	Architecture and Construction	
65	Helpers--Brickmasons Blockmasons Stonemasons and Tile and Marble Setters	473011	1	Not in demand		112	$31,941	3	Architecture and Construction	
66	Helpers--Electricians	473013	2	Not in demand		91	$24,824	3	Architecture and Construction	
67	First-Line Supervisors/Managers of Construction Trades and Extraction Workers	471011	3			1,753	$78,096	41	Architecture and Construction	
68	Commercial Divers	499092	2			37	$68,125	1	Architecture and Construction	PCSC
69	Security and Fire Alarm Systems Installers	492098	3			47	$44,575	2	Architecture and Construction	PCSC
70	Electrical and Electronics Drafters	173012	3			47	$38,515	2	Architecture and Construction	PLTW

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71	Multi-Media Artists and Animators	271014	4	Demand		275	$45,696	12	Arts, A/V Technology and Communication	Graphic Design/Art
72	Laborers and Freight Stock and Material Movers Hand	537062	2	Demand	yes	4,467	$26,886	261	Arts, A/V Technology and Communication	
73	Ushers Lobby Attendants and Ticket Takers	393031	1	Demand		181	$21,164	23	Arts, A/V Technology and Communication	
74	Graphic Designers	271024	4	Balanced		273	$50,489	12	Arts, A/V Technology and Communication	Graphic Design/Art
75	Reporters and Correspondents	273022	4	Not in demand	yes	68	$55,882	2	Arts, A/V Technology and Communication	
76	Writers and Authors	273043	4	Not in demand		107	$54,027	5	Arts, A/V Technology and Communication	
77	Producers and Directors	272012	3	Not in demand		99	$53,064	3	Arts, A/V Technology and Communication	
78	Producers and Directors	272012	4	Not in demand		99	$53,064	3	Arts, A/V Technology and Communication	
79	Editors	273041	4	Not in demand		78	$52,344	3	Arts, A/V Technology and Communication	Yearbook
80	Musical Instrument Repairers and Tuners	499063	3	Not in demand		67	$47,414	3	Arts, A/V Technology and Communication	
81	Desktop Publishers	439031	3	Not in demand		54	$43,346	2	Arts, A/V Technology and Communication	Yearbook
82	Photographers	274021	3	Not in demand		158	$36,955	3	Arts, A/V Technology and Communication	Yearbook/Video
83	Curators	254012	4			26	$74,538	1	Arts, A/V Technology and Communication	
84	Broadcast Technicians	274012	3			18	$66,225	0	Arts, A/V Technology and Communication	
85	Technical Writers	273042	4			44	$59,558	2	Arts, A/V Technology and Communication	Web Design

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86	Commercial and Industrial Designers	271021	4			43	$44,857	2	Arts, A/V Technology and Communication	Graphic
87	Museum Technicians and Conservators	254013	3			20	$41,496	1	Arts, A/V Technology and Communication	
88	Audio-Visual Collections Specialists	259011	5			28	$36,754	1	Arts, A/V Technology and Communication	Video
89	Audio and Video Equipment Technicians	274011	3			18	$36,650	1	Arts, A/V Technology and Communication	Video
90	Costume Attendants	393092	2			15	$22,905	1	Arts, A/V Technology and Communication	Fashion, Apparel & Design

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91	General and Operations Managers	111021	4	Demand		2,045	$111,197	84	Business & Administration	
92	Accountants and Auditors	132011	4	Demand		1,475	$60,785	49	Business & Administration	
93	First-Line Supervisors/Managers of Office and Administrative Support Workers	431011	3	Demand		3,083	$52,774	120	Business & Administration	
94	Executive Secretaries and Administrative Assistants	436011	3	Demand		1,411	$46,234	35	Business & Administration	
95	Bookkeeping Accounting and Auditing Clerks	433031	3	Demand		4,625	$37,103	129	Business & Administration	
96	Medical Secretaries	436013	2	Demand		2,377	$36,995	84	Business & Administration	PCSC
97	Interviewers Except Eligibility and Loan	434111	3	Demand		370	$36,519	18	Business & Administration	
98	Secretaries Except Legal Medical and Executive	436014	2	Demand		3,320	$35,856	76	Business & Administration	
99	Billing and Posting Clerks and Machine Operators	433021	2	Demand		1,570	$34,422	61	Business & Administration	
100	Billing and Posting Clerks and Machine Operators	433021	3	Demand		1,570	$34,422	61	Business & Administration	
101	Customer Service Representatives	434051	2	Demand		2,863	$32,444	168	Business & Administration	Marketing
102	Order Clerks	434151	2	Demand		616	$31,730	37	Business & Administration	Marketing
103	File Clerks	434071	3	Demand		350	$30,921	17	Business & Administration	
104	Office Clerks General	439061	2	Demand		5,273	$30,341	137	Business & Administration	
105	Shipping Receiving and Traffic Clerks	435071	2	Demand	yes	1,512	$30,057	65	Business & Administration	
106	Data Entry Keyers	439021	2	Demand		248	$27,509	11	Business & Administration	
107	Receptionists and Information Clerks	434171	2	Demand		2,089	$27,226	98	Business & Administration	
108	Stock Clerks and Order Fillers	435081	1	Demand		4,204	$23,623	177	Business & Administration	Marketing
109	Stock Clerks and Order Fillers	435081	2	Demand		4,204	$23,623	177	Business & Administration	Marketing
110	Tax Preparers	132082	3	Demand		270	$22,662	10	Business & Administration	

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111	Chief Executives	111011	5	Balanced		263	$167,368	11	Business & Administration	
112	Administrative Services Managers	113011	4	Balanced		342	$88,982	10	Business & Administration	
113	Public Relations Managers	112031	4	Balanced		231	$86,990	8	Business & Administration	
114	Management Analysts	131111	4	Balanced		871	$72,619	7	Business & Administration	
115	Payroll and Timekeeping Clerks	433051	3	Balanced		414	$39,905	14	Business & Administration	
116	Human Resources Assistants Except Payroll and Timekeeping	434161	3	Balanced		441	$39,695	9	Business & Administration	
117	Interpreters and Translators	273091	4	Balanced		153	$38,615	6	Business & Administration	
118	First-Line Supervisors/Managers of Housekeeping and Janitorial Workers	371011	3	Balanced		354	$34,801	6	Business & Administration	
119	Switchboard Operators Including Answering Service	432011	2	Balanced		282	$28,548	10	Business & Administration	
120	Budget Analysts	132031	4	Not in demand		179	$66,580	0	Business & Administration	
121	Public Relations Specialists	273031	4	Not in demand	yes	332	$55,129	8	Business & Administration	
122	Operations Research Analysts	152031	5	Not in demand		66	$52,838	5	Business & Administration	
123	Meeting and Convention Planners	131121	4	Not in demand		74	$49,596	2	Business & Administration	
124	Correspondence Clerks	434021	2	Not in demand		58	$42,968	4	Business & Administration	
125	Procurement Clerks	433061	3	Not in demand		318	$42,047	4	Business & Administration	
126	Legal Secretaries	436012	3	Not in demand		217	$40,419	2	Business & Administration	
127	Statistical Assistants	439111	3	Not in demand		25	$39,448	1	Business & Administration	

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128	Office Machine Operators Except Computer	439071	1	Not in demand		95	$32,881	5	Business & Administration	
129	Word Processors and Typists	439022	2	Not in demand		123	$30,413	0	Business & Administration	
130	Couriers and Messengers	435021	2	Not in demand		135	$29,661	5	Business & Administration	
131	Mail Clerks and Mail Machine Operators Except Postal Service	439051	1	Not in demand		151	$27,924	4	Business & Administration	
132	Statisticians	152041	5			18	$53,799	1	Business & Administration	

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133	Elementary School Teachers Except Special Education	252021	4	Demand		4,239	$60,904	112	Education & Training	Careers in Ed/Human Dev.
134	Educational Vocational and School Counselors	211012	5	Demand		663	$56,251	13	Education & Training	Careers in Ed/Human Dev.
135	Teacher Assistants	259041	3	Demand		3,923	$30,148	96	Education & Training	Careers in Ed/Human Dev.
136	Preschool Teachers Except Special Education	252011	3	Demand		935	$22,660	49	Education & Training	Careers in Ed/Human Dev.
137	Fitness Trainers and Aerobics Instructors	399031	3	Demand		1,041	$22,170	41	Education & Training	Sports Med./PCSC
138	Secondary School Teachers Except Special and Vocational Education	252031	4	Balanced		1,730	$60,467	50	Education & Training	Careers in Ed/Human Dev.
139	Vocational Education Teachers Postsecondary	251194	4	Balanced		709	$53,962	12	Education & Training	Careers in Ed/Human Dev.
140	Self-Enrichment Education Teachers	253021	3	Balanced		640	$41,642	10	Education & Training	
141	Education Administrators Elementary and Secondary School	119032	5	Not in demand		595	$103,473	17	Education & Training	
142	Education Administrators Postsecondary	119033	5	Not in demand		215	$77,899	6	Education & Training	
143	Librarians	254021	5	Not in demand		275	$68,317	6	Education & Training	
144	Instructional Coordinators	259031	5	Not in demand		261	$63,650	7	Education & Training	
145	Vocational Education Teachers Secondary School	252032	4	Not in demand		300	$61,976	9	Education & Training	Careers in Ed/Human Dev.
146	Middle School Teachers Except Special and Vocational Education	252022	4	Not in demand		1,588	$61,894	34	Education & Training	Careers in Ed/Human Dev.
147	Kindergarten Teachers Except Special Education	252012	4	Not in demand		275	$60,374	5	Education & Training	Careers in Ed/Human Dev.

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148	Education Teachers Postsecondary	251081	5	Not in demand		167	$58,914	3	Education & Training	
149	Nursing Instructors and Teachers Postsecondary	251072	5	Not in demand		111	$55,338	2	Education & Training	
150	Business Teachers Postsecondary	251011	5	Not in demand		129	$54,330	2	Education & Training	
151	Biological Science Teachers Postsecondary	251042	5	Not in demand		77	$53,380	1	Education & Training	
152	Communications Teachers Postsecondary	251122	5	Not in demand		57	$53,014	1	Education & Training	
153	Foreign Language and Literature Teachers Postsecondary	251124	5	Not in demand		123	$52,114	2	Education & Training	
154	Mathematical Science Teachers Postsecondary	251022	5	Not in demand		68	$49,943	1	Education & Training	
155	Chemistry Teachers Postsecondary	251052	5	Not in demand		54	$49,493	1	Education & Training	
156	Recreation and Fitness Studies Teachers Postsecondary	251193	5	Not in demand		81	$48,869	1	Education & Training	
157	English Language and Literature Teachers Postsecondary	251123	5	Not in demand		154	$48,600	2	Education & Training	
158	Art Drama and Music Teachers Postsecondary	251121	5	Not in demand		265	$48,233	4	Education & Training	
159	Psychology Teachers Postsecondary	251066	5	Not in demand		99	$46,096	2	Education & Training	
160	Philosophy and Religion Teachers Postsecondary	251126	5	Not in demand		63	$43,951	1	Education & Training	
161	Adult Literacy Remedial Education and GED Teachers and Instructors	253011	4	Not in demand		522	$43,815	7	Education & Training	
162	Library Technicians	254031	3	Not in demand		142	$39,199	7	Education & Training	

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163	Library Assistants Clerical	434121	3	Not in demand		146	$29,410	5	Education & Training	
164	Health Educators	211091	4	Not in demand		116	$26,245	4	Education & Training	
165	Economics Teachers Postsecondary	251063	5			33	$66,600	1	Education & Training	
166	Vocational Education Teachers Middle School	252023	4			52	$61,518	1	Education & Training	
167	Atmospheric Earth Marine and Space Sciences Teachers Postsecondary	251051	5			19	$60,087	0	Education & Training	
168	Physics Teachers Postsecondary	251054	5			28	$58,890	0	Education & Training	
169	Sociology Teachers Postsecondary	251067	5			28	$56,943	0	Education & Training	
170	Special Education Teachers Preschool Kindergarten and Elementary School	252041	4			427	$56,243	13	Education & Training	Careers in Ed/Human Dev.
171	Computer Science Teachers Postsecondary	251021	5			35	$55,014	1	Education & Training	Careers in Ed./PLTW
172	Anthropology and Archeology Teachers Postsecondary	251061	5			25	$54,922	0	Education & Training	
173	History Teachers Postsecondary	251125	5			48	$54,779	1	Education & Training	
174	Health Specialties Teachers Postsecondary	251071	5			25	$49,914	0	Education & Training	
175	Political Science Teachers Postsecondary	251065	5			25	$47,449	0	Education & Training	

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176	Financial Managers	113031	4	Demand		1,089	$88,048	37	Finance & Insurance	
177	Financial Managers	113031	5	Demand		1,089	$88,048	37	Finance & Insurance	
178	Claims Adjusters Examiners and Investigators	131031	3	Demand		384	$57,004	17	Finance & Insurance	
179	Insurance Sales Agents	413021	3	Demand		647	$48,659	38	Finance & Insurance	
180	Insurance Claims and Policy Processing Clerks	439041	2	Demand		535	$37,497	25	Finance & Insurance	
181	Bill and Account Collectors	433011	3	Demand		419	$34,956	20	Finance & Insurance	
182	Billing and Posting Clerks and Machine Operators	433021	2	Demand		1,570	$34,422	61	Finance & Insurance	
183	Billing and Posting Clerks and Machine Operators	433021	3	Demand		1,570	$34,422	61	Finance & Insurance	
184	Tellers	433071	2	Demand		1,199	$25,370	72	Finance & Insurance	
185	Financial Analysts	132051	4	Balanced	Yes	257	$67,779	12	Finance & Insurance	
186	Loan Officers	132072	3	Balanced		579	$60,678	23	Finance & Insurance	
187	Securities Commodities and Financial Services Sales Agents	413031	4	Balanced		340	$56,329	17	Finance & Insurance	
188	Loan Interviewers and Clerks	434131	3	Balanced		255	$38,277	14	Finance & Insurance	
189	Computer Automated Teller and Office Machine Repairers	492011	3	Balanced		394	$34,495	10	Finance & Insurance	PCSC
190	New Accounts Clerks	434141	2	Balanced		324	$33,297	13	Finance & Insurance	
191	Credit Analysts	132041	4	Not in demand		89	$50,662	3	Finance & Insurance	
192	Brokerage Clerks	434011	3	Not in demand		61	$44,447	3	Finance & Insurance	
193	Title Examiners Abstractors and Searchers	232093	3	Not in demand		217	$39,777	6	Finance & Insurance	
194	Personal Financial Advisors	132052	3	Not in demand	Yes	356	$38,464	15	Finance & Insurance	

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195	Loan Counselors	132071	4	Not in demand		74	$34,469	2	Finance & Insurance	
196	Economists	193011	5			22	$89,565	0	Finance & Insurance	
197	Financial Examiners	132061	4			29	$57,418	0	Finance & Insurance	
198	Credit Authorizers Checkers and Clerks	434041	2			31	$38,159	2	Finance & Insurance	
199	Credit Authorizers Checkers and Clerks	434041	3			31	$38,159	2	Finance & Insurance	

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200	Social and Community Service Managers	119151	4	Balanced		338	$72,657	12	Government & Public Administration	
201	Urban and Regional Planners	193051	4	Not in demand	Yes	146	$73,270	1	Government & Public Administration	
202	Legislators	111031	4	Not in demand		66	$53,443	1	Government & Public Administration	
203	Compliance Officers Except Agriculture Construction Health and Safety	131041	2	Not in demand		510	$51,980	2	Government & Public Administration	
204	Compliance Officers Except Agriculture Construction Health and Safety	131041	3	Not in demand		510	$51,980	2	Government & Public Administration	
205	Compliance Officers Except Agriculture Construction Health and Safety	131041	4	Not in demand		510	$51,980	2	Government & Public Administration	
206	Compliance Officers Except Agriculture Construction Health and Safety	131041	5	Not in demand		510	$51,980	2	Government & Public Administration	
207	Social Science Research Assistants	194061	4			23	$43,469	1	Government & Public Administration	

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208	Pharmacists	291051	5	Demand		563	$110,525	16	Health Science	
209	Medical and Health Services Managers	119111	5	Demand		587	$105,580	15	Health Science	
210	Physical Therapists	291123	5	Demand		483	$69,865	14	Health Science	Sports Med./PCSC
211	Occupational Therapists	291122	4	Demand		390	$66,021	10	Health Science	Sports Med./PCSC
212	Medical and Clinical Laboratory Technologists	292011	4	Demand		353	$63,008	10	Health Science	PCSC
213	Physical Therapist Assistants	312021	3	Demand		206	$47,139	7	Health Science	Sports Med./PCSC
214	Massage Therapists	319011	3	Demand		740	$46,891	34	Health Science	Sports Med./PCSC
215	Licensed Practical and Licensed Vocational Nurses	292061	3	Demand		1,748	$45,973	51	Health Science	
216	Medical and Clinical Laboratory Technicians	292012	2	Demand		231	$41,125	4	Health Science	
217	Dental Assistants	319091	2	Demand		1,277	$38,870	38	Health Science	
218	Medical Transcriptionists	319094	3	Demand		416	$38,713	14	Health Science	PCSC
219	Pharmacy Technicians	292052	2	Demand		668	$37,966	22	Health Science	PCSC
220	Medical Records and Health Information Technicians	292071	3	Demand		688	$35,334	15	Health Science	
221	Medical Assistants	319092	3	Demand		1,569	$33,936	52	Health Science	
222	Home Health Aides	311011	2	Demand		1,503	$22,565	60	Health Science	
223	Dentists General	291021	5	Balanced		450	$168,055	19	Health Science	
224	Chiropractors	291011	5	Balanced		88	$143,507	4	Health Science	
225	Physician Assistants	291071	4	Balanced		325	$91,122	9	Health Science	
226	Dental Hygienists	292021	3	Balanced		503	$87,859	17	Health Science	
227	Emergency Medical Technicians and Paramedics	292041	2	Balanced		143	$70,222	4	Health Science	

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228	Speech-Language Pathologists	291127	5	Balanced		290	$68,977	7	Health Science	
229	Dietitians and Nutritionists	291031	5	Balanced		173	$67,444	8	Health Science	Foods
230	Respiratory Therapists	291126	3	Balanced		223	$59,850	9	Health Science	
231	Respiratory Therapy Technicians	292054	3	Balanced		62	$53,541	3	Health Science	
232	Surgical Technologists	292055	3	Balanced		125	$46,390	6	Health Science	PCSC
233	Physical Therapist Aides	312022	2	Balanced		65	$23,775	3	Health Science	Sports Med./PCSC
234	Veterinarians	291131	5	Not in demand		125	$85,240	3	Health Science	PCSC
235	Nuclear Medicine Technologists	292033	3	Not in demand		81	$84,564	2	Health Science	PCSC
236	Diagnostic Medical Sonographers	292032	3	Not in demand		96	$76,314	3	Health Science	PCSC
237	Occupational Health and Safety Specialists	299011	4	Not in demand		235	$69,365	4	Health Science	
238	Cardiovascular Technologists and Technicians	292031	3	Not in demand		53	$69,302	1	Health Science	
239	Compliance Officers Except Agriculture Construction Health and Safety	131041	2	Not in demand		510	$51,980	2	Health Science	
240	Compliance Officers Except Agriculture Construction Health and Safety	131041	3	Not in demand		510	$51,980	2	Health Science	
241	Compliance Officers Except Agriculture Construction Health and Safety	131041	4	Not in demand		510	$51,980	2	Health Science	
242	Compliance Officers Except Agriculture Construction Health and Safety	131041	5	Not in demand		510	$51,980	2	Health Science	

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243	Recreational Therapists	291125	4	Not in demand		78	$47,943	3	Health Science	
244	Opticians Dispensing	292081	3	Not in demand		101	$38,131	4	Health Science	
245	Medical Equipment Preparers	319093	2	Not in demand		110	$34,977	3	Health Science	
246	Veterinary Technologists and Technicians	292056	3	Not in demand		224	$33,899	7	Health Science	PCSC
247	Veterinary Assistants and Laboratory Animal Caretakers	319096	2	Not in demand		136	$21,503	1	Health Science	PCSC
248	Surgeons	291067	5	Not in demand		123	$0	4	Health Science	
249	Psychiatrists	291066	5	Not in demand		80	$0	2	Health Science	
250	Podiatrists	291081	5			16	$157,687	0	Health Science	
251	Optometrists	291041	5			41	$91,035	2	Health Science	
252	Registered Nurses	291111	3			6,410	$78,227	172	Health Science	PCSC
253	Orthotists and Prosthetists	292091	5			53	$65,411	2	Health Science	
254	Occupational Health and Safety Technicians	299012	3			15	$50,445	1	Health Science	
255	Occupational Therapist Assistants	312011	3			44	$49,918	1	Health Science	
256	Embalmers	394011	3			49	$41,383	2	Health Science	
257	Pharmacy Aides	319095	2			41	$27,893	1	Health Science	PCSC
258	Nursing Aides Orderlies and Attendants	311012	2			2,490	$27,361	31	Health Science	PCSC
259	Dietetic Technicians	292051	3			23	$24,087	1	Health Science	Foods

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260	First-Line Supervisors/Managers of Food Preparation and Serving Workers	351012	2	Demand		1,357	$40,083	40	Hospitality & Tourism	Foods
261	First-Line Supervisors/Managers of Personal Service Workers	391021	3	Demand		876	$35,994	36	Hospitality & Tourism	
262	Cooks Institution and Cafeteria	352012	2	Demand		1,054	$30,469	34	Hospitality & Tourism	Foods
263	Bartenders	353011	2	Demand		1,264	$27,742	57	Hospitality & Tourism	
264	Cooks Restaurant	352014	2	Demand		1,738	$27,584	79	Hospitality & Tourism	Foods
265	Waiters and Waitresses	353031	1	Demand		4,523	$27,133	343	Hospitality & Tourism	
266	Janitors and Cleaners Except Maids and Housekeeping Cleaners	372011	1	Demand		4,989	$24,621	129	Hospitality & Tourism	
267	Meat Poultry and Fish Cutters and Trimmers	513022	1	Demand		285	$23,214	22	Hospitality & Tourism	
268	Hotel Motel and Resort Desk Clerks	434081	2	Demand		385	$22,009	24	Hospitality & Tourism	PCSC
269	Combined Food Preparation and Serving Workers Including Fast Food	353021	1	Demand		6,586	$21,047	314	Hospitality & Tourism	Foods
270	Maids and Housekeeping Cleaners	372012	1	Demand		4,615	$20,563	172	Hospitality & Tourism	
271	Cooks Fast Food	352011	1	Demand		499	$20,329	30	Hospitality & Tourism	Foods
272	Dining Room and Cafeteria Attendants and Bartender Helpers	359011	1	Demand		1,327	$20,037	111	Hospitality & Tourism	
273	Food Preparation Workers	352021	1	Demand		1,350	$19,803	86	Hospitality & Tourism	Foods
274	Dishwashers	359021	1	Demand		663	$19,637	50	Hospitality & Tourism	Foods
275	Hosts and Hostesses Restaurant Lounge and Coffee Shop	359031	1	Demand		509	$19,467	64	Hospitality & Tourism	Foods/PCSC
276	Amusement and Recreation Attendants	393091	1	Demand		752	$19,339	68	Hospitality & Tourism	PCSC
277	Counter Attendants Cafeteria Food Concession and Coffee Shop	353022	1	Demand		2,970	$19,206	447	Hospitality & Tourism	
278	Food Service Managers	119051	3	Balanced		334	$59,428	12	Hospitality & Tourism	Foods/PCSC

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279	Chefs and Head Cooks	351011	3	Balanced		257	$43,463	6	Hospitality & Tourism	Foods
280	First-Line Supervisors/Managers of Housekeeping and Janitorial Workers	371011	3	Balanced		354	$34,801	6	Hospitality & Tourism	
281	Bakers	513011	2	Balanced		236	$29,192	11	Hospitality & Tourism	Foods
282	Coaches and Scouts	272022	5	Balanced		786	$27,124	15	Hospitality & Tourism	Child Dev./Sports Med.
283	Food Servers Nonrestaurant	353041	1	Balanced		497	$23,082	14	Hospitality & Tourism	Foods
284	Recreation Workers	399032	4	Balanced		488	$22,740	9	Hospitality & Tourism	PCSC
285	Lodging Managers	119081	3	Not in demand		72	$69,157	3	Hospitality & Tourism	PCSC
286	Gaming Supervisors	391011	2	Not in demand		189	$43,194	4	Hospitality & Tourism	
287	Travel Agents	413041	3	Not in demand		69	$29,670	0	Hospitality & Tourism	PCSC
288	Food and Tobacco Roasting Baking and Drying Machine Operators and Tenders	513091	2	Not in demand		115	$25,500	6	Hospitality & Tourism	
289	Food Batchmakers	513092	2	Not in demand		124	$25,468	6	Hospitality & Tourism	
290	Gaming Dealers	393011	2	Not in demand		696	$24,161	38	Hospitality & Tourism	
291	Umpires Referees and Other Sports Officials	272023	3	Not in demand		274	$23,044	13	Hospitality & Tourism	
292	Gaming Cage Workers	433041	2	Not in demand		107	$22,884	1	Hospitality & Tourism	
293	Cooks Short Order	352015	1	Not in demand		56	$20,796	2	Hospitality & Tourism	Foods

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294	Athletic Trainers	299091	5			13	$44,113	1	Hospitality & Tourism	Sports Med./PCSC
295	Baggage Porters and Bellhops	396011	1			20	$33,964	1	Hospitality & Tourism	
296	Food Cooking Machine Operators and Tenders	513093	2			44	$24,293	2	Hospitality & Tourism	

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297	Medical and Public Health Social Workers	211022	5	Demand		511	$53,568	23	Human Service	
298	Marriage and Family Therapists	211013	5	Demand		161	$44,967	9	Human Service	
299	Mental Health Counselors	211014	5	Demand		694	$41,869	28	Human Service	
300	Child Family and School Social Workers	211021	5	Demand		304	$40,715	13	Human Service	
301	Substance Abuse and Behavioral Disorder Counselors	211011	5	Demand		192	$40,550	9	Human Service	
302	Social and Human Service Assistants	211093	3	Demand		1,035	$28,395	46	Human Service	FCS
303	Personal and Home Care Aides	399021	2	Demand		1,916	$22,994	93	Human Service	FCS
304	Child Care Workers	399011	2	Demand		4,077	$21,148	241	Human Service	Human Dev./Careers in Ed.
305	Mental Health and Substance Abuse Social Workers	211023	5	Balanced		271	$51,793	9	Human Service	
306	Clinical Counseling and School Psychologists	193031	5	Not in demand		507	$73,933	17	Human Service	
307	Clergy	212011	5	Not in demand		303	$56,514	10	Human Service	
308	Eligibility Interviewers Government Programs	434061	3	Not in demand		313	$47,940	3	Human Service	
309	Rehabilitation Counselors	211015	4	Not in demand		1,570	$35,893	29	Human Service	
310	Residential Advisors	399041	3	Not in demand		72	$35,044	3	Human Service	

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311	Computer and Information Systems Managers	113021	5	Demand		385	$97,635	14	Informaiton Technology	Web Design/PCSC
312	Coin Vending and Amusement Machine Servicers and Repairers	499091	2	Balanced		196	$34,544	9	Informaiton Technology	PCSC
313	Computer Automated Teller and Office Machine Repairers	492011	3	Balanced		394	$34,495	10	Informaiton Technology	PCSC
314	Computer Operators	439011	3	Not in demand		86	$46,435	3	Informaiton Technology	PCSC

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315	Fire Fighters	332011	2	Demand		1,132	$67,871	21	Law & Public Safety	PCSC
316	Fire Fighters	332011	3	Demand		1,132	$67,871	21	Law & Public Safety	PCSC
317	Security Guards	339032	2	Demand		1,920	$35,183	75	Law & Public Safety	PCSC
318	Lawyers	231011	5	Balanced		1,021	$101,495	9	Law & Public Safety	
319	Private Detectives and Investigators	339021	2	Balanced		66	$48,180	4	Law & Public Safety	PCSC
320	Lifeguards Ski Patrol and Other Recreational Protective Service Workers	339092	1	Balanced		300	$22,147	33	Law & Public Safety	
321	First-Line Supervisors/Managers of Police and Detectives	331012	4	Not in demand		187	$89,468	5	Law & Public Safety	
322	First-Line Supervisors/Managers of Fire Fighting and Prevention Workers	331021	3	Not in demand		206	$87,934	9	Law & Public Safety	
323	Fire Inspectors and Investigators	332021	3	Not in demand		17	$83,663	0	Law & Public Safety	PCSC
324	Detectives and Criminal Investigators	333021	3	Not in demand		198	$83,130	0	Law & Public Safety	PCSC
325	Detectives and Criminal Investigators	333021	4	Not in demand		198	$83,130	0	Law & Public Safety	PCSC
326	Police and Sheriff's Patrol Officers	333051	3	Not in demand		912	$67,795	8	Law & Public Safety	PCSC
327	Crossing Guards	339091	1	Not in demand		152	$49,509	6	Law & Public Safety	
328	Paralegals and Legal Assistants	232011	3	Not in demand		676	$46,500	5	Law & Public Safety	
329	Police Fire and Ambulance Dispatchers	435031	2	Not in demand		135	$45,669	1	Law & Public Safety	PCSC
330	Bailiffs	333011	2			11	$50,259	0	Law & Public Safety	PCSC
331	Animal Control Workers	339011	2			18	$46,128	0	Law & Public Safety	PCSC

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332	Gaming Surveillance Officers and Gaming Investigators	339031	2			50	$28,331	1	Law & Public Safety	

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333	Industrial Machinery Mechanics	499041	3	Demand	yes	615	$67,892	30	Manufacturing	PCSC
334	Millwrights	499044	3	Demand	yes	188	$67,188	10	Manufacturing	PCSC
335	First-Line Supervisors/Managers of Mechanics Installers and Repairers	491011	4	Demand	yes	967	$64,474	29	Manufacturing	
336	Electrical and Electronic Engineering Technicians	173023	3	Demand		344	$58,683	17	Manufacturing	PCSC
337	First-Line Supervisors/Managers of Production and Operating Workers	511011	3	Demand	yes	1,031	$57,929	31	Manufacturing	
338	Hazardous Materials Removal Workers	474041	2	Demand	yes	171	$43,848	8	Manufacturing	
339	Welders Cutters Solderers and Brazers	514121	2	Demand		750	$43,535	44	Manufacturing	PCSC
340	Industrial Truck and Tractor Operators	537051	2	Demand	yes	1,627	$40,180	114	Manufacturing	
341	Inspectors Testers Sorters Samplers and Weighers	519061	2	Demand	yes	813	$39,300	35	Manufacturing	
342	Electrical and Electronic Equipment Assemblers	512022	2	Demand	yes	150	$38,452	13	Manufacturing	PCSC
343	Dental Laboratory Technicians	519081	2	Demand		169	$33,621	8	Manufacturing	
344	Machine Feeders and Offbearers	537063	1	Demand		154	$31,701	9	Manufacturing	
345	Team Assemblers	512092	2	Demand	yes	590	$31,261	34	Manufacturing	
346	Packaging and Filling Machine Operators and Tenders	519111	2	Demand		509	$27,416	19	Manufacturing	
347	Industrial Production Managers	113051	4	Balanced	Yes	208	$95,147	12	Manufacturing	
348	Purchasing Agents Except Wholesale Retail and Farm Products	131023	3	Balanced		591	$53,437	18	Manufacturing	
349	Painting Coating and Decorating Workers	519123	2	Balanced		115	$28,089	4	Manufacturing	

	A	B	C	D	E	F	I	J	M	N
1	**Title**	**SOCCODE**	**Job Preparation**	**Demand**	**Green Job**	**2010 2nd Qrt. Employment**	**March 2011 Median Annual Wage**	**Total Annual Openings**	**Career Cluster**	**Course Offering**
350	Molders Shapers and Casters Except Metal and Plastic	519195	2	Balanced		218	$27,843	14	Manufacturing	PCSC
351	Molders Shapers and Casters Except Metal and Plastic	519195	3	Balanced		218	$27,843	14	Manufacturing	PCSC
352	Helpers--Production Workers	519198	1	Balanced		570	$26,208	28	Manufacturing	PCSC
353	Cleaners of Vehicles and Equipment	537061	1	Balanced		743	$20,993	41	Manufacturing	
354	Electrical and Electronics Repairers Commercial and Industrial Equipment	492094	3	Not in demand	yes	195	$67,415	1	Manufacturing	PCSC
355	Sheet Metal Workers	472211	2	Not in demand	yes	276	$64,505	11	Manufacturing	
356	Control and Valve Installers and Repairers Except Mechanical Door	499012	3	Not in demand		70	$64,159	0	Manufacturing	
357	Computer-Controlled Machine Tool Operators Metal and Plastic	514011	2	Not in demand	yes	379	$62,606	16	Manufacturing	
358	Petroleum Pump System Operators Refinery Operators and Gaugers	518093	3	Not in demand		163	$62,192	5	Manufacturing	
359	Tool and Die Makers	514111	3	Not in demand		74	$61,228	5	Manufacturing	PCSC
360	Industrial Engineering Technicians	173026	3	Not in demand	Yes	61	$60,925	2	Manufacturing	PLTW/PCSC
361	Mechanical Engineering Technicians	173027	3	Not in demand		54	$60,510	2	Manufacturing	
362	Maintenance Workers Machinery	499043	2	Not in demand		216	$56,592	4	Manufacturing	PCSC
363	Stationary Engineers and Boiler Operators	518021	3	Not in demand	yes	125	$53,707	3	Manufacturing	
364	Welding Soldering and Brazing Machine Setters Operators and Tenders	514122	2	Not in demand		52	$52,728	4	Manufacturing	PCSC

	A	B	C	D	E	F	I	J	M	N
1	**Title**	**SOCCODE**	**Job Preparation**	**Demand**	**Green Job**	**2010 2nd Qrt. Employment**	**March 2011 Median Annual Wage**	**Total Annual Openings**	**Career Cluster**	**Course Offering**
365	Civil Engineering Technicians	173022	3	Not in demand		264	$52,272	6	Manufacturing	PLTW/PCSC
366	Grinding and Polishing Workers Hand	519022	1	Not in demand		82	$49,283	4	Manufacturing	PCSC
367	Machinists	514041	3	Not in demand	yes	464	$46,270	10	Manufacturing	
368	Paper Goods Machine Setters Operators and Tenders	519196	2	Not in demand		148	$45,150	7	Manufacturing	
369	Painters Transportation Equipment	519122	2	Not in demand		104	$44,407	4	Manufacturing	
370	Medical Equipment Repairers	499062	3	Not in demand		126	$43,036	8	Manufacturing	
371	Molding Coremaking and Casting Machine Setters Operators and Tenders	514072	2	Not in demand		54	$39,879	2	Manufacturing	
372	Coating Painting and Spraying Machine Setters Operators and Tenders	519121	2	Not in demand		109	$38,946	6	Manufacturing	
373	Structural Metal Fabricators and Fitters	512041	3	Not in demand	yes	153	$38,771	8	Manufacturing	PCSC
374	Furniture Finishers	517021	2	Not in demand		78	$37,970	2	Manufacturing	
375	Sawing Machine Setters Operators and Tenders Wood	517041	2	Not in demand		107	$37,212	5	Manufacturing	
376	Cutting Punching and Press Machine Setters Operators and Tenders Metal	514031	2	Not in demand	yes	168	$37,118	7	Manufacturing	PCSC
377	Mixing and Blending Machine Setters Operators and Tenders	519023	2	Not in demand	yes	96	$34,934	6	Manufacturing	
378	Sewing Machine Operators	516031	1	Not in demand		278	$34,083	1	Manufacturing	

	A	B	C	D	E	F	I	J	M	N
1	**Title**	**SOCCODE**	**Job Preparation**	**Demand**	**Green Job**	**2010 2nd Qrt. Employment**	**March 2011 Median Annual Wage**	**Total Annual Openings**	**Career Cluster**	**Course Offering**
379	Woodworking Machine Setters Operators and Tenders Except Sawing	517042	2	Not in demand		165	$32,895	8	Manufacturing	
380	Cutting and Slicing Machine Setters Operators and Tenders	519032	2	Not in demand		61	$31,161	3	Manufacturing	PCSC
381	Fiberglass Laminators and Fabricators	512091	2	Not in demand		131	$31,128	6	Manufacturing	
382	Extruding and Drawing Machine Setters Operators and Tenders Metal and Plastic	514021	2	Not in demand		128	$30,886	5	Manufacturing	
383	Extruding Forming Pressing and Compacting Machine Setters Operators	519041	2	Not in demand		104	$29,169	5	Manufacturing	
384	Upholsterers	516093	3	Not in demand		92	$29,015	2	Manufacturing	
385	Cementing and Gluing Machine Operators and Tenders	519191	2	Not in demand		149	$28,880	7	Manufacturing	
386	Tailors Dressmakers and Custom Sewers	516052	2	Not in demand		68	$27,097	1	Manufacturing	
387	Shoe and Leather Workers and Repairers	516041	2	Not in demand		61	$24,457	1	Manufacturing	
388	Pressers Textile Garment and Related Materials	516021	1	Not in demand		78	$22,838	0	Manufacturing	
389	Patternmakers Metal and Plastic	514062	3			32	$51,493	1	Manufacturing	PCSC
390	Multiple Machine Tool Setters Operators and Tenders Metal and Plastic	514081	2			27	$51,116	1	Manufacturing	
391	Grinding Lapping Polishing and Buffing Machine Tool Setters Operators	514033	2			34	$46,888	1	Manufacturing	

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1	**Title**	**SOCCODE**	**Job Preparation**	**Demand**	**Green Job**	**2010 2nd Qrt. Employment**	**March 2011 Median Annual Wage**	**Total Annual Openings**	**Career Cluster**	**Course Offering**
392	Furnace Kiln Oven Drier and Kettle Operators and Tenders	519051	2			36	$44,819	1	Manufacturing	
393	Locksmiths and Safe Repairers	499094	2			49	$43,163	1	Manufacturing	
394	Conveyor Operators and Tenders	537011	2			43	$41,596	3	Manufacturing	
395	Tool Grinders Filers and Sharpeners	514194	2			28	$40,566	2	Manufacturing	PCSC
396	Crushing Grinding and Polishing Machine Setters Operators and Tenders	519021	2			26	$39,020	1	Manufacturing	
397	Cutters and Trimmers Hand	519031	1			24	$28,920	1	Manufacturing	
398	Electronic Home Entertainment Equipment Installers and Repairers	492097	3			29	$28,030	1	Manufacturing	PLTW/PCSC
399	Textile Cutting Machine Setters Operators and Tenders	516062	3			16	$27,316	0	Manufacturing	

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1	**Title**	**SOCCODE**	**Job Preparation**	**Demand**	**Green Job**	**2010 2nd Qrt. Employment**	**March 2011 Median Annual Wage**	**Total Annual Openings**	**Career Cluster**	**Course Offering**
400	Sales Managers	112022	4	Demand		577	$93,376	30	Retail & Wholesale Sales & Service	Marketing/Fashion
401	First-Line Supervisors/Managers of Non-Retail Sales Workers	411012	4	Demand		1,099	$61,196	48	Retail & Wholesale Sales & Service	Marketing
402	Sales Representatives Wholesale and Manufacturing Technical and Scientific	414011	4	Demand		386	$58,191	23	Retail & Wholesale Sales & Service	
403	Sales Representatives Wholesale and Manufacturing Except Technical and Scientific	414012	3	Demand		2,647	$52,606	124	Retail & Wholesale Sales & Service	
404	First-Line Supervisors/Managers of Retail Sales Workers	411011	2	Demand		3,469	$41,730	122	Retail & Wholesale Sales & Service	Marketing/Fashion
405	Customer Service Representatives	434051	2	Demand		2,863	$32,444	168	Retail & Wholesale Sales & Service	Marketing/Fashion
406	Demonstrators and Product Promoters	419011	1	Demand		205	$32,299	9	Retail & Wholesale Sales & Service	Marketing/Fashion
407	Telemarketers	419041	2	Demand		218	$28,077	12	Retail & Wholesale Sales & Service	
408	Laborers and Freight Stock and Material Movers Hand	537062	2	Demand	yes	4,467	$26,886	261	Retail & Wholesale Sales & Service	
409	Stock Clerks and Order Fillers	435081	1	Demand		4,204	$23,623	177	Retail & Wholesale Sales & Service	Marketing/DECA Store
410	Stock Clerks and Order Fillers	435081	2	Demand		4,204	$23,623	177	Retail & Wholesale Sales & Service	Marketing/DECA Store
411	Retail Salespersons	412031	2	Demand		9,049	$23,045	424	Retail & Wholesale Sales & Service	Marketing/DECA Store
412	Packers and Packagers Hand	537064	1	Demand		1,887	$22,204	80	Retail & Wholesale Sales & Service	
413	Door-To-Door Sales Workers News and Street Vendors and Related Workers	419091	1	Demand		1,203	$21,697	37	Retail & Wholesale Sales & Service	

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1	**Title**	**SOCCODE**	**Job Preparation**	**Demand**	**Green Job**	**2010 2nd Qrt. Employment**	**March 2011 Median Annual Wage**	**Total Annual Openings**	**Career Cluster**	**Course Offering**
414	Counter and Rental Clerks	412021	1	Demand		2,189	$21,587	92	Retail & Wholesale Sales & Service	Marketing/DECA Store
415	Cashiers	412011	1	Demand		7,155	$21,020	530	Retail & Wholesale Sales & Service	Marketing/DECA Store
416	Sales Engineers	419031	4	Balanced		64	$108,684	4	Retail & Wholesale Sales & Service	Marketing/DECA Store
417	Marketing Managers	112021	4	Balanced	Yes	198	$87,718	9	Retail & Wholesale Sales & Service	Marketing/DECA Store
418	Real Estate Sales Agents	419022	2	Balanced		294	$51,436	9	Retail & Wholesale Sales & Service	
419	Property Real Estate and Community Association Managers	119141	3	Balanced		696	$49,532	24	Retail & Wholesale Sales & Service	
420	Butchers and Meat Cutters	513021	2	Balanced		188	$44,634	7	Retail & Wholesale Sales & Service	
421	Service Station Attendants	536031	1	Balanced		223	$43,163	12	Retail & Wholesale Sales & Service	Marketing/DECA Store
422	Wholesale and Retail Buyers Except Farm Products	131022	3	Balanced		216	$40,739	10	Retail & Wholesale Sales & Service	Marketing/DECA Store
423	Driver/Sales Workers	533031	1	Balanced		350	$38,805	11	Retail & Wholesale Sales & Service	
424	Advertising Sales Agents	413011	3	Balanced		170	$37,807	6	Retail & Wholesale Sales & Service	Marketing/DECA Store
425	Parts Salespersons	412022	2	Balanced		492	$29,610	28	Retail & Wholesale Sales & Service	
426	Merchandise Displayers and Window Trimmers	271026	2	Balanced		164	$29,412	7	Retail & Wholesale Sales & Service	Marketing/DECA Store
427	Bakers	513011	2	Balanced		236	$29,192	11	Retail & Wholesale Sales & Service	Foods
428	Hairdressers Hairstylists and Cosmetologists	395012	3	Balanced		1,780	$23,088	23	Retail & Wholesale Sales & Service	PCSC

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1	**Title**	**SOCCODE**	**Job Preparation**	**Demand**	**Green Job**	**2010 2nd Qrt. Employment**	**March 2011 Median Annual Wage**	**Total Annual Openings**	**Career Cluster**	**Course Offering**
429	Purchasing Managers	113061	4	Not in demand		87	$76,756	4	Retail & Wholesale Sales & Service	Marketing/DECA Store
430	Appraisers and Assessors of Real Estate	132021	3	Not in demand		93	$71,967	2	Retail & Wholesale Sales & Service	
431	Appraisers and Assessors of Real Estate	132021	4	Not in demand		93	$71,967	2	Retail & Wholesale Sales & Service	
432	Interior Designers	271025	3	Not in demand		118	$46,054	5	Retail & Wholesale Sales & Service	Interior Design
433	Floral Designers	271023	2	Not in demand		136	$30,175	6	Retail & Wholesale Sales & Service	Interior Design
434	Tailors Dressmakers and Custom Sewers	516052	2	Not in demand		68	$27,097	1	Retail & Wholesale Sales & Service	Fashion, Apparel & Design
435	Laundry and Dry-Cleaning Workers	516011	2	Not in demand		358	$26,447	7	Retail & Wholesale Sales & Service	
436	Pressers Textile Garment and Related Materials	516021	1	Not in demand		78	$22,838	0	Retail & Wholesale Sales & Service	
437	Parking Lot Attendants	536021	1	Not in demand		103	$22,657	4	Retail & Wholesale Sales & Service	
438	Advertising and Promotions Managers	112011	4	Balanced/ All		26	$82,425	1	Retail & Wholesale Sales & Service	Marketing/Fashion
439	Slaughterers and Meat Packers	513023	2			21	$38,358	1	Retail & Wholesale Sales & Service	
440	Skin Care Specialists	395094	3			44	$26,812	1	Retail & Wholesale Sales & Service	PCSC

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441	Electrical Engineers	172071	4	Demand	Yes	247	$96,222	9	Science Research/Engineering	PLTW
442	Mechanical Engineers	172141	4	Demand	Yes	236	$85,470	13	Science Research/Engineering	PLTW
443	Industrial Engineers	172112	4	Demand	Yes	120	$81,010	7	Science Research/Engineering	PLTW
444	Medical Scientists Except Epidemiologists	191042	5	Demand		321	$74,544	17	Science Research/Engineering	
445	Weighers Measurers Checkers and Samplers Recordkeeping	435111	2	Demand		125	$36,496	7	Science Research/Engineering	PLTW
446	Engineering Managers	119041	5	Balanced	Yes	236	$119,351	10	Science Research/Engineering	PLTW
447	Hydrologists	192043	5	Not in demand	Yes	60	$81,893	0	Science Research/Engineering	
448	Civil Engineers	172051	4	Not in demand	Yes	666	$79,339	10	Science Research/Engineering	PLTW
449	Epidemiologists	191041	5	Not in demand		58	$73,218	0	Science Research/Engineering	
450	Environmental Scientists and Specialists Including Health	192041	5	Not in demand	Yes	175	$66,758	3	Science Research/Engineering	
451	Chemists	192031	4	Not in demand	Yes	67	$62,395	3	Science Research/Engineering	
452	Surveying and Mapping Technicians	173031	3	Not in demand		109	$47,244	3	Science Research/Engineering	
453	Chemical Technicians	194031	3	Not in demand	Yes	105	$45,867	4	Science Research/Engineering	
454	Biological Technicians	194021	4	Not in demand		236	$37,236	10	Science Research/Engineering	
455	Environmental Science and Protection Technicians Including Health	194091	4	Not in demand	Yes	92	$32,352	4	Science Research/Engineering	

	A	B	C	D	E	F	I	J	M	N
1	**Title**	**SOCCODE**	**Job Preparation**	**Demand**	**Green Job**	**2010 2nd Qrt. Employment**	**March 2011 Median Annual Wage**	**Total Annual Openings**	**Career Cluster**	**Course Offering**
456	Aerospace Engineers	172011	5	Demand/ All		37	$93,534	1	Science Research/Engineering	PLTW
457	Materials Engineers	172131	4			35	$99,421	3	Science Research/Engineering	PLTW
458	Natural Sciences Managers	119121	5			49	$95,090	1	Science Research/Engineering	
459	Chemical Engineers	172041	4			49	$93,581	2	Science Research/Engineering	
460	Health and Safety Engineers Except Mining Safety Engineers and Inspectors	172111	4			24	$82,748	1	Science Research/Engineering	
461	Cartographers and Photogrammetrists	171021	3			44	$78,406	1	Science Research/Engineering	
462	Geoscientists Except Hydrologists and Geographers	192042	5			18	$68,325	1	Science Research/Engineering	
463	Avionics Technicians	492091	3			25	$57,332	0	Science Research/Engineering	PLTW
464	Microbiologists	191022	4			23	$51,524	0	Science Research/Engineering	
465	Social Science Research Assistants	194061	4			23	$43,469	1	Science Research/Engineering	

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1	**Title**	**SOCCODE**	**Job Preparation**	**Demand**	**Green Job**	**2010 2nd Qrt. Employment**	**March 2011 Median Annual Wage**	**Total Annual Openings**	**Career Cluster**	**Course Offering**
466	Transportation Storage and Distribution Managers	113071	3	Demand		214	$79,340	12	Transportation, Distribution & Logistics	
467	Transportation Storage and Distribution Managers	113071	4	Demand		214	$79,340	12	Transportation, Distribution & Logistics	
468	Aircraft Mechanics and Service Technicians	493011	3	Demand		339	$64,164	5	Transportation, Distribution & Logistics	
469	First-Line Supervisors/Managers of Transportation and Material-Moving	531031	3	Demand		627	$62,343	24	Transportation, Distribution & Logistics	
470	Cargo and Freight Agents	435011	2	Demand		151	$56,219	8	Transportation, Distribution & Logistics	
471	Bus and Truck Mechanics and Diesel Engine Specialists	493031	3	Demand		639	$51,185	21	Transportation, Distribution & Logistics	
472	First-Line Supervisors/Managers of Helpers Laborers and Material Movers	531021	3	Demand		390	$50,700	16	Transportation, Distribution & Logistics	
473	Truck Drivers Heavy and Tractor-Trailer	533032	2	Demand	yes	4,260	$46,077	239	Transportation, Distribution & Logistics	
474	Dispatchers Except Police Fire and Ambulance	435032	2	Demand		410	$41,980	16	Transportation, Distribution & Logistics	
475	Automotive Service Technicians and Mechanics	493023	3	Demand		1,506	$39,631	47	Transportation, Distribution & Logistics	PCSC
476	Truck Drivers Light or Delivery Services	533033	2	Demand		1,769	$33,817	71	Transportation, Distribution & Logistics	
477	Laborers and Freight Stock and Material Movers Hand	537062	2	Demand		4,467	$26,886	261	Transportation, Distribution & Logistics	
478	Logisticians	131081	4	Balanced		355	$70,596	4	Transportation, Distribution & Logistics	
479	Tank Car Truck and Ship Loaders	537121	2	Balanced		100	$63,898	8	Transportation, Distribution & Logistics	

	A	B	C	D	E	F	I	J	M	N
1	**Title**	**SOCCODE**	**Job Preparation**	**Demand**	**Green Job**	**2010 2nd Qrt. Employment**	**March 2011 Median Annual Wage**	**Total Annual Openings**	**Career Cluster**	**Course Offering**
480	Production Planning and Expediting Clerks	435061	2	Balanced	yes	409	$38,927	17	Transportation, Distribution & Logistics	
481	Bus Drivers School	533022	2	Balanced		1,450	$37,511	34	Transportation, Distribution & Logistics	
482	Commercial Pilots	532012	3	Not in demand		73	$71,426	4	Transportation, Distribution & Logistics	
483	Mobile Heavy Equipment Mechanics Except Engines	493042	4	Not in demand		450	$59,210	4	Transportation, Distribution & Logistics	
484	Postal Service Mail Carriers	435052	2	Not in demand		701	$55,324	12	Transportation, Distribution & Logistics	
485	Postal Service Mail Sorters Processors and Processing Machine Operators	435053	2	Not in demand		298	$53,935	0	Transportation, Distribution & Logistics	
486	Bus Drivers Transit and Intercity	533021	2	Not in demand	yes	757	$49,844	1	Transportation, Distribution & Logistics	
487	Transportation Inspectors	536051	3	Not in demand		93	$44,397	2	Transportation, Distribution & Logistics	
488	Transportation Inspectors	536051	4	Not in demand		93	$44,397	2	Transportation, Distribution & Logistics	
489	Automotive Body and Related Repairers	493021	2	Not in demand		435	$40,750	15	Transportation, Distribution & Logistics	
490	Rail Car Repairers	493043	2	Not in demand		68	$38,218	2	Transportation, Distribution & Logistics	
491	Motorboat Mechanics	493051	3	Not in demand		120	$36,753	4	Transportation, Distribution & Logistics	PCSC
492	Electronic Equipment Installers and Repairers Motor Vehicles	492096	3	Not in demand		113	$35,510	3	Transportation, Distribution & Logistics	PCSC
493	Outdoor Power Equipment and Other Small Engine Mechanics	493053	3	Not in demand		94	$34,911	4	Transportation, Distribution & Logistics	PCSC
494	Recreational Vehicle Service Technicians	493092	2	Not in demand		229	$30,340	5	Transportation, Distribution & Logistics	PCSC

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1	**Title**	**SOCCODE**	**Job Preparation**	**Demand**	**Green Job**	**2010 2nd Qrt. Employment**	**March 2011 Median Annual Wage**	**Total Annual Openings**	**Career Cluster**	**Course Offering**
495	Tire Repairers and Changers	493093	1	Not in demand		245	$25,810	8	Transportation, Distribution & Logistics	
496	Postmasters and Mail Superintendents	119131	3			24	$74,367	0	Transportation, Distribution & Logistics	
497	Captains Mates and Pilots of Water Vessels	535021	3			29	$56,896	1	Transportation, Distribution & Logistics	PCSC
498	Motorcycle Mechanics	493052	3			25	$29,237	1	Transportation, Distribution & Logistics	PCSC
499										
500	data from: https://fortress.wa.gov/esd/employmentdata/home									
501	12/28/2011									

Pierce County Skills Center

Course Offering

2011-2012

Course Locations	Course Title	Credits per Semester	Grades
Off-Site	Cosmetology	1.5	12
On-Site	Criminal Justice	1.5	11, 12
On-Site	DigiPen Game Design	1.5	11, 12
On-Site	Environmental Explorations (PM)	1.5	11, 12
On-Site	Fire Science & Emergency Services	1.5	11, 12
On-Site	Hospitality & Tourism (PM)	1.5	11, 12
Tacoma SD at Foss HS	Maritime Trades	1.5	11, 12
On-Site	Medical Careers (NAC)	1.5	11, 12
On-Site	PC Networking & Hardware Repair	1.5	11, 12
On-Site	Pre-Physical Therapy & Sports Medicine	1.5	11, 12
On-Site	Pre-Veterinary Technician	1.5	11, 12
On-Site	DigiPen Robotics/Mechatronics	1.5	11, 12
Tacoma SD at Lincoln HS	Machining & Welding *(After School)*	1.25	9, 10, 11, 12

Pierce County Skills Center

Coming in 2012-2013

- Aerospace Composite Technician
  - *Grade Level: 11, 12*
    District Location: On-site
    Credit: 3.0
    Prerequisites: None

The Aerospace Composite Technician program is designed to prepare students to fabricate, assembly, and repair composite materials on aircraft. Students will learn methods and processes commonly utilized for the fabrication of composite materials. Students will identify and utilize appropriate materials and processes to assemble structures made of composite materials. Students will also test and repair composite structures. This program is designed to

Steilacoom High School

Garrett Bollman	Corey Kittelberger
• DigiPen Robotics/Mechatronics	• Fire Science & Emergency Services

Pioneer Middle School
CTE Course Offerings

STEM

hnology
ication
on

Steilacoom High School
CTE Course Offerings

Marketing
Marketing
Marketing Management

Arts, A/V Technology & Communications
Video Production
Graphic Design
Art Foundations
Jewelry
Yearbook
Commercial Art
Interior Design

Information Technology
Web Design

Career Counseling
Career Center

PLTW
Introduction to Engineering Design

Human Services
Independent Living
International Foods
Advance Foods
Fashion Apparel & Design
Human Development

Education & Training
Careers in Education

Agriculture
Horticulture

Health Sciences
Sports Medicine
Creative Foods
Health

Pierce County Skills Center

Steilacoom Historical School District #1
Legislative Update
Presented to Board of Directors February 8, 2012

List of Current Legislative Bills

HB 1325 School district reorganization Hunt ***This is a resubmission of Representative Hunt's bill last year.***

No action to date.

SHB 1814/15 School district levy base H Ways & Means Sullivan ***Bills guarantee that levy base is not diminished due to apportionment reductions.***

1814 "Do pass" recommendation from Committee Referred to Ways and Means. Current substitute bill extends provisions until 2018.
1815 Passed House In Senate Rules Committee Has Senate "do pass" recommendation

HB 2044 Scratch ticket machines H SGTribalAff Taylor ***Allows machines and placement of revenue into a fund from which ~50% would go toward education.***

Reintroduced. No action to date

SHB 2209 Alt. learning experiences H Education Haigh ***Maintains 15% reduction for ALE students but reduces 5% for "contract learning"***

Note that in the substitute version contract learning has a 5% reduction and is not exempt. Additionally, a provision is in this bill that ALE instruction be in "core subject areas". "Do pass" recommendation from Education Committee. Referred to Ways and Means

HB 2265 Washington works payments H Labor/Work Dev Probst ***Rewards schools for education programs in areas of critical shortage***

"Do pass" recommendation from Labor and Workforce Development Committee Referred to Ways and Means

HB 2533 Prioritizing expenditures for K-12 education within the state appropriations process Dammeier ***Requires passage of educational appropriations before consideration/voting on entire state budget.***

Public Hearing 1/31/12 Committee on Education Appropriations and Oversight Anecdotal note: Bill appears to be gaining interest and momentum

SB 5476 School bus depreciation S Ways & Means Murray ***Delay's depreciation payment***

No action Note: This would prevent replenishment of the District's Transportation Vehicle Fund

SSB 5572 Running start program S Rules X Kilmer ***Allows colleges to limit enrollment***

No action to date

SB 6038 School building space/STEM S EL/K-12 Delvin ***Prevents STEM classroom space in cooperative programs (like Pierce County Skills Center, for example) from counting against space inventory for state match construction funding***

"Do pass" recommendation from Early Learning and K-12 Committee. Referred to Rules Committee

SB 6119 Career pathways act S EL/K-12 McAuliffe ***Requires creation of online career exploration opportunities for students***

Public Hearing 1/19/12 in Early Learning and K-12 Education Committee

SB 6202 School governance/alternative S EL/K-12 Tom ***Charter Schools 10/year not to exceed 50***

Public Hearing on 1/18/2012 in Early Learning and K-12 Education Committee. No further action to date

Update Regarding Other Issues Important to SHSD #1

There are a number of bills related to timelines and implementation of the new state Principal and Teacher Evaluation System.

Senator Hunter's "levy swap" bill is not making movement, but reports are that based on his vetting of the idea in public meetings and amongst legislators, the proposal is "adjusting." The Superintendent will be updated on the current status of this proposal at the WASA regional meeting on February 10, 2012.

The district remains watchful regarding ALE funding.

S-3668.2 Places school district employees under Health Care Authority HCA report, as requested by the Governor, speaks to implementation for 2013-14 Report is at http://www.hca.wa.gov/k12report/report.html

Thus far, no budget bills have been introduced aside from the Governor's proposed budget.

Steilacoom Historical School District #1 Regular Meeting
Board of Directors - Meeting Minutes

1/25/2012

CALL TO ORDER

Meeting called to order by Chair Winkler at 7:00 pm.
Pledge of Allegiance led by students Kaleb Hager, Jordan Hager and Jillian Holyfield.
Roll Call - all Directors and Superintendent Fritz present.
Approval of Agenda - Director Denning moved to approve the agenda; Director Wong seconded the motion and the motion passed (5/0).

COMMENTS FROM THE AUDIENCE

Steilacoom Mayor Lucas gave updates on the Town of Steilacoom and the recent power outage, Pierce Transit routes and the hiring of a new fire chief.

SCHOOL BOARD APPRECIATION

Superintendent Fritz, Mayor Lucas on behalf of Steilacoom and City of DuPont and Mayor Grayum, and each school Parent Teacher Association or Booster Club acknowledged and thanked the Board of Directors for the volunteer hours and efforts put in each month, year round. Board Directors were presented with certificates and small gifts of appreciation.

Approval of 1.11.12 Regular Board Meeting Minutes

Director Scott moved; Director seconded the motion to approve the 1.11.12 meeting minutes. Motion passed (4/0/1, Denning abstain).

REPORTS

Financial Report - Executive Director Ball presented the December enrollment information and monthly comparisons. She also reported the December 2011fund balances.
Legislative Update - Superintendent Fritz listed bills pertinent to the school district. He and Directors Denning and Wong will be attending the Legislative Conference sessions this coming Sunday and Monday as well as meeting with legislators.

CONSENT AGENDA (Vote)

Director Scott moved and Director Denning seconded the motion to approve the Consent Agenda. The motion passed (5/0).

OLD BUSINESS

Second Reading of Policy 3122, Excused and Unexcused Absences (Vote)

Executive Director Mills discussed truancy language with the administrators and proposed language will remain in the policy. Director Scott moved to approve the policy; Director Denning seconded the motion and the motion passed (5/0).

Second Reading of Policy 3142, International Exchange Students (Vote)

Director Denning moved to approve the policy; Director Callanan seconded the motion and the motion passed (5/0).

NEW BUSINESS

Resolution 761-01-25-12, Energy Operational Cost Savings Improvement Grant (Vote)

Executive Director Ball presented the projects the grant, which does not require matching funds, would support. The resolution and letter of intent are required prior to grant application. Director Scott moved; Director Callanan seconded the motion to approve the resolution. The motion passed (5/0).

Resolution 762-01-25-12, Procurement Cards (Vote)

Executive Director Ball explained the procurement card resolution. Director Scott moved to approve the resolution with one numbering change. Director Denning seconded the motion and the motion passed (5/0).

Resolution 763-01-25-12, Bond Refunding (Vote)

Executive Director Ball introduced Trevor Carlson, Northwest Securities, who explained bond refunding and the required resolution. Director Callanan moved to approve the resolution on the condition that the net present value savings is of at least a 5%. Director Denning seconded the motion and the motion passed (5/0).

Approval of Steilacoom High School Financial Algebra Course (Vote)

Steilacoom High teacher Kathleen Eastman explained the reasoning behind and course content of the newly proposed Financial Algebra course. Director Scott moved; Director Denning seconded the motion to approve the course. Motion passed (5/0).

COMMENTS FROM THE AUDIENCE

WAVA parent Esther Park Hwang thanked the Board for continued support of the Virtual Academy.

BOARD COMMUNICATION

- Director Denning communicated with legislative representatives to set up meeting times for the upcoming visits.
- Superintendent Fritz met with the Pierce County/Anderson Island ferry committee today regarding new ferry rates.
- Director Callanan, Asst. Principal Graves and Superintendent Fritz visited the local Sheet Metal Workers facility in DuPont to investigate CTE class potential.

ANNOUNCEMENTS

- Kiwanis WineFest to support Steilacoom students will be held Friday, 1/27/12
- Saturday, 1/28/12, a Special Board Meeting will be held at the Professional Development Center. This will be the Board's semi-annual working retreat.
- Superintendent Fritz acknowledged Antoinette Walker, JBLM Education Liaison in attendance.

ADJOURNMENT

Director Scott moved; Director Callanan seconded to adjourn the meeting at 8:06 pm. Motion passed (5/0).

_____

(Chair)

_____

_____

_____

_____

(Secretary/Superintendent)

_____

Steilacoom Historical School District #1 Special Session Meeting Board of Directors - Meeting Minutes

1/28/2012

CALL TO ORDER

Meeting called to order by Chair Winkler at 11:05 am.
Pledge of Allegiance led by Mike Boring.
Roll Call - Director Denning will be arriving soon; all other Directors, Superintendent Fritz and facilitator Mike Boring present. Director Denning arrived at 11:12 am.
Approval of Agenda - Director Scott moved to approve the agenda; Director Callanan seconded the motion and the motion passed (4/0).

REVIEW OF BOARD/SUPERINTENDENT ROLES

Roles reviewed.

BOARD OPERATING PROTOCOL

Director Callanan made the motion to approve the 1.28.12 Operating Protocol. Director Scott seconded the motion and the motion passed (5/0).

REVIEW OF BOARD LIAISONS

Director Denning made the motion to approve the Board Liaisons. Director Callanan seconded the motion and the motion passed (5/0).

REVIEW OF BOARD/DISTRICT/SUPERINTENDENT GOALS

Goals reviewed.

LEGISLATIVE PRIORITIES

Legislative Priorities discussed.

ENROLLMENT HISTORY AND PROJECTIONS

Enrollment history and Projections reviewed.

REVIEW OF CAPITAL FACILITIES PLAN AND PRIORITIES

2011-2017 Steilacoom Historical School District CFP reviewed and discussed.

NEXT STEPS

ADJOURNMENT

Director Denning made a motion to adjourn the meeting at 3:14 pm; Director Scott seconded the motion and the motion passed (5/0).

_____

(Chair)

_____

_____

_____

_____

_____

(Secretary/Superintendent)

PAYROLL HEADER PAGE

Steilacoom Historical School District No. 1

GENERAL FUND **Payroll ACTUALS for January 31, 2012 paydate**

WE, THE UNDERSIGNED BOARD OF DIRECTORS OF THE STEILACOOM HISTORICAL SCHOOL DISTRICT NO. 1, PIERCE COUNTY, WASHINGTON, DO HEREBY CERTIFY THAT SERVICES HAVE BEEN RECEIVED AND PERFORMED AND HAVE BEEN APPROVED FOR PAYMENT IN THE ESTIMATED AMOUNT OF $1,885,512.12.

PAYROLL

Gross Pay	$	**1,397,731.86**
Benefits	$	**487,780.26**
Total Payroll Adjustment	$	-

PAYROLL TOTAL **$ 1,885,512.12**

DATED: February 8, 2012

Secretary to the Board

Board Chairperson

Board Member

Board Member

Board Member

Board Member

CODE	DESCRIPTION	CODE COUNT	ADDED	SUBTRACTED	NET AMT
BEN3	Benefits only	1	0.00	0.00	0.00
C013	BASIC	215	899,426.13	0.00	899,426.13
C013a	BASIC	1	1,439.98	0.00	1,439.98
C023	PRINCIPAL	8	61,517.01	0.00	61,517.01
C043	TRI	214	89,716.44	0.00	89,716.44
C043a	TRI	1	144.00	0.00	144.00
C063	ADMINISTRATOR	4	36,282.03	0.00	36,282.03
C073	EXEMPT	9	39,254.89	0.00	39,254.89
C083a	SPEC ED ASST	1	217.18	0.00	217.18
C173	CTE	1	145.73	0.00	145.73
C175	ART CLUB CTE	1	135.00	0.00	135.00
C185	BUILDERS CLUB	1	136.84	0.00	136.84
C195	KEY CLUB	2	424.15	0.00	424.15
C234	SWIMMING	1	872.31	0.00	872.31
C234a	SWIMMING	1	738.33	0.00	738.33
C284a	SOCCER	1	1,047.67	0.00	1,047.67
C285	SOCCER	1	995.00	0.00	995.00
C315	BASKETBALL	5	4,167.69	0.00	4,167.69
C335	YEARBOOK	2	307.26	0.00	307.26
C345	CLUB ADVISOR	8	783.10	0.00	783.10
C345a	CLUB ADVISOR	1	147.27	0.00	147.27
C355a	CHEER 2	1	852.29	0.00	852.29
C365	CLASS ADVISOR	5	490.90	0.00	490.90
C385	ASB ADVISOR	1	218.18	0.00	218.18
C395	DEPARTMENT HEAD	2	132.58	0.00	132.58
C405	BAND	2	260.36	0.00	260.36
C405a	BAND	1	240.65	0.00	240.65
C415	JAZZ	1	279.78	0.00	279.78
C415a	JAZZ	1	313.69	0.00	313.69
C435	LEADERSHIP	1	233.33	0.00	233.33
C445	WRESTLING	1	1,166.66	0.00	1,166.66
C455	TRAINER	1	77.78	0.00	77.78
C475	DATA TEAM LDR	18	1,224.30	0.00	1,224.30

C495	LEAD TEACHER	5	1,484.86	0.00	1,484.86
C505	PRO CERT MENTOR	1	416.67	0.00	416.67
C545	GRAD COORDINATO	1	63.64	0.00	63.64
C565	DECA ADVISOR	1	318.18	0.00	318.18
C575	DRAMA	1	157.09	0.00	157.09
C615	CHOIR	1	216.00	0.00	216.00
C615a	CHOIR	1	120.80	0.00	120.80
C635	MASTER TEACHER	3	1,365.16	0.00	1,365.16
C685	CLASS/LAB SETUP	10	1,792.03	0.00	1,792.03
C695	MONDAY WRTR	1	72.73	0.00	72.73
C705	EXTRA DUTIES	1	190.77	0.00	190.77
C734	LEAD GROUNDS	1	3,905.20	0.00	3,905.20
C743	FAC OP MANAGER	1	3,417.05	0.00	3,417.05
C754	LEAD CUSTODIAN	5	15,856.52	0.00	15,856.52
C764	CUSTODIAN	12	31,784.58	0.00	31,784.58
C774	GROUNDS	2	5,643.74	0.00	5,643.74
C784	MAINT TECH I	1	4,035.20	0.00	4,035.20
C793	TEACHER ASST	17	17,018.90	0.00	17,018.90
C803	SPEC ED ASST	25	28,276.09	0.00	28,276.09
C803a	SPED ED ASST	1	931.77	0.00	931.77
C814	MAINT TECH II	1	4,725.07	0.00	4,725.07
C823	IT TECH I	1	3,208.40	0.00	3,208.40
C833	TITLE 1/LAP	6	5,426.36	0.00	5,426.36
C853	LIBRARY TECH	5	6,796.79	0.00	6,796.79
C863	SECRETARY	19	31,503.58	0.00	31,503.58
C863a	SECRETARY	4	3,908.04	0.00	3,908.04
C873	SUPERVISION	29	11,032.34	0.00	11,032.34
C883	ACCT CLERK	2	6,148.56	0.00	6,148.56
C893	BILINGUAL ASST	4	1,875.82	0.00	1,875.82
C903	SUB CALLER	2	735.81	0.00	735.81
C913	COMPUTER TECH	1	2,686.67	0.00	2,686.67
C923	SP/LA ASST	2	2,484.89	0.00	2,484.89
C933	HEALTH ASST	6	3,892.24	0.00	3,892.24
C973	REGISTRAR	1	3,905.20	0.00	3,905.20
C984	CAMPUS SUPERVIS	2	4,315.29	0.00	4,315.29

C9L4	CUSTODIAN 2	1	276.19	0.00	276.19
C9N3	TEACHER ASST 2	1	665.41	0.00	665.41
C9U3	SUPERVISION 2	1	181.53	0.00	181.53
CWM5	WEBMASTER	3	252.78	0.00	252.78
LWOP3	Leave w/o Pay	3	0.00	-2,895.11	-2,895.11
LWOP4	Leave w/o Pay	2	0.00	-1,711.96	-1,711.96
T093	ADDT'L DAYS	4	1,703.55	0.00	1,703.55
T314	BASKETBALL	2	2,160.28	0.00	2,160.28
T383	ASB ADVISOR	1	339.88	0.00	339.88
T444	WRESTLING	3	3,089.83	0.00	3,089.83
T643	STUDENT REC CO	1	123.53	0.00	123.53
T803	SPEC ED ASST	1	0.00	-127.62	-127.62
TCC5X	CLASS CVG	6	180.00	0.00	180.00
TEX3	EXTRA HOURS	18	2,066.69	-282.28	1,784.41
TEX4	EXTRA HOURS	4	983.95	0.00	983.95
THH3	HOME HOSPITAL	2	322.69	0.00	322.69
TO153	OVERTIME 1.5	3	181.30	0.00	181.30
TO154	OVERTIME 1.5	7	607.70	0.00	607.70
TO254	OVERTIME 2.5	4	788.43	0.00	788.43
TPS4	POST SEASON	1	75.00	0.00	75.00
TRE3X	RETRO	2	1,695.71	0.00	1,695.71
TSE4	SEASONAL	1	0.00	-599.76	-599.76
TSP3	SUB CLASSIFIED	21	5,695.58	0.00	5,695.58
TSP4	SUB CLASSIFIED	4	2,112.90	0.00	2,112.90
TST3	SUB TEACHER	49	26,375.07	0.00	26,375.07
TWM3	WEBMASTER	2	177.22	0.00	177.22
ZSLBB	SL BUYBACK	1	318.67	0.00	318.67
Total	Pay Codes 95	838	1,403,474.44	-5,616.73	1,397,857.71

********** End of report **********

Check Date 01/31/2012

CODE	DESCRIPTION	CODE COUNT	ADDED	SUBTRACTED	NET AMT
C013	BASIC	1	2,139.51	0.00	2,139.51
TST3	SUB TEACHER	1	625.00	0.00	625.00
Total	Pay Codes 2	2	2,764.51	0.00	2,764.51

********** End of report **********

Check Date 01/31/2012

CODE	DESCRIPTION	CODE COUNT	ADDED	SUBTRACTED	NET AMT
C013	BASIC	1	0.00	-2,265.36	-2,265.36
TST3	SUB TEACHER	1	0.00	-625.00	-625.00
Total Pay Codes 2		2	0.00	-2,890.36	-2,890.36

********** End of report **********

CODE	DESCRIPTION	CODE COUNT	ADDED	SUBTRACTED	NET AMT	BASE AMT
1FIC	FICA	409	83,933.72	0.00	83,933.72	1,353,768.65
1Med	Medicare	409	19,629.61	0.00	19,629.61	1,353,768.65
1ReE0	SERS Plan 0	29	0.00	0.00	0.00	0.00
1ReE2	SERS Plan 2	46	8,291.85	0.00	8,291.85	109,246.13
1ReE3	SERS Plan 3	61	10,407.96	0.00	10,407.96	137,126.81
1ReP1	PERS Plan 1	4	614.80	0.00	614.80	8,479.71
1ReT0	TRS Plan 0	52	0.00	0.00	0.00	0.00
1ReT1	TRS Plan 1	11	5,059.93	0.00	5,059.93	62,934.27
1ReT2	TRS Plan 2	52	19,159.66	0.00	19,159.66	238,303.62
1ReT3	TRS Plan 3	161	63,842.41	0.00	63,842.41	793,991.15
1UC	Unemployment 00	409	3,639.31	-2.31	3,637.00	1,346,996.63
1WC	Workers' Comp	409	15,831.49	-14.14	15,817.35	1,384,854.28
B0	LTD-Cert	222	2,877.12	0.00	2,877.12	1,091,294.00
B4	LTD-Classified	107	1,373.76	0.00	1,373.76	245,709.46
B9227	BROKERS FEES	326	4,296.68	0.00	4,296.68	1,332,345.45
H1187	HCA-Full Time	268	17,690.68	0.00	17,690.68	1,178,016.95
H2187	HCA-Part Time	61	1,006.50	0.00	1,006.50	159,894.34
I0	Life Ins - Cert	211	749.05	0.00	749.05	1,001,860.33
K0	DENTAL- TPSC	272	34,068.00	0.00	34,068.00	1,140,173.61
K1	DENTAL-WILLAMET	57	4,631.25	0.00	4,631.25	196,829.85
L0	Life Ins - SCEA	98	344.35	0.00	344.35	198,089.20
L3	Life Ins-Princi	8	28.40	0.00	28.40	61,517.01
L4	Life Ins-Exempt	13	46.15	0.00	46.15	75,536.92
M0	VISION - TPSC	330	4,507.30	0.00	4,507.30	1,337,003.46
M1	GROUP HEALTH	72	49,265.08	0.00	49,265.08	293,208.11
M3	KAISER	3	2,219.15	0.00	2,219.15	16,660.06
M4	BC PPO 1	38	27,668.78	0.00	27,668.78	191,374.74
M5	BC PPO 3	58	40,011.03	0.00	40,011.03	249,439.65
M6	BC PPO 5	68	48,046.32	0.00	48,046.32	315,842.14
M6adj	BC PPO 5 Adj	1	0.00	-146.06	-146.06	-907.83
M7	BC Easy Choice	30	18,712.38	0.00	18,712.38	114,747.65
TaxB+	Tax Ben +	3	369.05	0.00	369.05	13,826.88
TaxB-	Tax Ben -	3	0.00	-369.05	-369.05	-13,826.88
Total Benefits 33		4301	488,321.77	-531.56	487,790.21	

********** End of report **********

Check Date 01/31/2012

CODE	DESCRIPTION	CODE COUNT	ADDED	SUBTRACTED	NET AMT	BASE AMT
1FIC	FICA	1	0.00	-179.20	-179.20	-2,890.36
1Med	Medicare	1	0.00	-41.91	-41.91	-2,890.36
1ReT0	TRS Plan 0	1	0.00	0.00	0.00	0.00
1UC	Unemployment 00	1	0.00	-7.80	-7.80	-2,890.36
1WC	Workers' Comp	1	0.00	-28.52	-28.52	-2,890.36
Total Benefits 5		5	0.00	-257.43	-257.43	

********** End of report **********

Check Date 01/31/2012

CODE	DESCRIPTION	CODE COUNT	ADDED	SUBTRACTED	NET AMT	BASE AMT
1FIC	FICA	1	171.40	0.00	171.40	2,764.51
1Med	Medicare	1	40.09	0.00	40.09	2,764.51
1ReTO	TRS Plan 0	1	0.00	0.00	0.00	0.00
1UC	Unemployment 00	1	7.46	0.00	7.46	2,764.51
1WC	Workers' Comp	1	28.53	0.00	28.53	2,764.51
Total	Benefits 5	5	247.48	0.00	247.48	

********** End of report **********

Payments have been audited and certified by the Auditing Officer as required by RCW 42.24.080, and those expense reimbursement claims certified as required by RCW 42.24.090. Those payments have been recorded on a listing which has been made available to the board.

As of February 8, 2012, the board, by a _____ vote, does approve for payment those checks (warrants) included in the following list and further described as follows: GF WARRANTS OUTSTANDING
Check Number 108780 through 108841
in the total amount of $201,925.79.

Secretary _____ Board Member _____

Board Member _____ Board Member _____

Board Member _____ Board Member _____

Check Nbr	Vendor Name	Check Date	Invoice Number	Invoice Desc	PO Number	Invoice Amount	Check Amount
108780	ACM/ACL LLC DBA ALLIANCE CONST	02/15/2012	245		0	2,507.50	2,507.50
108781	ALBERTSONS	02/15/2012	...1345		0	721.67	721.67
108782	AMERICAN AIR FILTER	02/15/2012	90392478	HVAC FILTER ORDER	101112090	1,347.45	1,347.45
108783	ASCD	02/15/2012	0052865444	Curriculum Materials - Classroom Instruction that Works	181112054	74.85	74.85
108784	AUTOLUBE TIRE & AUTOMOTIVE	02/15/2012	0000000669	OPEN PO 2011-2012 FOR VEHICLE REPAIRS - GROUNDS & DISTRICT VEHICLES	101112013	289.33	289.33
108785	B & H PHOTO	02/15/2012	372653420	SHS B&H FOR PETER JOHNSON AS PER QUOTE 371847410	141112032	118.98	118.98
108786	BATTERIES PLUS	02/15/2012	250517	OPEN PO FOR 2011-2012	101112056	31.68	228.39
			250646	OPEN PO FOR 2011-2012	101112056	196.71	
108787	BCI BURKE	02/15/2012	58184	BCI BURKE ORDER-MAINTENANCE	81112052	232.24	232.24
108788	BUILDING CONTROL SYSTEMS INC	02/15/2012	7684	OPEN PURCHASE ORDER FOR 2011-2012 ENERY MANAGEMENT SYSTEMS	101112073	2,295.30	2,295.30
108789	CARD SERVICES	02/15/2012	...0306		0	5,698.80	7,151.60
			...8904		0	1,452.80	
108790	CDW-G, INC.	02/15/2012	D668117	SHS CDW-G FOR ROGER MEYER PLEASE SHIP TO DISTRICT OFFICE ATTN:ROGER MEYER	141112030	654.70	654.70

Check Nbr	Vendor Name	Check Date	Invoice Number	Invoice Desc	PO Number	Invoice Amount	Check Amount
108791	CENTER FOR LEARNING CONNECTION	02/15/2012	38638568	CONFERENCE FOR WANDA BETENCOURT	4311112053	110.00	110.00
108792	CENTURYLINK QCC	02/15/2012	1197569434		0	70.72	70.72
108793	CENTURYLINK	02/15/2012	206Z250055467B		0	4,161.20	4,161.20
108794	CITY TREASURER	02/15/2012	100683154		0	54.25	54.25
108795	CLOVER PARK SCHOOL DISTRICT	02/15/2012	5663	Print District Newsletter	81112042	77.38	77.38
108796	EDNETICS INC	02/15/2012	53054	SHSD High Server Hard Drive	111112013	272.26	272.26
108797	ENVIRONMENTAL CHEMICAL ENT INC	02/15/2012	E234A	LUBRICANT/PROTECTANT	101112088	415.22	415.22
108798	FAIRFAX HOSPITAL	02/15/2012	8500243-64	Open PO for Fairfax Hospital, Northwest School of Innovative Learning. Tuition for 4 Students, 2011-2012 school year.	91112075	4,600.00	13,800.00
			8500269.-56	Open PO for Fairfax Hospital, Northwest School of Innovative Learning. Tuition for 4 Students, 2011-2012 school year.	91112075	4,600.00	
			8500348-33	Open PO for Fairfax Hospital, Northwest School of Innovative Learning. Tuition for 4 Students, 2011-2012 school year.	91112075	4,600.00	
108799	FIRST STUDENT INC	02/15/2012	10626971		0	47,584.85	47,104.90
			10626971-credit		0	-479.95	
108800	FRED PRYOR SEMINARS	02/15/2012	0439404	60 Minutes to Outlooks Secrets CD	81112059	229.48	229.48
108801	GENERAL ELECTRIC CAPITAL CORP	02/15/2012	7294600-007		0	1,811.97	2,727.96
			see attached		0	915.99	
108802	GIANT LEAPS- FLAGHOUSE	02/15/2012	P04745400001	Supplies for Cherrydale Preschool	91112092	109.95	109.95
108803	GILBERT, KAREN M	02/15/2012	MIL REIM 1/3-1/31/12		0	97.02	97.02
108804	GUDGER, IAN	02/15/2012	SUPPLY REIMB		0	97.27	97.27

Check Nbr	Vendor Name	Check Date	Invoice Number	Invoice Desc	PO Number	Invoice Amount	Check Amount
108805	HAROLD LEMAY ENTERPRISES	02/15/2012	see attached		0	3,344.67	3,344.67
108806	HEINEMANN	02/15/2012	6000017	Curriculum Order (Heinemann Publishing)	181112044	5,460.48	5,460.48
108807	HP - ORDER ENTRY	02/15/2012	50663339	HP NOTEBOOK PC	101112074	709.36	709.36
108808	ISLAND PROPANE INC	02/15/2012	11073		0	774.06	774.06
108809	JOSEPH LINDQUIST	02/15/2012	mil 12/15/11-1/12/12		0	53.04	53.04
108810	JTEC EDUCATIONAL CONSULTANTS	02/15/2012	11129518	OPEN P.O. FOR JTEC	81112023	1,100.00	1,100.00
108811	K & L GATES	02/15/2012	2511860		0	12,497.78	12,497.78
108812	KEYBANK NATIONAL ASSOCIATION	02/15/2012	11120000502		0	986.88	986.88
108813	KING COUNTY DIRECTORS ASSN	02/15/2012	3544518	WORK ROOM SUPPLY ORDER SEE KCDA CART # 494110	1621112064	45.45	632.78
			3544932	Misc. supplies/ Inkjet cartridges, pencil sharpeners, correction tape	1461112040	129.18	
			3545048	S.P. KCDA supply order	1271112036	458.15	
108814	KORSMO CONSTRUCTION	02/15/2012	retention		0	4,007.95	4,007.95
108815	LAKEWOOD HARDWARE & PAINT	02/15/2012	296964	OPEN PO 2011-2012 FOR SUPPLIES	101112021	30.53	189.29
			297512	OPEN PO 2011-2012 FOR SUPPLIES	101112021	10.91	
			297551	OPEN PO 2011-2012 FOR SUPPLIES	101112021	19.63	
			297911	OPEN PO 2011-2012 FOR SUPPLIES	101112021	128.22	
108816	LOWES	02/15/2012	909325	OPEN PO 2011-2012 FOR SUPPLIES	101112022	102.33	615.62
			912668	OPEN PO 2011-2012 FOR SUPPLIES	101112022	298.82	
			924075	OPEN PO 2011-2012 FOR SUPPLIES	101112022	214.47	
108817	MCCONKEY CO	02/15/2012	1164913	SHS MCCONKEY ORDER FOR E.MILLER HORTICULTURE SEE ATTACHED QUOTE FROM MCCONKEY	141112027	100.13	147.35
			1165069	SHS MCCONKEY ORDER FOR E.MILLER HORTICULTURE SEE ATTACHED QUOTE FROM MCCONKEY	141112027	47.22	
108818	MCDONALD, JODY D	02/15/2012	MIL REIM 11/14-12/26		0	41.67	41.67

Check Nbr	Vendor Name	Check Date	Invoice Number	Invoice Desc	PO Number	Invoice Amount	Check Amount
108819	MICRO COMPUTER SYSTEMS	02/15/2012	0438227-in	SHS MICRO K12 CONNECTED FOR ROGER MEYER. PLEASE SHIP TO ROGER MEYER AT THE DISTRICT OFFICE	141112031	186.90	1,782.69
			0438278-in	SHS MICRO K12 CONNECTED FOR ROGER MEYER. PLEASE SHIP TO ROGER MEYER AT THE DISTRICT OFFICE	141112031	934.52	
			0439179-IN	SHS MICRO K12 CONNECTED FOR ROGER MEYER. PLEASE SHIP TO ROGER MEYER AT THE DISTRICT OFFICE	141112031	661.27	
108820	MOUNTAIN ALARM	02/15/2012	667751	OPEN PO 2011-2012 FOR SECURITY & FIRE MONITORING	101112026	1,401.00	1,401.00
108821	NAESP/EXPERIENT	02/15/2012	2215	NAESP REGISTRATION FOR GARY, NANCY, JOEL	81112040	1,032.00	1,032.00
108822	NORTHWEST TEXTBOOK DEPOSITORY	02/15/2012	114164493	2nd Grade Math Connects 2	1621112069	491.39	491.39
108823	OFFICE DEPOT	02/15/2012	592768899001	Business cards for Yoshie Wong	281112026	45.90	588.47
			592769263001	Business cards for John and Andre	281112027	91.80	
			594056125001		0	378.21	
			595852451001		0	72.56	
108824	PIERCE COUNTY REFUSE	02/15/2012	2311783		0	145.30	145.30
108825	PIERCE COUNTY SEWER	02/15/2012	858625/1354221		0	289.34	289.34
108826	PRINT SHOP OF LAKEWOOD, INC	02/15/2012	454	Receipt books	81112057	702.03	702.03
108827	PUGET SOUND ENERGY	02/15/2012	see attached		0	21,121.09	21,121.09
108828	REALLY GOOD STUFF	02/15/2012	3778980	ELL - reading games	1621112068	163.83	163.83
108829	SCHOLASTIC	02/15/2012	m4570301		0	659.84	659.84
108830	SCHOOL NURSE SUPPLY	02/15/2012	0380298-in	S.P. School Nurse Supply	1271112037	106.21	106.21
108831	SCHOOL SPECIALTY	02/15/2012	208107633461	SHS SCHOOL SPECIALTY ORDER FOR BADER SEE CART #7770825273	141112029	1,180.71	1,738.13
			208107633463	PULSE BAR AND	2371112070	362.97	

Check Nbr	Vendor Name	Check Date	Invoice Number	Invoice Desc	PO Number	Invoice Amount	Check Amount
				TEAM HANDBALLS FOR PE			
			208107638720	SHS SCHOOL SPECIALTY ORDER FOR BADER SEE CART #7770825273	141112029	23.94	
			208107646077	SHS SCHOOL SPECIALTY ORDER FOR BADER SEE CART #7770825273	141112029	144.72	
			208107680997	SHS SCHOOL SPECIALTY ORDER FOR BADER SEE CART #7770825273	141112029	25.79	
108832	SOLIANT HEALTH	02/15/2012	4883353	Psychologist (2) and Speech Pathologist (1)	91112056	1,687.50	8,812.50
			4883358	Psychologist (2) and Speech Pathologist (1)	91112056	1,687.50	
			4888416	Psychologist (2) and Speech Pathologist (1)	91112056	2,062.50	
			4896056	Psychologist (2) and Speech Pathologist (1)	91112056	1,687.50	
			4896057	Psychologist (2) and Speech Pathologist (1)	91112056	1,687.50	
108833	SUNBELT STAFFING	02/15/2012	4890463	Speech Patholgist (1)	91112057	2,250.00	8,842.50
			4890470	Speech Patholgist (1)	91112057	1,155.00	
			4898290	Speech Patholgist (1)	91112057	2,812.50	
			4898294	Speech Patholgist (1)	91112057	2,625.00	
108834	TEACHINGSUPPLYSTORE.COM	02/15/2012	169599	Supplies for Colette Parrotte	91112093	21.68	21.68
108835	THE LORENZO CORPORATION	02/15/2012	RV1370007	MSP practice books	1401112008	75.19	75.19
108836	TOWN OF STEILACOOM	02/15/2012	see attached		0	16,285.23	16,285.23
108837	TRUSTEED PLANS SERVICE CORP	02/15/2012	0063211-IN		0	15,841.68	15,841.68
108838	VERIZON WIRELESS	02/15/2012	1049529103		0	1,454.88	1,454.88
108839	WASA	02/15/2012	91817/91816	Leg conference registration	281112029	390.00	585.00
			91818	Leg conference registration	281112029	195.00	
108840	WILLIAM T FRITZ	02/15/2012	MIL REI 9/11-1/13/12		0	465.83	465.83
108841	WITT COMPANY	02/15/2012	237360	ALL DISTRICT	81112038	3,809.43	3,809.43

Check Nbr	Vendor Name	Check Date	Invoice Number	Invoice Desc	PO Number	Invoice Amount	Check Amount
				COPIERS-PLEASE SEE ATTACHEMENT FOR DETAILS			
			62	Computer	Check(s) For a Total of		201,925.79

	0	Manual	Checks For a Total of	0.00
	0	Wire Transfer	Checks For a Total of	0.00
	0	ACH	Checks For a Total of	0.00
	62	Computer	Checks For a Total of	201,925.79
Total For	62	Manual, Wire Tran, ACH & Computer Checks		201,925.79
Less	0	Voided	Checks For a Total of	0.00
			Net Amount	201,925.79

Payments have been audited and certified by the Auditing Officer as required by RCW 42.24.080, and those expense reimbursement claims certified as required by RCW 42.24.090. Those payments have been recorded on a listing which has been made available to the board.

As of February 8, 2012, the board, by a _____ vote, does approve for payment those checks (warrants) included in the following list and further described as follows: ASB WARRANTS OUTSTANDING
Check Number 400378 through 400403
in the total amount of $17,703.50.

Secretary _____ Board Member _____

Board Member _____ Board Member _____

Board Member _____ Board Member _____

Check Nbr	Vendor Name	Check Date	Invoice Number	Invoice Desc	PO Number	Invoice Amount	Check Amount
400378	CASCADE BAGEL & DELI, INC	02/15/2012	SEE ATTACHED	INV # 112798,112823,112883,112905,112930,112959,11289.113209,113229,113253	5988	268.00	268.00
400379	CEDARS INN	02/15/2012	30683-85		6137	324.62	324.62
400380	CLOVER PARK SCHOOL DISTRICT	02/15/2012	652		6132	3,400.00	3,400.00
400381	COSTCO	02/15/2012	239501856		5990	496.59	763.12
			239998734		5990	266.53	
400382	EASTBAY	02/15/2012	043793306		6087	327.80	327.80
400383	EK BEVERAGES	02/15/2012	336707/337101		5991	339.80	339.80
400384	EUROSPORT	02/15/2012	54314980		1796	481.07	481.07
400385	FIRCREST SWIM SHOP	02/15/2012	10370		6012	378.72	378.72
400386	HALFON CANDY COMPANY	02/15/2012	425711		5984	221.20	221.20
400387	ISLAND OASIS	02/15/2012	90697687		5987	675.35	675.35
400388	KELSO HIGH SCHOOL ASB	02/15/2012	1/7/12 ENTRY FEE		6097	144.00	144.00
400389	LAGO-LAGO APPAREL	02/15/2012	7687		1792	1,196.64	1,196.64
400390	LAKES HIGH SCHOOL	02/15/2012	INVITATIONAL		6116	200.00	200.00
400391	OTIS SPUNKMEYER INC	02/15/2012	80928458		5985	211.62	335.02
			81067160		5985	123.40	
400392	PACIFIC WELDING	02/15/2012	01036331		5986	9.84	9.84
400393	PIERCE CO SOCCER REFEREE ASSN	02/15/2012	1111		6133	2,208.08	2,208.08
400394	PIONEER MIDDLE SCHOOL IMPREST	02/15/2012	reimb 3933-37		0	1,773.36	2,005.04
			reimb check#3932		0	231.68	
400395	RAINIER APPAREL	02/15/2012	1201143		6086	57.61	759.76
			1201160/1201101		6086	702.15	
400396	RIBBONS GALORE	02/15/2012	60137		1801	390.13	390.13
400397	STEILACOOM HIST SCHOOL DIST	02/15/2012	261770		1800	280.00	280.00
400398	STEILACOOM HIGH SCHOOL ASB	02/15/2012	REIMB 6767-80		0	2,015.97	2,015.97
400399	SUPLAY WRESTLERS WORLD	02/15/2012	sq-179667		1801	216.21	216.21
400400	THE LINEUP	02/15/2012	ribbons and metals		1802	354.13	354.13
400401	UCA SUMMER CAMPS	02/15/2012	435326		6115	200.00	200.00
400402	WIAA OFFICE	02/15/2012	9754		6135	9.00	9.00
400403	WSCCA LAST CHANCE QUALIFIER	02/15/2012	REGISTRATION		6109	200.00	200.00

Check Nbr	Vendor Name	Check Date	Invoice Number	Invoice Desc	PO Number	Invoice Amount	Check Amount
			26	Computer	Check(s) For a Total of		17,703.50

	0	Manual	Checks For a Total of	0.00
	0	Wire Transfer	Checks For a Total of	0.00
	0	ACH	Checks For a Total of	0.00
	26	Computer	Checks For a Total of	17,703.50
Total For	26	Manual, Wire Tran, ACH & Computer Checks		17,703.50
Less	0	Voided	Checks For a Total of	0.00
			Net Amount	17,703.50

Steilacoom Historical School District Board of Directors

REGULAR BOARD MEETING

February 8, 2012

TO: Members, Steilacoom Historical School District Board of Directors

ISSUE: X **ACTION** Adoption of Personnel Action-Certificated

____ **INFORMATION**

BACKGROUND INFORMATION:
Approval authorizes acceptance of certificated coaching stipends.
A list of those covered by this action is attached.

RECOMMENDED DECISION:
It is the recommendation of the Superintendent that the Board adopt the attached Personnel Action as presented.

Report prepared by: Bill Fritz, Superintendent, Kathi Weight, Beth Mills, LeeRae Ball, Executive Directors

STEILACOOM HISTORICAL SCHOOL DISTRICT NO. 1
CERTIFICATED PERSONNEL REPORT
February 8, 2012

NEW HIRES/RE-HIRES

NAME	POSITION	BUILDING	FTE

RESIGNATIONS

NAME	POSITION	BLDG	FTE

CERTIFICATED STIPENDS

NAME	ACTIVITY/POSITION	BLDG.	STIPEND AMOUNT	TIMELINE/ DATES
BETHMAN, Kurt	Head Coach (Girls' Tennis)	SHS	$3,227.78	March 2012 – May 2012
GARROW, William	Head Coach (Baseball)	SHS	$3,723.75	March 2012 – May 2012
HENDERSON, Mike	Head Coach (Boys' Track)	SHS	$3,895.54	March 2012 – May 2012
MANNING, Ernie	Assistant Coach (Girls' Tennis)	SHS	$2,259.45	March 2012 – May 2012
NELONS, Derrick	Assistant Coach (Fastpitch)	SHS	$3,039.38	March 2012 – May 2012

Initiated by: *Pat Jackson-Holley*

HR: _____

FINANCE: _____

SUPERINTENDENT: _____

BOARD APPROVAL DATE: 2/8/2012

Steilacoom Historical School District Board of Directors

REGULAR BOARD MEETING

February 8, 2012

TO: Members, Steilacoom Historical School District Board of Directors

ISSUE: X **ACTION** Adoption of Personnel Action-Classified

____ **INFORMATION**

BACKGROUND INFORMATION:
Approval of the attached personnel action provides for issuance of classified non-supervisory employment as various coaching positions. Consistent with the Fair Labor Standards Act, employees are classified and complete a timesheet.

The report also includes the resignation of the Student Services Secretary.

A list of those covered by this action is attached.

RECOMMENDED DECISION:
It is the recommendation of the Superintendent that the Board adopt the attached Personnel Action as presented.

Report prepared by: Bill Fritz, Superintendent, Kathi Weight, Beth Mills, LeeRae Ball, Executive Directors

STEILACOOM HISTORICAL SCHOOL DISTRICT NO. 1
CLASSIFIED PERSONNEL REPORT
February 8, 2012

NEW HIRES

NAME	POSITION	BUILDING	SALARY
JOHNSTON, Thomas	Assistant Coach (Boys' Soccer)	SHS	$11.63/Hr.
LANGE, Jennifer	Head Coach (Girls' Track)	SHS	$17.71/Hr.
NORRIS, Mike	Head Coach (Fastpitch)	SHS	$16.93/Hr.
WILLIAMS, Matthew	Assistant Coach (Boys' Baseball)	SHS	$13.82/Hr.

RESIGNATIONS

NAME	POSITION	BUILDING	
SHINN, Jasmin	Secretary	Pupil Services	Effective March 14, 2012

Initiated by: *Pat Jackson-Holley*

HR: _____

FINANCE: _____

SUPERINTENDENT: _____

BOARD APPROVAL DATE: 2/8/2012

Overnight Field Trip Proposal

- The purpose of the trip is to compete, as state qualifiers, in the Washington state DECA competition.
- The participants are employing their skills as marketing students in their area of expertise in state competition. They will be judged on their written and verbal skills in the marketing field.
- The students will travel by school bus arranged by the transportation dept. and the advisor. All necessary paperwork has been submitted.
- The chaperone will be Christina Hayden, marketing teacher and DECA advisor for Steilacoom High School. This DECA conference lodging is like the fall conference in which the blocks of rooms have male and female chaperones on each floor dispersed amongst the students' rooms. Like at the fall conference I will ask the male chaperones from other schools to help with bed checks at this conference. They will ask the same of me, if necessary, for rooms with females.
- The students participating are: Aidan Goins, Ryan Rasmussen, Tristan Linna, Elisa Campomanes, Jesse Guzman, James Dodsworth, Lauren Leech, Stephanie Barlow, Alex Glass
- The students and chaperone will be staying in the assigned hotel by Washington DECA. The hotel will be The Marriott Hotel located in Bellevue, Washington.
- Meals will be paid for by student participants. The transportation and lodging will be paid with the funds in the DECA/student store ASB account.
- Itinerary:
    a. Depart school March 8 at 12:00 pm and return March 10 at 1:30 pm.
    b. We should arrive March 8 in Bellevue at approximately 1:00 pm
    c. Christina Hayden can be reached on her cell phone: 253-677-2282. Lodging is at the Marriott Hotel in Bellevue, WA. Room number is yet to be determined by Washington DECA and the Marriott Hotel.

Memo

To: Mr. Bill Fritz and the Steilacoom Historical District School Board
From: Bruce Folmer
Jan McCrimmon – Principal Steilacoom High School
Andre Stout – Principal Pioneer Middle School
Date: January 30, 2011
Subject: Request for Permission for travel to University of Idaho

The Steilacoom High School and Pioneer Middle School Jazz Ensembles are requesting permission to travel to Moscow, Idaho and Spokane, Washington to participate in the Lionel Hampton Jazz Festival, February 24 & 25, 2012.

The Band will leave Friday morning the 24th for Moscow to listen to various Jazz Groups and/or workshops. At approximately 4:30 PM, we will leave for Spokane for dinner and spend the night at the Mirabeau Park Hotel. Saturday morning the band will leave for the University of Idaho to perform and listen to additional groups. We will leave Moscow around 4:00 PM Saturday afternoon to return to Steilacoom, returning to Pioneer Middle School between 10:30 and 11:00 PM.

The cost of the trip is $165.00 per person and will be paid by the students. The price includes the Jazz Festival, bus and hotel with a continental breakfast.

The tentative chaperones, in addition to myself we be Mrs. Starlene Enfield, and Mrs. Christina Anthony.

These are the students currently in the Jazz Ensembles at Steilacoom High School and Pioneer Middle School.

SHS		**Pioneer**	
Matt	Stillings-Ziegenfelder	Clair	Enfield
Zachary	Westhoff	Dylan	Aaron
Frankie	Roberts	Jarred	Kelly
Zvon	Cassanova	Chris	White
Ben	Foster	Patrick	Summit
Jonathan	Groesbeck	Dakota	Creason
Andrew	Wilson	Mike	Mester
Daniel	Aaron	Ginger	Kwak
Rion	Jenkins	Brian	Anthony
Chris	Wallace	Brett	Lesure
Taron	Froh	Lisa	Yi
Parker	Gehring	Maddie	Hayes
Lucas	Wenal	Jarred	Goodwin
Brennan	Tursdale	Sarah	Park
		Troy	Taylor
		Connie	Davis
		Audrey	Huber
		Juliet	Lopez
		Danielle	Dimmerman
		Jasmine	Stutz
		Vanessa	Beagio
		Ea	Kirkland-Woodard
		Sloan	Cambell
		Selma	Trujillo
		Michalla	Johnson

Steilacoom School District Framework: Introduction to Engineering Design

Course: Introduction to Engineering Design		**Total Framework Hours up to: 180**
CIP Code: 149991	☐ **Exploratory** ☐ **Preparatory**	**Date Last Modified: 2/2/2012**
Career Cluster: STEM		**Cluster Pathway: Engineering and Technology**

Unit 1 Description

Unit 1 Introduction to Design: This unit is an introduction to different facets of design and will emphasize the following: evolution and history of design, the steps in a design process, the importance of proper sketching techniques, measurement and tools used in design, and the use of those tools and techniques to innovate or invent solutions to problems. Students will be introduced to a variety of skill building opportunities that will enhance their design skills and prepare them for the remaining units in this course.

Assessments

Lesson 1.1: Introduction to a Design Process

Explanation

1. Students will explain how knowledge of brainstorming and sketching aid in the design of a product, such as a coffee cup, and depict their explanation in a bookmark.
2. Students will explain the significance of effective communication to a young student in grades six through eight.
3. Students will explain the process of the development of the first controlled, sustainable human-powered aircraft to a student that was absent.

Interpretation

4. Students will interpret and explain how the design process may be used in preparing for a sports competition or in common everyday events, such as writing a paper.

Application

5. Students will apply their knowledge of research, the design process, and documentation in the critique of a product that they use everyday, such as a cell phone or MP3 player.

Lesson 1.2 Introduction to Technical Sketching and Drawing

Explanation

1. Students will explain the difference between one-point, two-point, and three-point perspectives.

Application

2. Students will explain to a younger audience how sketching and shading techniques are used by engineers and in an art class.
3. Students will analyze and interpret ways in which political, cultural, social, and psychological concepts are explored in the world of

art.

Lesson 1.3: Measurement and Statistics

Explanation

1. Students will explain the history of measurement to a younger student using their book jacket or CD cover as an example.

Application

2. Assess a student's journal for evidence of effective communication of ideas such as,
    a. Do students' sketches and drawings clearly communicate their ideas?
    b. Have students used a variety of methods to communicate their ideas?
    c. Have students integrated information from a variety of sources into their work?
3. Students will demonstrate and explain to another student how to measure objects using a scale or dial caliper.

Interpretation

4. Students will make journal entries reflecting on their learning and experiences. Example of prompts for the general entries: Write about what you learned in class today. How do you know when your sketches are ready to transfer into a drawing? What is something you learned today that you did not understand or know before?

Self-Knowledge

5. Students will be required to reflect on their work in their journals by recording their thoughts and ideas. They may use their self-assessments as a basis for improvement. Ideas and questions students may pose and answer in their journals are:
    - Today, the hardest part for me to understand was…
    - When I work in a group, I find that…
    - When I work by myself, I find that…
    - What did I accomplish today?
    - Now that I have done this, what is next?

Perspective

6. Students will select an engineering blunder and prepare an essay that expresses two points of view about the role played by measurement.

Lesson 1.4: Puzzle Cube

Explanation

1. Students will explain why design options of a project are determined by criteria and constraints.

Application

2. Students will design a product from a different form of material waste, such as plastic pipe, just as they did for the puzzle cube.

Interpretation

3. Students will illustrate their proposed project and use their illustration to explain how the project relates to everything they have learned thus far.
4. Students will explain the role of geometric shapes to the design of their puzzle cube.
5. Students will be assessed (Puzzle Cube Package Rubric) on their ability to create a package for their puzzle cubes.

Performance Objectives: *It is expected that students will:*

Lesson 1.1: Introduction to a Design Process

- Apply engineering notebook standards and protocols when documenting their work during the school year.
- Identify and apply group brainstorming techniques and the rules associated with brainstorming.
    - Research a product's history, develop a PowerPoint presentation, list chronologically the major innovations to a product, and present findings to a group.
- Use online and published works to research aspects of design problems.
- Identify the design process steps used in given scenarios and be able to list the steps, if any are missing.

Lesson 1.2 Introduction to Technical Sketching and Drawing

- Identify, sketch, and explain the function of points, construction lines, object lines, and hidden lines.
- Plot points on grid paper to aid in the creation of sketches and drawings.
- Explain the concepts of technical sketching and drawing.
- Sketch an isometric view of simple geometric solids.
- Explain how an oblique view of simple geometric solids differs from an isometric view.
- Sketch one-point, two-point, and three-point perspectives of simple geometric solids.
- Describe the concept of proportion as it relates to freehand sketching.
- Sketch multi-view drawings of simple geometric solids.
- Determine the front view for a given object.

Lesson 1.3: Measurement and Statistics

Research and design a CD cover or book jacket on the origins of the measurement systems.

Measure and record linear distances using a scale to a precision of 1/16 inch and 1 mm.
Measure and record linear distances using a dial caliper to a precision of 0.001 inch.
Add and subtract U.S. standard and metric linear measurements.
Convert linear distance measurements from inches to millimeters and vice versa.
Apply linear dimensions to a multi-view drawing.
Calculate the mean, mode, median, and range of a data set.
Create a histogram of recorded measurements showing data elements or class intervals, and frequency.

Lesson 1.4: Puzzle Cube

Brainstorm and sketch possible solutions to an existing design problem.
Select an approach that meets or satisfies the constraints given in a design brief.

Create simple extruded solid Computer Aided Design (CAD) models from dimensioned sketches. Generate dimensioned multi-view drawings from simple CAD models. Measure and Fabricate parts for a functional prototype from the CAD multiview drawings. Assemble the product using the CAD modeling software. Test and evaluate the prototype and record results. Apply geometric and numeric constraints to CAD sketches. Identify the purpose of packaging in the design of consumer products.	
EALRs, GLEs, Math, Science and Technology Standards (Taught & Assessed in Lessons)	
Reading	
1.2.2	Apply strategies to comprehend words and ideas
2.3.4	Synthesize information from a variety of sources
Communications	
1.1.1	Applies a variety of listening strategies to accommodate the listening situation
2.2.2	Applies skills and strategies to contribute responsibly in a group setting
Social Studies - Civics	
Writing	
2.4.1	Produces documents used in a career setting
Art	
1.1	Understands and applies arts concepts and vocabulary
1.2	Develops skills and techniques
1.4	Understands and applies audience conventions in a variety of arts settings and performances
2.1	Applies a creative process in the arts
2.3	Applies a responding process to an arts presentation of dance, music, theatre and/or visual arts
3.1	Uses arts to express and present ideas and feelings
3.2	Uses the arts to communicate for a specific purpose
3.3	Develops personal aesthetic criteria to communicate artistic choices
4.5	Understands how arts knowledge and skills are used in the world of work including careers in the arts
Science	
9-12SYSC	Create a simplified model of a complex system. Trace the possible consequences of a change in one part of the system and explain how the simplified model may not be adequate to reliably predict consequences
9-12INQB	Plan and conduct a scientific investigation, choosing a method appropriate to the question begin asked; collect, analyze, and display data using calculators, computers, or other technical devices when available
9-12INQC	Draw conclusions supported by evidence from the investigation and consistent with established scientific knowledge; analyze alternative explanations and decide which best fits the data
9-12APPB	Work collaboratively with other students to generate ideas for solving a problem; identify criteria and constrains, research the problem, and generate several possible solutions
9-12APPD	Use proportional reasoning, functions, graphing, and estimation to solve problems
9-11PS1E	Illustrate with everyday examples that for every action there is an equal and opposite reaction
Mathematics	

A1.8.E	Read and interpret diagrams, graphs, and text containing the symbols, language, and conventions of mathematics
A1.8.F	Summarize mathematical ideas with precision and efficiency for a given audience and purpose
A1.8.G	Synthesize information to draw conclusions, and evaluate the arguments and conclusions of others
G.6.C	Apply formulas for surface area and volume of three-dimensional figures to solve problems
G.6.E	Use different degrees of precision in measurement, explain reason for using a certain degree of precision, and apply estimation strategies to obtain reasonable measurements with appropriate precision for a given purpose
G.7.A	Analyze a problem situation and represent it mathematically
G.7.B	Select and apply strategies to solve problems
Technology	
1.3.1	Identify and define authentic problems and significant questions for investigation and plan strategies to guide inquiry
2.1.1	Practice personal safety
2.2.1	Develop skills to use technology effectively
2.4.1	Formulate and synthesize new knowledge

Leadership and Employability Skills

Leadership:

Analyze, refine and apply decision-making skills;
Be involved in activities that require applying theory, problem-solving and using critical thinking skills;
Communicate, participate and advocate effectively in pairs, small groups, teams and large groups in order to reach common goals

Employability; through this unit, students will have the opportunity to exhibit the following SCANS skills:

- ◻ Identifies relevant details, facts and specifications;
- ◻ Communicates thoughts, ideas, information, and messages in writing;
- ◻ Records information completely and accurately;
- ◻ Composes and creates documents such as letters, directions, manuals, reports, proposals, graphs, and flow charts;
- ◻ Uses language, style, organization, and format appropriate to the subject matter, purpose, and audience;
- ◻ Uses quantitative data to construct logical explanations for real world situations;
- ◻ Understands the role of occurrence and prediction of events;
- ◻ Participates in conversation, discussion, and group presentations;
- ◻ Asks questions when needed;
- ◻ Uses imagination freely, combines ideas or information in new ways, makes connections between seemingly unrelated ideas, and perhaps goals in ways that reveal new possibilities;
- ◻ Specifies goals and constraints, generates alternatives, considers risks, and evaluates and chooses best alternatives.

Analytical, Logical & Creative Thinking (check those that students will demonstrate in this lesson):

☐ Observe	☐ Cause/Effect	☐ Finding Evidence	☐ Reasoning	☐ Originality
☐ Patterns	☐ Fact/Opinion	☐ Evaluation	☐ Problem Solving	☐ Risking
☐ Sequence	☐ Main Idea	☐ Detect Bias	☐ Goal Setting	☐ Inquisitiveness
☐ Classify	☐ Summary	☐ Inference	☐ Fluency	☐ Attending
☐ Compare/Contrast	☐ Point of View	☐ Conclusion	☐ Elaboration	☐ Persistence
☐ Predict	☐ Analysis	☐ Metacognition	☐ Flexibility	☐ Precision

Relevance to Work: All citizens should have a basic understanding of Science, Mathematics, and Technology

Unit 2 Description

Unit 2 Design solutions: This unit advances the students design skills in the area of geometric shapes and solids, dimensioning, 3D modeling software, and an advanced design. Students will learn how to calculate area and properties of solids. They will be introduced to working in teams and what it takes to come to a consensus. The unit will end with students using the design process to create a solution to a prescribed problem.

Assessments

Lesson 1: Geometric Shapes and Solids

Explanation

1. Students will explain the advantages of using a 3-D CAD modeling program when creating drawings for production.

Application

2. Students will create a three-dimensional computer model of a piece of furniture in the classroom.

Interpretation

3. Students will explain to a younger student why he or she should learn how to calculate the area of a shape.
4. Students will document and show the importance of using geometric principles to aid in the design of an object.

Self-knowledge

5. In a journal entry or lesson test, students will explain how calculating properties of a geometric solid works and why these criteria or constraints are needed when designing.

Lesson 2: Dimensions and Tolerances

Application

1. Students will take a completed working drawing of an object or product and will write a description of the object based on the information provided. They will determine if the dimensioning is correct and what areas must be modified to show how the object should look. They will finish by completing a sketch of the object.
2. Students are given an isometric drawing of an object and asked to determine the hidden sections based on the dimensions provided with the dimensions for the hidden lines shown with variables, such as X or Y. This application is to build awareness of hidden lines and the value of accurate dimensioning.

Perspective

3. Students will answer the question, “Of what value is the use of dimensioning an object or product?” How important is the use of dimensioning and how does it aid in the design of a product?

Lesson 3: Advanced Modeling Skills

Explanation

1. Students will explain the difference between geometric, parametric, and assembly constraints.
2. Students will explain the degrees of freedom an object has before any constraints are applied to a student who was absent.

Interpretation

3. Students will analyze and evaluate another classmate's dimensioned multiview drawings and pictorials developed in a 3D CAD modeling program.
4. Students will derive algebraic equations from a given part's dimensions that will be used to maintain that part's geometric proportions.

Application

5. Students will demonstrate and explain how to fully constrain objects to the class using the CAD modeling program.

Perspective

6. Students will select a product available in the classroom, write detailed instructions on how the product would be made using a CAD modeling software, and discuss an alternate way of creating the same part.

Lesson 4: Advanced Designs

Explanation

1. Students will explain why design options of a project are determined by criteria and constraints.

Application

2. Students will design an alternate solution to the same design brief completed in the lesson and adjust their solution to include a different material.

Interpretation

3. Students will illustrate their proposed solution and use their illustration to explain how it relates to what they have learned about engineering design.
4. Students will explain the advantages and disadvantages of working in teams answering questions, such as:
    a. When I work with I team I find that I …
    b. The hardest thing for me to do when working with a team is …

c. The easiest part of working on a team is …

Performance Objectives: *It is expected that students will:*

Lesson 2.1: Geometric Shapes and Solids

- Identify common geometric shapes and forms by name.
- Calculate the area of simple geometric shapes.
- Calculate the surface area and volume of simple geometric forms.
- Identify and explain the various geometric relationships that exist between the elements of two-dimensional shapes and three-dimensional forms.
- Identify and define the axes, planes, and sign conventions associated with the Cartesian coordinate system.
- Apply geometric and numeric constraints to CAD sketches.
- Utilize sketch-based, work reference, and placed features to develop solid CAD models from dimensioned drawings.
- Explain how a given object's geometry is the result of sequential additive and subtractive processes.

Lesson 2.2: Dimensions and Tolerances

- Explain the differences between size and location dimensions.
- Differentiate between datum dimensioning and chain dimensioning.
- Identify and dimension fillets, rounds, diameters, chamfers, holes, slots, and screw threads in orthographic projection drawings.
- Explain the rules that are associated with the application of dimensions to multiview drawings.
- Identify, sketch, and explain the difference between general tolerances, limit dimensions, unilateral, and bilateral tolerances.
- Differentiate between clearance and interference fits.

Lesson 2.3: Advanced Modeling Skills

- Sketch and model an auxiliary view of a given object to communicate the true size and shape of its inclined surface.
- Describe the purpose and demonstrate the application of section lines and cutting plane lines in a section view drawing.
- Sketch a full and half section view of a given object to communicate its interior features.
- Identify algebraic relationships between the dimensional values of a given object.
- Apply assembly constraints to individual CAD models to create mechanical systems.
- Perform part manipulation during the creation of an assembly model.
- Explain how assembly constraints are used to systematically remove the degrees of freedom for a set of components in a given assembly.
- Create an exploded model of a given assembly.
- Determine ratios and apply algebraic formulas to animate multiple parts within an assembly model.
- Create and describe the purpose of the following items: exploded isometric assembly view, balloons, and parts list.

Lesson 2.4: Advanced Designs

- Brainstorm and sketch possible solutions to an existing design problem.
- Create a decision making matrix.

- Select an approach that meets or satisfies the constraints given in a design brief.
- Create solid computer-aided design (CAD) models of each part from dimensioned sketches using a variety of methods.
- Apply geometric numeric and parametric constraints to form CAD modeled parts.
- Generate dimensioned multiview drawings from simple CAD modeled parts.
- Assemble the product using the CAD modeling software.
- Explain what constraints are and why they are included in a design brief.
- Create a three-fold brochure marketing the designed solution for the chosen problem, such as a consumer product, a dispensing system, a new form of control system, or extend a product design to meet a new requirement.
- Explain the concept of fluid power, and the difference between hydraulic and pneumatic power systems

EALRs, GLEs, Math, Science and Technology Standards (Taught & Assessed in Lessons)	
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2.2	Understand and apply knowledge of text components to comprehend text
2.3	Expand comprehension by analyzing, interpreting, and synthesizing information and ideas in literary and informational text
3.2	Read to perform a task
Communications	
1.1	Uses listening and observation skills and strategies to focus attentions and interpret information
Social Studies - Civics	
Writing	
1.1.1	Analyzes and selects effective strategies for generating ideas and planning writing
2.2.1	Applies understanding of multiple and varied audiences to write effectively
2.4.1	Produces documents used in a career setting
Art	
1.1.1	Uses spatial devices to depict depth/distance (e.g., atmospheric perspective)
Science	
6-8 SYSD	Given a description of a system, analyze and defend whether it is open or closed
6-8 SYSE	Measure the flow of matter into and out of an open system and predict how the system is likely to change (e.g., an electric circuit)
6-8 APPF	Test the best solution by building a model or other representation and using it with the intended audience. Redesign if necessary.
6-8 INQE	Create a model or simulation to represent the behavior of objects, events, systems, or processes; use the model to explore the relationship between two variables and point out how the model or simulation is similar to or different from the actual phenomenon
6-8 APPA	Describe how a technology has changed over time in response to societal challenges
6-8 APPF	Test the best solution by building a model or other representation and using it with the intended audience
6-8 PS2C	Explain that all matter is made of atoms, and give examples of common elements—substances composed of just one kind of atom
6-8 PS3A	List different forms of energy; describe ways in which energy is transformed from one form to another and transferred from one place to another
6-8 PS3B	Use everyday examples of conduction, radiation, and convection, or mechanical mixing, to illustrate the transfer of heat energy from warmer objects to cooler ones until the objects reach the same temperature
6-8 PS3E	Illustrate the transformations of energy in an electric circuit when heat, light, and sound are produced; describe the transformation of

	energy in a battery within an electric circuit
9-12 APPB	Work collaboratively with other students to generate ideas for solving a problem. Identify criteria and constraints, research the problem, and generate several possible solutions.
Mathematics	
A1.2.D	Determine whether approximations or exact values of real numbers are appropriate, depending on the context, and justify the selection
A1.6.B	Make valid inferences and draw conclusions based on data
A1.8.E	Read and interpret diagrams, graphs, and text containing the symbols, language, and conventions of mathematics
A1.8.F	Summarize mathematical ideas with precision and efficiency for a given audience and purpose
A1.8.G	Synthesize information to draw conclusions, and evaluate the arguments and conclusions of others
Technology	
1.3.1	Identify and define authentic problems and significant questions for investigation and plan strategies to guide inquiry
2.1.1	Practice personal safety
2.2.1	Develop skills to use technology effectively
2.4.1	Formulate and synthesize new knowledge

Leadership and Employability Skills

Leadership:

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Employability; through this unit, students will have the opportunity to exhibit the following SCANS skills:

Identifies relevant details, facts and specifications;
Communicates thoughts, ideas, information, and messages in writing;
Records information completely and accurately;
Composes and creates documents such as letters, directions, manuals, reports, proposals, graphs, and flow charts;
Uses language, style, organization, and format appropriate to the subject matter, purpose, and audience;
Performs basic computations;
Uses quantitative data to construct logical explanations for real world situations;
Understands the role of occurrence and prediction of events;
Participates in conversation, discussion, and group presentations;
Asks questions when needed;
Uses imagination freely, combines ideas or information in new ways, makes connections between seemingly unrelated ideas, and perhaps goals in ways that reveal new possibilities;
Specifies goals and constraints, generates alternatives, considers risks, and evaluates and chooses best alternatives;
Discovers a rule or principle underlying the relationship between two or more objects that applies it in solving a problem;

Analytical, Logical & Creative Thinking (check those that students will demonstrate in this lesson):

☐ Observe	☐ Cause/Effect	☐ Finding Evidence	☐ Reasoning	☐ Originality
☐ Patterns	☐ Fact/Opinion	☐ Evaluation	☐ Problem Solving	☐ Risking
☐ Sequence	☐ Main Idea	☐ Detect Bias	☐ Goal Setting	☐ Inquisitiveness
☐ Classify	☐ Summary	☐ Inference	☐ Fluency	☐ Attending
☐ Compare/Contrast	☐ Point of View	☐ Conclusion	☐ Elaboration	☐ Persistence
☐ Predict	☐ Analysis	☐ Metacognition	☐ Flexibility	☐ Precision

Relevance to Work: All citizens should have a basic understanding of Science, Mathematics, and Technology

Unit 3 Description

Unit 3: Reverse Engineering: Reverse Engineering is an important process in the redesign of products. Designers get an opportunity to breakdown and analyze each part of the product to see how they operate. The information gathered during this process can help the designer or team determine what they can do to make the product better and optimize manufacturing potential to increase company profits.

The process of Reverse Engineering involves analyzing the products function, structure, and visual elements. In this unit, students will get an opportunity to visit all three aspects of a product. They will use the information learned during these procedures and suggest possible changes they would make to improve a product.

Assessments

Lesson 3.1: Visual Analysis

Explanation

1. Students will list the elements of design.
2. Students will list the principles of design.
3. Students will explain vocabulary associated with marketing a graphic design.

Interpretation

1. Students will define and explain the elements of design.
2. Students will define and explain the principles of design.

Application

1. Students will utilize their knowledge of the principles and elements of design to identify their use within products, art forms, and print media during a teacher directed lesson.
2. Students will express their understanding of the principles and elements of design by incorporating them in their design solutions.

Self-Knowledge

1. Students will collect and display examples of the application of the principles and elements of design utilized in products, art forms and print media.

Lesson 3.2 Functional Analysis

Explanation

1. Students develop a black box model to identify the inputs and outputs associated with a system.
2. Students identify the significance of using the black box approach for explaining products.

Interpretation

3. Students observe a product and hypothesize its intended function.

Lesson 3.3: Structural Analysis

Explanation

1. Students will classify a sampling of fasteners, joinery and adhesives.
2. Students will explain the value of the disassembly process, what information was discovered, and how it may be used to improve the product's design.
3. Students will explain how mass properties are used in the design process to evaluate a solid model's viability as solution to a manufacturing problem.
4. Students will explain the importance of considering different materials for a product's production.
5. Students will explain what effect changing the surface area of a product will have on the finishing and packaging processes.

Interpretation

6. Students will research various materials, properties and processes to identify characteristics similar to their product.

Application

7. Students will apply what they have learned about joinery, fasteners and adhesives to their future product design.
8. Students will use a solid modeling software to find the mass, surface area, and volume of a part.
9. Students will change materials and revise the mass analysis of a part.

Lesson 3.4: Product Improvement by Design

Explanation

1. Students will explain the differences between a problem statement and a design statement.
2. Students will explain how a design brief can impart bias in the mind of the designer.

Interpretation

1. Students will analyze commercial objects and formulate problem statements, design statements, and constraints that may have been used to initiate the creation of those objects.

Application

1. Students will apply their knowledge of the design process to the innovation of visual, structural, or functional aspects of their reverse engineered products.
2. Students will brainstorm as a class team to generate ideas for various product innovation needs.

Perspective

1. Students will generate a design brief for their reverse engineered product from the perspective of a designer.

Performance Objectives: *It is expected that students will:*

Lesson 3.1: Visual Analysis

- Identify visual design elements within a given object.
- Explain how visual design principles were used to manipulate design elements within a given object.
- Explain what aesthetics is, and how it contributes to a design's commercial success.
- Identify the purpose of packaging in the design of consumer products.
- Identify visual design principles and elements that are present within marketing ads.
- Identify the intent of a given marketing ad and demographics of the target consumer group for which it was intended.

Lesson 3.2 Functional Analysis

- Identify the reasons why engineers perform reverse engineering on products.
- Describe the function of a given manufactured object as a sequence of operations through visual analysis and inspection (prior to dissection).

Lesson 3.3: Structural Analysis

- Describe the differences between joinery, fasteners, and adhesives.
- Identify the types of structural connections that exist in a given object.
- Use dial calipers to precisely measure outside and inside diameter, hole depth, and object thickness.
- Identify a given object's material type.
- Identify material processing methods that are used to manufacture the components of a given commercial product.
- Assign a density value to a material, and apply it to a given solid CAD model.
- Perform computer analysis to determine mass, volume, and surface area of a given object.

Lesson 3.4: Product Improvement by Design

- Write design briefs that focus on product innovation.
- Identify group brainstorming techniques and the rules associated with brainstorming.
- Use decision matrices to make design decisions.
- Explain the difference between invention and innovation.

EALRs, GLEs, Math, Science and Technology Standards (Taught & Assessed in Lessons)	
Reading	
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2.2	Understand and apply knowledge of text components to comprehend text
2.3	Expand comprehension by analyzing, interpreting, and synthesizing information and ideas in literary and informational text
3.2	Read to perform a task
Communications	
1.1	Uses listening and observation skills and strategies to focus attentions and interpret information

3.1	Uses knowledge of topic/theme, audience, and purpose to plan presentations
Social Studies - Civics	
Writing	
1.1.1	Analyzes and selects effective strategies for generating ideas and planning writing
2.2.1	Applies understanding of multiple and varied audiences to write effectively
2.4.1	Produces documents used in a career setting
Art	
1.1.1	Uses spatial devices to depict depth/distance (e.g., atmospheric perspective)
Science	
6-8 INQB	Plan and conduct a scientific investigation that is appropriate for the question being asked; work collaboratively with other students to carry out the investigations
6-8 INQC	Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative
6-8 INQG	Prepare a written report of an investigation by clearly describing the question being investigated, what was done, and an objective summary of results. The report should provide evidence to accept or reject the hypothesis, explain the relationship between two or more variables, and identify limitations of the investigation.
6-8 APPA	Describe how a technology has changed over time in response to societal challenges
6-8 APPB	Investigate several professions in which an understanding of science and technology is required; explain why that understanding is necessary for success in each profession
6-8 APPC	Give examples to illustrate how scientists have helped solve technological problems and how engineers have aided science
6-8 APPD	Define a problem that can be solved by technological design and identify criteria for success; research how others solved similar problems; brainstorm different solutions
6-8 APPF	Test the best solution by building a model or other representation and using it with the intended audience. Redesign if necessary' present the recommended design using models or drawings and an engaging presentation
6-8 PS1B	Demonstrate and explain the frictional force acting on an object with the use of a physical model
6-8 PS1C	Determine whether forces on an object are balanced or unbalanced and justify with observational evidence; given a description of forces on an object, predict the object's motion
6-8 PS1D	Given two different masses that receive the same unbalanced force, predict which will move more quickly
9-12 SYSB	Determine if a systems approach will be helpful in answering a question or solving a problem.*b
9-12 INQC	Draw conclusions supported by evidence from the investigation and consistent with established scientific knowledge.*c
9-12 INQD	Write a detailed laboratory report that includes: the question that motivated the study, a justification for the kind of investigation chosen, hypotheses (if any), a description of what was done, a summary of data in tables and graphs, and a conclusion, based on the evidence, that responds to the question.
9-12 INQE	Formulate one or more hypotheses based on a model or theory of a causal relationship.
9-11 PS2I	Predict the effect of a change in temperature, surface area, or pressure on the rate of a given physical or chemical change.*b
Mathematics	
A1.8.E	Read and interpret diagrams, graphs, and text containing the symbols, language, and conventions or mathematics
A1.8.F	Summarize mathematical ideas with precision and efficiency for a given audience and purpose
G.6.B	Analyze distance and angle measures on a sphere and apply these measurements to the geometry of the earth
G.6.C	Apply formulas for surface area and volume of three-dimensional figures to solve problems
G.6.D	Predict and verify the effect that changing one, two, or three linear dimensions has on perimeter, area, volume, or surface area of

	two- and three-dimensional figures
Technology	
1.3.1	Identify and define authentic problems and significant questions for investigation and plan strategies to guide inquiry
2.1.1	Practice personal safety
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☐ Compare/Contrast	☐ Point of View	☐ Conclusion	☐ Elaboration	☐ Persistence
☐ Predict	☐ Analysis	☐ Metacognition	☐ Flexibility	☐ Precision

Relevance to Work: All citizens should have a basic understanding of Science, Mathematics, and Technology

Unit 4 Description

Unit 4 Design Problems: This unit is designed to combine the knowledge and information learned in the previous units to an open ended design problem. Students will apply the design process to create a solution to a problem that currently exists. Students will also learn that by-products are created as a result of the solution, and what impacts they have on the environment and society. The students

will also learn how to affectively market a product. They will also have an opportunity to create a virtual team to complete the tasks needed to solve real world problems.

Assessments

Lesson 4.1: Engineering Design Ethics

Explanation

1. Students will explain what is meant by product lifecycle in their engineering notebooks. They may choose to express their explanation in one of the following forms:
    - Write an essay
    - Create a research paper
    - Create a formal presentation using slides

Application

2. Students will investigate materials used daily to make products, and classify the materials from easy to difficult in regards to each material's recyclable processes.
3. Students will research design ethic issues and make a formal report of their findings.

Perspective

4. Students will identify and discuss various short and long term global and human impacts of their chosen design.

Empathy

5. Students will discuss in their engineering notebook concerns they may have for the environment regarding their chosen product. They will determine how they think they may be able to produce their product responsibly.

Lesson 4.2: Design Teams

Explanation

1. Students will explain the advantages and disadvantages of virtual teams.

Application

2. Students will apply the design process to solve a design problem within a virtual team.

Perspective

3. Having the advantage of hind-sight, at the conclusion of the design experience students will reflect on what they would have done differently if the project were to be repeated.

Empathy

4. Students will play the role of the client and offer written constructive criticism to the other teams on their design solutions during their

final summary presentations.

Self-Knowledge

5. Students will make thoughtful engineering notebook entries for every class day on the project.
6. Students will conduct formal, periodic self-assessments.

Performance Objectives: *It is expected that students will:*

Lesson 4.1: Engineering Design Ethics

- Create a brainstorming list of different products made from common materials that are used daily.
- Research and construct a product impact timeline presentation of a product from the brainstorming list and present how the product may be recycled and used to make other products after its lifecycle is complete.
- Identify the five steps of a product's lifecycle and investigate and propose recyclable uses for the material once the lifecycle of the product is complete.

Lesson 4.2: Design Teams

- Explain why teams of people are used to solve problems.
- Identify group norms that allow a virtual design team to function efficiently.
- Establish file management and file revision protocols to ensure the integrity of current information.
- Use internet resources, such as email, to communicate with a virtual design team member throughout a design challenge.
- Identify strategies for addressing and solving conflicts that occur between team members.
- Create a Gantt chart to manage the various phases of their design challenge.

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3.2	Read to perform a task
Communications	
1.1	Uses listening and observation skills and strategies to focus attentions and interpret information
3.1	Uses knowledge of topic/theme, audience, and purpose to plan presentations
3.3	Uses effective delivery
4.1	Assesses effectiveness of one's own and others' communication
4.2	Sets goals for improvement
Social Studies - Civics	
Writing	

1.1.1	Analyzes and selects effective strategies for generating ideas and planning writing
2.2.1	Applies understanding of multiple and varied audiences to write effectively
2.4.1	Produces documents used in a career setting
Art	
1.1.1	Uses spatial devices to depict depth/distance (e.g., atmospheric perspective)
Science	
6-8 SYSA	Given a system, identify subsystems and a larger encompassing system
6-8 APPA	Describe how a technology has changed over time in response to societal challenges
6-8 APPB	Investigate several professions in which an understanding of science and technology is required; explain why that understanding is necessary for success in each profession
6-8 APPC	Give examples of illustrate how scientists have helped solve technological problems and how engineers have aided science
6-8 PS1B	Demonstrate and explain the frictional force acting on an object with the use of a physical model
9-11 PS3A	Describe a situation in which energy is transferred from one place to another and explain how energy is conserved.*a
9-12 INQA	Generate and evaluate a question that can be answered through a scientific investigation. Critique questions generated by others and explain whether or not the questions are scientific.*a
9-12 INQC	Draw conclusions supported by evidence from the investigation and consistent with established scientific knowledge.*c
9-12 INQD	Write a detailed laboratory report that includes: the question that motivated the study, a justification for the kind of investigation chosen, hypotheses (if any), a description of what was done, a summary of data in tables and graphs, and a conclusion, based on the evidence, that responds to the question.
9-12 INQE	Formulate one or more hypotheses based on a model or theory of a causal relationship. Demonstrate creativity and critical thinking to formulate and evaluate the hypotheses.
9-12 INQF	Evaluate an investigation to determine if it was a valid means of answering the question, and whether or not the results were reliable. *e
9-12 INQG	Participate in a scientific discussion about their own investigations and those performed by others.
Mathematics	
A1.6.B	Make valid inferences and draw conclusions based on data
A1.8.E	Read and interpret diagrams, graphs, and text containing the symbols, language, and conventions of mathematics
A1.8.G	Synthesize information to draw conclusions, and evaluate the arguments and conclusions of others
G.6.C	Apply formulas for surface area and volume of three-dimensional figures to solve problems
G.6.D	Predict and verify the effect that changing one, two, or three linear dimensions has on perimeter, area, volume, or surface area of two- and three-dimensional figures
Technology	
1.3.1	Identify and define authentic problems and significant questions for investigation and plan strategies to guide inquiry
2.1.1	Practice personal safety
2.2.1	Develop skills to use technology effectively
2.4.1	Formulate and synthesize new knowledge
Leadership and Employability Skills	
Leadership: Analyze, refine and apply decision-making skills; Be involved in activities that require applying theory, problem-solving and using critical thinking skills; Communicate, participate and advocate effectively in pairs, small groups, teams and large groups in order to reach common goals	

Employability; through this unit, students will have the opportunity to exhibit the following SCANS skills:
Identifies relevant details, facts and specifications;
Communicates thoughts, ideas, information, and messages in writing;
Records information completely and accurately;
Composes and creates documents such as letters, directions, manuals, reports, proposals, graphs, and flow charts;
Uses language, style, organization, and format appropriate to the subject matter, purpose, and audience;
Performs basic computations;
Uses quantitative data to construct logical explanations for real world situations;
Understands the role of occurrence and prediction of events;
Participates in conversation, discussion, and group presentations;
Asks questions when needed;
Uses imagination freely, combines ideas or information in new ways, makes connections between seemingly unrelated ideas, and perhaps goals in ways that reveal new possibilities;
Specifies goals and constraints, generates alternatives, considers risks, and evaluates and chooses best alternatives;
Discovers a rule or principle underlying the relationship between two or more objects that applies it in solving a problem;

Analytical, Logical & Creative Thinking (check those that students will demonstrate in this lesson):

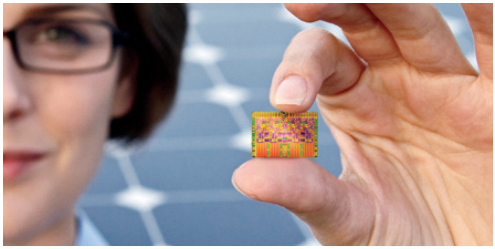
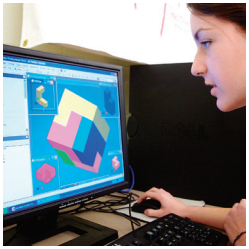
☐ Observe	☐ Cause/Effect	☐ Finding Evidence	☐ Reasoning	☐ Originality
☐ Patterns	☐ Fact/Opinion	☐ Evaluation	☐ Problem Solving	☐ Risking
☐ Sequence	☐ Main Idea	☐ Detect Bias	☐ Goal Setting	☐ Inquisitiveness
☐ Classify	☐ Summary	☐ Inference	☐ Fluency	☐ Attending
☐ Compare/Contrast	☐ Point of View	☐ Conclusion	☐ Elaboration	☐ Persistence
☐ Predict	☐ Analysis	☐ Metacognition	☐ Flexibility	☐ Precision

Relevance to Work: All citizens should have a basic understanding of Science, Mathematics, and Technology

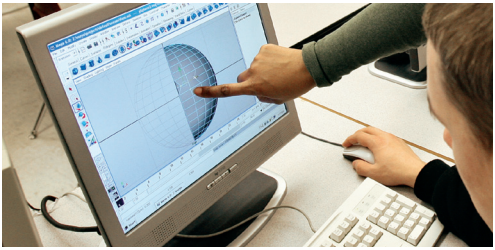
Engineering

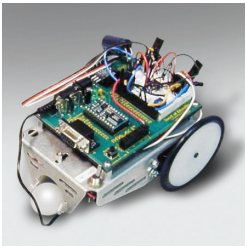
InnovationHS
Engineering for High Schools

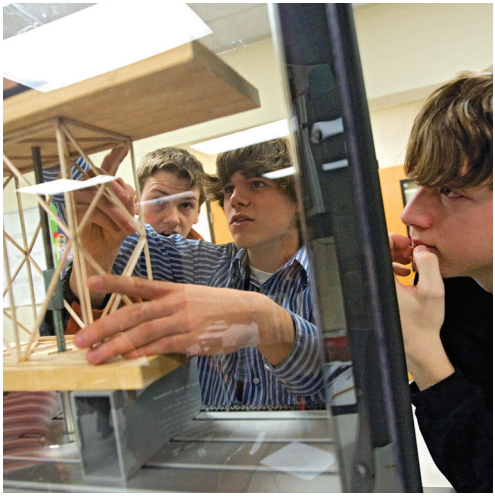
PROJECT LEAD THE WAY
PLTW

The **PLTW Pathway To Engineering (PTE)** program is a sequence of courses, which follows a **proven hands-on, real-world, problem-solving** approach to learning. Throughout PTE, students learn and apply the design process, acquire strong teamwork and communication proficiency and **develop organizational, critical-thinking and problem-solving skills**. They discover the answers to questions like how are things made and what processes go into creating products? Students use the same industry-leading 3D design software used by companies like **Intel, Lockheed Martin and Pixar**. They explore aerodynamics, astronautics and space life sciences. **Hello, NASA**. Students apply biological and engineering concepts related to biomechanics – **think robotics**. They design, test and actually construct circuits and devices such as **smart phones and tablets** and work collaboratively on a culminating capstone project. It's STEM education and it's at the heart of today's **high-tech, high-skill global economy**.







Foundation Courses

IED — Introduction to Engineering Design

Students use the design process and industry standard 3D modeling software to design solutions to solve proposed problems.

POE — Principles Of Engineering

Students are exposed to major concepts like mechanisms, energy, statics, materials and kinematics.

Specialization Courses

AE — Aerospace Engineering

Students explore the evolution of flight, flight fundamentals, navigation and control, aerospace materials, propulsion, space travel, orbital mechanics, ergonomics, remotely operated systems and related careers.

BE — Biotechnical Engineering

Hands-on projects engage students in engineering design problems related to biomechanics, cardiovascular engineering, genetic engineering, tissue engineering, biomedical devices, forensics and bioethics.

CEA — Civil Engineering & Architecture

Students design and develop residential and commercial properties using 3D architectural design software.

CIM — Computer Integrated Manufacturing

Students explore manufacturing history, individual processes, systems and careers. The course also incorporates finance, ethics and engineering design.

DE — Digital Electronics

Students are introduced to the process of combinational and sequential logic design, engineering standards and technical documentation. They are also exposed to programming integrated circuit kits and microcontrollers.

Capstone Course

EDD — Engineering Design & Development

Students work in teams to design and develop an original solution to a valid open-ended technical problem by applying the engineering design process.

Igniting Innovation through imagination and learning.

PLTW is the leading provider of rigorous and innovative Science, Technology, Engineering, Mathematics (STEM) education curricular programs used in middle and high schools across the U.S. Students in PLTW programs create, design, build, discover, collaborate and solve problems while applying what they learn in math and science. The hands-on, project-based engineering and biomedical sciences courses engage students on multiple levels, expose them to areas of study that they typically do not pursue and provide them with a foundation and proven path to college and career success. The PLTW curriculum is founded in the fundamental problem-solving and critical-thinking skills taught in traditional career and technical education, but at the same time integrates national academic standards and STEM principles to create a model for 21st century learning.

www.pltw.org

NEW COURSE OR MAJOR REVISION FORM

Teacher: Kelly McClellan & Kari Kissel **Date:** 2/1/2012

Building: Steilacoom High school **Grade:** 9-12 **Level:** _____

New Course: X **Major Revision:** _____

1. Course Title

- Project Lead the Way
  - Pathways to Engineering

Foundation Courses

- Introduction to Engineering (IED) 2012-13
- Principles of Engineering (POE) 2013-14

Specialization Courses

- Aerospace Engineering (AE)
- Biotechnical Engineering (BE)
- Civil Engineering and Architecture (CEA)
- Computer Integrated Manufacturing (CIM)
- Digital Electronics (DE)

Capstone Course

- Engineering Design and Development (EDD)

2. Course Description (Describe the course, content, and how the course will be graded.)

Introduction to Engineering Design (IED)

Designed for 9th or 10th grade students, the major focus of IED is the design process and its application. Through hands-on projects, students apply engineering standards and document their work. Students use industry standard 3D modeling software to help them design solutions to solve proposed problems, document their work using an engineer's notebook, and communicate solutions to peers and members of the professional community.

Principles of Engineering (POE)

Designed for 10th or 11th grade students, this survey course exposes students to major concepts they'll encounter in a postsecondary engineering course of study.

Topics include mechanisms, energy, statics, materials, and kinematics. They develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges, document their work and communicate solutions.

Aerospace Engineering (AE)

AE explores the evolution of flight, navigation and control, flight fundamentals, aerospace materials, propulsion, space travel, and orbital mechanics. In addition, this course presents alternative applications for aerospace engineering concepts. Students analyze, design, and build aerospace systems. They apply knowledge gained throughout the course in a final presentation about the future of the industry and their professional goals. This course is designed for 10th, 11th, or 12th grade students.

Biotechnical Engineering (BE)
In this course students explore the diverse fields of biotechnology. Hands-on projects engage students in engineering design problems related to biomechanics, cardiovascular engineering, genetic engineering, tissue engineering, biomedical devices, forensics and bioethics. Students, usually at the 11th and 12th grade level, apply biological and engineering concepts to design materials and processes that directly measure, repair, improve and extend living systems.
Civil Engineering and Architecture (CEA)
Students learn about various aspects of civil engineering and architecture and apply their knowledge to the design and development of residential and commercial properties and structures. In addition, students use 3D design software to design and document solutions for major course projects. Students communicate and present solutions to their peers and members of a professional community of engineers and architects. This course is designed for 11th or 12th grade students.
Computer Integrated Manufacturing (CIM)
How are things made? What processes go into creating products? Is the process for making a water bottle the same as it is for a musical instrument? How do assembly lines work? How has automation changed the face of manufacturing? While students discover the answers to these questions, they're learning about the history of manufacturing, robotics and automation, manufacturing processes, computer modeling, manufacturing equipment, and flexible manufacturing systems. This course is designed for 10th, 11th or 12th grade students.
Digital Electronics (DE)
Digital electronics is the foundation of all modern electronic devices such as mobile phones, MP3 players, laptop computers, digital cameras and high-definition televisions. Students are introduced to the process of combinational and sequential logic design, engineering standards and technical documentation. This course is designed for 10th or 11th grade students.
Engineering Design and Development (EDD)
In this capstone course, students work in teams to design and develop an original solution to a valid open-ended technical problem by applying the engineering design process. Students perform research to choose, validate, and justify a technical problem. After carefully defining the problem, teams design, build, and test their solutions while working closely with industry professionals who provide mentoring opportunities. Finally, student teams present and defend their original solution to an outside panel. This course is appropriate for 12th grade students.

The PLTW program supports and encourages the use of standards based grading.

3. List course Essential Learnings
See Attached: Introduction to Engineering Framework

4. How and when will these Essential Learnings be assessed?
See Attached: Introduction to Engineering Framework

5. How is the course curriculum aligned with the adopted curriculum to show continuum?
See Attached: Introduction to Engineering Framework

6. List Instructional Materials. Note: ALL NEW INSTRUCTIONAL MATERIALS MUST BE APPROVED BY THE DISTRICT'S INSTRUCTIONAL MATERIALS COMMITTEE AND RECOMMENDED TO THE BOARD OF DIRECTOS BY THE IMC.

Autodesk Design Academy Software
Provided by PLTW at Summer Institute

7. What are the total short and long term financial implications of the new course or revision?

PLTW computer lab cost

30 computers with monitors	$41,306.82
Windows 7 and Office 2010	$3,226.48
Printer	$1000.00
Autodesk Design Academy Software *(shared with PMS program)*	$3,195.00
Tax	$4,580.46
Total	$53,308.76

Other Costs

2 teacher laptops	$3,000.00
Core Class and Lab Inventory	$950.00
IED Class and Lab Items	$675.00
Teacher Training	$6,000

Total **$63,933.76**

Annual Materials Cost	$675.00
Annual Autodesk Academy Software *(shared with PMS program)*	$3,195.00
5 Year Lab Update *(projected at 15% increase)*	$60,950.00

8. What are the personnel or staffing implications of the new course or revision?

2 teachers will be trained this summer to teacher Introduction to Engineering. These teachers will participate in annual trainings through PLTW summer institute until they have met all the requirements to teach the specific program that SHS will offer.

Principal Signature: _____ Date: _____
OR
Program Director Signature: _____ Date: _____

Teacher Signature: _____ Date: _____

IN-KIND MATCH SUMMARY

The Summary shows In-Kind Match for the Update of the Region 5 Hazard Mitigation Plan. The breakdown includes jurisdiction name, representative name, representative title, representative hourly salary (some with benefits), representative attendance at monthly meetings, representative total monthly task time spent, and representative total monthly In-Kind Match.

The bottom of page 2 shows total In-Kind Match for the grant and monthly totals.

In-Kind Match Equation:

*Salary * (Meeting Attendance Hours + Monthly Task Hours) = Match*

- Peggy Uglick, Facilities Operations Secretary, Steilacoom Historical School District #1, Hourly rate of $29.30
- Bruce Parker, Facilities Operations Manager, Steilacoom Historical School District #1, Hourly rate of $38.20

Summary Details

*Meetings

- 3 hours per meetings per representative per jurisdiction
- includes actual meeting and travel time
- "0" denotes no attendance at meeting

*Task

- 3 hours per month for tasks and assignments per jurisdiction (limited to primary representative)
- includes completing forms, other informational requests, and elected official meetings process

The Pierce County Department of Emergency Management maintains the sign-in sheets for each meeting and documentation of tasks completed by each jurisdiction.

UPDATE OF THE REGION 5 HAZARD MITGATION PLAN
LETTER OF AGREEMENT

THIS AGREEMENT is made and entered into by and between Pierce County and Steilacoom Historical School District #1 authorizing each jurisdiction's participation in the development of an update to the Region 5 Hazard Mitigation Plan, formalizing the planning process, and establishing a Hazard Mitigation Planning Committee providing for a public involvement process and setting a schedule for completion, pursuant to the Disaster Mitigation Act of 2000 (44 CFR 201.6).

WHEREAS, the Federal Disaster Mitigation Act of 2000 requires that for all disasters declared on or after November 1, 2004, local and tribal government applicants for sub-grants following any disaster, must have an approved local mitigation plan in accordance with 44CFR 201.6 prior to receipt of Hazard Mitigation Grant Program project funding; and

WHEREAS, the Federal Disaster Mitigation Act of 2000 requires that for Pre-Disaster Mitigation Grant Program project funding on or after November 1, 2003, local and tribal government applicants must have an approved local mitigation plan in accordance with 44CFR 201.6 prior to receipt of project funding; and

WHEREAS, the Steilacoom Historical School District #1 in partnership with other government entities including Pierce County, is participating in development of an update to the Region 5 Hazard Mitigation Plan; and

WHEREAS, the local mitigation plan represents the commitment of jurisdictions to reduce risks from natural hazards, serving as a guide for decision makers as they commit resources to reducing the effects of natural hazards, and is in the public interest to proceed with the multi-jurisdictional grant application and planning process in a timely manner: and

WHEREAS, an open public involvement process is essential to the development of an effective plan, and the process will be coordinated with affected jurisdictions, agencies, businesses, academia and other private and non-profit interests in the county to insure a comprehensive approach to mitigating the effects of natural disasters; and

WHEREAS, the plan shall include a documentation of the planning process, and a risk assessment that provides the factual basis for activities proposed in the strategy to reduce losses, sufficient to enable each jurisdiction to identify and prioritize appropriate mitigation actions, a detailed mitigation strategy that provides the blueprint for reducing the potential losses identified in the risk assessment, a five year cycle for plan maintenance, and documentation of formal adoption by each participating jurisdiction, and

THEREFORE,
1) That Steilacoom Historical School District #1 authorizes Steilacoom'*s* participation in the update of the Region 5 Hazard Mitigation Plan development process;

2) That the planning process be organized to prepare the plan through a Hazard Mitigation Planning Committee composed of public representatives and staff from those jurisdiction departments that will be implementing the majority of the plan's recommendations,

3) That the public be involved through invitation to comment during the planning process using a variety of means such as public meetings, public information activities, and written comments;

4) A draft plan will be presented to the each jurisdiction for consideration and action:

5) That the process be concluded by the end of the grant agreement.

Steilacoom Historical School District #1

SIGNATURE _____
Bill Fritz, Superintendent
Date: _____

Region 5 Hazard Mitigation Planning in Pierce County

- Upon grant award, or in the process of application, **Letters of Intent** from participants are gathered
- **Hazard Mitigation Teams** are formed to oversee the development of the plan and Planning Teams are set up to represent each jurisdiction and the PCDEM Staff
- **Public Meetings** at the beginning and end of the process are held to inform the jurisdiction and the public of the planning effort
- Meetings with governing **Public Officials** are held to assure support of the plan

Region 5 Hazard Mitigation Planning in Pierce County

- **Adoption Process:**

- **Public Official Meetings** are held to authorize the submission of the plan to WA EMD

- **WA EMD approves** the plan **(30 days)**and **sends it to FEMA(45 days)** for their approval

- **FEMA returns an accepted plan** for the jurisdiction(s) and the plan is taken to the respective governing Public Officials for the formal approval and **adoption by resolution**

- **The finalized PLAN is sent to FEMA**

- The Jurisdiction has a **Plan** and it is eligible then to **make claims** for damages from disaster, or **apply for PDM grants** for Mitigation Projects

Region 5 Hazard Mitigation Planning in Pierce County

- Existing Risk Assessments
  - Avalanche
  - Climate Change
  - Drought
  - Earthquake
  - Flood
  - Landslide
  - Severe Weather
  - Tsunami
  - Volcano
  - Wildland Urban

- New Risk Assessments
  - **Abandoned Mines**
  - **Civil Disturbance**
  - **Dam Failure**
  - **Energy Emergency**
  - **Epidemic**
  - **Hazardous Materials**
  - **Pipelines**
  - **Terrorism**
  - **Transportation**

Going Forward

Annual Review of Your Plan

- Do you have a new point of contact?
- Updates to All Sections (new risks?)
- New Infrastructure?
- Review Mitigation Measures
- Develop New Measures

Steilacoom Historical School District

HIGH SPEED INTERNAL CONNECTIONS BETWEEN DISTRICT BUILDINGS

Solutions Considered

- Fiber Optics
  - Comcast
  - Fatbeam
- Microwave Back haul systems
  - Day Wireless
  - Exalt Communications

Microwave Pros and Cons

Pros			Cons	
Estimated $150,000 plus any future repairs and maintenance	Lower Cost		Reliability	Current microwave link has many issues that cause outages to maintenance facility.
Could possibly include Anderson Island Elementary in our high speed WAN.	Anderson Island		Remote Sites	Locations, leasing involved, after hour access, power.
The equipment would be owned by the district.	Equipment		Power	Lose power at repeater site and one or more links are lost even though our locations still have power.
			Install	Requires engineering of the links and acquisition of remote sites. Building antenna and/or tower structures.
			Maintenance	Harder to provide backup solutions for down equipment. More equipment to maintain or to be problems later. Maintenance Downtime.
			Erate Eligibility	Possible Priority 2 funding. Onsite build up costs are not eligible. Priority 2 is rarely funded.
			Future Scalability	We will be bound to 1GB and will be costly to increase bandwidth in the future.
			Weather / Disaster	More affected by weather and natural disasters such as snow and ice storms.
			Line of Sight	None of our locations are line of site, and terrain may cause the need of repeater sites.

Fiber Optics Pros and Cons

Pros			Cons	
Protected from environmental effects. No external equipment. Other paths available for backup.	Reliability		Higher Cost	Varies from $300,000 to $1,050,400 over term of contracts.
Glass based material does not conduct electricity or absorb radio or electrical signals.	No Interference		Anderson Island	No fiber or other provider based high speed data solutions for Anderson Island.
No maintenance required. No spares necessary. No maintenance downtime.	No Maintenance		Leasing	All connections would be leased and not owned by the district.
System repair times will be short due the availability of other strands of fiber.	System Availability			
Repairs will belong to our provider and will be their responsibility.	Repair Costs			
Priority 1 services are always funded. Priority 2 services rarely get funded.	E-Rate Priority 1			
Can easily increase our bandwidth to 2GB if needed in the future.	Bandwidth Growth			
Fewer areas for failure and is a fixed secure path that is more of a plug and play extension of our LANs.	Less Equipment			
Fiber can be up and going on 1 July 2012 for a summer cutover.	Installation Timeline			
QoS will be unmatched due to closed circuit and high speed capabilities.	Quality of Service			

Recommend Fiber Optics

- Due to Pros and Cons
  - Fiber Optics is the more reliable choice.
  - Best option for future data growth and needs of the district.
- Cost versus Quality of Service
  - Microwave is susceptible to environment and weather.
  - Experience with microwave system in district now
    - Unreliable at times.
    - Difficult to troubleshoot.
- Installation Timeline
  - One fiber optics provider can meet our E-Rate timeline of completing installation on or about 1 July 2012.

Which Fiber Optics Provider?

- Comcast
  - Meets installation timeline
  - Lower cost
  - References
  - Repair guarantee
- Fatbeam
  - Cannot guarantee installation completion timeline
  - Higher cost
  - No mention of Repair

*reference proposals

By the Numbers

- Cost comparison of different options given by prospective providers

Fiber Carrier	Speed	Build Cost	Monthly Cost	Contract Term	Total for Contract
Comcast	100 MB	$150,000	$2,500	60 months	$300,000
Comcast	100 MB	$0	$7,000	60 months	$420,000
Comcast	1 GB	$150,000	$5,000	60 months	$450,000
Comcast	1 GB	$0	$7,500	60 months	$450,000
Fatbeam	1 GB	$175,000	$7,295	120 months	$1,050,400

*reference proposals
*All prices are before Taxes and E-Rate discount

How do we Decide?

- E-Rate Evaluation Worksheet
  - Factors
    - Cost
    - Installation Timeline
    - Meets District Needs
    - Past Reputation
    - Proximity to District
    - E-Rate Experience
- Comcast Score
  - 98.8
- Fatbeam Score
  - 61.3

*reference Service Provider Evaluation Worksheet

Which Fiber Optics Provider?

- Comcast
  - Meets our installation timeline
    - Completion on or about 1 July 2012
  - Lower Cost for same speed
    - Best value

Fiber Carrier	Speed	Build Cost	Monthly Cost	Contract Term	Total for Contract
Comcast	1 GB	$150,000	$5,000	60 months	$450,000

  - Shorter Commitment
    - 60 months versus 120 months
    - Keeps future options open
  - Reputation with other School Districts
    - Olympia School District
    - Bellevue School District
    - Dieringer School District

*reference proposals

What about our Current Services?

- Our current circuits are under contract
- Contract ends on all except one before 1 July 2012
  - Buy out of contract is approximately $475.00
- Compare current costs to future costs
  - T-1s and Qmoe

Qwest Billing Number	Circuit ID	Location Supported	Service Term Date	Monthly Cost	Est. Term. Cost
206 T22 6333 991	4 UHDA 142390	Cherrydale	30-Jun-12	$203.87	$0.00
206 T41 4618 308	4 UHDA 146211	Salter's Point	30-Jun-12	$203.87	$0.00
206 T36 8065 278	4 UHXX 225304	Salter's Point	30-Jun-12	$203.87	$0.00
206 T61 8207 993	4 UHDA 139500	District Office	30-Jun-12	$203.87	$0.00
206 T71 2019 198	4 UHXX 208324	District Office	30-Jun-12	$203.87	$0.00
206 T32 9520 720	4 UHXX 235770	Chloe Clark	6-Oct-12	$303.96	$475.00
206 T61 7855 961	4 UHXX 225307	Chloe Clark	30-Jun-12	$303.96	$0.00
253 D08 1073 073 120 0	Pioneer Qmoe	Pioneer	12-May-12	$1,548.33	$0.00
				$3,175.60	$475.00

  - Fiber Optics

Fiber Carrier	Speed	Monthly Cost
Comcast	1 GB	$5,000

*All prices are before Taxes and E-Rate discount

Any added Costs?

- There will be some added costs
  - Possible network equipment upgrades or changes
  - Configuration costs to optimize for high speed
- Possible overlap of services
  - T-1s and Qmoe
  - Fiber Optics
- These costs would be incurred with any of the options

Comcast BUSINESS CLASS

Comcast Business Communications, LLC

NETWORK SERVICE PROPOSAL

Steilacoom Hist School District 1
Request for Proposal

Data Services
January 20th, 2012

Alok Sharma
Strategic Enterprise Account Executive
410 Valley Ave NW Avenue
Puyallup, WA 98371
253-864-4258
Alok_sharma@cable.comcast.com

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Service Provider Identification Number (SPIN) 143003990

Transmittal Letter

January 20th, 2012

Mr. Jacbob Phillips
Steilacoom Hist School District 1
510 Chambers Street
Steilacoom, WA 98388

Dear Mr. Phillips,

Comcast looks forward to a mutually rewarding business relationship with Steilacoom Hist School District 1 and its representatives. Comcast Business Communications, LLC ("Comcast") is pleased to provide this proposal (the "proposal") to Steilacoom Hist School District 1 ("Steilacoom Hist School District 1") for managed network services in response to the request for proposal; form 470 application number 372600000952558 dated December 12th, 2011 with an allowable contract date of January 9th, 2012 for Steilacoom Hist School District 1.

It is our understanding that Steilacoom Hist School District 1 must comply with state and local procurement laws as defined by the Universal Service Administration Company and, it is our understanding that Steilacoom Hist School District 1, based on request for proposal, is not seeking services pursuant to the State Procurement code, therefore we provide our response to the proposal.

As you proceed in the selection process, please feel free to contact your Strategic Enterprise Account Executive, Alok Sharma, at 253-864-4258, with any questions, comments, or concerns.

Please note that Comcast excepts to all portions of the bid request. In addition, the Network Service Agreement which has been expressly included in the Appendix represents the sole terms and conditions upon which the abovementioned services are being offered. No statement made in the proposal shall be considered a contractual term unless expressly included in the aforementioned Network Service Agreement. Comcast, as part of the post bid submission process, would be amenable to negotiating limited modifications to the Network Services Agreement appended to the attached proposal, to address additional items (if any) that your organization feels are critical to its consideration and use of the Comcast solution.

Sincerely,

Terrence J. Connell
Senior Vice President
Comcast Business Communications, LLC

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Service Provider Identification Number (SPIN) 143003990

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Executive Summary

In the ever-changing world of communications, Comcast redefines how high bandwidth products and services are delivered. Comcast brings unsurpassed scalability, reliability, resiliency, and leading edge solutions directly to your organization. Comcast can meet your organization's communications needs quickly, efficiently, and professionally with business-class service and support. Comcast is well positioned to offer long-term value to support future technology strategies. Our integrated Internet and data products are delivered over an extensive and deep enhanced fiber optic network that is physically diverse from the phone companies.

Comcast proposes, specifically, to provide a managed and scalable Wide Area Network and scalable Internet Access that will seamlessly link each individual site listed in the RFP. Your organization will be able to exchange data at speeds up to 1000 Mbps from each site.

Comcast feels this proposal offers a flexible solution that is capable of meeting current and future demands. Other Comcast advantages include:

- **Bandwidth scalability.** A solution where network and Internet bandwidth at individual sites can expand to meet future demands.
- **Network scalability.** Able to rapidly expand the network by adding new sites with simple interfaces.
- **State-of-the-Art network management.** From our Network Operations Center (NOC) in Moorestown, New Jersey, Comcast actively manages and monitors customer connections and the underlying infrastructure 24 hours a day, 7 days a week, year round.
- **No technology learning curve.** Comcast provides and manages the network edge device, so users access the network through familiar LAN interfaces, not complicated WAN interfaces.
- **Dedicated customer support.** Comcast provides a dedicated account team and the business-class service our customers expect.

Comcast is pleased to submit this proposal for state-of-the-art, efficient and affordable high-bandwidth digital communications services. Comcast looks forward to developing a solid business relationship with you and to assisting your organization in addressing its communication needs. Comcast is confident that the solutions presented in this proposal will provide a cost-effective solution that supports business objectives and quality requirements and will enhance your overall communication services portfolio.

This proposal is valid for 60 days.

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Solution Overview

Comcast is uniquely positioned to offer long-term value to support current and future technology requirements. Based on the requirements specified Comcast would specifically propose provisioning the following as a solution.

Comcast Ethernet Network Service

- Metro Ethernet Forum (MEF) compliant
- Multi-point UNIs for Any-to-any connections
- Supports a single EVC per UNI
- Three Classes of Service (CoS) Basic, Priority, and Premium
- VLAN Transparency
- Objectives: 99.5% data delivery, 99.97% network availability

The proposed solution was designed to enable demanding IP based applications. The network easily meets the infrastructure demands of bandwidth-intensive applications and limits the need to purchase or configure additional WAN technology. This service has very high availability so that interruptions are minimized.

This is a scalable and flexible service. With Comcast, your organization gets true any-to-any connectivity which allows traffic to move from any site to any other site within the network through a single Ethernet interface.

You will also have the ability to have a network solution that meets today's requirements but is capable of scaling to other locations or to meet future bandwidth demands. If, or when, you need additional network capacity, an upgrade agreement would be negotiated with Comcast and the billing terms would be specified in that agreement.

Finally, Comcast will supply dedicated access to the Internet using Comcast's Ethernet Dedicated Internet Service (EDIS). EDIS is a symmetrical, dedicated Internet access service provisioned on an Ethernet platform that is easy and fast to upgrade. Comcast will provision Internet connectivity for the sites to jointly access the Internet. Your organization will have the ability to scale that connection in 1 Mbps increments up to 10 Mbps or 10 Mbps increments up to 100 Mbps or 100 Mbps increments up to 10 Gbps depending on configuration.

Comcast service can easily scale to accommodate new bandwidth requirements. Comcast has uniquely diverse routing, commonly

COMCAST BUSINESS CLASS ETHERNET

RELIABLE, RESILIENT DESIGN

High network availability, minimal latency and low packet loss

FULLY SCALABLE SOLUTIONS

Symmetrical dedicated bandwidth configurable from 1Mbps to 10Gbps

BROAD & DIVERSE NETWORK

Your information travels across our own enhanced fiber network with 145,000+ national route miles of fiber

REDUNDANT CORE ARCHITECTURE

Rapid recovery time from network incidences

24/7 BUSINESS CLASS SUPPORT

24/7/365 network monitoring and support through our Business Services Network Operations Centers (BNOC)

Certified MEF* Compliant

*Metro Ethernet Forum
metroethernetforum.org

physically disparate from most other Telco provider's networks. Bandwidth can be added very quickly, often within hours.

With Comcast, your organization will leverage our extensive fiber network for a reliable and scalable network and connection to the Tier 1 Internet backbone using a simple Ethernet interface that allows for true plug and play compatibility. Additionally, with Comcast there are no local loop charges, typical with other service providers.

Summary

At each of the locations specified in this response, Comcast will install network edge equipment that will facilitate the connection between your network and ours. As part of the service, Comcast will provide, monitor and maintain the edge devices. Comcast also provides web-based monitoring and reporting tools available 24x7 upon request.

With Comcast you will receive a trusted data transport solution from the largest broadband provider offering unparalleled flexibility in configurations and pricing. Combine our years of commercial experience with leading edge innovative technology and service capabilities and differentiation among networking service providers becomes much clearer.

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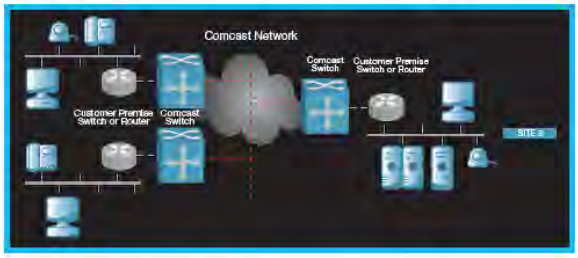
Technical Specifications

Service Description

Comcast Ethernet Network Service (ENS) enables customers to connect physically distributed locations across a Metropolitan Area Network (MAN) as if they are on the same Local Area Network (LAN). ENS is a reliable, more flexible, scalable, and cost-effective alternative to traditional hub and spoke network topologies using Frame Relay, TDM private lines or IP VPNs. The service provides VLAN transparency enabling customers to implement their own VLANs without any coordination with Comcast.

ENS offers three Classes of Service (CoS): Basic, Priority, and Premium. CoS options enable customers to select the CoS that best meets their applications' performance requirements. The service is offered with 10Mbps, 100Mbps, 1Gbps or 10Gbps Ethernet User-to-Network Interfaces (UNI) and is available in increments from 1Mbps to 10Gbps.

Comcast's Ethernet Network Service is Certified MEF Compliant.



Section 1. Technical Specifications

1.1 Ethernet User-to-Network Interface. The service provides bidirectional, full duplex transmission of Ethernet frames using a standard IEEE 802.3 Ethernet interface (UNI). Figure 1 lists the available UNI physical interfaces, their associated Committed Information Rate (CIR) bandwidth increments and the Committed Burst Sizes (CBS).

UNI Speed	UNI Physical Interface
10Mbps	10BaseT
100Mbps	100BaseT
1Gbps	1000BaseT or 1000BaseSX
10Gbps	10GBASE-SR or 10GBASE-LR

CIR Increments	CBS (bytes)
1Mbps	25,000
10Mbps	250,000
100Mbps	2,500,000
1000Mbps	25,000,000

Figure 1: Available UNI interface types and CBS values for different CIR Increments

1.2 Maximum number of UNIs. The service supports up to 100 UNIs. Additional UNIs are considered on an Individual Case Basis (ICB).

1.3 Class of Service Option. The service offers three CoS options. The CoS options allow for differentiated service performance levels for different types of network traffic. It is used to prioritize customer mission-critical traffic from lesser priority traffic in the network. Customers must specify a CIR for each CoS to indicate how much bandwidth should be assigned to each CoS. Figure 2 provides the service performance objectives for each CoS for distances within 250 network miles.

	Class of Service (CoS)		
Performance Objective (≤ 250 miles)	Premium	Priority	Basic
Latency (one way)	< 12ms	< 23ms	< 45ms
Jitter (one way)	< 2ms	< 23ms	< 45ms
Packet Loss (one way)	< 0.001%	< 0.01%	< 1%
Availability	> 99.99%	> 99.99%	> 99.99%

Figure 2: CoS Performance Objectives

1.4 CoS Identification and Marking. Customers must mark all packets using 802.1p CoS values as specified in Figure 3 to ensure the service will provide the intended CoS performance objectives specified in Figure 2.

CoS	802.1p
Premium	5
Priority	2-3
Basic	0-1

Figure 3: CoS Marking

1.5 Traffic Management. Comcast's network traffic-policing policies restrict traffic flows to the subscribed CIR for each service class. If the customer-transmitted bandwidth rate for any CoS exceeds the subscription rate (CIR) and burst size (CBS), Comcast will discard this traffic. For packets marked with a non-conformant CoS marking, the service will transmit them using the Basic service class without altering the customer's CoS markings.

1.6 MAC Addresses. Comcast supports up to 250 MAC addresses per UNI and up to 2500 MAC addresses per ENS Domain.

1.7 Maximum Frame Size. The service supports a Maximum Transmission Unit (MTU) packet size of 1600 bytes to support untagged or 802.1Q tagged packet sizes. Jumbo Frame sizes can be supported on an Individual Case Basis (ICB).

1.8 VLAN Tag Preservation. The service supports IEEE 802.1Q VLAN-tagged customer packets. All customer VLAN IDs and priority code points (IEEE 802.1p) for CoS are transmitted and received unaltered by the service. Untagged packets are mapped to the native VLAN specified by customer. Customers may configure their own VLANs on their customer owned Customer Premise Equipment (CPE) without coordination with Comcast. Comcast may reserve one VLAN for network management purposes.

1.9 Ethernet Service Frame Disposition. Different types of Ethernet frames are processed differently by the service. Frames may pass unconditionally through the network or may be limited as in the case of broadcast, unknown unicast and multicast frames to ensure acceptable service performance. Refer to Figure 4 for Comcast's service frame disposition for each service frame type.

Service Frame Type	Service Frame Delivery
Unicast	All frames delivered unconditionally
Mulitcast	Frames delivered conditionally
Broadcast	Frames delivered conditionally

Figure 4: Service Frame Delivery Disposition

1.10 Layer 2 Control Protocol (L2CP) Processing. The service will discard, tunnel across the Comcast network, or peer (process) L2CP service frames at each UNI. Refer to Figure 5 for Comcast's L2CP disposition. For L2CPs with multiple disposition possibilities, the customer must specify to Comcast which disposition should be taken. The default disposition is to discard these L2CP service frames.

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Destination MAC Address	Layer 2 Control Protocol	L2CP Frame Disposition
01-80-C2-00-00-00	STP, RSTP, MSTP	Tunnel (All UNIs)
01-80-C2-00-00-01	PAUSE	Discard (All UNIs)
01-80-C2-00-00-02	LACP, LAMP	Peer or Discard (disposition specified per UNI)
01-80-C2-00-00-02	Link OAM	Peer or Discard (disposition specified per UNI)
01-80-C2-00-00-03	802.1X	Discard (All UNIs)
01-80-C2-00-00-07	E-LMI	Discard (All UNIs)
01-80-C2-00-00-0E	LLDP	Discard (All UNIs)
01-80-C2-00-00-20 through 01-80-C2-00-00-2F	GARP, MRP	Tunnel (All UNIs)

Figure 5: L2CP Frame Disposition

1.11 Online Reporting. Comcast provides the customer with password-protected access to online reports containing historical network traffic information. Reports may vary based on the customer solution.

Section 2. Monitoring, Technical Support and Maintenance

2.1 Network Monitoring. Comcast monitors all Comcast Services purchased by a customer on a 24x7x365 basis.

2.2 Technical Support. Comcast provides customers a toll-free trouble reporting telephone number to the customer Business Services Network Operations Center (BNOC) that operates on a 24x7x365 basis. Comcast provides technical support for service-related inquiries. Technical support will not offer consulting or advice on issues relating to CPE not provided by Comcast.

2.3 Escalation. Reported troubles are escalated within the Comcast BNOC to meet the standard restoration interval described in the Service Level Objectives. Troubles are escalated within the Comcast BNOC as follows: Supervisor at the end of the standard interval plus one hour; to the Manager at the end of the standard interval plus two hours, and to the Director at the end of the standard interval plus four hours.

2.4 Maintenance. Comcast's standard maintenance window is Sunday to Saturday from 12:00am to 6:00am local time. Scheduled maintenance is performed during the maintenance window and will be coordinated between Comcast and the customer. Comcast provides a minimum of forty-eight (48) hour notice for non-service impacting scheduled maintenance. Comcast provides a minimum of seven (7) days notice for service impacting planned maintenance. Emergency maintenance is performed as needed.

Section 3. Service Level Objectives

Comcast provides Service Level Objectives for the service, including network availability, mean time to respond, and mean time to restore. The service objectives are measured monthly from the Comcast point of demarcation.

3.1 Availability. Availability is a measurement of the percentage of total time that the service is operational when measured over a 30 day period. Service is considered "inoperative" when either of the following occurs: (i) there is a total loss of signal for the service, (ii) output signal presented to the customer by Comcast does not conform to the technical specifications in Section 1.

3.2 Mean Time to Respond. Mean Time to Respond is the average time required for the BNOC to begin troubleshooting a reported fault. The Mean Time to Respond objective is fifteen (15) minutes upon receipt of a fault notification or from the time a trouble ticket is opened with the BNOC.

3.3 Mean Time to Restore. Mean Time to Restore is the average time required to restore service to an operational condition as defined by the technical specifications in Section 1 of this document. The Mean Time to Restore objective is four (4) hours for electronic equipment failure or six (6) hours for fiber optic facilities failure from the time a trouble ticket is opened with the BNOC.

Section 4. Customer Responsibilities

Comcast provides CPE for provisioning its services and the delivery of the UNI. Comcast will retain ownership and management responsibility for this CPE. As a result, the CPE must only be used for delivering Comcast services. Customers are required to shape their egress traffic to the contracted CIR.

Customers have the following responsibilities related to the installation, support, and maintenance of the Service.

4.1 Provide an operating environment with temperatures not below fifty-five (55) or above eighty-five (85) degrees Fahrenheit. Humidity shall not exceed ninety (90) percent at eighty-five (85) degrees Fahrenheit.

4.2 Provide secure space sufficient for access to one (1) standard, freestanding, equipment cabinet at each of the customer facilities, no further than fifty feet from the customer router or switch interface.

4.3 Provide outside cable entry conduit(s), entry cable ground point, and internal building conduit to allow Comcast the ability to rod/rope a fiber optic cable to the point of demarcation.

4.4 Locate and mark all private underground utilities (Water, Electric, etc.) along path of new underground placement not covered by utility companies.

4.5 Provide a pull rope in any existing duct that Comcast is to use and ensure existing duct is serviceable for Comcast use.

4.6 Obtain 'right-of-way' entry easement for Comcast facilities and equipment from property owners at each customer location.

4.7 The customer is responsible for coring of the building's outside wall and internal walls. Upon request, Comcast can perform this activity on an 'as needed' basis for an additional one-time fee.

4.8 Provide UPS AC power equipment, circuit sizing to be determined, if applicable.

4.9 Emergency local generator backup service, if applicable.

4.10 Provide access to the buildings and point of demarcation at each customer location to allow Comcast and its approved Contractors to install fiber for service installation. Provide access to each location for regular (8am - 5pm) and emergency (24 hour) service and maintenance of Comcast's equipment and facilities.

4.11 Provide, install and maintain a device that is capable of routing network traffic between the Service and the customer's Local Area Network (LAN).

4.12 Customer must provide a point of contact (POC) for installation, service activation and any maintenance activities.

Section 5. Definitions

5.1 Latency. Latency, also known as Frame Delay, is defined as the maximum delay measured for a portion of successfully delivered service frames over a time interval.

5.2 Jitter. Jitter, also known as Frame Delay Variation, is defined as the short-term variations measured for a portion of successfully delivered service frames over a time interval.

5.3 Packet Loss. Packet Loss, also known as Frame Loss, is the difference between the number of service frames transmitted at the ingress UNI and the total number of service frames received at the egress UNI.

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Solution Provisioning and Project Plan

Typical site installations may take anywhere from 90 to 180 days for completion. Throughout the duration of the project a dedicated Comcast account team will be in contact providing status and answering any questions you may have.

Overall Project Milestones

1. Detailed Design review
   - 1.1. Field Surveys Performed
   - 1.2. Detailed Network Design
   - 1.3. Detailed Network Equipment
   - 1.4. Detailed Construction Costs
   - 1.5. Proposal Pricing
2. Contract Signature
   - 2.1. Final Proposal Presented
   - 2.2. Contract Signature
   - 2.3. Order Executed
3. Network Implementation
   - 3.1. Fiber Construction
   - 3.2. Equipment Testing
   - 3.3. Equipment Installation
   - 3.4. Circuit Testing
   - 3.5. As-Built Maps / Diagrams Created
4. Network Testing and Customer Acceptance
   - 4.1. Network Tests
   - 4.2. Customer Acceptance
   - 4.3. Network Activation
5. Billing
   - 5.1. First invoice receipt

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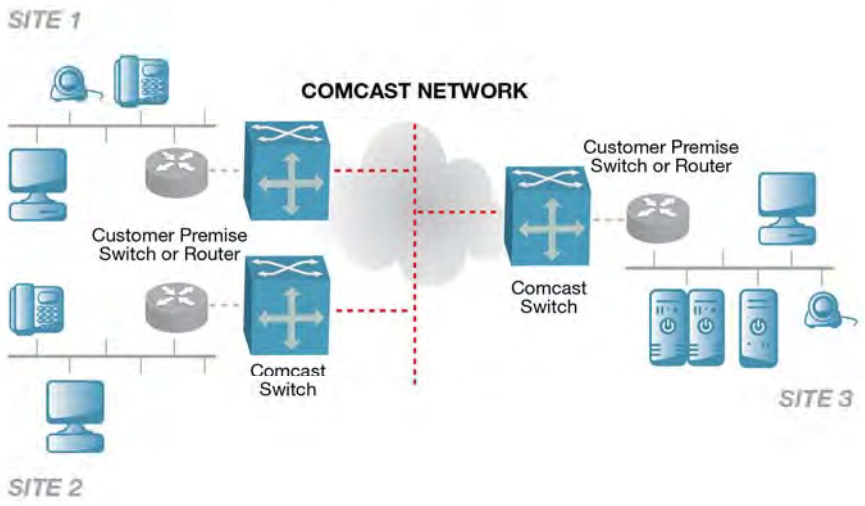
Network Diagram

Logical drawing

ENS Services



"Illustrative Diagram – Actual installation may differ.

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Serviceable Sites

1. Steilacoom High School-54 Sentinel Way Steilacoom, WA 98388
2. Cherrydale Elementry School-1201 Galloway Street Seilacoom, WA 98388
3. Salters Point Elementry-908 3rd Street Steilacoom, WA 98388
4. District Office-511 Chambers Street Steilacoom, WA 98388
5. Chloe Clark Elementry-1700 Palisade Blvd Dupont, WA 98327
6. Pioneer Middle-1750 Bob's Hollow Lane Dupont, WA 98327

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Company Background

Comcast was founded in 1963 as a single-system cable operator and now is the nation's largest with over $35 billion in revenue in 2009. We are one of the nation's leading providers of information, communications and entertainment products and services with over 16 million Internet customers, 8 million digital voice customers, 23 million video customers and hundreds of thousands of business customers.

With over 100,000 employees, we currently serve 18 of the top Metropolitan Statistical Areas (MSAs) in the U.S. and provide service to customers in 39 states and the District of Columbia.

Our high-speed, high-capacity broadband and Ethernet services operate across our private, diverse enhanced fiber network. With over 147,000 national route miles of fiber, **our network is the largest facilities-based last mile alternative to the phone company.**

With the first and largest fully 40G backbone, and the deployment of the first 100G router interface, Comcast's advanced network delivers reliable and scalable services for businesses of any size.

COMCAST'S EXTENSIVE NATIONWIDE FIBER OPTIC NETWORK

THE LARGEST FACILITIES-BASED, LAST MILE ALTERNATIVE TO THE PHONE COMPANY IN THE UNITED STATES.

COVERAGE	39 states + DC
PLANT ROUTE MILES	600,000
FIBER ROUTE MILES	147,000
OPTICAL NODES	116,000
TRAFFIC TYPE	95% commercial or customer of a direct peer

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Comcast Business Communications, LLC is a unit of Comcast Corporation, owner of the largest cable communications company in the United States and headquartered in Philadelphia. Building upon Comcast's and its subsidiaries' reputation as pioneers in developing innovative broadband communications products and services for consumers, Comcast is bringing innovative technology and service capabilities to businesses, government and educational organizations within Comcast Cable markets.

Comcast Business Communications leverages and augments Comcast's network with next-generation optical and access technologies to offer Internet and other data services directly to customers. An extensive fiber network, delivering unmatched broadband capacity, and a commitment to customer service, enables Comcast to deliver superior broadband services to range of all businesses and organizations — small, medium, and large.

Consistent with Comcast's business strategy to deliver unprecedented bandwidth, network reach, and a superior customer experience, Comcast has invested in state-of-the-art network technologies, business and operating support systems, as well as network professionals. These investments have resulted in scalable services, an all-fiber backbone network, and superior service levels for those businesses and organizations served in the Comcast markets. In addition, the extensive footprint of the network allows Comcast to deliver coaxial and fiber capacity to many business locations that have been historically underserved by other network providers.

Among the services that Comcast and its affiliates provide are several that they have helped pioneer, including high-speed commercial cable-modem-based Internet services.

For more information on Comcast visit http://www.business.comcast.com.

Financial Qualifications

Comcast is a wholly owned, indirect subsidiary of Comcast Corporation, from which Comcast receives its funding. As such, Comcast is not publicly held and does not release stand-alone financial results or associated financial information, except in limited circumstances to the extent required by law, and then, only under seal or a proprietary protective order. Please refer to the publicly filed external consolidated Comcast financial statements and earnings press releases posted at the Comcast Corporate web page: http://www.cmcsk.com.

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E-Rate Support

Comcast provides e-rate eligible services through its affiliate, Comcast Business Communications, LLC. We hereby certify that we are listed as a telecommunications service provider (as the Federal Communications Commission defines that term), eligible to receive Universal Service support under the Universal Service Support Mechanism for Schools and Libraries ("E-Rate Program). Comcast certifies further that it (a) provides the telecommunications services described herein on a common carriage basis, and (b) is fully authorized to participate in the E-Rate Program as a Telecommunications Service Provider.

Working Knowledge of USF

Comcast has working knowledge and a successful record of working with school districts via the Universal Service Support Mechanism for Schools and Libraries ("E-Rate Program").

Service Provider Identification Number (SPIN)

143003990 - Services provided by Comcast Business Communications, LLC.

Agreement of Participation

Comcast agrees to comply with the written request of the IU/School District, its agency, organization and or consultant administering, E-Rate on the District's behalf. Comcast reserves the right to request a LOA, (Letter of Agency) that such party is authorized to receive information on behalf of the District.

Information and Documentation

Comcast agrees to provide requested information and or documentation to the IU/School District, its agency, organization and or consultant administering, E-Rate on the District's behalf within a commercially reasonable period of time.

Reimbursement Process

At the written request of the customer, Comcast shall, (a) invoice the school district only for the non-discounted amounts due on E-Rate-approved transactions and simultaneously invoice the Universal Services Administration Company ("USAC") for the balance [Discounted Invoice Process] or (b) remit to the customer reimbursement monies received from USAC for the discounted portions of E-Rate-approved transactions. Customer reserves the right to select either option (a) or (b) per funding year.

Working Knowledge of USF and CTF Programs

Comcast has working knowledge and a successful record of working with school districts via the Universal Service Support Mechanism for Schools and Libraries ("E-Rate Program") and the California Teleconnect Fund, (CTF).

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Operations

Comcast provides high-quality service and effective maintenance of our network and customer base in several key business areas. These include: Network Operations and Field Operations. Comcast strongly suggests that all personnel involved in the decision process visit the network operations facilities of each of the bidders as part of the evaluation process.

Network Operations

The Network Operations organization provides outstanding network maintenance, which includes surveillance, trouble-shooting, and resolution through its state-of-the-art 24 x 7 x 365 Network Operations Center (NOC) opened in July 2001 at our corporate headquarters in Mt. Laurel, New Jersey. The NOC continuously monitors the network equipment, service health, and performance of the Comcast network, responds to network events and service degradations, dispatches local field technicians, and informs customers of service issues, in many cases before the customer has noticed the problem. The Network Operations group also provides technical support and responds to trouble calls from network service customers including carriers, TLS and Native ATM customers, and voice product customers, through a staff of Technical Support Representatives (TSRs). The Comcast NOC also operates a 24 x 7 x 365 Technical Customer Support helpdesk that responds to calls for all of Comcast services.

The NOC maintains a staff of engineers and technicians that are trained in an array of networks, elements, and technologies in the Comcast network (Ethernet, ATM, Frame Relay, SONET, T-1/T-3, local and long distance telephony, Internet Access, and LAN/WAN based services). Comcast engineers and technicians have earned many industry certifications, including: CCIE (Cisco Certified Internetwork Expert), Cisco Certified Network Associate (CCNA), Cisco Certified Network Professional (CCNP), Microsoft Certified Systems Engineer (MCSE), A+, Network+, and other certifications in specific vendor equipment.

The NOC has a standard 3-tier escalation configuration with automatic escalation intervals. Tier 4 support is escalated to Comcast's Network Engineering Department. Customers are welcome to request to speak with a supervisor or manager at any time.

NOC End user support and Escalation Procedures

The NOC is organized with a standard 3-tier escalation configuration with automatic escalation intervals. Tier 4 support is escalated to Comcast's Network Engineering Department. The NOC is staffed 24 x 7 x 365. Technicians remain on call 7 x 24 to assist with major problems. The NOC may also dispatch technicians 7 x 24. Customers are welcome to request to speak with a supervisor or manager at any time.

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Comcast Escalation Procedures

Business Hours

Priority	Shift Lead	Manager	Director	Vice-President
1	15 Mins	30 Mins	1 Hour	3 Hours
2	1 Hour	2 Hours	4 Hours	12 hours
3	2 Hours	4 hours	12 Hours	-

Non-Business Hours

Priority	Shift Lead	Manager	Director	Vice-President
1	1 Hour	2 Hours	6 hours	8 hours
2	2 hours	4 Hours	12 Hours	-
3	6 hours	12 Hours	-	-

Priority Definition

1) Total outage; multiple customers or multiple locations.

2) Total outage, single customer/single location, or partial outage of multiple customers or multiple locations

3) Partial outage, single customer or location

Service Level Objectives

In the event of a service interruption, Comcast shall use commercially reasonable efforts to respond to the service interruption and to clear the service interruption within the time frames set forth below. Comcast shall notify customer that Comcast has dispatched its personnel to effect restoration and repair and shall inform customer when service has been restored.

Category	Objective
Network Availability	99.97%
Mean Time to respond telephonically to call	30 minutes
Mean time to restore equipment	4 hours
Mean time to restore fiber	6 hours

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Network Management Reporting

Customer will be given a secure web login to review the external reporting data at their convenience. Network management reports will include the following reporting elements:

- Service Availability (Uptime) in percentage of day per connection
- Packet discard percentage, per connection
- Average Throughput, per connection, per Hour for the past day, 7 day and 30 day intervals.

Field Operations

The role of Field Operations in Comcast is two-fold. First, Field Operations provides an effective field presence for technical support of our core (ATM, IP, Optical) network. They perform on-site repairs and trouble-shooting on a daily, ongoing basis and dispatch field technicians to support our voice switches and other hardware. These field crews are the “on-site” presence to remedying any network trouble.

Second, Field Operations provides leadership for customer installations. Field Operations Project Coordinators are assigned to each new account to singularly manage the local work required for each install. The Project Coordinator manages the dispatch of local technicians to install switches, routers, servers, and other equipment on the company side of the company/customer demarcation point.

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Comcast BUSINESS CLASS

Certificate of Insurance

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 12/09/2011

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
MARSH USA INC.
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PHILADELPHIA, PA 19103-2797
Attn: Comcast.Certs@marsh.com Fax: 212-948-0360

05194 -ALL-GAWU-11-12 COMCA PHILA PA NO NO

INSURED
COMCAST CORPORATION
1701 JFK BLVD., 49TH FLOOR
PHILADELPHIA, PA 19103

CONTACT NAME:
PHONE (A/C, No, Ext): FAX (A/C, No):
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A :	ACE American Insurance Company	22667
INSURER B :	ACE Property And Casualty Ins Co	20699
INSURER C :	Indemnity Ins Co Of North America	43575
INSURER D :		
INSURER E :		
INSURER F :		

COVERAGES CERTIFICATE NUMBER: CLE-003744575-01 REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS		
A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR X $100,000 SIR GEN'L AGGREGATE LIMIT APPLIES PER: X POLICY PRO-JECT LOC			XSL G25532867	12/01/2011	12/01/2012	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ $ $ $ $ $	4,900,000 4,900,000 10,000 4,900,000 25,000,000 6,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS			ISA H08692506	12/01/2011	12/01/2012	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ $ $ $	10,000,000
B	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $			XOO G25833892	12/01/2011	12/01/2012	EACH OCCURRENCE AGGREGATE	$ $	5,000,000 5,000,000
C A A A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		WLRC46771473 (AOS) WLRC46771485 (CA) WLRC46771497 (MN) SCFC46771503 (WI)	12/01/2011 12/01/2011 12/01/2011 12/01/2011	12/01/2012 12/01/2012 12/01/2012 12/01/2012	X WC STATU-TORY LIMITS OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ $ $	2,000,000 2,000,000 2,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

RE: EVIDENCE OF INSURANCE.
$100,000 PER OCCURRENCE SELF INSURED RETENTION APPLIES ONLY TO THE ABOVE GENERAL LIABILITY POLICY.

CERTIFICATE HOLDER

COMCAST CORPORATION
1500 MARKET ST.
PHILADELPHIA, PA 19102

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
of Marsh USA Inc.
Manashi Mukherjee Manashi Mukherjee

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General Reference Information

Legal Name of Business: Comcast Business Communications LLC, “CBC”

Ownership: Corporation - Wholly-owned subsidiary of Comcast Corporation.

CBC has been in business in its present form for over seven (7) years.

Corporate Officers

Terrence Connell
Senior Vice President

Steve Flaks
Vice President

Kevin O’Toole
Senior Vice President

Accounting & Disbursements

Kelly Jennings
Business Operations Manager

Employer ID # 23-2084784 for Comcast Cable Communications Management LLC

Bank Contact

Wachovia Bank
PO Box 40028
Roanoke, VA 24022
Attn: Anna Rofrano
800-590-7868
Option 714, ext: 900553

JP Morgan Chase
PO Box 955200
Fort Worth, TX 76155
Attn: Credit Inquiries
817-399-7201 Fax

Trade References

CommScope, Inc.
1100 CommScope Place SE
Hickory, NC 28603-1729
Attn: Jean Gay
VP – Customer Finance
828-323-4929

Motorola
Broadband Communications Sector
101 Tournament Drive
Horsham, PA 19004
Attn: Len Washington
215-323-1659

Scientific Atlanta
4391Communications, Drive
Norcross, GA 30093
Attn: Mat Wattford
800-722-2009

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Proposal Pricing

Comcast is please to provide the following pricing in response to this proposal.

Option One: Ethernet Network Services (Fiber WAN):

1000 Mbps of basic bandwidth ENS delivered to the following sites:

1) Steilacoom High School-54 Sentinel Way Steilacoom, WA 98388
2) Cherrydale Elementry School-1201 Galloway Street Seilacoom, WA 98388
3) Salters Point Elementry-908 3rd Street Steilacoom, WA 98388
4) District Office-511 Chambers Street Steilacoom, WA 98388
5) Chloe Clark Elementry-1700 Palisade Blvd Dupont, WA 98327
6) Pioneer Middle-1750 Bob's Hollow Lane Dupont, WA 98327

Options	Contract Term		Monthly Recurring Charge	Non Recurring Charge
A	**60 Months**		**$5,000**	**$150,000**
B	**60 Months**		**$7,500**	**$0**

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Option Two: Ethernet Network Services (Fiber WAN):

1000 Mbps of basic bandwidth ENS delivered to the following sites:

1) Steilacoom High School-54 Sentinel Way Steilacoom, WA 98388

100 Mbps of basic bandwidth ENS delivered to the following sites:

2) Cherrydale Elementry School-1201 Galloway Street Seilacoom, WA 98388
3) Salters Point Elementry-908 3rd Street Steilacoom, WA 98388
4) District Office-511 Chambers Street Steilacoom, WA 98388
5) Chloe Clark Elementry-1700 Palisade Blvd Dupont, WA 98327
6) Pioneer Middle-1750 Bob's Hollow Lane Dupont, WA 98327

Options	Contract Term		Monthly Recurring Charge	Non Recurring Charge
A	**60 Months**		**$2,500**	**$150,000**
B	**60 Months**		**$7,000**	**$0**

Comcast Note: Pricing as proposed above requires purchase of all sites and does not include any local, state or federal taxes, fees or other charges. Individual sites may be purchased separately but will require a new pricing proposal. Tax exemption certificates must be on file prior to the initial billing period for exemptions to be considered.

Taxes, Surcharges, and Other Similar Charges (Miscellaneous)

Description: Taxes, surcharges, and other similar charges refer generally to additional fees that are a necessary component of the cost of a product or service.

Eligibility: Federal taxes, state taxes, and other similar, reasonable charges incurred in obtaining eligible Telecommunications Services, Internet Access, and Internal Connections are eligible. Such eligible charges include reasonable administrative recovery by a service provider for participation in the Universal Service Support mechanism. Administrative cost added by parties other than the service provider, are not eligible.

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Network Service Agreement

Comcast Enterprise Services

This Agreement ("Agreement") is made on the day of 200 ("Effective Date") by and between Comcast Business Communications, LLC ("Company" or "Comcast"), a Delaware limited liability company, with offices located at One Comcast Center, Philadelphia, PA 19103 and ("Customer"), with offices located at . Herein, the above shall be collectively referred to as the "Parties" and individually as "Party".

Description of Services to be provided by Company to Customer: , as set forth in Schedules A and B attached hereto.	
Term of Agreement (months): ( )	Agreement Number: - - -
Non-Recurring Charges ("NRC"): $	Monthly Recurring Charges ("MRC"): $
Any Additional Charges/Explanation:	
Number of Sites: ( )	Estimated Service Date: Ninety (90) to one-hundred twenty (120) days after mutual execution of Agreement.
Notes / Comments: 1. E-Rate funding to be sought solely by Customer 2. Comcast Business Communications, LLC SPIN No. is 143003990	
Sales Person:	Telephone Number: ( )
General Manager:	Telephone Number: ( )
Customer Contact:	Telephone Number: ( )

This Network Services Agreement sets forth the terms and conditions under which Comcast Business Communications, LLC and its operating affiliates ("Comcast) will provide the Services identified above to Customer. This Comcast Network Services Agreement consists of this document ("Cover Page"), the standard Comcast Business Communications, LLC General Terms and Conditions ("General Terms and Conditions"), and Schedules A and B ("Schedules"), and any jointly executed amendments ("Amendments"), collectively referred to as the "Agreement". In the event of any inconsistency among these documents, precedence will be as follows: (1) Amendments, (2) General Terms and Conditions, (3) this Cover Page, and (4) Schedules. This Agreement shall commence and become a legally binding agreement upon Customer's execution of this Cover Page. The Agreement shall terminate as set forth in the General Terms and Conditions. All capitalized terms not defined on this Cover Page shall have the definitions given to them in the General Terms and Conditions.

All modifications to the Agreement, if any, must be captured in a written Amendment, executed by an authorized Comcast Vice President and the Customer. All other attempts to modify the Agreement shall be void and non-binding on Comcast.

Customer, by signing below, agrees and accepts the terms and conditions of this Agreement.

Comcast Business Communications, LLC

Signature:		Signature:	
Printed Name:		Printed Name:	
Title:		Title:	
Date:		Date:	

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COMCAST BUSINESS COMMUNICATIONS, LLC GENERAL TERMS AND CONDITIONS

SECTION 1 - SCOPE OF SERVICE

Company will provide to Customer the Service at the prices set forth in the attached Schedule A, and to the location(s) set forth in Schedule B, both attached hereto ("Buildings"). The Service is provisioned by utilizing fiber optic cable, associated with electronics and other equipment ("Network"), which transports and distributes digital signals in a standards based Internet Protocol (IP) format for standards based IP applications to Customer's Buildings identified in the attached Schedule B and at the transmission level designated in Schedule A attached hereto. The Network is provisioned into Customer's Building at the point of interconnection between the Network and Customer's provided equipment located at Customer's Building ("Demarcation Point").

The Service does not include connection to the public switched network, building wire, any Local Area Networks ("LANs"), Customer Premise Equipment ("CPE"), IP addressing capability, firewalls or any other equipment, electronics, or wiring required on the Customer's side of the Demarcation Point.

1.3 Upon the request of Customer, Company will consider providing other services to Customer at terms, conditions, and prices to be mutually agreed upon in writing between the Parties.

SECTION 2 - INSTALLATION OF NETWORK

2.1 Customer, at no cost to Company, shall secure throughout the term of Service any easements, leases or other agreements necessary to allow Company to use existing pathways into and in each Building to the Demarcation Point for the Service.

2.2 Subject to the terms of this Agreement, and at no cost to Company, Customer shall provide adequate environmentally controlled space and electricity required for installation, operation, and maintenance of the Network used to provision the Service within each Building.

2.3 Company and its employees, agents, lessees, officers and its authorized vendors will require free ingress and egress into and out of the Buildings in connection with the provision of Services. Upon reasonable notice from Company, Customer shall assist Company in accessing each Building.

2.4 If the presence of asbestos or other hazardous materials exists or is detected, Customer must have such hazardous materials removed immediately at Customer's expense or notify Company to install the applicable portion of the Network in areas of any such Building not containing such hazardous material. Any additional expense incurred as a result of encountering hazardous materials, including but not limited to, any additional equipment shall be borne by Customer.

2.5 Company shall have no obligation to install, operate, or maintain Customer-provided facilities or equipment.

2.6 Customer shall be responsible for providing maintenance, repair, operation and replacement of all wire, cable facilities on the Customer's side of the Demarcation Point. Any CPE and wiring that Customer uses in connection with the Service shall be compatible with the Network.

2.7 Customer shall use reasonable efforts to maintain its property and Buildings in a manner that preserves the integrity of the Service and shall promptly notify Company of any event that affects such integrity including but not limited to damage to the Network.

2.8 At such time as Company completes installation and connection of the necessary facilities and equipment to provide the Service, Company shall then notify Customer in writing that the Service is available for use and the date of such notice shall be the "Service Date". The current notice form is called the "Customer Site Service Acceptance Document" ("Acceptance Form"). Company may update, modify or replace the service notification form from time to time without notice to Customer.

2.9 Any other failure on the part of Customer to be ready to receive Service, or any refusal on the part of Customer to receive Service, shall not relieve Customer of its obligation to pay charges for any Service that would otherwise be available for use.

2.10 **Customer-Provided Equipment (CPE).** Company shall have no obligation to install, operate, or maintain CPE. Customer alone shall be responsible for providing maintenance, repair, operation and replacement of all inside telephone wiring and equipment and facilities on the Customer's side of the Demarcation Point. All CPE and wiring that Customer uses in connection with the Services must be fully compatible with the Services. Customer shall be responsible for the payment of all charges for troubleshooting, maintenance or repairs attempted or performed by Company's employees or authorized contractors when the difficulty or trouble report results from CPE.

SECTION 3 - OWNERSHIP, IMPAIRMENT, AND REMOVAL OF THE NETWORK

3.1 The Network is and shall remain the property of Company regardless of whether installed between, within or upon the Buildings and whether installed overhead, above, or underground and shall not be considered a fixture or an addition to the land or the Buildings located thereon. Customer agrees that it shall take no action that directly or indirectly impairs Company's title to the Network, or exposes Company to any claim, lien, encumbrance, or legal process, except as otherwise agreed in writing by the Parties. Nothing in this Agreement shall preclude the Company from using the Network for services provided to other Company customers.

3.2 For a period of twelve (12) months following Company's discontinuance of Service to the Buildings, Company retains the right to remove the Network including, but not limited to, that portion of the Network that is located in the Buildings. To the extent Company removes such portion of the Network, it shall be responsible for returning the Buildings to their prior condition, reasonable wear and tear excepted.

SECTION 4 - COMPENSATION; PAYMENT

The Non-Recurring Charges ("Non-Recurring Charges" or "NRC") and Monthly Recurring Charges ("Monthly Recurring Charges" or "MRC") for the Service is set forth in the attached Schedule A and on the first page of the Agreement. Upon installation of Services, Company shall immediately invoice Customer for the NRC and Customer shall pay Company one hundred percent (100%) of the NRC. Unless otherwise stated in this Agreement, Company will invoice Customer in advance on a monthly basis for all Monthly Recurring Charges arising under the Agreement. Payment will be considered timely made to Company if received within thirty (30) days after the invoice date set forth in the invoice. Any charges not paid to Company within such period will be considered past due. In the event the Service Date is not the first day of the billing period, the first Recurring Charge shall also include the *pro rated* in arrears charges for Services from date of installation to the date of first billing.

4.2 Any payment not made when due will be subject to a late charge of 1.5% per month or the highest rate allowed by law on the unpaid invoice, whichever is lower.

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4.3 Company makes no representations or warranties with respect to the eligibility or ineligibility of the Services or any Service component for federal e-rate support or for other governmental and quasi-governmental telecommunications/internet discounts or entitlements (collectively, "E-Rate Funding"). Customer expressly understands and agrees that it shall pay Company one hundred percent (100%) of all Non-Recurring Charges, Recurring Charges and other amounts required under this Agreement in accordance with the payment intervals specified therein. Customer may not withhold or off set any such amounts on the basis of its actual or anticipated receipt of E-Rate Funding, except as otherwise set forth below. In the event that the Customer has received, or has been designated as a recipient of, E-Rate Funding for the Services, Customer will utilize the applicable customer-initiated reimbursement process relative to such E-Rate Funding. Company shall have no obligation to discount or pro-rate its invoices or to take other action to process such E-Rate Funding, except to the extent specifically required by law and regulation, or except as otherwise set forth above or below. Notwithstanding this, Company will reasonably assist Customer in the completion of those portions of the FCC Form 472 which, as a matter of law or regulation, are required to be completed by the service provider. In the event that the Parties have expressly amended this Agreement in writing to permit E-Rate Funding to be applied in the form of discounts to, or a pro-ration of, Customer's invoices, Company shall have no obligations under this Agreement until Customer provides Company the copy of the Notification and Acceptance of Form(s) 486 from the Universal Services Administrative Company, Schools and Libraries Division ("SLD"), approving Customer's eligibility for E-Rate Funding. If during the term of this Agreement Customer fails to appropriate funds or if funds are not otherwise made available for continued performance for any fiscal period of the Agreement succeeding the first fiscal period, Customer may elect to (i) continue to receive Services under this Agreement, in which Customer shall remain bound by the terms and conditions set forth hereunder and remain responsible for all NRC and MRC, as set forth in Schedule A attached hereto, for the remaining term of the Agreement, irrespective of E-Rate Funding status, or, (ii) terminate this Agreement upon written notice as of the beginning of the fiscal year for which funds are not appropriated or otherwise made available. The effect of termination of the Agreement hereunder will be to discharge both Company and the Customer from future performance of the Agreement. However, Company shall be reimbursed for any and all unpaid non-recurring charges, any unpaid past due balance(s), and any additional costs already incurred by Company in conjunction with this Agreement. Customer shall notify Company in writing within 30 days of fiscal budget denial indicating funds may not be available for the continuation of the Agreement for each succeeding fiscal period beyond the first year. In no event shall Company initiate construction of the Network until proof of funding has been received, in whole or in part, based on 100% Customer-furnished funds or partially reimbursed funds by the SLD.

4.4 Except for taxes based on Company's net income, and except to the extent Customer provides a valid tax exemption certificate prior to the delivery of Service, Customer shall be responsible for the payment of any and all applicable local, state, and federal taxes (however designated) levied upon the sale, installation, use or provision of Service. Further, Company reserves the right to invoice Customer for the costs of any fees or payment obligations stemming from an order, rule, or regulation of the FCC, a public service commission or a court of competent jurisdiction with respect to the Services, including, without limitation, universal service fund charges, or as otherwise needed to recover amounts that Company is required by government or quasi-governmental authorities to collect from or to pay to others in support of statutory or regulatory programs, including, without limitation, franchise fees and right-of-way fees. It will be the responsibility of Customer to pay any such taxes and fees that subsequently become applicable retroactively.

4.5 In the event that any newly adopted law, rule, regulation, or judgment increases Company's costs of providing Services, Customer shall pay Company's additional costs of providing Services under the new law, rule, regulation or judgment.

SECTION 5 - TERM

Unless sooner terminated as provided herein, the term of this Agreement shall be for ( ) months from the Service Date ("Term"). In the case of multiple Service Dates, the Term shall be ( ) months from the last Service Date. Upon the expiration of the Term, this Agreement shall automatically renew for successive periods of one (1) year each ("Renewal Term(s)"), unless prior notice of non-renewal is delivered by either Party to the other at least thirty (30) days before the expiration of the Service Term or the then current Renewal Term. Effective at any time after the end of the initial Service Term and from time to time therein, Company may modify the charges for the Services to reflect then-current prevailing pricing subject to thirty (30) days prior notice to Customer. Customer will have thirty (30) days from receipt of such notice to cancel the applicable Service without further liability. Should Customer fail to cancel within this timeframe, Customer will be deemed to have accepted the modified Service pricing for the remainder of the Renewal Term.

SECTION 6 - TERMINATION WITHOUT FAULT; DEFAULT

6.1 Notwithstanding any other term or provision in this Agreement, Customer shall have the right, in its sole discretion, to terminate this Agreement at any time during the Term, or any Renewal Term, upon (i) sixty (60) days prior written notice to Company and (ii) the payment of 100% of the remaining Monthly Recurring Charges ('Termination Charges") payable to Company within ten (10) days following termination of the Agreement ('Termination Charges").

6.2 (a) Company may, in its sole discretion, immediately terminate this Agreement in the event that it is unable to provide Service due to any law, rule, regulation, Force Majeure event, or judgment of any court or government agency. If Company terminates the agreement under this subsection 6.2(a), Customer shall have no obligation to pay any remaining Monthly Recurring Charges as a result of Termination by the Company, with the exception of any past due amounts.

(b) Any breach of Article 9A shall be deemed a material breach of this Agreement. In the event of such material breach, Company shall have the right to restrict, suspend, or terminate immediately any or all Service, without liability on the part of Company, and then to notify Customer of the action that Company has taken and the reason for such action, in addition to any and all other rights and remedies under this Agreement. In the event Company terminates service under this subsection 6.2(b), Customer shall be responsible for the payment of all past due amounts and Termination Charges in addition to any other remedies as identified in section 6.4.

6.3 In the event of default, either Party may terminate this Agreement. A "default" exists under this Agreement upon the following events:

(i) either Party's failure to meet or perform any material term, provision, covenant, agreement, or obligation contained in this Agreement; provided that the non-defaulting Party so advises the defaulting Party in writing of the event of default and the defaulting

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Party does not remedy the default within thirty (30) days after written notice thereof; or

(ii) either Party's insolvency or initiation of bankruptcy or receivership proceedings by or against the Party.

(iii) Customer is in breach of a payment obligation and fails to make payment in full within ten (10) days after receipt of written notice of default.

6.4 The non-defaulting Party shall be entitled to all available legal and equitable remedies for such breach.**6.5** In addition to the remedies set forth in Section 6.4 above; Company shall be entitled to Termination Charges for any Customer Default.

SECTION 7 - SERVICE RESPONSE TIMES

7.1 Maintenance Service consists of the repair or replacement, at Company's option, of any portion of the Network that is malfunctioning. Company will maintain the Network twenty-four (24) hours a day, seven (7) days per week, every day of the year.

In the event that Company, in responding to a Customer-initiated service call, determines that the reason for such service call is due to Customer-provided equipment or Customer's actions or omissions, acts or omissions of third parties with whom Customer has any type of relationship, Customer shall compensate Company for Company's costs of such service call at the rate of $50.00 per half hour and $150.00 per truck roll charge.

SECTION 8 - LIMITATIONS ON WARRANTIES AND LIABILITY

8.1 COMPANY WILL NOT BE LIABLE TO CUSTOMER FOR ANY INCIDENTAL, INDIRECT, SPECIAL, COVER, PUNITIVE OR CONSEQUENTIAL DAMAGES, WHETHER OR NOT FORESEEABLE, OF ANY KIND INCLUDING BUT NOT LIMITED TO ANY LOSS REVENUE, LOSS OF USE, LOSS OF BUSINESS, OR LOSS OF PROFIT WHETHER SUCH ALLEGED LIABILITY ARISES IN CONTRACT OR TORT. EXCEPT AS OTHERWISE EXPRESSLY PROVIDED IN THIS AGREEMENT, COMPANY'S AGGREGATE LIABILITY TO CUSTOMER FOR ANY DAMAGES OF ANY KIND UNDER THIS AGREEMENT WILL NOT EXCEED, IN AMOUNT, A SUM EQUIVALENT TO THE APPLICABLE OUT-OF-SERVICE CREDIT.

8.2 THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Company's liability for mistakes, errors, omissions, interruptions, delays, outages, or defects in transmission or switching of any Service (individually or collectively, "Liability"), excluding any Liability caused by force majeure events or Customer actions, omission or equipment, shall be limited solely to 1/30th of the Monthly Recurring Charge, for the affected portion of the Service, for one or more Liabilities of at least two (2) hours in duration in any 24-hour period that is not coincident with any other Liability, ("Credit"), provided that the Liability is reported by Customer during the duration of the Liability.

Company shall not be liable for any act or omission of any other company or companies furnishing a portion of the Service including, but not limited to, the inability of a supplier to provide equipment in a timely manner for Network, or for damages associated with services, facilities, or equipment which it does not furnish, including, but not limited to, damages which result from the operation of Customer's system, equipment or facilities. In no event shall Company, its affiliates, its/their employees agents, contractors, merchants, or licensors be liable for any loss, damage or claim arising out of or related to: (1) stored, transmitted, or recorded data, files, or software. (i.e., Customer is advised to back up all data, files and software prior to the installation of service and at regular intervals thereafter); (2) interoperability, interaction or interconnection of the Service provided under this Agreement with applications, equipment, services or networks provided by Customer or third parties.

8.5 Neither Customer nor its agents or independent contractors shall offer third parties warranties or representations for the Service which would obligate or otherwise bind Company beyond any warranty or representation expressly set forth in this Agreement.

8.6 Customer is prohibited from reselling Company-provided Services in any way. Customer, its employees, agents and independent contractors shall not use the Network to provide any product or Service that directly or indirectly competes with any product or Services provided by the Company (Non-Compete).

SECTION 9 - INDEMNIFICATION

9.1 Subject to Section 8, each Party ("Indemnifying Party") will indemnify and hold harmless the other Party ("Indemnified Party"), its affiliates, officers, directors, employees, stockholders, partners, independent contractors and agents from and against any and all joint or several costs, damages, losses, liabilities, expenses, judgments, fines, settlements and any other amount of any nature, including reasonable fees and disbursements of attorneys, accountants, and experts (collectively, "Damages"), arising from any and all claims, demands, actions, suits, or proceedings whether civil, criminal, administrative, or investigative (collectively, "Claims") relating to:

(i) Any Claim of any third party resulting from the gross negligence or willful act or omission of Indemnifying Party arising out of or related to this Agreement, the obligations hereunder, and uses of Services; and

(ii) Any violation of this Agreement by the Indemnifying Party or any violation of any law, rule, regulation, or order of any governmental authority having jurisdiction over any aspect hereof, or in violation of any patent, right, license, agreement, or certificate relating to the subject matter hereof.

9.2 The Indemnifying Party agrees to defend the Indemnified Party for any loss, injury, liability, claim or demand ("Actions") that is the subject of this Section 9. The Indemnified Party agrees to notify the Indemnifying Party promptly, in writing, of any Actions, threatened or actual, and to cooperate in every reasonable way to facilitate the defense or settlement of such Actions. The Indemnifying Party shall assume the defense of any Action with counsel reasonably satisfactory to the Indemnified Party. The Indemnified Party may employ its own counsel in any such case, and shall pay such counsel's fees and expenses. The Indemnifying Party shall have the right to settle any claim for which indemnification is available; provided, however, that to the extent that such settlement requires the Indemnified Party to take or refrain from taking any action or purports to obligate the Indemnified Party, then the Indemnifying Party shall not settle such claim without the prior written consent of the Indemnified Party, which consent shall not be unreasonably withheld, conditioned or delayed.

SECTION 9A - USE POLICIES

9A.1 Customer agrees to ensure that all uses of the Services installed at its premises ("use") are legal and appropriate. Specifically, Customer agrees to ensure that all uses by Customer or by any other person ("user"), whether authorized by Customer or not, comply with all applicable laws, regulations, and written and

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electronic instructions for use. Company reserves the right to act immediately and without notice to terminate or suspend the Services and/or to remove from the Services any information transmitted by or to Customer or users, if Company (i) determines that such use or information does not conform with the requirements set forth in this Agreement, (ii) determines that such use or information interferes with Company's ability to provide the Services to Customer or others, or (iii) reasonably believes that such use or information may violate any laws, regulations, or written and electronic instructions for use. Furthermore, to the extent Customer purchases Internet bandwidth services, such Services shall be subject to Company's Acceptable Use Policies ("AUP") that may limit use. The AUP and other policies concerning the Services are posted http://www.comcast.com/business or on another web site about which Customer has been notified, and are incorporated to this Agreement by reference. Company may update the use policies from time to time, and such updates shall be deemed effective seven (7) days after the update is posted online, with or without actual notice to Customer. Accordingly, Customer should check the above web addresses (or the applicable successor URLs) on a regular basis to ensure that its activities conform to the most current version of the use policies. Company's action or inaction in enforcing acceptable use shall not constitute review or approval of Customer's or any other users' use or information.

9A.2 **Violation.** Any breach of this Article 9A shall be deemed a material breach of this Agreement. In the event of such material breach, Company shall have the right to restrict, suspend, or terminate immediately any or all Service, without liability on the part of Company, and then to notify Customer of the action that Company has taken and the reason for such action, in addition to any and all other rights and remedies under this Agreement.

SECTION 10 - INSURANCE

Company shall maintain during the Initial Term or any Renewal Term commercial general liability insurance that covers its liability and obligations hereunder including premises operations, broad-form property damage, personal injury hazards and contractual liability.

Customer shall maintain during the Initial Term or any Renewal Term commercial general liability insurance that covers its liability and obligations hereunder including premises operations, broad-form property damage (including, if appropriate, flood damage), personal injury hazards and contractual liability.

10.3 The liability limits under these policies shall be one million ($1,000,000) dollars per occurrence, with a combined single limit for bodily injury and property damage liability.

SECTION 11 - ASSIGNMENT

11.1 Neither Party shall assign any right, obligation or duty, in whole or in part, or of any other interest hereunder, without the prior written consent of the other Party, which shall not be unreasonably withheld. The foregoing notwithstanding, Company may assign this Agreement to any affiliate, related entity, or successor in interest without Customer's consent. In addition, Company may partially assign its rights and obligations hereunder to any party which acquires from Company all or substantially all of the assets of cable franchise(s) in which the Service is deployed to Customer.

11.2 All obligations and duties of either Party under this Agreement shall be binding on all successors in interest and assigns of such Party.

SECTION 12 - FORCE MAJEURE

Neither Party shall be held liable for any delay or failure in performance of any part of this Agreement from any cause beyond its control and without its fault or negligence, such as acts of God, acts of civil or military authority, act of terrorism, government regulations, embargoes, epidemics, war, terrorist acts, riots, insurrections, fires, explosions, earthquakes, nuclear accidents, floods, power blackouts, unusually severe weather conditions, inability to secure products or services of other persons or transportation facilities, or acts or omissions of transportation common carriers.

SECTION 13 - SEVERABILITY

In the event that any one or more of the provisions in this Agreement shall for any reason be held invalid, unenforceable, or void in any respect under the laws of the jurisdiction governing the entire Agreement, such provision(s) shall be construed so as to render it enforceable and effective to the maximum extent possible in order to effectuate the intention of this Agreement; and the validity, legality, and enforceability of the remaining provisions hereof shall not be affected or impaired.

SECTION 14 - THIRD-PARTY BENEFICIARIES

No provision in this Agreement is intended, nor shall any be interpreted, to provide any person not a Party to this Agreement with any remedy, claim, liability, reimbursement, cause of action or create any other third party beneficiary rights against Company.

SECTION 15 - INDEPENDENT CONTRACTORS

15.1 The Parties to this Agreement are independent contractors. Neither Party is an agent, representative, or partner of the other Party. Neither Party shall have any right, power, or authority to enter into any agreement for, or on behalf of, or incur any obligation or liability of, or to otherwise bind, the other Party. This Agreement shall not be interpreted or construed to create an association, agency, joint venture, or partnership between the Parties or to impose any liability attributable to such a relationship upon either Party.

15.2 The requirements of this Article shall survive the expiration, termination, or cancellation of this Agreement to the greatest extent permitted by law.

SECTION 16 - NONDISCLOSURE

16.1 Unless prior written consent is obtained from a Party hereto, the other Party will keep in strictest confidence all information identified by the first Party as confidential, or which, from the circumstances, in good faith and in good conscience, should be treated as confidential; provided that (a) the owner thereof has taken reasonable measures to keep such information secret; and (b) the information derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable through proper means by the public. Such information includes but is not limited to all forms and types of financial, business, scientific, technical, economic, or engineering information, including patterns, plans, compilations, program devices, formulas, designs, prototypes, methods, techniques, processes, procedures, programs, or codes, whether tangible or intangible, and whether or not stored, compiled, or memorialized physically, electronically, graphically, photographically, or in writing. A Party shall be excused from these nondisclosure provisions if the information has been, or is subsequently, made public by the disclosing Party, is independently developed by the other Party, if the disclosing Party gives its express, prior written consent to the public disclosure of the information, or if the disclosure is required by any law or governmental or quasi-governmental rule or regulation.

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Service Provider Identification Number (SPIN) 143003990

16.2 Customer shall not disclose to third parties the rates, terms, or conditions of this Agreement or any proprietary or confidential information of the Company, except as necessary for the operation of Customer's business and under non-disclosure agreement between Customer and third parties, or as required by law.

SECTION 16A - CUSTOMER PRIVACY POLICIES

16A.1 In addition to the provisions of Article 16, the privacy policy below applies to Company's handling of Customer confidential information. In the event of a conflict between the provisions of Article 16 and any provision of the privacy policy below, the applicable provision of the privacy policy shall prevail in the resolution of the conflict. A copy of Company's privacy policy is available at http://www.comcast.com/customerprivacy/. Company may update this policy from time to time, and such updates shall be deemed effective upon posting.

16A.2 Privacy Note Regarding Information Provided to Third Parties: Company is not responsible for any information provided by Customer to third parties, and this information is not subject to the privacy provisions of this Agreement or the privacy policies. Customer assumes all privacy and other risks associated with providing personally identifiable information to third parties via the Services.

SECTION 17 – NOTICES

17.1 Any notices or other communications contemplated or required under this Agreement, in order to be valid, shall be in writing and shall be given via personal delivery, or overnight courier, or via U.S. Certified Mail, Return Receipt Requested, at the following addresses:

To Customer:
Attn:

To Company:
Attn.: VP – Business Services
Comcast Business Communications, LLC.
One Comcast Center
Philadelphia, PA 19103

With a copy to:
Attn.: Cable Law Department
Comcast Cable Communications, LLC.
One Comcast Center
Philadelphia, PA 19103

SECTION 18 - HEADINGS AND TITLES

The headings or titles of any provisions of this Agreement are for convenience or reference only and are not to be considered in construing this Agreement.

SECTION 19 – CHOICE OF LAW

The domestic law of the state in which the Services are provided shall govern the construction, interpretation, and performance of this Agreement, except to the extent superseded by federal law.

SECTION 20 - COMPLIANCE WITH LAWS

Each of the Parties agrees to comply with all applicable local, state and federal laws and regulations and ordinances in the performance of its respective obligations under this Agreement.

SECTION 21 - AMENDMENTS; NO WAIVER

21.1 This Agreement may be amended only by written agreement signed by authorized representatives of both Parties.

21.2 No waiver of any provisions of this Agreement or to any default under this Agreement shall be effective unless the same shall be in writing and signed by or on behalf of the Party against whom such waiver is claimed.

21.3 No course of dealing or failure of any Party to strictly enforce any term, right, or condition of this Agreement shall be construed as a waiver of such term, right or condition.

21.4 Waiver by either Party of any default by the other Party shall not be deemed a waiver of any other default.

SECTION 22 - SURVIVAL

Provisions contained in this Agreement that by their sense and context are intended to survive the performance, termination or cancellation of this Agreement hereof by any Party hereto shall so survive.

SECTION 23 - FULLY INTEGRATED

This writing constitutes the entire agreement between the Parties as to the subject matter hereof and supersedes and merges all prior oral or written agreements, representations, statements, negotiations, understandings, proposals, and undertakings with respect to the Agreement.

SECTION 24 -INTERPRETATION OF AGREEMENT

This Agreement is a negotiated document. In the event that this Agreement requires interpretation, such interpretation shall not use any rule of construction that a document is to be construed more strictly against the Party who prepared the document.

SECTION 25 - RIGHT TO ENTER INTO CONTRACTS Nothing herein shall be construed as preventing either Party hereto from entering into similar contractual arrangements with other parties, unless such contracts would conflict with the performance of this Agreement.

SECTION 26 - REMEDIES CUMULATIVE

All rights of termination, or other remedies set forth in this Agreement are cumulative and are not intended to be exclusive of other remedies to which the injured Party may be entitled at law or equity in case of any breach or threatened breach by the other Party of any provision of this Agreement. Use of one or more remedies shall not bar use of any other remedy for the purpose of enforcing any provision of this Agreement; provided, however, that Party shall not be entitled to retain the benefit of inconsistent remedies.

SECTION 27 - COUNTERPARTS

This Agreement may be executed simultaneously in two or more counterparts, each counterpart shall be deemed an original, and all counterparts individually or together shall constitute one and the same instrument.

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Service Provider Identification Number (SPIN) 143003990

References

Olympia School District
Address: 1113 Legion Way, Olympia WA 98501
Contact: Terri Korst
Phone: 360-596-6173
Email: tkorst@osd.wednet.edu
Project Size of System: 17 site WAN, inclusive of combination of 100MB and 1GB links to HQ'd location
Web site link: osd.wednet.edu

Bellevue School District
Address: 12111 NE 1st St Bellevue, WA 98005
Contact: Jack McLeod
Phone: 425.456.4040
Email: mcleodja@bsd.org
Project Size of System: Current 23 site Comcast Legacy Enterprise 1Gbps/site ENS Lite – 20 site Comcast Metro E 1Gbps/site ENS (any to any)
Web site link: http://bsd405.org/

Dieringer School District
Address: 20029 12th Street E, Lake Tapps, WA 98391
Contact: Jim LaRosa
Phone: 253-862-2776
Email: Jlarosa@dieringer.wednet.edu
Project Size of System: 3 Sites connected at 100Mbps
Web site link: Dieringer.wednet.edu

Catholic Health Initiatives (Franciscan health Systems)
Contact: Ryan DrovDahl
Phone: 253-552-4233
Email: RyanDrovdahl@catholichealth.net
Project Size of System: 6 sites connected at 1GBps Bandwidth each
Web site link: Catholichealthinitiatives.org

State of WA - Department of Health
Address: 101 Israel Road SE, Olympia WA 98504
Contact: Bill Norris
Phone: 360-236-4426 (office)
Email: bill.norris@doh.wa.gov
Project Size of System: 3 sites connected via 100MB, 200MB respectively.
Web site link: www.doh.wa.gov

Comcast Account Team

Commercial Matters
Alok Sharma
Strategic Enterprise Account Executive
253-864-4258
Alok_sharma@cable.comcast.com

Technical Matters
Jon Woodard
Sales Engineer
360-827-0500
Scott_Woodard@cable.comcast.com

General Manager
Todd Elliott
Director
425-741-5724
Todd_Elliott@cable.comcast.com

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Service Provider Identification Number (SPIN) 143003990

PROPOSAL NUMBER
WA-100-104-1010

SPIN
143034664

DATE
January 25, 2012

Prepared *for* Jacob Phillips
Technical Director
Steilacoom School District No.1
510 Chambers
Steilacoom, WA 98388

t 253 983 2212
f 253 584 7198

Ethernet 2 GE Connection

PROPOSAL FOR STEILACOOM SCHOOL DISTRICT NO. 1

981 S Clearwater Loop
Post Falls, ID 83854

t 509 344 1008
f 509 344 1009

Summary of Services, Lease and Charges

This Fiber Optic Services and Lease Proposal ("Proposal") is made by Fatbeam to Steilacoom School District No. 1 ("Customer").
Fatbeam shall provide all labor, materials and equipment required to engineer, install, splice and test Qty (12) **2 Gigabit Ethernet Connections (each location requires 2 ports)** lateral builds, using existing or newly constructed fiber optics owned by Fatbeam, between network backbone and the following locations: **Chloe Clark Elem 1700 Palisade Blvd, Pioneer Middle School 1750 Bobs Hollow Lane, Saltar's Point Elementary 908 Third Street, Steilacoom HS 54 Sentinel Drive, Cherrydale Primary School 1201 Galloway and the District Office 510 Chambers Street all located in Steilacoom WA** (the "Fiber Network"), for the one-time installation charges set forth below.

After installation of the Fiber Network, Fatbeam will lease the Fiber Network to Customer for a term of **120 months** (the "Term"), at the Monthly Recurring Charge (MRC) set forth below, and upon on the terms and conditions summarized in Exhibit A to this Proposal and more specifically set forth in Fatbeam's standard Lease form.

Fatbeam will invoice the School District directly for the installation charges and the MRC. Contract term begins upon district approval or when the district receives E-Rate funding. Customer understands and agrees that the one-time installation charges and the MRC for the 120-month lease term are Customer's firm contractual obligations.

Customer shall provide Fatbeam right of way and any and all related permissions to occupy and access buildings for the installation of the Fiber Network and for the periodic inspection and maintenance or repairs of the Fiber Network during the term of the lease.

fatbeam core *One-Time Installation Charges*

Fiber Lateral Builds from Network Backbone to Premise Locations Installation of fiber to each of the 5 above mentioned buildings	**$175,000.00**
Sub Total	$175,000.00
Applicable Taxes Sales Tax 9.3%	$16,275.00
TOTAL One Time Install Charge	**$191,275.00**

fatbeam pipe *Monthly Recurring Charges*

Lease Charges for Fiber Optic 2 Gigabit Ethernet Ring Qty 12 ports (2 ports per location, premise location and HUB site) $607.92 each	**$7,295.00**
Applicable Taxes Sales Tax 9.3%	$678.44
TOTAL Monthly Recurring Charge	**$7,973.44**

Acceptance

This Proposal is considered proprietary and confidential and should not be disclosed to persons or organizations that are not involved in the approval process.

To accept this Proposal, please return and original signed copy of the entire document to Fatbeam. You may fax a signed signature page ahead of the original. By signing the acceptance of this proposal the Customer agrees to all terms and conditions as stated.

The contract for the Services shall be considered binding upon acceptance of this Proposal, as set forth above, and the lease of the Fiber Network shall be binding upon Customer's execution of Fatbeam's standard Lease setting forth the Term, MRC and locations set forth in this Proposal and the other terms and conditions summarized in Exhibit A.

FATBEAM, LLC	**CUSTOMER**
_____	_____
(Authorized Signature)	(Authorized Signature)
Gregory Green	_____
(Printed Name)	(Printed Name)
President	_____
(Title)	(Title)
01.25.2012	_____
(Date)	(Date)

Exhibit A

Summary of Terms and Conditions of Fiber Optic Lease Agreement

The Fiber Optic Lease ("Lease") described in Fatbeam's Proposal shall have a Term of 120 months will cover the Fiber Network comprised of the 2 gigabit **(Qty 12)** port connections from the network backbone to the locations described in the Proposal, using existing or newly constructed fiber optics owned by Fatbeam.

The amount of rent under the Lease for the Fiber Network will be the monthly recurring charges (MRC), including applicable sales and use tax, set forth in the Proposal.

Customer shall provide Fatbeam right of way and any and all related permissions to occupy and access buildings for the inspection, maintenance and repair of the Fiber Network during the Term of the Lease.

Lease Payments, and any other payments under the Lease shall be mailed or delivered to the following billing address:

Mailing Address (for payment purposes only):
Fatbeam LLC
721 S Lochsa Street, Ste 15
Post Falls, ID 83854
ATTN: Finance/Accounts Receivable

If any part of a Lease Payment or other payment obligation of Customer is more than thirty (30) days past due, such amount shall accrue interest from the date such payment is due until paid, including accrued interest compounded monthly, at a rate equal to one and one half percent (1.5%) per month on the outstanding balance (18% per annum).

The Lease will require that Customer agree to assume full and complete control, responsibility, and liability for the content and signals transmitted through the Fiber Network by its employees, customers, agents, and invitees, and Customer further assumes in the Lease all liability from any third party claims, suits, or disputes over such content and signals.

The Lease shall be governed and interpreted under the laws of the State of Washington.

The Lease shall have all of the other ordinary and customary terms and conditions for the lease of dark fiber and connections that are set forth in Fatbeam's standard Lease form, a copy of which shall be provided to Customer upon request.

Upon execution of the Lease, it shall supersede the provisions of the Proposal and shall represent the entire agreement between the Parties relating to the lease of the Fiber Network. No prior or contemporaneous discussions, representations, understandings, or statements, oral or written, relating to the Proposal or regarding the Lease prior to its execution, shall have any force or effect.

Universal Service Funding for Schools and Libraries

Service Provider Evaluation Worksheet

Procurement Description

Funding Year	2012
Scope of Services	1GB internal connec
Form 470 Number	372600000952558
Request for Proposal	

Factor	Description	Maximum Points
A. Cost	Cost of E-rate eligible services	30
B. Inst Timeline	How well does the project timeline match needs	25
C. Mts Needs	How well does the project services match needs	25
D. Past Rep	Prior successful installations in school districts	10
E. Proximity	Proximity of service provider to the district's location	5
F. E-rate Exp	Prior experience with E-rate discounts	5
		100

Scoring of Factors

Worst 0 . 1 . 2 . 3 . 4 Best

Fails criterion — Exceeds criterion

Tallying Points for Each Factor

$$\frac{Score}{4} \times Maximum\ Points = Points$$

Calculating Overall Points

Sum Points for Each Factor

Name	Factor A Cost SCORE	Factor A Cost points	Factor B Inst Timeline SCORE	Factor B Inst Timeline points	Factor C Mts Needs SCORE	Factor C Mts Needs points	Factor D Past Rep SCORE	Factor D Past Rep points	Factor E Proximity SCORE	Factor E Proximity points	Factor F E-rate Exp SCORE	Factor F E-rate Exp points	Total Points
Comcast	4.0	30.0	4.0	25.0	4.0	25.0	4.0	10.0	3.0	3.8	4.0	5.0	98.8
Fatbeam	3.0	22.5	0.0	0.0	4.0	25.0	2.0	5.0	3.0	3.8	4.0	5.0	61.3
Service Provider #3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Service Provider #4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Service Provider #5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Service Provider #6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Service Provider #7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Service Provider #8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Evaluated by (printed) _____ Evaluated by (Signature) _____ Evaluation Date _____

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Additional templates available at http://www.FundsForLearning.com

Version 1(01/09)

1. **What are our current through-put/bandwidth requirements?**

1 GB per second**.**

2. **Have you (we) called the other school districts currently using Motorola microwave as implemented by Exalt Communications/Day Wireless?**

Castro Valley Unified School District

Bruce Gidlund bgidlund@cv.k12.ca.us Office: 510-537-3000 ext. 1249 Cell: 510-755-0095

District installed the equipment themselves. Maintenance installed masts and conduit. Tech Department installed radios and performed antenna alignment. Some links are up to 100mb half-duplex and others are 200mb half-duplex. Buildings are at relatively high elevations for easy line of site. Tech Department paid for a professional Link Analysis Survey from an engineer to determine placement of equipment. All maintenance, troubleshooting, and repairs are handled by district personnel and a community volunteer that has radio background and experience. One link is constantly going down due to what they believe is radar interference and they are continuing to troubleshoot the issues with the help of the community volunteer. Exalt was only used for some planning and the purchasing of the equipment. District had prior experience with microwave links between buildings. They have a total of 13 schools and 3 of those could not be put onto the microwave system because they do not have sufficient line of sight. These schools are currently connected via T-1 circuits and will be moving to Fiber Optics connectivity in the near future. They could not use E-Rate discounts on the Microwave system because E-Rate is only for purchased services and not equipment purchases for inter-district connections.

3. **Do they have Smart-Boards in all of their classrooms?**

They have very few Smart Boards and definitely not in every classroom. They do have a computer in every classroom.

4. **What is their through-put/bandwidth requirement?**

100 to 200 MB per second

5. **What is our projected bandwidth growth requirement and how well will microwave handle it versus cable/fiber optic from the technical aspect as well as maintenance, reliability, scalability, etc?**

By the end of the decade we will probably be looking to expand into the 2GB per second range. Fiber Optics gives a more efficient throughput when bandwidth is concerned. Microwave radio bandwidth is less efficient and will have more overhead and less actual data throughput. In maintenance, reliability, and scalability fiber optics is the better choice. Maintenance is not necessary with fiber where it is with microwave, and that will have to be contracted out or paid for on a time and material basis. Fiber optics is also more reliable due to be a non-conductive closed circuit. Microwave is susceptible to interference from terrain, other radio frequencies, and electric interference sources. Scalability is better achieved by fiber optics as well because it is a leased system that will allow us to choose the option of a faster speed when we renew or look for another provider, also the bandwidth is already present and we just have to make use of it on the existing strand or by adding additional strands. Microwave will involve equipment upgrades or replacement and that cost and labor will be directly absorbed by the district since we will own the equipment.

6. **How scalable is microwave compared to cable/fiber, i.e. upgrading for additional bandwidth, not adding additional nodes.**

Some microwave radio models are scalable by license purchase and firmware upgrades to increase speed beyond 1 GB. It would depend on equipment purchased in the beginning. Some units are not upgradeable and would require hardware or entire equipment replacement. Fiber would simply be a setting change and cost of upgrading our throughput. Fiber offers a virtually unlimited growth potential.

7. **What is microwave's top data rate compared to Comcast Business Class in cost per unit?**

I received no clear answers what the top data rates are for microwave. It is also not possible to do a cost comparison per data rates at the time without knowing the full and actual costs of the microwave installation. There is no hard cost with microwave because we have no idea if there will be costs involved with site build outs such as adding power or time and material paid to trouble shoot problems as well as provide maintenance. To get a quote will cost district money. There is equipment that is capable of 1 GB per second. Motorola Canopy equipment has a top bandwidth of 300 MB per second.

8. **Who installs and maintains microwave antenna and the physical plant involved?**

We would use a third party contractor or vendor such as Day Wireless. We would also be committed to calling on them for all maintenance, troubleshooting, and equipment replacement. We would be billed for time and material on each occasion unless we setup a maintenance contract.

9. **Would our potential Motorola microwave be compatible to be placed on the Steilacoom tower and not cause or be susceptible to RF interference from the other cell phone/microwave systems present, and would this be possible within the timeline?**

It is hard to judge interference until it happens, but due to our proximity to JBLM we could possibly run into many problems with interference. We could also get interference from the cellular transmitters on the tower at that location. The Castro Unified School District used as a reference for the microwave solution is currently dealing with interference issues that are taking down one of their links. There is no direct line of site from this location to every location that would need connectivity. The only district site that has line of site with this location is Anderson Island (using up to 10 meter mast calculations, over 32 feet).

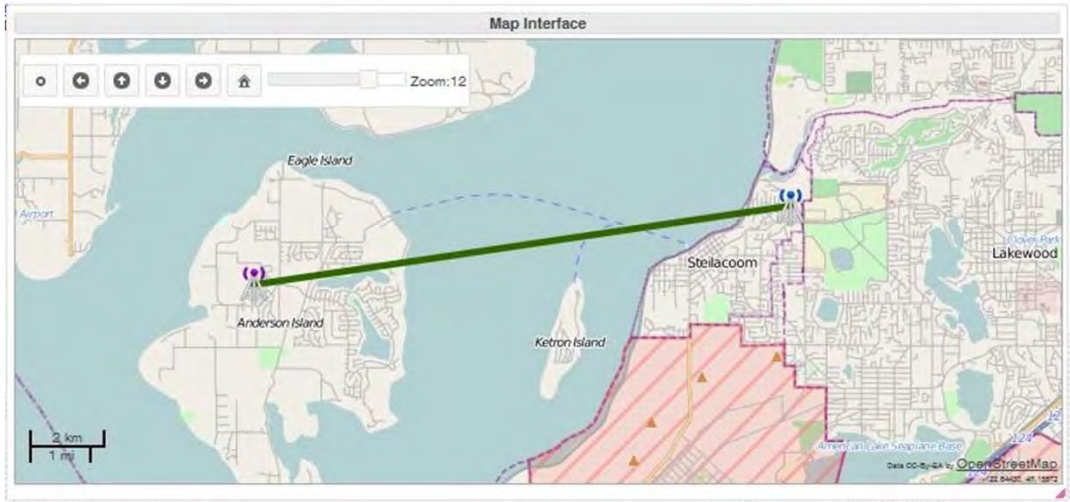
10. **Does or does not our terrain require intermediate repeaters and how do you bridge the gap from Steilacoom to Dupont through N. Ft. Lewis? In my experience, frequencies in use on/through military installations need approval from the Signal guys on post, too.**

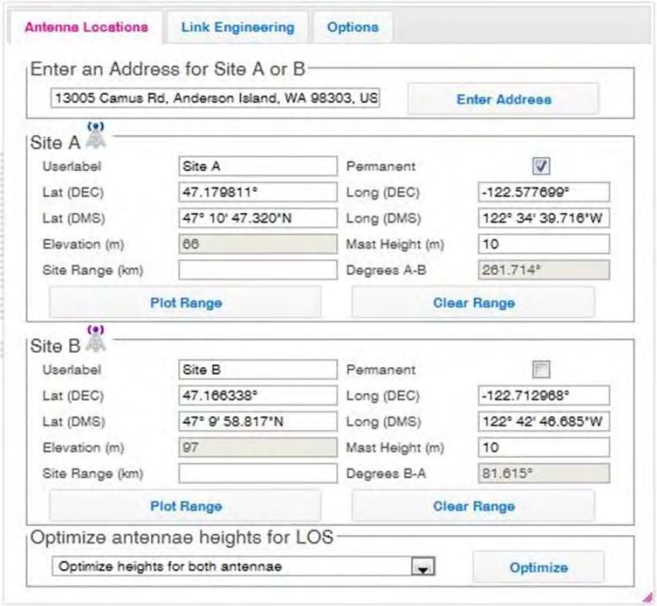
Our local terrain is a huge obstacle for any type of Radio Line of Site links. I have performed Microwave Link Analysis for several locations to each of the sites that need connectivity. We have a few direct radio LOS scenarios using 10 meter or higher antenna structures. None of these scenarios make it possible for every building to have a LOS link to it. Saltar's Point and Cherrydale do not have any LOS link capabilities to the High School, Anderson Island, or Steilacoom Public Safety tower. All scenarios from Anderson Island, Steilacoom Public Safety building and the Steilacoom High School would require a repeater site off of district property. Any repeater sites adds to the cost of the microwave system equipment purchases, installation costs, maintenance costs, as well as site build out and site access negotiations.

Steilacoom School District Microwave Link Plans

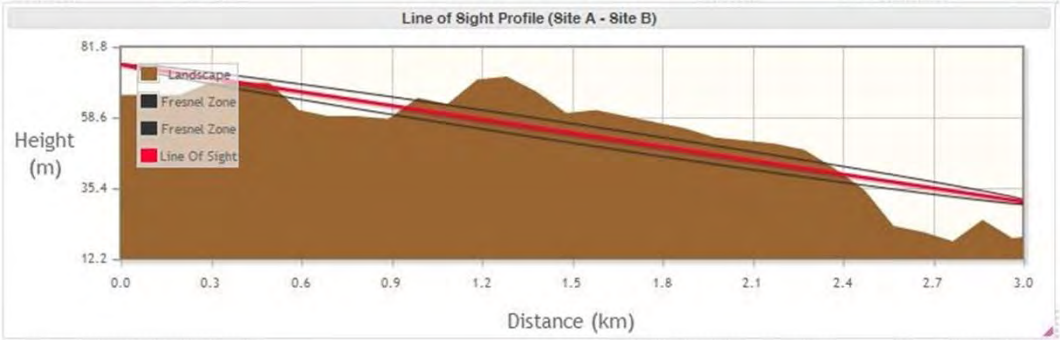
Link Reviews

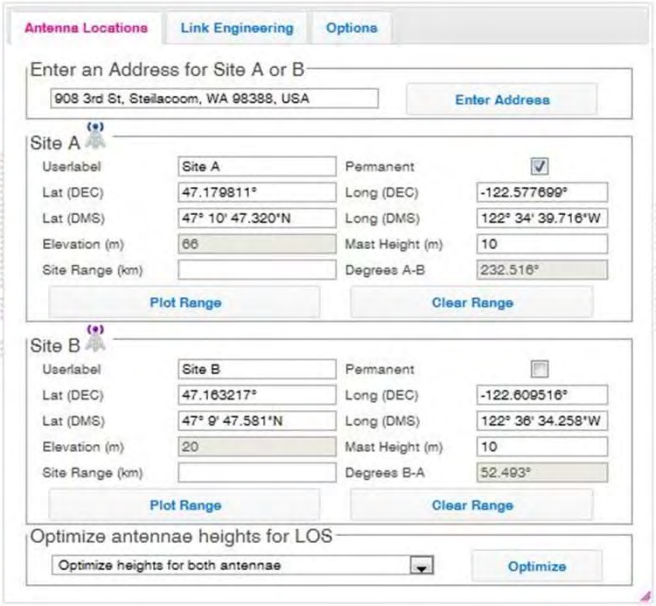
Steilacoom High to Anderson Island



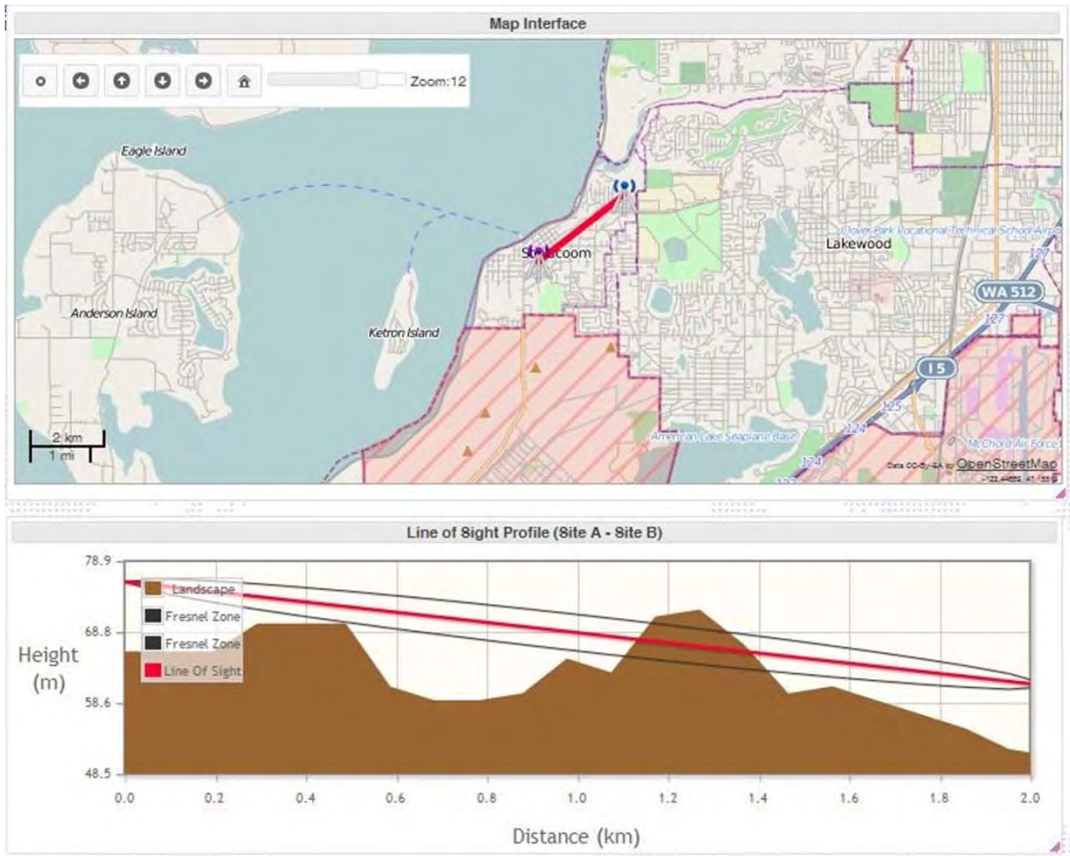


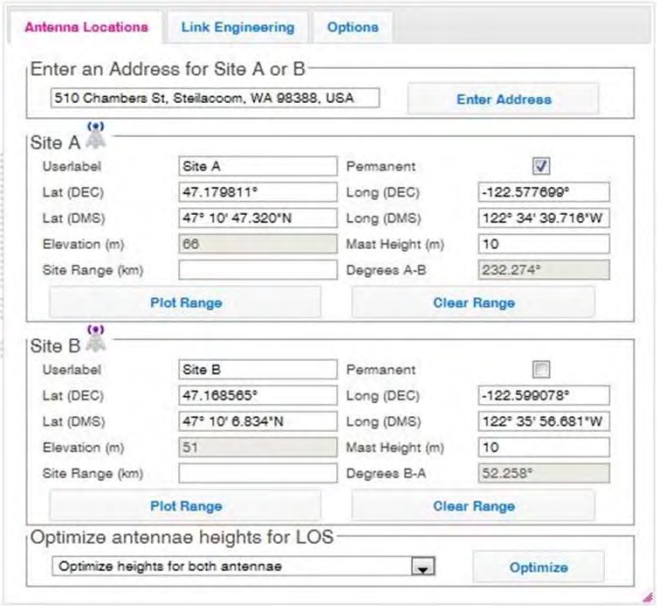
Steilacoom High to Saltar's Point



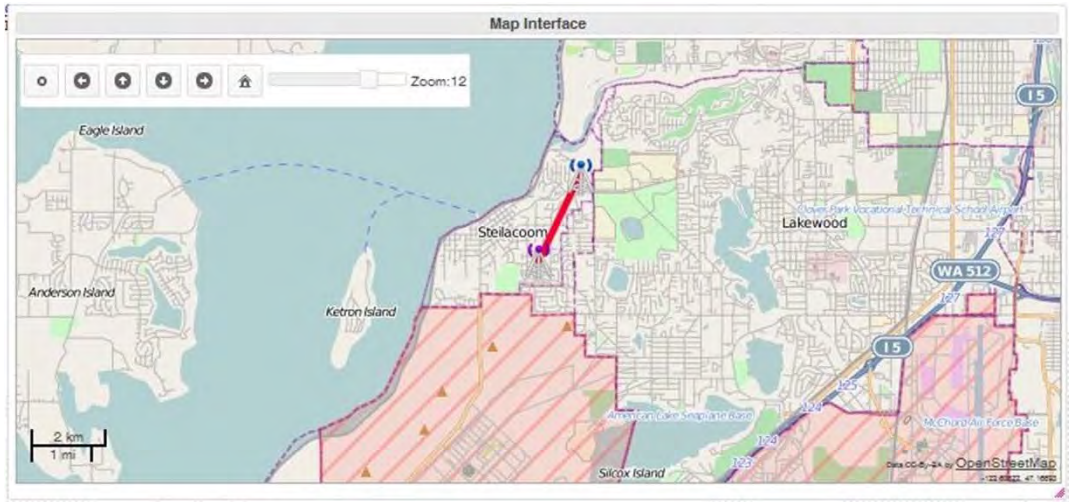


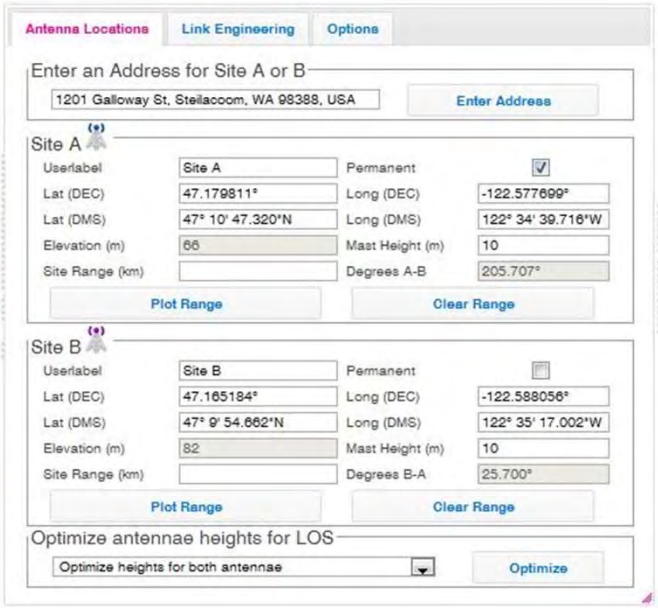
Steilacoom High to District Office



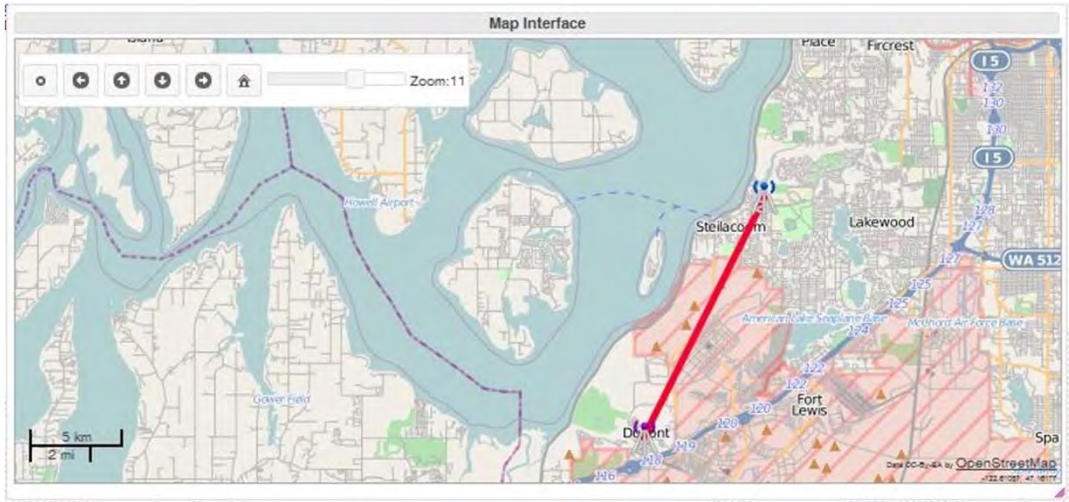


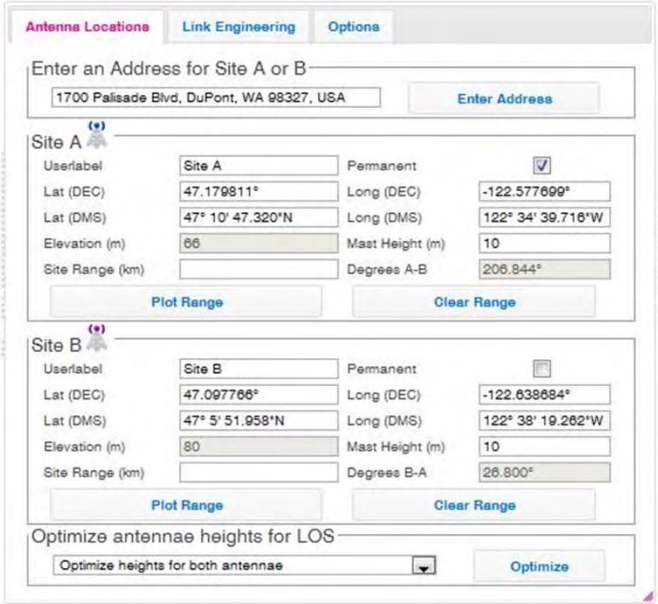
Steilacoom High to Cherrydale



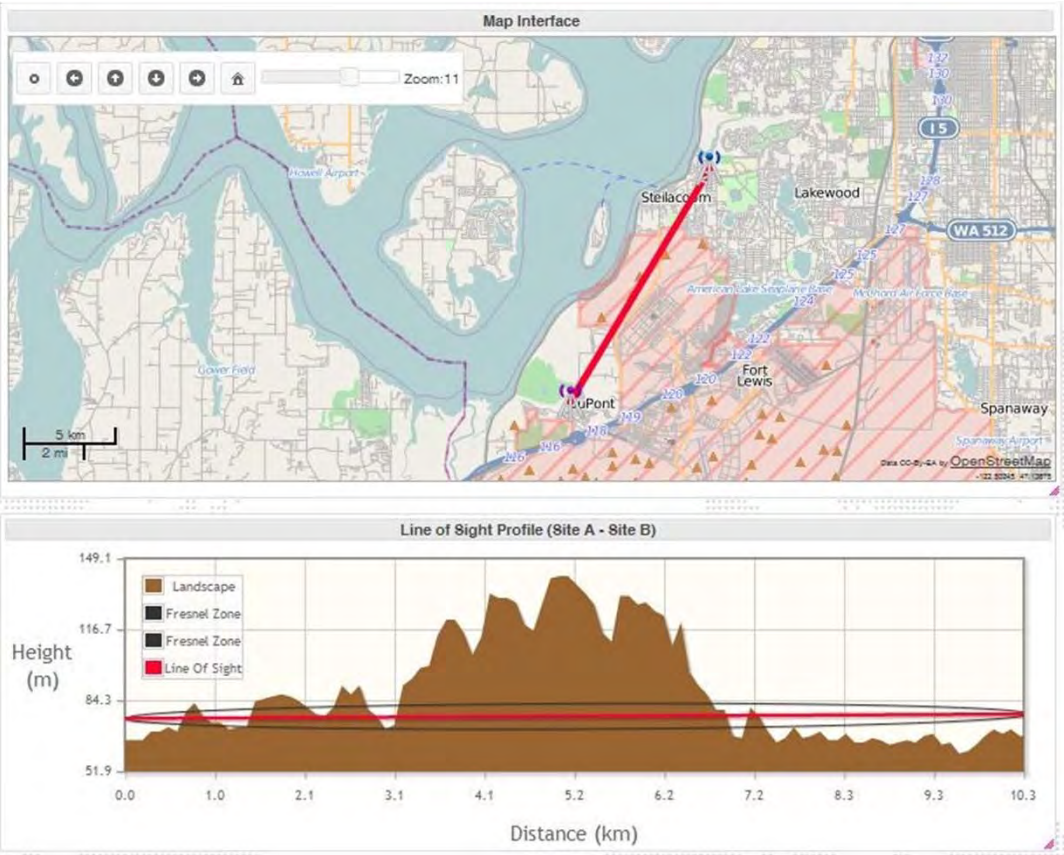


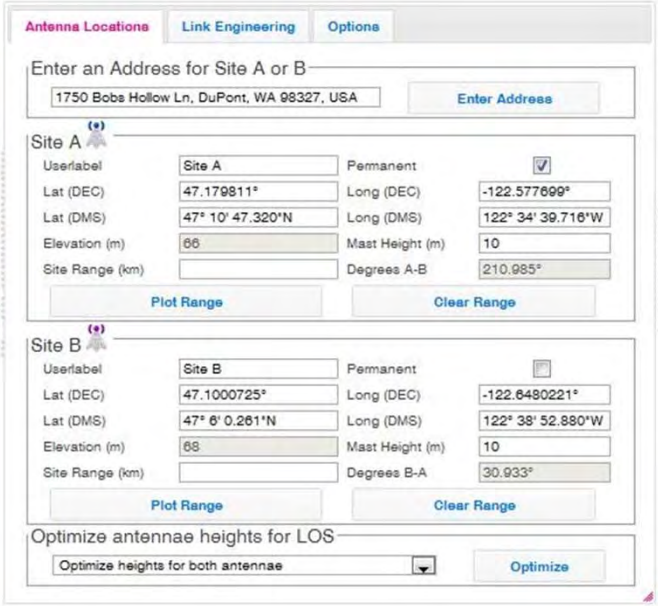
Steilacoom High to Chloe Clark



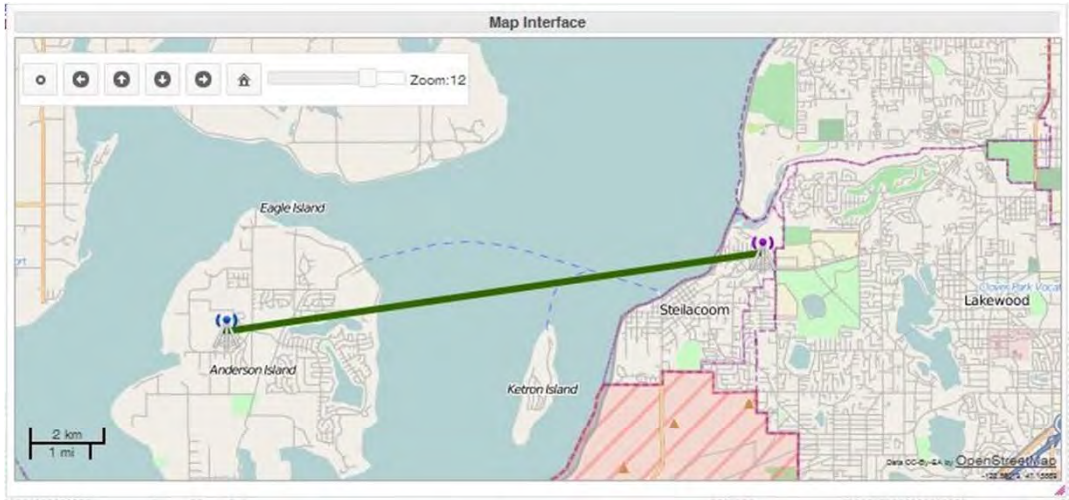


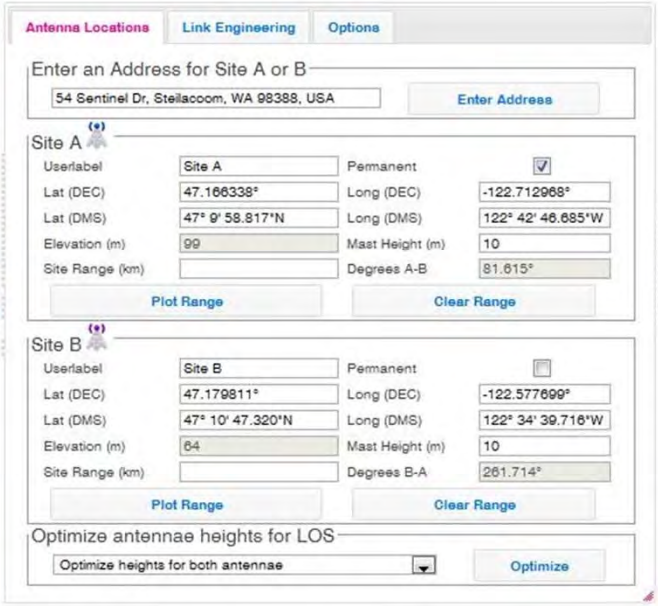
Steilacoom High to Pioneer



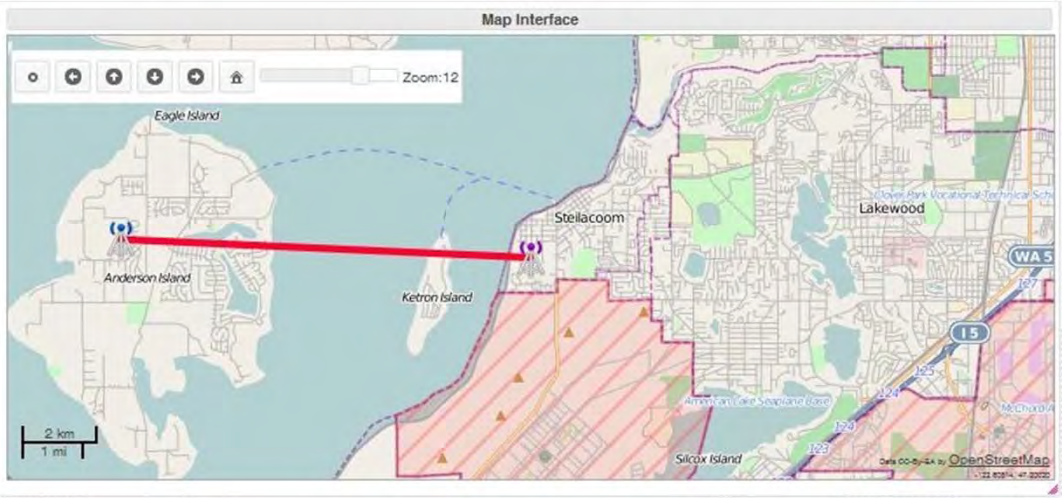


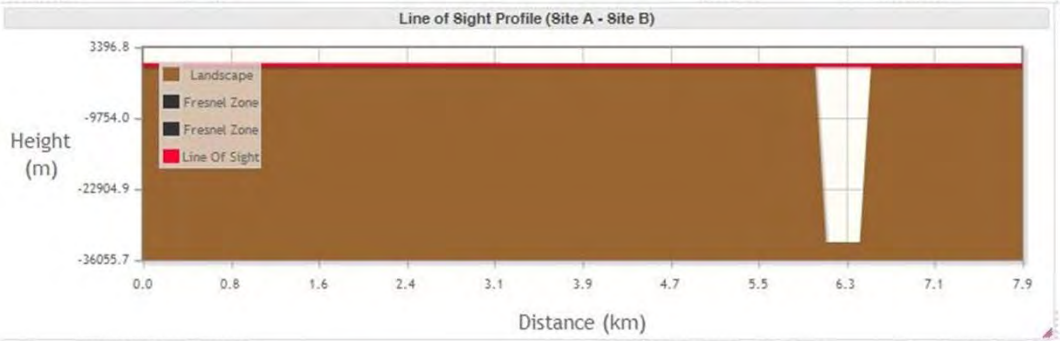
Anderson Island to Steilacoom High

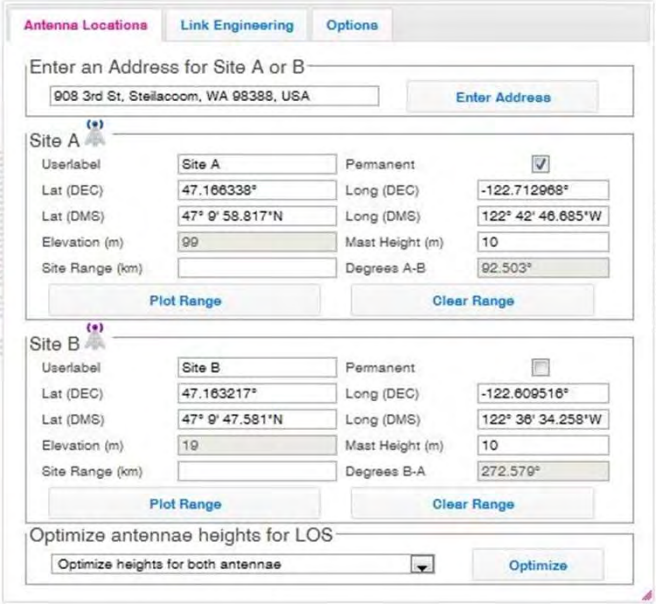




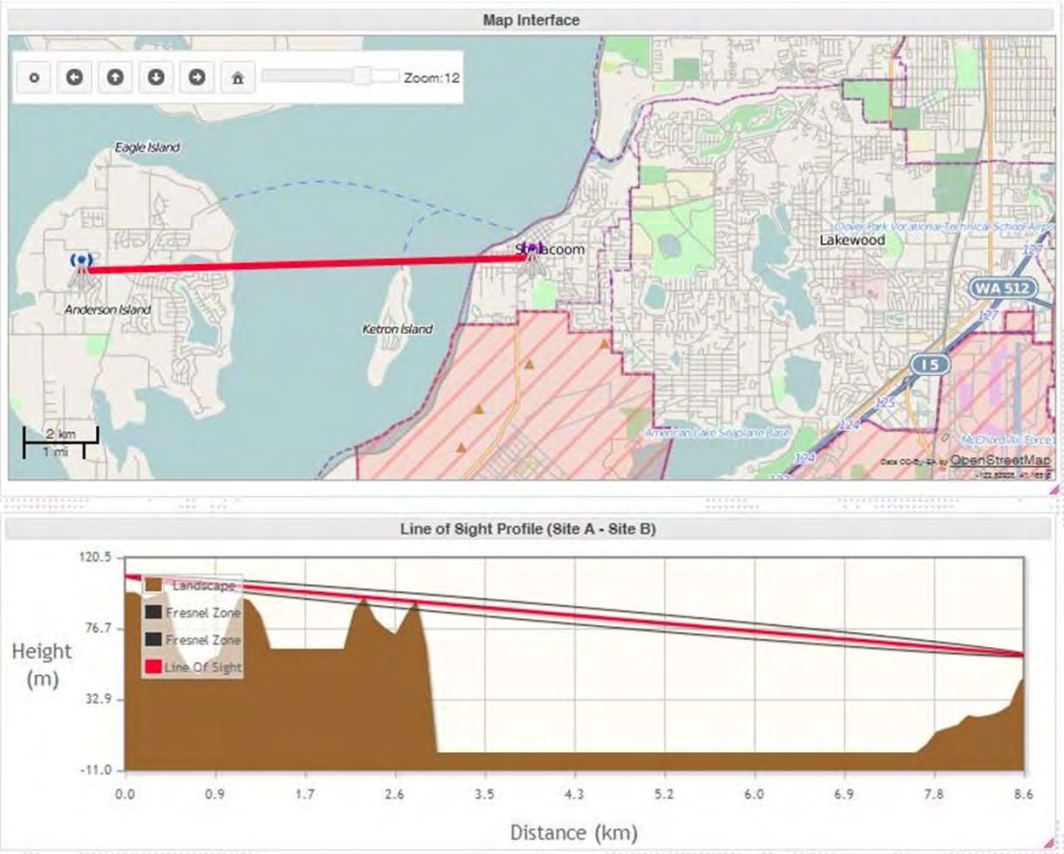
Anderson Island to Saltar's Point

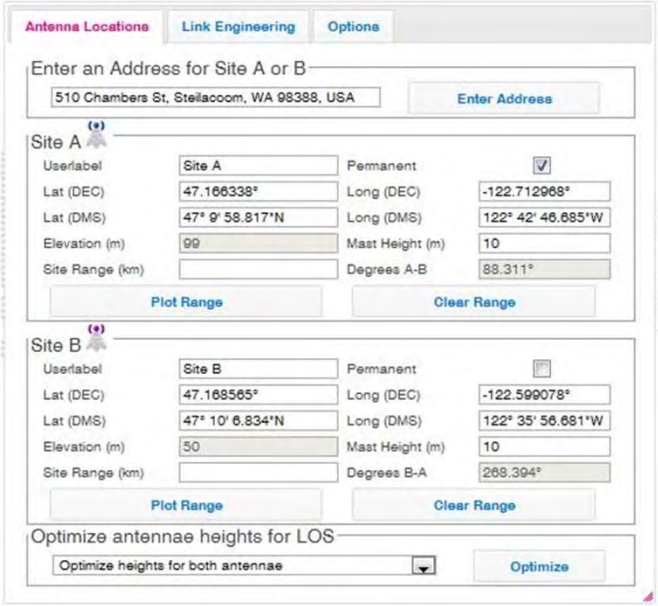




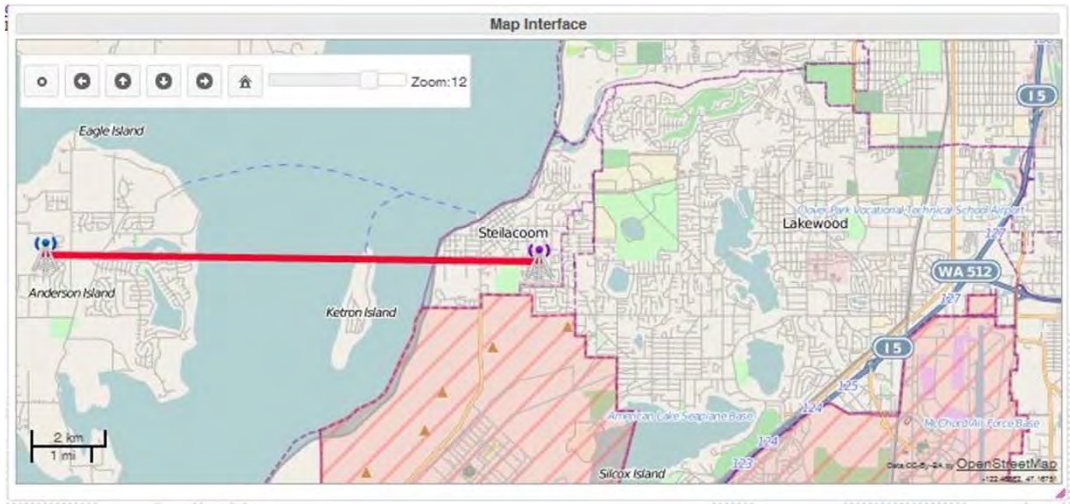


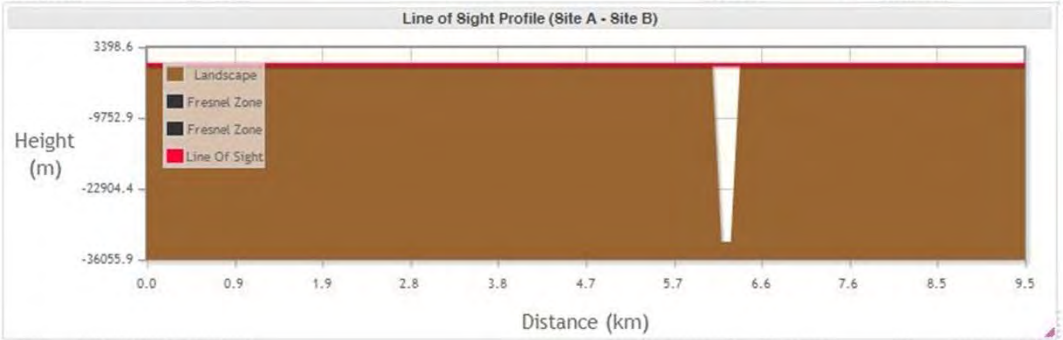
Anderson Island to District Office

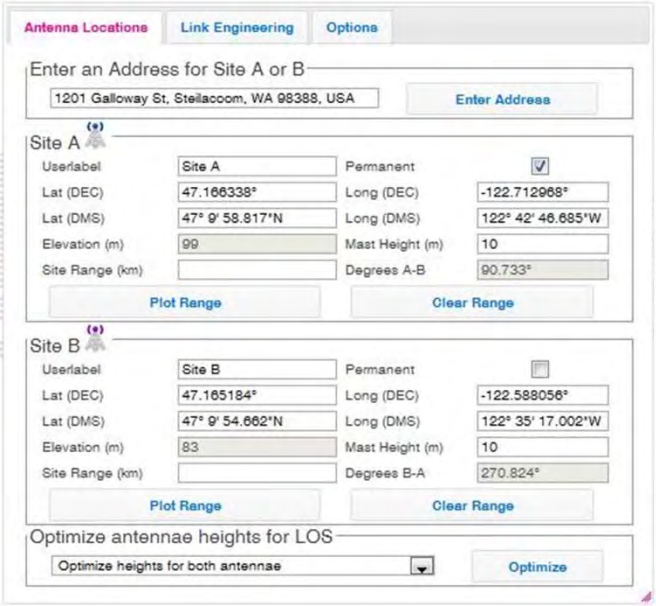




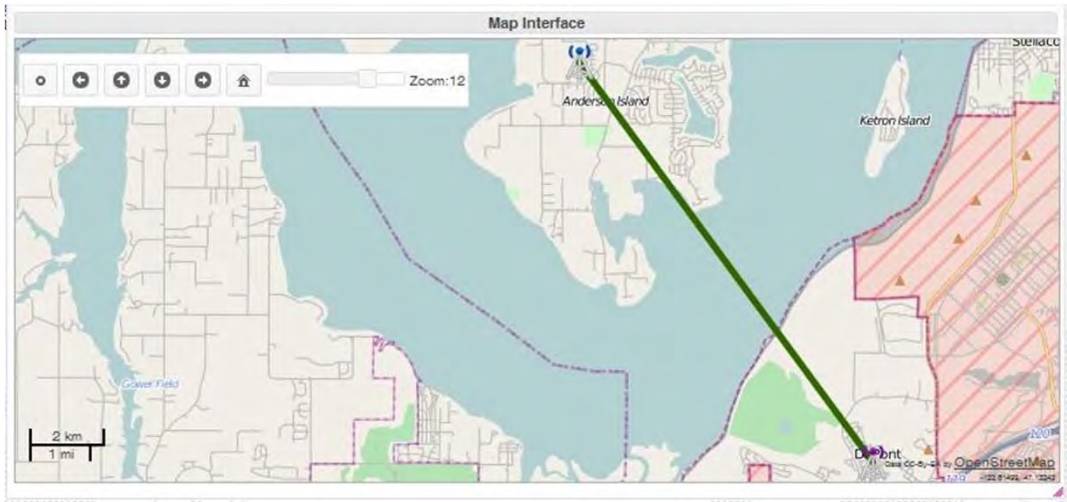
Anderson Island to Cherrydale

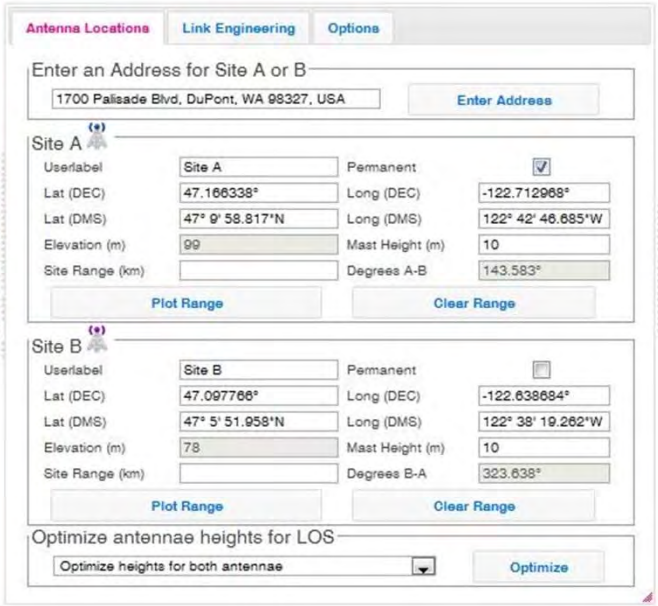




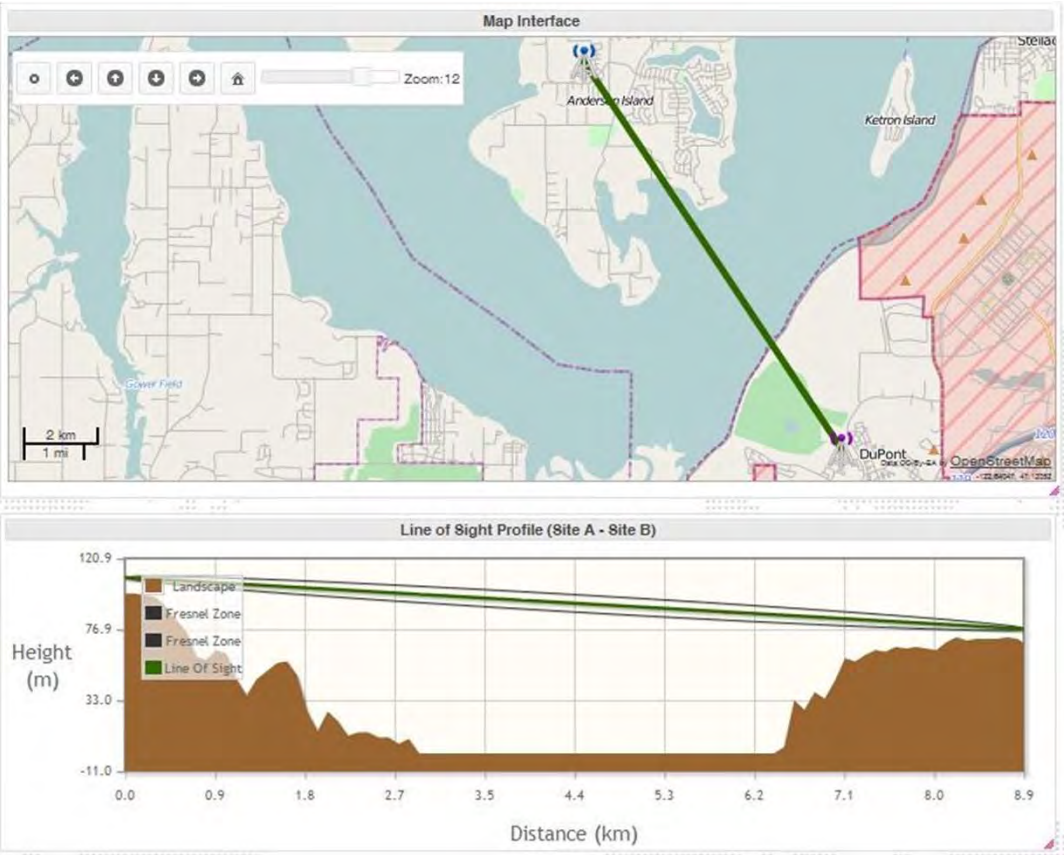


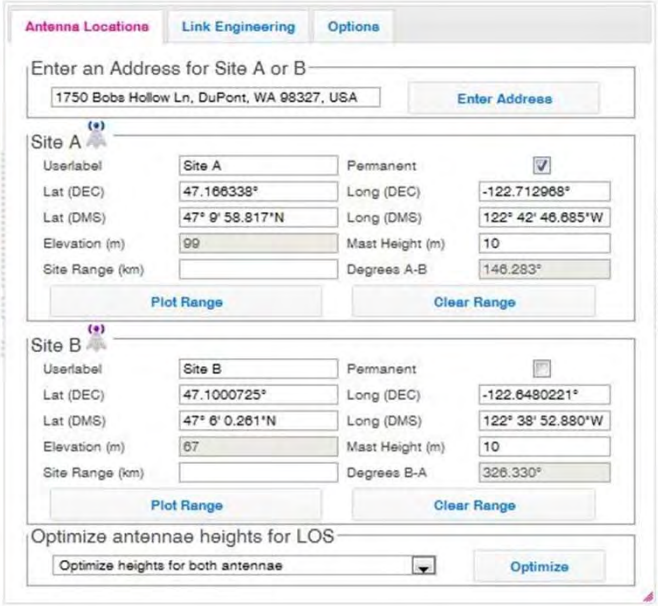
Anderson Island to Chloe Clark



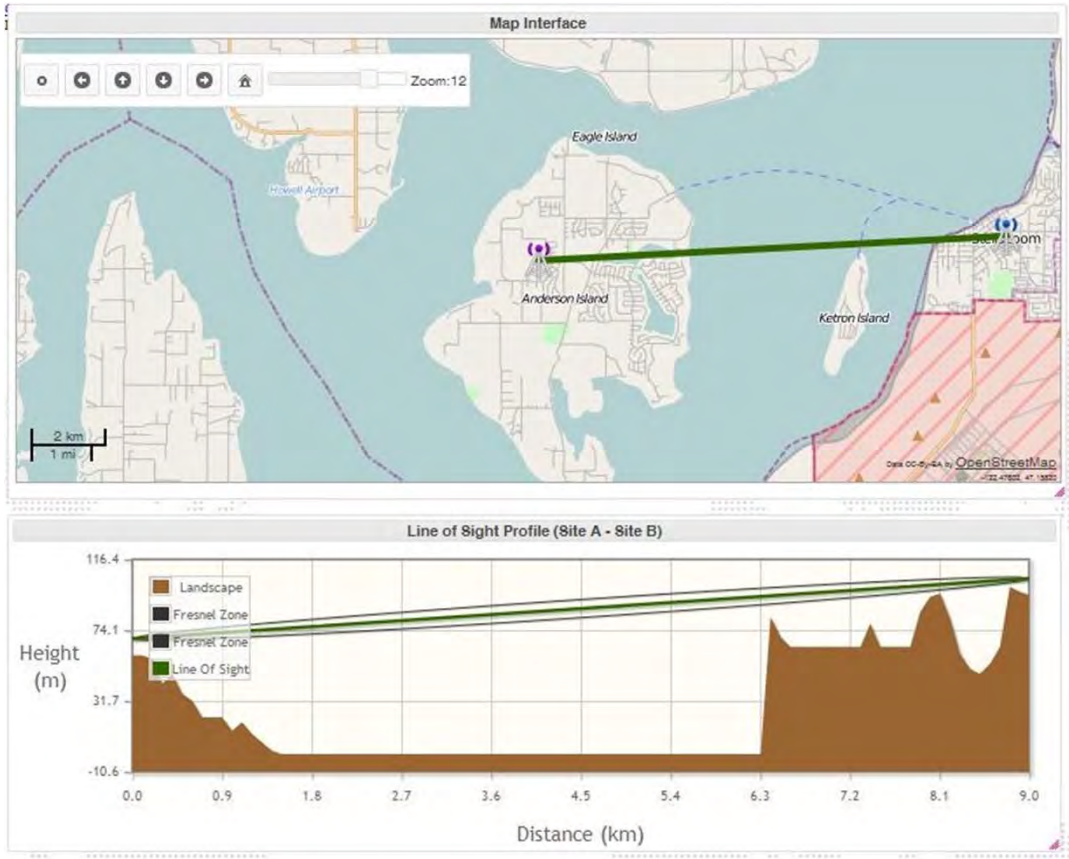


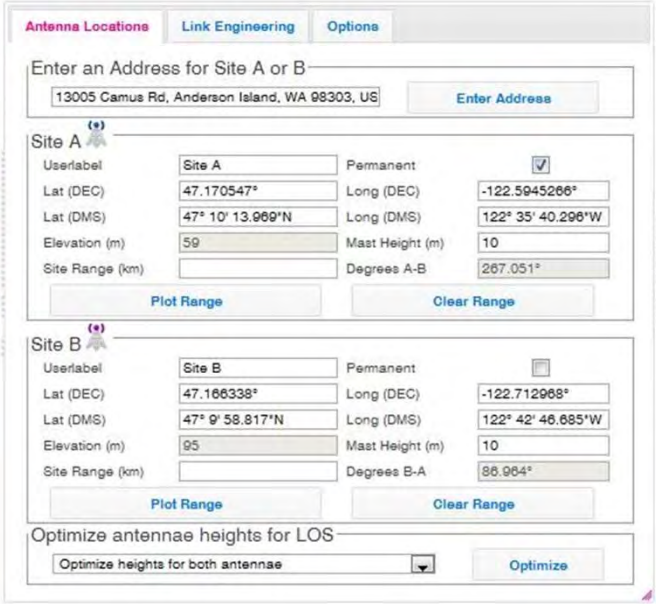
Anderson Island to Pioneer



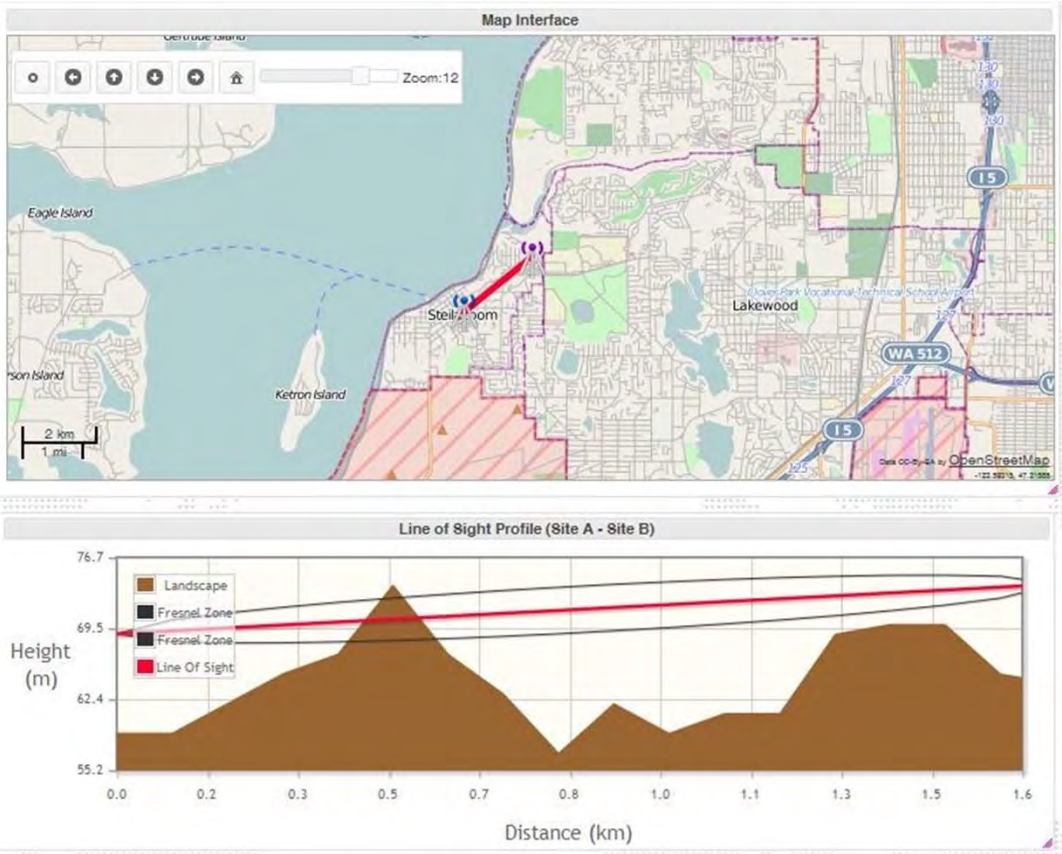


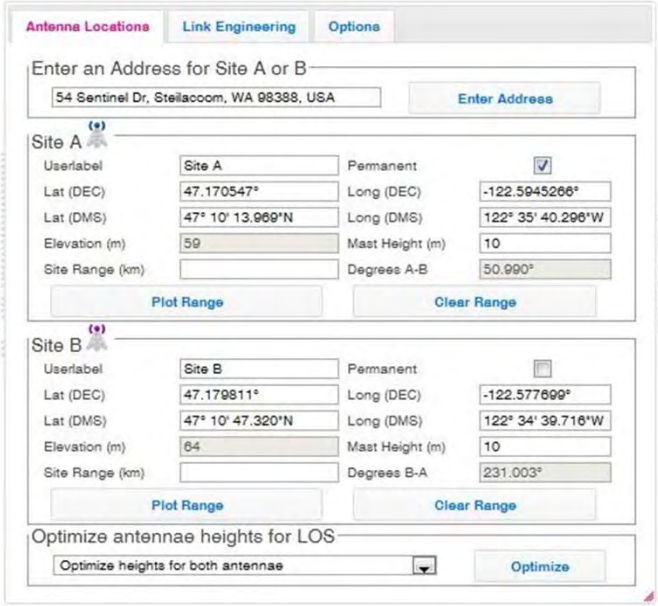
Steilacoom Public Safety to Anderson Island



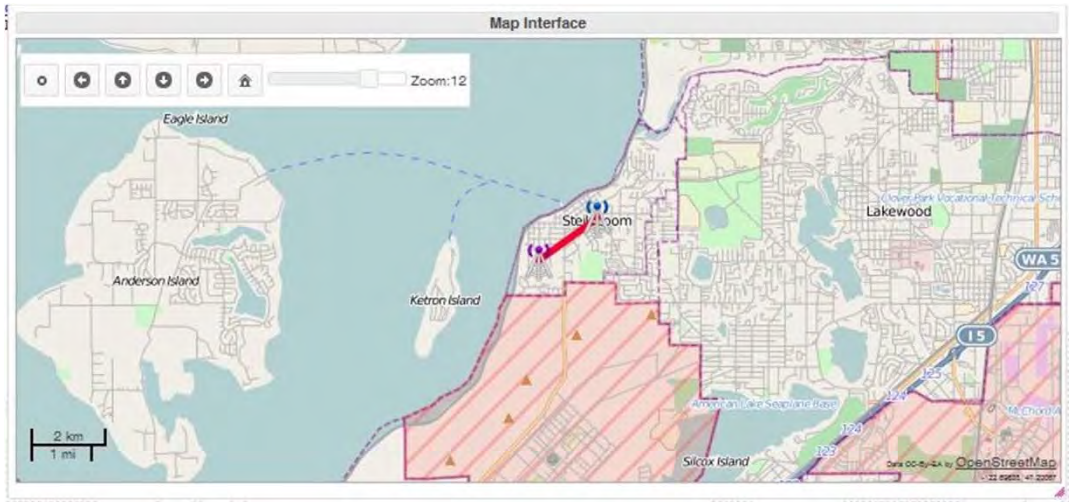


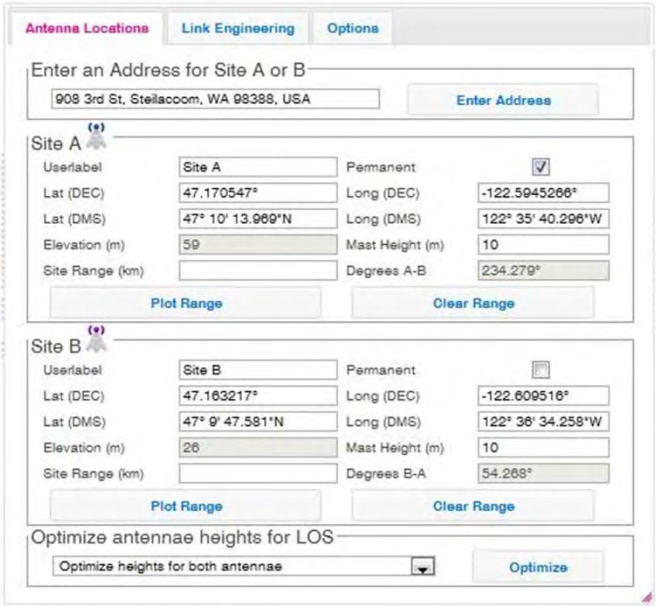
Steilacoom Public Safety to Steilacoom High



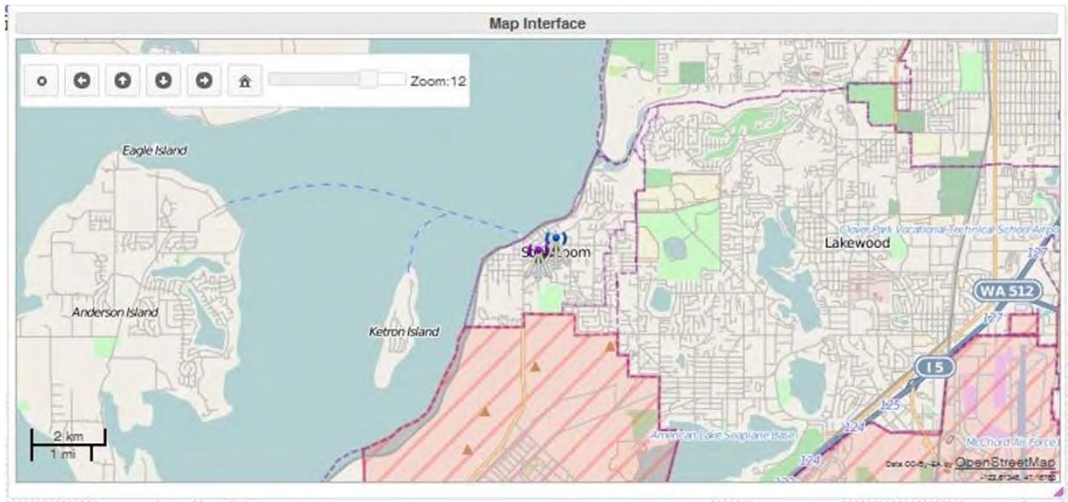


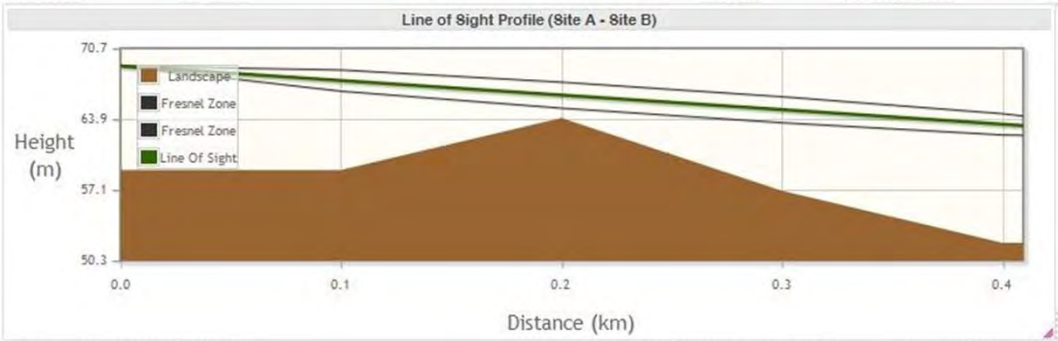
Steilacoom Public Safety to Saltar's Point

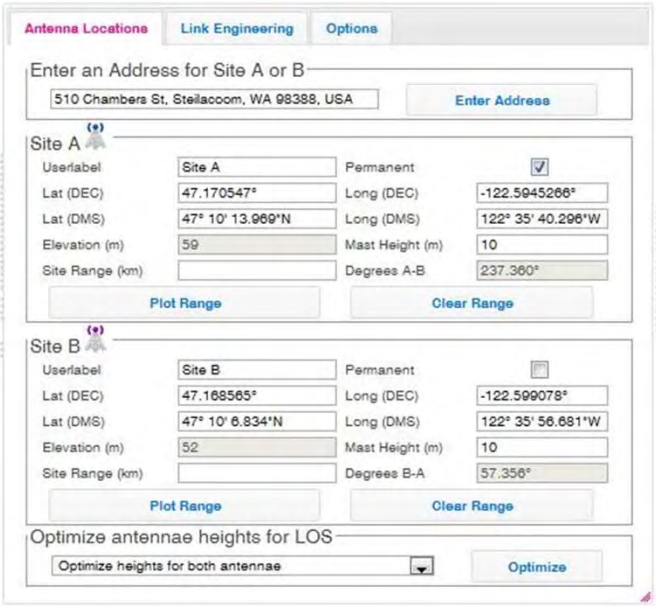




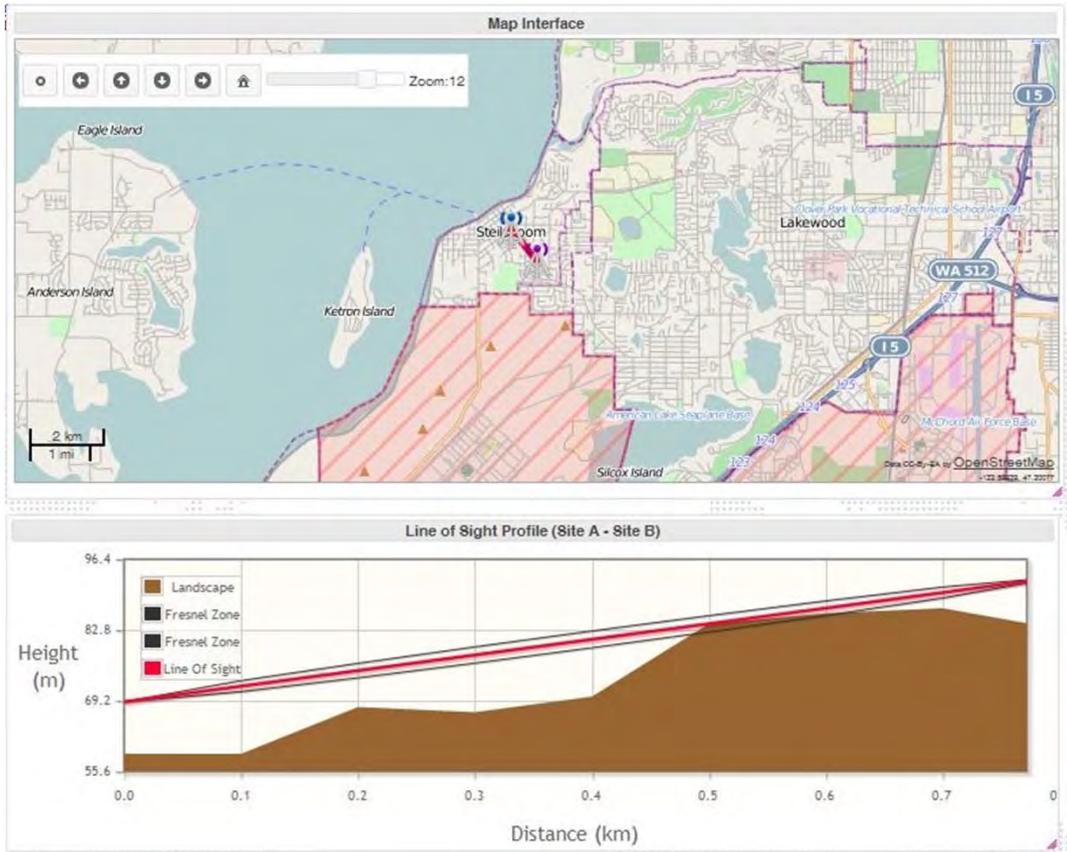
Steilacoom Public Safety to District Office

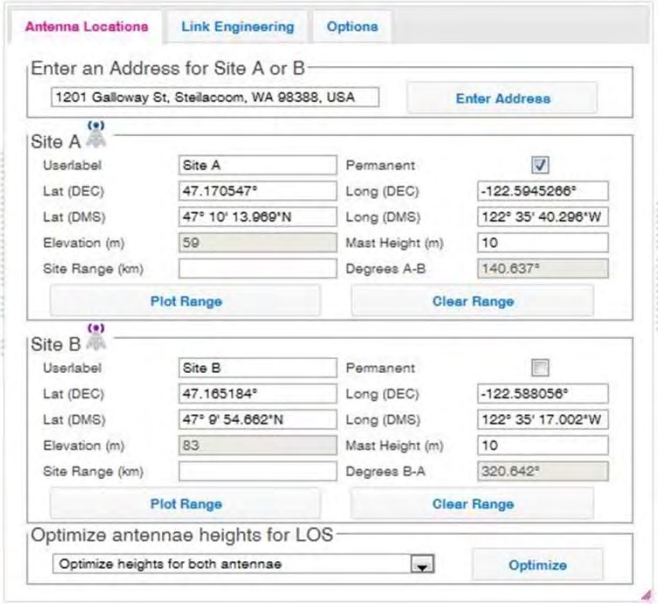




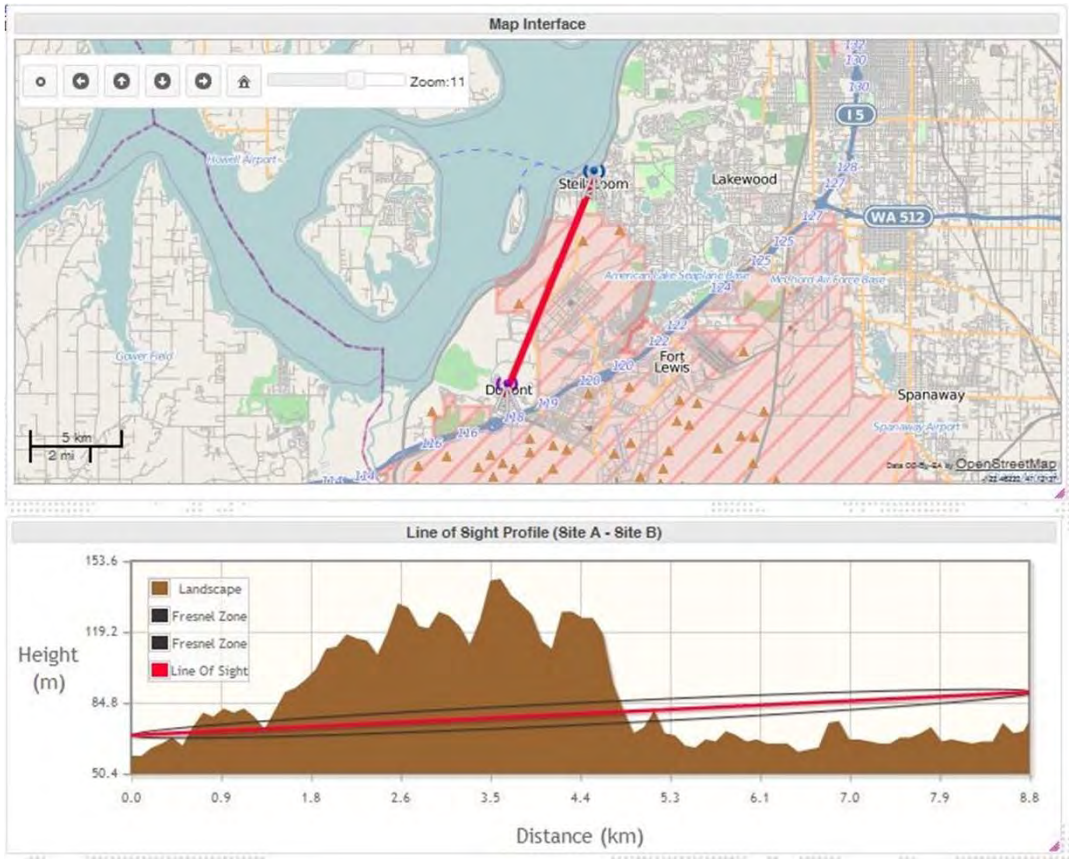


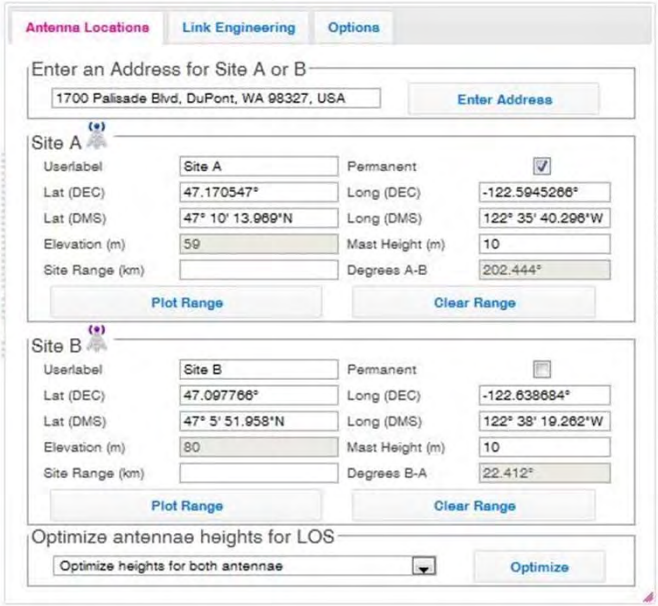
Steilacoom Public Safety to Cherrydale



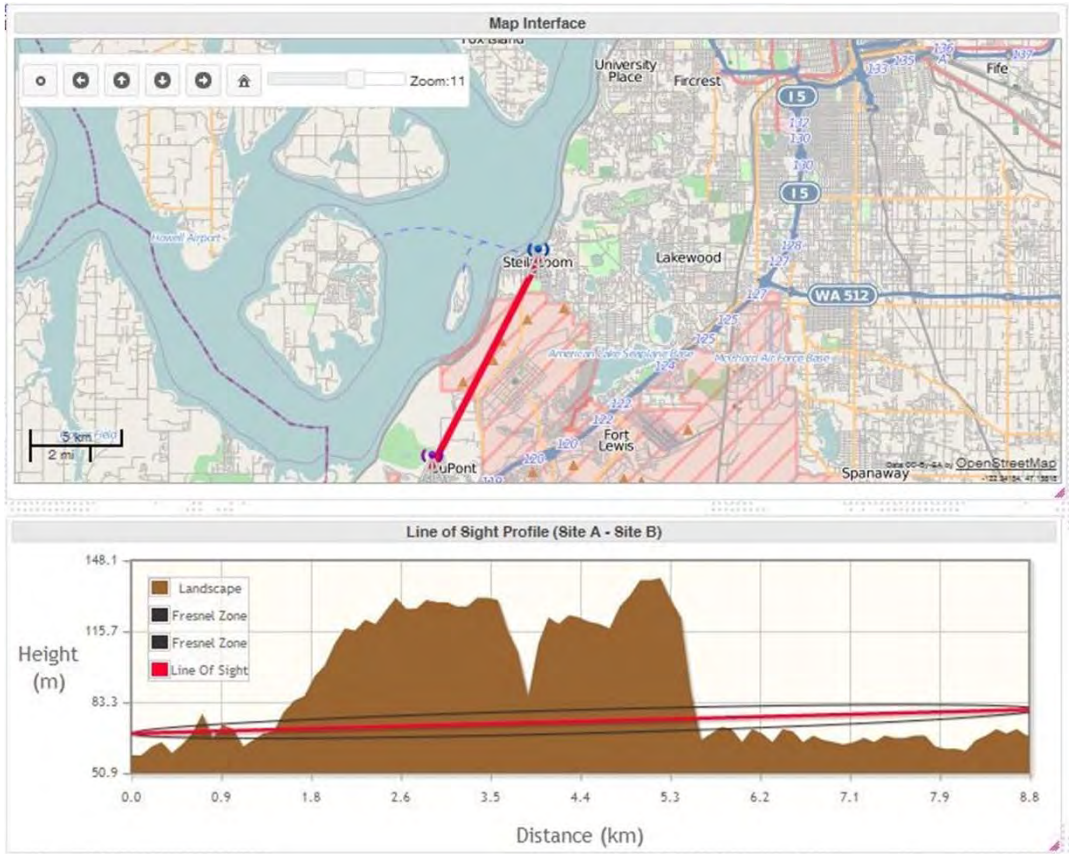


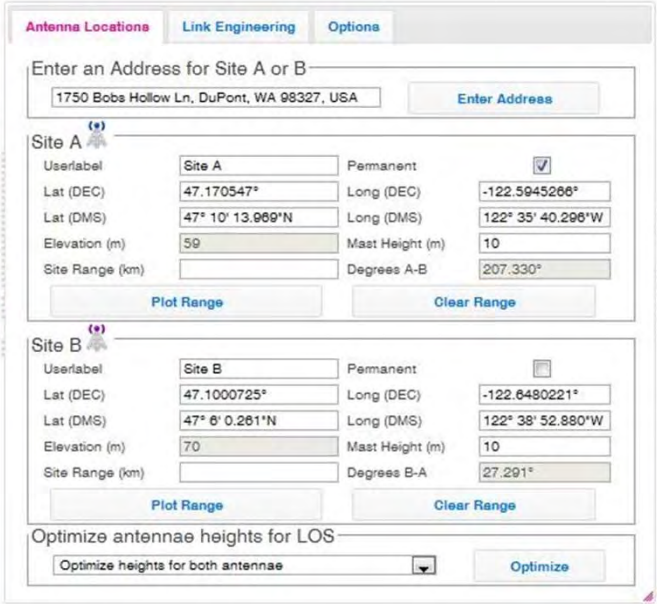
Steilacoom Public Safety to Chloe Clark





Steilacoom Public Safety to Pioneer





Reference

- http://www.big-vienna.com/LinkWizard/

Microwave vs. Fiber/Copper

Wednesday, February 08, 2012
5:53 PM

Microwave Costs?

- FCC Licensing can be difficult, especially near borders/military installations
- Next 'layer 2', level/node equipment, from Antenna to node switch, excessive costs?
- Encryption capabilities, 64bit, any additional equipment for encryption?
- Cost of 'DAS' style cabling from Microwave/MW antennae to network/WAN rooms, costs of 'DAS' style cabling?
- Tower costs excessive for areas where that are not owned just leased facilities where roof installations/penetrations could be difficult?
- Tower installations restrictive, city/county ordinances?
- Bandwidth issues for high nodes requiring high bandwidth, ie. Schools, libraries with many wireless & 'wired' devices.

Microwave vs. Fiber?

- Fiber is capable of 100GB layer 2 throughput, with OM4 fiber cable & new generation switches/routers
- My experience with new fiber routes/trunks being installed is the installation costs haven't been much more than any other cabling installations, typically just laid in PVC & with the advances of new fiber inner ducts, multiple drops can come off of the same conduits to different business's without having to run additional trenches/conduits.
- Also an advancement in the past 10 years is the ability for the fiber installers to do the fiber splices/connectors in the field, effectively using fibers rolls off of a truck layer, versus having to preorder/build the fiber runs & installation costs sky rocketing when the runs are different lengths than originally spec'd due to unseen sub-pavement obstacles.

Steilacoom Historical School District Board of Directors

REGULAR BOARD MEETING

February 8, 2012

TO: Members, Steilacoom Historical School District Board of Directors

ISSUE: X **ACTION** First Reading of Policy 2030, Service Animals

____ **INFORMATION**

BACKGROUND INFORMATION:

This is a new policy based on the revised Title II Regulations of the American Disabilities Act, including language defining a Service Animal. The basic process for requesting a service animal is described. Procedures will be developed to align with this policy and the revised law.

RECOMMENDED DECISION:
The Superintendent recommends moving Policy 2030 to a Second Reading.

Report prepared by: Beth Mills, Executive Director for Student Services

Service Animals in Schools

The Steilacoom Board of Directors acknowledges its responsibility to permit students and/or adults with disabilities to be accompanied by a "service animal" as required by federal laws and Washington State's law against discrimination. This policy governs the presence of service animals in the schools, on school property, including school buses and at school activities.

A "service animal" means an animal that is trained for the purpose of assisting or accommodating a disabled person's sensory, mental or physical disability.

The parent/guardian of a student who believes the student needs to bring a service animal to school or an employee who wishes to bring a service animal to school, must submit a written request to the building principal. The building principal, in consultation with the Executive Director for Student Services, will determine whether or not to permit the service animal in school.

Cross Reference:	Board Policy 2029	Animals as Part of the Instructional Program
	2161	Education of Students with Disabilities
	2162	Education of Students with Disabilities Under Section 504
	3210	Nondiscrimination
	5010	Nondiscrimination and Affirmative Action

Legal References:	American Disabilities Act (ADA), Revised Title II Regulations, §35 Service animals	
	Section 504 of the Rehabilitation Act of 1973	
	RCW 28A.642	Discrimination Prohibition
	RCW 49.60.040	Definitions
	WAC 162-26	Public accomodations, disability discrimination
	WAC 392-145-021(3)	General Operating Requirements
	WAC 392-172A-01035	Child with a Disability or Student eligible for Special Education
	WAC 392-172A-01155 (3)	Related Services
	WAC 392-190	Equal Educational Opportunity – unlawful discrimination prohibited

Adoption Date:
School District Name: Steilacoom Historical School District

Steilacoom Historical School District Board of Directors

REGULAR BOARD MEETING

February 8, 2012

TO: Members, Steilacoom Historical School District Board of Directors

ISSUE: X **ACTION** First Reading of Policy 3210, Nondiscrimination

____ **INFORMATION**

BACKGROUND INFORMATION:

This is a revised policy based on the WSSDA model policy recommendations, to align with the current RCW. The revisions define sexual orientation to include "gender expression or identity" and includes "the use of a trained dog guide or service animal by a person with a disability." The board previously approved Policy 5010, Nondiscrimination and Affirmative Action which included the same language.

RECOMMENDED DECISION:
The Superintendent recommends moving Policy 3210 to a Second Reading

Report prepared by: Beth Mills, Executive Director for Student Services

Policy No. 3210
Students

NONDISCRIMINATION

The district shall provide equal educational opportunity and treatment for all students in all aspects of the academic and activities program without regard to race, creed, color, national origin, sex, sexual orientation (including gender expression or identity), the presence of any sensory, physical or mental disability, or the use of a trained dog guide or service animal by a person with a disability. District programs shall be free from sexual harassment.

The superintendent shall provide for the annual evaluations, periodic surveys, annual notice and complaint procedures as required by law to ensure that there is in fact equal opportunity for all students in the district.

The board shall designate a staff member to serve as the compliance officer for this policy.

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Cross References:	Board Policy 2020	Curriculum Development and Adoption
	2030	Service Animals in Schools
	2140	Guidance and Counseling
	2150	Co-Curricular Program
Legal References:	RCW 28A.640	Sexual Equality
	RCW 28A.642	Discrimination prohibition
	49.60	Discrimination — Human rights commission
	42 U.S.C. §§ 12101-12213	Americans with Disabilities Act
	WAC 392-400-215	Student rights
	392-190	Equal Educational Opportunity — Sex Discrimination Prohibited
Management Resources:		
	Policy News, June 2011	Washington's Laws on Discrimination
	Policy News, August 2007	Washington's Law Against Discrimination

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Adoption Date: 2.27.08
School District Name: Steilacoom Historical School District
Revised: