

High-Performance School Buildings

Report to the Legislature



Randy I. Dorn
State Superintendent of
Public Instruction

February 2011

OSPI provides equal access to all programs and services without discrimination based on sex, race, creed, religion, color, national origin, age, honorably discharged veteran or military status, sexual orientation including gender expression or identity, the presence of any sensory, mental, or physical disability, or the use of a trained dog guide or service animal by a person with a disability.

The following employee has been designated to handle questions and complaints of alleged discrimination:

Title IX/Section 504 Coordinator:
Equity and Civil Rights Director
P.O. Box 47200
Olympia, WA 98504-7200
(360) 725-6162

High-Performance School Buildings

Prepared by
Patricia Jatczak, Program Development Manager

School Facilities and Organization
Office of Superintendent of Public Instruction
Gordon Beck, Director

Randy I. Dorn
Superintendent of Public Instruction

Ken Kanikeberg
Chief of Staff

Shawn Lewis
Chief Financial Officer

January 2011

Table of Contents

	Executive Summary	ii
I.	Introduction	1
II.	Process	2
III.	Findings	4
IV.	Recommendations	7
V.	Conclusion	8
VI.	Appendices	9
	A. Washington’s High-Performance Schools - Status	
	B. New WSSP 2010 Scorecard	
	C. Sample Annual Report Form	
	D. Sample of WSSP Cost Reporting Sheet	
	E. Post Occupancy Study Summaries	

Executive Summary

The high-performance public buildings law, [Chapter 39.35D RCW](#), requires K–12 public schools that receive state funding assistance to be designed and built to high-performance standards. The Washington Sustainable Schools Protocol (WSSP) is the green building standard developed for this purpose.

The School Facilities and Organization section of Office of Superintendent of Public Instruction (OSPI) manages the High-Performance School Building Program. Program requirements for designing and building have been incorporated into the School Construction Assistance Program, also administered by OSPI. Documents and other information for high-performance schools are found on the OSPI website at: <http://www.k12.wa.us/SchFacilities/Programs/HighPerformanceSchoolBuildings.aspx>

The WSSP was developed in 2006 and updated in 2010. This report covers projects that have used the 2006 standard. Except for some of the “not practicable” projects, all of the projects have met the minimum score of 40 points. The 2010 Edition of WSSP went into effect in November 2010, offering more points to choose from and a higher minimum point level for the larger school districts.

Since the law took effect, OSPI has monitored 115 public school construction projects. Ninety-seven of these projects have been designed and built, or are being built, to this standard. This includes major remodels and additions, as well as new construction. Thirty-five requests were made and granted “not practicable” status.

Districts report to OSPI the estimated cost differential for building to high-performance standards. Districts are also required to report on the operational costs of high-performance schools annually for five years. Just over a dozen projects have been completed and opened for at least a year and have submitted reports.

OSPI maintains that the requirement for state assisted public schools to design and build to green building standards is effective and achievable for school construction projects. Schools are being built that take into account the effects of choices made in design and materials on the occupants’ health and safety. Fresh air, materials with low toxicity and plenty of daylight make for good learning environments. Energy and water reducing features are also being installed. While some of the concepts in high-performance schools are not new, the WSSP provides a good planning tool for districts in designing schools that take into account the internal and external environments.

Requiring the districts to supply cost differential information about building to high-performance standards costs the districts time and money and does not yield standardized results that can be easily aggregated or are a large enough sampling to draw useful conclusions.

The current form that OSPI has developed for districts to track their utility usage is useful for the districts to see how the building is performing. For the state, this raw data is less useful. A different reporting mechanism may be more useful, such as having the

district submit to OSPI the building's Energy Star score through the Environmental Protection Agency's free benchmarking tool, Portfolio Manager.

I. Introduction

The Legislature states its intent in Chapter [39.35D RCW High-Performance Public Buildings](#) that state-owned buildings and schools be improved by adopting recognized standards for high-performance public buildings, reducing energy consumption, and allowing flexible methods and choices in how to achieve those standards and reductions. Districts may choose between the state-specific Washington Sustainable Schools Protocol (WSSP) and the national Leadership in Energy and Environmental Design (LEED) silver standard, developed by the non-profit U.S. Green Building Council. The WSSP was based on the first green building standard for schools, the Collaborative for High Performance Schools (CHPS).

Chapter 39.35D requires that all state assisted new construction or modernization projects at K–12 facilities over 5,000 square feet be designed and built to either the WSSP or LEED. Districts must report to the Office of Superintendent of Public Instruction (OSPI) annually for five years on the operating benefits and savings of schools built under these standards.

OSPI is required by 39.35D.040 (3) to report to the legislature on the public school reports received and on the status of the program each even-numbered year beginning in 2006 and ending in 2016. OSPI shall make recommendations regarding the ongoing implementation of the chapter.

The purpose of this report is to inform the Legislature about the status of the OSPI High-Performance Schools Program as well as the schools built to the high performance standards.

II. Process

Program Management and Compliance Status

The School Facilities and Organization section of OSPI manages the High-Performance School Building Program. Compliance with high-performance requirements by school districts receiving state financial assistance for school construction projects has been phased-in, starting July 2007 for larger school districts and July 2008 for smaller districts. Large districts, called Class I, have more than 2,000 full time equivalent students, and Class II has less than 2,000 full time equivalent students.

Districts may request a “not practicable” status depending on when the project bond was issued, or if other challenges make it not practicable for a project to meet the requirements. For Class I districts, projects for which the bond was issued prior to June 2008 could declare a “not practicable” status; for Class II, projects with bonds prior to June 2009 could declare a project was not practicable. This means that although they still must submit WSSP scorecards, the project does not have to meet the 40 point minimum nor complete the annual report. About a third of the projects have been granted this status since July 2007. The number of projects eligible to claim this status will drop every year until all projects with bonds issued before June 2009 are completed.

Projects are categorically exempt if they are under 5,000 gross square feet, or if the cost of a renovation is less than 50% of the state’s allowable construction costs. Only a couple of projects that have come through the School Construction Assistance Program have been categorically exempt. Districts that build or remodel schools without any state funds are not required to use the WSSP design standard, but often do. School districts are not required to report these projects to OSPI.

A list of school construction projects to date that fall under the requirements is found in Appendix A. This list also includes some non-state assisted projects that were part of OSPI’s volunteer project in 2006.

The WSSP Scorecard

The WSSP was developed through a stakeholder process to create a set of green building design standards that defined a sustainable school for the state of Washington. The WSSP includes a point-based Scorecard of green building standards and identifies a minimum point level that school projects need to achieve to be in compliance.

The WSSP was published in January 2006, and the first major update was completed in 2010 using a stakeholder committee made up of school district staff involved in school construction as well as design professionals. It became effective in November 2010. The new scorecard is in Appendix B.

This report covers projects that used the 2006 edition of the scorecard. This edition has ten prerequisites that must be met, and 93 available points. A minimum of 40 points is necessary to be in compliance. There are six major categories in the 2006 edition of the WSSP: site planning, water use, materials, energy efficiency, indoor environmental quality, and a catch-all category of “extra credit”. The five main categories each include prerequisites, or points that must be achieved.

The timing of the submission of the WSSP scorecard and other document submittals has been imbedded into the existing OSPI School Construction Assistance Program and process.

Submittal and Reporting Requirements and Process

Districts have a specific set of reporting requirements that must be met in order to be in compliance. The required submittals align with the OSPI “D Form” process for state construction assistance.

At the Preliminary Funding Status (D5):

- *Preliminary WSSP* scorecard

At the Authorization to Sign Contracts (D9):

- A sustainable building strategy summary;
- A *design-phase WSSP* scorecard;
- An energy model summary; and
- Cost estimates

At the Release of Retainage (D11):

- *Final WSSP* Scorecard (update of design-phase scorecard)
- Final Cost information (update of estimated cost information)
- A certified letter with the D11 stating that the scorecard and cost information has been submitted and accurately reflects the project and that annual reporting will take place for five years.

Annual Reporting

School construction projects that are required to be in compliance with WSSP must report annually to OSPI on the operational costs of the high performance schools for five years. Because the districts start reporting one year after the project is completed and the building occupied, only about a dozen projects are at this reporting phase.

The annual reporting format (see Appendix C) was developed to track building use characteristics and energy and water usage. No methodology exists to correlate student achievement and staff and student attendance to schools built to high performance standards. The turnover of students and staff and evolution of standardized testing methodologies contributes to the difficulty of this type of analysis. Therefore, in consultation with school districts, the annual reporting requirements track measurable things, such as water and energy use.

At the time of this publication, the Joint Legislative Audit Review Committee (JLARC) was conducting an audit of OSPI’s high performance school building program as part of a larger audit of all state buildings that fall under RCW39.35D. OSPI provided to JLARC all of the annual reports received from districts. Preliminary review by JLARC showed that for this information to be useful, additional analysis and data from the districts on other school buildings was necessary. Some districts are assisting JLARC by providing this data. The analysis will be useful to OSPI in making program improvements.

III. Findings

OSPI High-Performance Schools Program Progress

Since program implementation, OSPI has been developing procedures, products, guidance, and other support documents for school districts.

Major accomplishments in this reporting period include:

- Extensive review and update of the WSSP to bring it up to 2010 requirements and standards (Appendix B)
- Development of the annual reporting tool for projects built to WSSP (Appendix C)
- Refinement of the cost differential reporting sheet (Appendix D)
- On-going continuing education and training

Project Count

Since its inception with the volunteer program in 2006, 115 K–12 school construction projects are using the WSSP standard. These include new construction and major modernizations and additions. Some projects have been completed, and some have just begun.

Only one district reports using the LEED standard for a project; the rest of the schools have reported that they used, or will use, the WSSP as their preferred standard to meet the high-performance requirements.

The following counts are for 2006 through fall 2010. Because of the long time frame to complete a school construction project, many of these are still under construction, many are opened, but only some of them have been opened for longer than one year, which is when the first annual report is due.

From 2006 – fall 2010

<u>Total Projects Using WSSP:</u>	115
<u>Volunteers (before required):</u>	18
<u>Required by law (after 7/08):</u>	97
<u>- Full WSSP & Reporting:</u>	62
<u>- Not practicable:</u>	35
<u>Annual Reports Submitted:</u>	15

Ninety-seven school construction projects were submitted to OSPI that were required to comply between July 2007 and September 2010. Thirty-five of these projects were granted a “not practicable” status due to bond issue date. A list of the schools and status is provided in Appendix A.

Based on the scorecards submitted, it appears that all districts will be able to achieve the minimum of 40 points. Many projects achieved scores in the high 40’s or low 50’s, with 54 being the highest score achieved. The projects that were granted “not practicable” status were still required to submit preliminary and final checklists. Some of

these projects reported potential scores in the 20's or 30's. It is yet to be seen if the projects are able to achieve more points than reported in the design phase.

Final scorecards are required to be submitted at the close out of the construction project. Since many projects are not closed out yet, OSPI does not have final scorecards on these projects.

Through the use of the WSSP, schools are being built that take into account the effects of choices made in design and materials on the occupants' health and safety. Fresh air, materials with low toxicity and plenty of daylight make for good learning environments. Energy and water reducing features are also being installed. While some of the concepts in high-performance schools are not new, the WSSP provides a good planning tool for districts in designing schools that take into account the internal and external environments.

Districts are required to report on the cost differentials between standard buildings and the high-performance features. The variation in ways the districts report these differences do not enable OSPI to draw any conclusions on the cost differential. It is still widely assumed that high-performance schools do cost slightly more to build, but "compared to what" remains to be inconsistent. The standard is to compare the new building cost against the cost of a standard or "code compliant" building. In reality, what may be standard practice for one district (and therefore not counted as additional cost) may be an innovation to another district, and so each will report the costs differently. This demonstrates the difficulty in analyzing and reporting on costs across a system. It is useful for a district, however, for their own planning purposes.

The construction project sizes, costs, and types cover a broad range. Construction costs differ due to regional conditions, project complexity, high-performance strategies chosen and district's building standards, as well as local ordinances.

In addition, districts are also required to provide OSPI with annual reports on operational costs and savings. A simple reporting tool was developed for the districts to use. Compliance with this reporting has been challenging for a variety of reasons. The reports are due one year after the school is occupied, but there is no built-in mechanism to trigger the reports, nor any incentive for the districts to complete them. The reports gather utility usage data which is more useful when compared over time, within the district.

A more comprehensive look at the project and the other buildings and type of use within the district is necessary to make any sense of the operational costs and savings data. Numbers can be misconstrued without this further analysis. Since the operational costs and savings are only reportable for utilities, just looking at this data does not give the whole picture of high-performance schools. The hours of operation, external building use, and improved lighting, daylight, heating, ventilation and air conditioning, as well as sourcing materials that do not impact air quality, can make the costs of operating the building higher than a similar one within the district. However, the benefits of high-performance buildings affect the quality of the internal and external environments in immeasurable ways.

Post Occupancy Studies

OSPI provided grants in 2006 to two school districts for in-depth post-occupancy studies at two of the original “pilot” schools – those that were testing high-performance design features before the WSSP was finalized. These two studies have been very valuable because the districts and their consultants delved deeper into the analysis of the costs and benefits of the high-performance features after the schools had been occupied for two years. There are many variables that come into play when looking at high-performance schools, making it extremely difficult to draw any conclusions without this type of in-depth look.

The studies are from:

- Washington Middle School, *Olympia School District* – remodel and addition
- Lincoln Heights Elementary School, *Spokane Public Schools* – replacement

Summaries data from both these post-occupancy studies are in Appendix E. The full Washington Middle School study is available on the OSPI website at:

<http://www.k12.wa.us/SchFacilities/Programs/HighPerformanceSchoolBuildings.aspx>

2010 Edition of WSSP

The 2010 edition of WSSP is an update and modernization of the 2006 version. No scorecards using this version have been received yet as it just became effective in November 2010. In addition to prerequisites, the 2010 Scorecard provides a menu of six high-performance categories to choose from.

In the 2010 edition, projects must earn a minimum of **40 points (Class I districts)** or **45 points (Class II districts)** out of **119** available points. There are twelve prerequisite or required strategies which all projects must meet. The categories of the 2010 version are the same as the 2006 version, except for the rename and reorganization of the “extra credit” section to Education, Innovation, and Operations.

A stakeholder team composed of school district facility and capital projects staff and other school construction professionals was responsible for updating the WSSP scorecard and document. The 2009 Collaborative for High Performance Schools (CHPS) and 2009 Leadership in Energy and Environmental Design (LEED) for Schools standards were reviewed to make sure that the WSSP was comparable to these green building standards. Public comments were reviewed before the final was published in November 2010.

IV. Recommendations

There do not appear to be major issues regarding compliance with the WSSP green building scorecard and achieving the minimum points. Districts do submit the scorecards since it is built into the school construction assistance process; however, obtaining reliable data on cost differential and annual operational reports is more problematic.

Without a national approach to documenting costs and savings for high-performance schools, the data collected is inconsistent, and is most useful to the district. It costs the district to have their designers, staff, and contractors estimate and report cost differentials, and the data obtained not necessarily useful at the state level.

OSPI maintains that the use of the WSSP scorecard as a design and planning tool for major school construction projects is valuable, achievable, and generally acceptable. Many of the points are now becoming standard practice while others cause the design team and community to consider new options. The WSSP scorecard should continue to be used by the districts and incorporated through the OSPI School Construction Assistance Program.

Districts should be provided tools and encouraged to try to capture costs and savings of building and operating high-performance schools. Given the economic situation of school districts and the state, collecting this data appears to be one area where the costs outweigh the benefits and usefulness.

The form that OSPI has developed for districts to track energy and water usage is useful for the districts to see how the building is performing. It is not as useful for the state in its current format with more analysis. A different reporting mechanism may be more useful such as having the district submit to OSPI the building's Energy Star score through the Environmental Protection Agency's free benchmarking tool, Portfolio Manager.

V. Conclusion

The WSSP green building standard for K–12 schools has been in general use for over three years. During that time, many types of projects have been undertaken by many sizes of school districts. With few exceptions, districts have been able to meet the minimum point requirement on their construction projects. It appears that most of the school architects and contractors are now familiar with the WSSP (or LEED), and using them is becoming standard practice.

The 2010 edition of WSSP provides more options for achieving points, and the minimum point level has increased only for the larger districts – those that have most likely already built to the standard.

Districts should continue to use the WSSP or LEED for school construction projects. The students, staff, and teachers at the schools will continue to reap the benefit of buildings that consider the health and comfort of the occupants.

VI. Appendices

Appendix A: Washington's High-Performance Schools – STATUS (3 pgs.)

Not practicable – required only to do preliminary and final scorecards and no other reporting.

School District	School Name & Project Type	Status	Annual report in
Bainbridge	Bainbridge HS Bldg 200 (<i>volunteer</i>)	Opened 1/2009	Yes
Bellevue	Ardmore EI	Opened 8/2010	Not due yet
Bellevue	Bellevue HS Repl (N/L) & Mod	Opens 10/2012	Not due yet
Bellevue	Eastgate EI Repl (N/L)	Opened 8/2010	Not due yet
Bellevue	Sherwood Forest EI (<i>volunteer</i>)	Opened 9/2008	Yes
Bellevue	Spiritridge EI Repl (N/L)	Opens 7/2011	Not due yet
Bellingham	New Shuksan MS	Opened 9/2009	No
Bellingham	Wade King EI (<i>volunteer, not state</i>)	Opened 9/2008	Yes
Bethel	Liberty Jr. (<i>volunteer</i>)	Opened 9/2010	Not due yet
Bethel	Pierce Co Skills Center	Opened 9/2010	Not due yet
Bethel	Spanaway Lake HS Addition	Opened 9/2010	Not due yet
Bethel	Spanaway EI Repl (N/L)	Planning	Not due yet
Bethel	Clover Creek EI Repl (N/L)	Planning	Not due yet
Bickleton	Bickleton K-8 Ad Repl (N/L) Mod	Opens 9/2011	Not due yet
Camas	Garfield Bldg Repl (N/L) <i>Camas HS</i>	Opens 9/2011	NA
Camas	Hayes Freedom HS (N/L)	Opens 9/2010	NA
Centralia	Oak View EI Add (<i>volunteer</i>)	Opened 9/2008	Yes
Cheney	Middle School Repl -Betz Road Site	Opens 9/2012	Not due yet
Cheney	New Middle - Abbott Road Site	Opens 9/2012	Not due yet
Clover Park	Lakes HS Aux Gym Repl (N/L)	Opens 12/2011	Not due yet
Davenport	Davenport K-8 Add (Repl (N/L) & Mod	Opens 9/2011	Not due yet
Deer Park	Deer Park HS Add/Mod	Opened 11/2010	Not due yet
Eatonville	Eatonville MS Add & Mod	Opened 9/2010	NA
Edmonds	Meadowdale MS Repl (N/L) 1 & 2	Gym 9/2010, other 9/2011	Not due yet
Edmonds	New Lynnwood HS (<i>volunteer</i>)	Opened 9/2009	Yes
Everett	Everett HS Little Theatre Mod	Opened 1/2010	NA
Everett	Forest View EI (<i>volunteer, not state</i>)	Opened 9/2007	Yes
Everett	James Monroe EI Repl (N/L)	Opens April 2012	NA
Everett	Jefferson EI Mod & N/L	Opens March 2011	NA
Everett	Whittier EI Mod & N/L	Opens Feb 2011	NA
Federal Way	Lakota MS (N/L)	Opened 10/2010	NA
Federal Way	Lakeland EI Repl (N/L)	Opens 9/ 2011	NA
Federal Way	Sunnycrest EI Repl (N/L)	Opens 9/ 2011	NA
Federal Way	Panther Lake EI Repl (N/L)	Opened 9/2009	Not due yet
Federal Way	Valhalla EI Repl (N/L)	Opened 9/2009	Not due yet-awaiting

			final project approval
Freeman	Freeman EI Add & Mod	Opens 9/2011	Not due yet
Freeman	Freeman HS Mod	Opened 9/2010	Not due yet
Highline	McMicken Hts EI Repl (N/L)	Opens Feb 2011	Not due yet
Issaquah	New EI #15		Not due yet
Kennewick	Cottonwood EI	Opened	Not due yet
Kennewick	Canyon View EI Add & Mod	Opened	Not due yet
Kennewick	Southgate EI Add & Mod	Opens 9/2011	Not due yet
Kent	Mill Creek MS Repl (N/L) & Mod	Open	NA
Kent	Kent Meridian HS Main Gym	Open	NA
L. Washington	Finn Hill Jr Repl (N/L)	Opens 9/2011	Not due yet
L. Washington	John Muir EI Repl (N/L)	Opens Jan 2012	Not due yet
L. Washington	Helen Keller EI Repl (N/L)	Opens 9/2011	Not due yet
L. Washington	Carl Sandburg EI Repl (N/L)	Opens 9/2011	Not due yet
L. Washington	Lake WA HS Repl (N/L)	Opens 9/2011	Not due yet
L. Washington	Rachel Carson EI (<i>volunteer, no state funds</i>)	Opened 9/2008	Yes
Marysville	Grove EI (<i>volunteer</i>)	Opened 9/2008	Yes
Meridian	Irene Reither MS	Opens 9/2013	Not due yet
Meridian	Meridian HS Repl (N/L) & Mod	Opens 12/2012	Not due yet
Montesano	Beacon Ave EI Mod	Opened 9/2010	NA
Moses Lake	New EI Sage Point	Opened 9/2009	(10/2010)
Moses Lake	Chief Moses MS Gym Ad	Opened 9/2009	NA
Moses Lake	New Park Orchard EI	Opens 9/2011	Not due yet
North Franklin	Connell EI Repl (N/L)	Opens 9/2011	Not due yet
North Franklin	Olds Jr Mod	Opens 9/2011	Not due yet
Northshore	Bothel HS Phase 3 Mod & Add (<i>volunteer</i>)	Opened 9/2008	Yes
Northshore	Kenmore Jr High Repl (N/L) - Phase 3	Planning	Not due yet
Northshore	Woodinville HS Repl (N/L) Phase1&2	Phased	Not due yet
N. Thurston	Chinook MS Add & Mod	Opened 9/2010	NA
N. Thurston	Nisqually MS Add & Mod	Opened 9/2010	NA
Oak Harbor	Oak Harbor HS Repl (N/L)/Mod	Opens 9/2010	Not due yet
Othello	Lutacaga EI Ad /Mod	Opened	NA
Othello	McFarland Jr High Ad/ Mod	Opened	NA
Othello	Othello HS Ad/Mod	Opened	NA
Othello	Hiawatha EI Ad & Mod	Opens 9/2012	NA
Othello	Scootney EI Ad & Mod	Opens 9/2012	NA
Orient	Orient EI Add & Mod	may fall out	Not due yet
Quillayute Val.	Forks HS Add& Repl (N/L)	construction	Not due yet
Renton	Hazen HS Add (N/L)	Opens 9/2011	Not due yet
Riverview	Carnation EI Mod	Opened 11/2010	Not due yet

Riverview	Cherry Valley EI Repl (N/L) & Mod	Opens 9/2011	Not due yet
Riverview	Riverview Alternative	Opens 5/2011	Not due yet
Seattle	Denny MS /Chief Sealth HS)	9/2010 Sealth winter 2011 Denny	Not due yet
Seattle	Hamilton Int MS (<i>volunteer</i>)	Opened 9/2010	Not due yet
Seattle	Nathan Hale HS (N/L) and Mod– Phase 1 and Phase II	Opens 5/2011	Not due yet
Shoreline	Shorecrest HS Repl (N/L) & Mod	Phase 1 late 2012; phase 2 in 2014	Not due yet
Shoreline	Shorewood HS Repl (N/L)	Opens 2013 (site done in 2014)	Not due yet
Snohomish	Snoho HS Repl (N/L) & Mod <i>Set 4</i>	Opens 9/2011	Not due yet
Snohomish	Machias EI Repl N/L	Opens 1/2011	Not due yet
Snohomish	Riverview EI Repl (N/L)	Opens 1/2011	Not due yet
Snohomish	Valley View MS Repl (N/L)	Opens 9/2012	Not due yet
Spokane	Shadle Park HS mod	Opened 9/2010	Not due yet
Spokane	Westview EI Repl (N/L)	Opens 9/2012	Not due yet
Steilacoom Hist	Pioneer MS	Opened 9/2008	Yes
Sumner	Bonney Lake EI Repl (N/L) & Mod	Opens 9/2011	NA
Sumner	Victor Falls EI	Opens 9/2010	NA
Sumner	Lakeridge MS N/L	Opens 9/2010	NA
Sumner	Maple Lawn EI	In planning	NA
Sumner	Sumner MS Repl (N/L) & Mod	Opens 9/2011	NA
Sunnyside	Sunnyside HS Add & Mod (N/L)	Opens 9/2011	Not due yet
Tacoma	Baker MS Repl (N/L)	Construction	Not due yet
Tacoma	First Creek MS	Opened 9/2009	NA
Tacoma	Gray MS (<i>volunteer</i>)	Opened 1/2009	Yes
Tacoma	Geiger EI Repl (N/L)	In planning	Not due yet
Tumwater	New Market Skills Lab Tech (<i>volunteer</i>)	Opened 9/2007	Yes
Univ. Place	Curtis HS Gym Replacement	Opened 2/2010	NA
Univ. Place	Curtis HS Aquatic Ctr Repl (N/L) & Mod	Opens 9/2011	NA
Valley	Valley K-8 School Add	Open	Not due yet
Vancouver	Vancouver Arts & Acad Mod (<i>volunteer, no state funds</i>)	Opened 9/2008	Yes
Warden	Warden MS/HS Gym Mod	Opens 9/2011	Not due yet
Wellpinit	Wellpinit EI-HS Mod	Opens 9/2012	Not due yet
White Pass	White Pass EI Ad (N/L) & /Mod	Final planning	NA
White Pass	White Pass Jr/Sr	Opened 9/2010	NA
Willapa Valley	Willapa Valley HS&MS (<i>volunteer</i>)	Opened 1/2009	Yes
Yakima	Yakima Valley Tech Skills Center	Opens 9/2012	Not due yet
Yakima	Eisenhower HS Add & Repl (N/L)	Opens 9/2012	Not due yet

Appendix B: New WSSP 2010 Scorecard (3 pgs.)

2010 WSSP		SCORECARD				
Category	Group	Credit Name		Points	Achieved	
Site 17 points	1) Selection & Use	S1.0	Code Compliance	R		
		S1.1	Sensitive Areas	1		
		S1.2	Greenfields	1		
		S1.3	Central Location	1		
		S1.4	Joint Use of On-Site Facilities	1-2		
		S1.5	Joint Use of Off Site Facilities	1		
	2) Transportation	S2.1	Public Transportation	1		
		S2.2	Bicycle Lanes & Security	1		
		S2.3	Parking	1		
	3) Stormwater Management	S3.0	Sedimentation and Erosion Control	R		
		S3.1	On-site Infiltration and Flow Control	1		
		S3.2	Run off Treatment or Reduction	1		
		S3.3	Enhanced Stormwater Treatment	R - 1		
	4) Outdoor Surfaces	S4.1	Reduce Heat Island - Site	1		
		S4.2	Reduce Heat Island - Roof Design	1		
	5) Outdoor Lighting	S5.1	Light Pollution Reduction	1		
	Total possible				17	
	Water 9 points	1) Outdoor Systems	W1.0	Outdoor Water Use Budget	R	
			W1.1	Irrigation Water Reduction (50%, 100%)	1-2	
W1.2			Control Irrigation Water Use	1		
W1.3			Irrigation System Testing and Training	1		
2) Indoor Systems		W2.1	Potable Water Use Reduction for Sewage (25%, 45%)	1-2		
		W2.2	Potable Water Use Reduction (20%, 30%, 40%)	1-3		
Total possible				9		
Materials 18 points	1) Waste Reduction & Efficient Materials Use	M1.0	Storage and Collection of Recyclables	R		
		M1.1	Construction Site Waste Management (50%, 75%)	1-2		
		M1.2	Building Reuse - Structure/Shell (50%, 75%, 95%)	1-3		
		M1.3	Building Reuse - Non-Structural Elements (50%)	1		
		M1.4	Materials Reuse (5%, 10%)	1-2		
		M1.5	Resource Reuse - Furniture (30%)	1		
	2) Sustainable Materials	M2.1	Recycled Content (5%/4 mtls, 10%/8 mtls)	1-2		
		M2.2	Rapidly Renewable Materials	1		
		M2.3	Certified Wood (20%, 50%, Chain of Custody)	1-2		
		M2.4	Environmentally Preferable Products	1-2		
		M2.5	Regional/Local Materials	1-2		
Total possible				18		

Energy 34 points ('09) 27 points ('06)	1) Efficiency	E1.0	Minimum Energy Performance	R	
		E1.1a	Superior Energy Performance (2009 WSEC)*	4-20 ('09)	
		E1.1b	Superior Energy Performance (2006 WSEC)	4-12 ('06)	
	2) Controls	E2.1	HVAC Controls and Operable Windows	1	
		E2.2a.	Daylight-Responsive Controls (2009 WSEC)*	R ('09)	
E2.2b.		Daylight-Responsive Controls (2006 WSEC)	1 ('06)		
	3) Alternative Sources of Energy	E3.1	Renewable Energy (5-10% bldg supply)	1-4	
		E3.2	Green Power Contract	1	
		E3.3	Distributed Generation (5-10% bldg supply)	1-3	
	4) Commissioning	E4.0	Fundamental Commissioning	R	
		E4.1	Additional Commissioning	1-3	
E4.1.1		Commissioning Review			
E4.1.2		Verification and Assurances			
E4.1.3	Systems Manual				
5) Management	E5.1	Energy Management Systems	1-2		
				34 ('09)	
				27 ('06)	
Indoor Environmental Quality 29 points	1) Daylighting	IEQ1.0	Minimum Daylighting	R	
		IEQ1.1	Daylighting (25%,50%,75%, 100% critical visual spaces)	1-4	
		IEQ1.2	Permanent Shading	1	
		IEQ1.3	Views Direct Line of Vision	1	
	2) Electric Lighting Quality	IEQ2.1	Electric Lighting Quality	1	
	3) Indoor Air Quality	IEQ3.0	Minimum Requirements (Ventilation, Filtration, & Moisture Control)	R	
		IEQ3.0.1	Evaluate Envelope	1	
		IEQ3.0.2	Mitigation Measures	1	
		IEQ3.1	Low-Emitting Interior Finishes	1-4	
		IEQ3.2	Low-Emitting Materials: Furniture	1	
		IEQ3.3	Source Control	1	
		IEQ3.4	Ducted HVAC Returns (Required when 246-366A in effect)	1 or R	
		IEQ3.5	Particle Arrestance Filtration	1	
		IEQ3.6	IAQ Management (construction, pre-occupancy)	1-2	
		IEQ3.7	Natural Cooling	3	
	4) Acoustics	IEQ4.0	Minimum Acoustic Performance	R	
		IEQ4.1	Improved Acoustical Performance	1-4	
		IEQ4.2	Audio Enhancement	1	
	5) Thermal Comfort	IEQ5.0	Thermal Code Compliance	R	
	6) User Controls	IEQ6.1	User Control - Operable windows	1	
		IEQ6.2	User Control - Temperature & lighting controls	1	
Total possible				29	

Planning, Education, and Operations 12points	1) Planning	PEO1.1	Integrated Design Workshop	1	
		PEO 1.2	Durability, Efficiency & Maintainability of Features	1	
		PEO1.3	Innovation	1-2	
	2) Education	PEO2.1	Green Building Learning Opportunities	1	
	3) Operational Activities	PEO3.1	Post Occupancy Evaluation	1-2	
		PEO3.2	ELCCA/LCCA	R-1	
4 out of 8		PEO3.3	Project and/or District Operational Activities - Maintenance Plan Enhancement - Resource Conservation Plan - IAQ Management – Tools for Schools - Integrated Pest Management Program - Transportation Options - Fuel Related Waste Prevention & Mgmt - Green Purchasing and Cleaning Plan	1-4	
	No more than 4 towards minimum				
Total possible				12	
GRAND TOTAL Possible Points				119 ('09) 112 ('06)	
Minimum required for Washington Sustainable School Two-tier system: For Class I Districts: Minimum 40 points For Class II Districts: Minimum 45 points Max "Project or District Operational Activity" points that can be claimed toward the minimum requirement is 4; however, a district could implement all of the points * At time of publication of this standard, the 2009 WSEC (WA State Energy Code) was not adopted statewide. If adopted locally use E1.1a and E2.2a.				40 or 45	

Appendix C: Annual Report (4 pgs.)

WSSP Basic Information –

Complete this tab for the first year of reporting. In subsequent years, review and note any changes or corrections. (Highlight any changes in later years before submitting the updates to OSPI.)

DISTRICT CONTACT (for questions)

DISTRICT	
Contact Individual	_____
Phone	_____
E-mail	_____
Date this form completed	_____ Information "as of" date if different

GENERAL BUILDING INFORMATION

School Name	
Alternate name (if applicable) used during initial design	
Street address	
City	
State	WA
Zip code	
	Month
	Year
Month/Year Opened (or renovated)	_____
Total building area (excluding parking and portables)	square feet
Number of portables <i>included</i> in the reported energy use on tab 2.	count
Area covered by WSSP renovation or addition, if less than the total	
<p><u>If WSSP area is less than the total:</u> Does the reported energy cover the whole building or just the WSSP area?</p>	
Describe significant differences between WSSP area space use and the whole building Energy Use Characteristics described below	

<u>Lighted Parking Areas</u>	Square Feet	Weekly access (# of hours)
Enclosed parking (e.g. underground)		
Parking ramp, non-enclosed		
Lighted open parking area - non-enclosed		

Enter **only** if included in the reported energy use

ENERGY USE OVERVIEW

Monthly energy use is being provided from Table below Table below, separate spreadsheet, or Portfolio Manager Account

From the drop-down lists for each cell below, select the fuel(s) used by this building for each major end use

	Main energy type	Secondary type, for this end use
HVAC		
Domestic hot water heating		
Other energy (lighting, equipment,	PURCHASED ELECTRICITY	

Actual Billed Energy Use

For each purchased energy source (e.g., electricity, natural gas, etc), provide monthly usage data from the earliest through most recent record available. Enter electricity in this first table and page down below to enter usage history for natural gas or other sources.

When updating the form after the first year, add the more recent information immediately below the prior data.

If you have more than 2 energy types or accounts, make additional copies of the table below. If you already have this information in another electronic format, you may send that rather than transferring to this spreadsheet.

If you have entered the information on EPA's Portfolio Manager, you may give OSPI permission to view that account, rather than re-entering the information here

0

Energy Type	PURCHASED ELECTRICITY
Energy Provider (utility company)	
Reporting units (select from list)	kWh

Complete these 2 rows *only* if these bills are for just a portion of the premises:

Briefly describe the building portion	
Area of this portion (sq ft)	

Usage History

Meter Read Dates		Billed / used kWh
From date	Through date	
		1/0/00

POTABLE WATER USE		(from the Basic Information tab)	
	square feet	capacity	students
Indoor domestic water	0	0	
Outdoor irrigation area: first 2 years	0		
Outdoor irrigation area: after 2 years	0		
Other uses	0		
Water use information is being provided from		Table below	Table below, separate spreadsheet, or Portfolio Manager Account

Actual Water Usage Detail

Enter amounts from water bills below, or indicate above another source for this information.						
		0				
	Water and Sewer Provider					
	Reporting units	ccf	(1 ccf = 100 cubic feet = 748 gallons)			
	Complete these 2 rows ONLY if these bills are for just a portion of the indoor or outdoor area shown above					
	Briefly describe the applicable portion					
	Area of this portion (sq ft)					
	Usage History					
	Meter Read Dates			Indoor used	Outdoor used	
	From date	Through date	ccf	ccf		
		1/0/00				

Appendix D: Sample of WSSP Cost Reporting Sheet (2006 edition)

WSSP Initial Cost Increments - for WSSP 2006 version

The PURPOSE of this sheet is to capture incremental cost or savings (avoided costs) related to designing and building high-performance schools. The WSSP Scorecard for all optional points was reproduced here. Complete only those rows for which a material incremental cost or savings was identified. For incremental overhead and soft costs not included in the specific line items here, and others at the bottom of this table. Enter design consulting/contracting costs on the "Design Premiums" tab. Enter other internal soft costs at the bottom of this table. If you used LEED, please use the LEED scorecard to record costs.

District: _____ Form completed by: _____
 School: _____ Form completion date: _____

Site	Definitions	Possible	Points		Baseline Cost	Actual Cost	Cost Difference	Other Cost Difference Notes	Incentives Received
			Yes	No					
1) Selection & Use									
	S1.0 Code Compliance						\$0		
	S1.1 Sensitive Areas	Describe basis of each cost number	1				\$0		
	S1.2 Greenfields	Describe basis of each cost number	1				\$0		
	S1.3 Central Location	Describe basis of each cost number	1				\$0		
	S1.4 Joint Use of On-Site Facilities	Describe basis of each cost number	1-2				\$0		
	S1.5 Joint Use of Off-Site Facilities	Describe basis of each cost number	1				\$0		
	S1.6 Minimal Footprint	Describe basis of each cost number	1-2				\$0		
2) Transportation									
	S2.1 Public	Describe basis of each cost number	1				\$0		
	S2.2 Bicycles	Describe basis of each cost number	1				\$0		
	S2.3 Parking	Describe basis of each cost number	1				\$0		

Identify the source in the cell immediately below the amount.

Appendix E: Post Occupancy Summaries

1. Washington Middle School – Olympia School District - Energy

WASHINGTON SUSTAINABLE SCHOOLS PROTOCOL - POST OCCUPANCY EVALUATION Washington Middle School Addition/ Renovation Project - Olympia, Washington

EXECUTIVE SUMMARY | FIGURE 2 - WMS ENERGY PERFORMANCE

At publication, there was no accepted method for reporting WSSP energy performance and no prescribed baseline established. This table reports energy usage recorded in the first two years of occupancy compared to a conventionally designed code-minimum school, the original WMS design case, and the former WMS facility.

***BASELINE ENERGY PERFORMANCE**

		UNITS/NOTES
Power:	2,120,826	Btu/year
Natural Gas:	1,456,200	Btu/year
Total:	3,577,026	Btu/year
Bldg area:	100,000	SF
# of Students:	798	
Energy use per student:	448.2	kBtu/student
Energy cost:	\$0.82/\$1.07	*per SF
Energy performance:	36-47*	*EUI

DESIGN ENERGY PERFORMANCE

		UNITS/NOTES
Power:	1,658,570	Btu/year
Natural Gas:	916,400	Btu/year
Total:	2,574,970	Btu/year
Bldg area:	100,000	SF
# of Students:	798	
Energy use per student:	332.7	kBtu/student
Energy cost:	\$0.59	per SF
Energy performance:	26	EUI

FORMER WMS ENERGY

		UNITS/NOTES
Power:	3,587,630	Btu/year
Natural Gas:	0	Btu/year
Total:	3,587,630	Btu/year
Bldg area:	71,000	SF
# of Students:	730	over capacity
Energy use per student:	546.6	kBtu/student
Energy cost:	\$1.12	per SF
Energy performance:	50.5	EUI

ACTUAL WMS ENERGY PERFORMANCE

		UNITS/NOTES
Power:	2,810,000	Btu/year
Natural Gas:	1,440,000	Btu/year
Total:	4,250,000	Btu/year
Bldg area:	100,000	SF
# of Students:	730	under capacity
Energy use per student:	574.6	kBtu/student **
Energy cost:	\$0.96	per SF
Energy performance:	42.5	EUI
Annual cost savings:	\$9,000	compared to baseline
Annual cost savings:	(-\$37,000)	compared to design
Annual cost savings:	\$16,000	compared to former
***30 year life cycle cost savings:	\$65,200	compared to baseline
***30 year life cycle cost savings:	\$275,200	compared to former WMS

*Baseline = conventionally designed code-minimum school. For the purpose of this report, a conventionally designed school:

- Provides electric resistance heat or unit ventilators, or ducted heat/ventilation
- Uses conventional air conditioning in classrooms
- Does not employ daylighting strategies to reduce demand for electric lighting
- Does not include photovoltaic panels
- Meets minimum code requirements in place at the time of construction, in this case the NREC 2004
- Has an EUI of 47 (Rationale: baseline energy model=36 + 30% typical modeling deviation.) Because the NREC allows for component or prescriptive paths for code compliance, total building energy performance is not required to be modeled to meet code requirements. A building can meet code requirements and still perform at the higher end of the target EUI range provided by the Oregon Department of Energy as 41-51 for this type of building. (Oregon DOE range is used in lieu of a similar range provided by Washington State.)

**WMS was not enrolled to capacity during the performance period. When enrolled at full capacity, energy use per student would presumably improve.

***30 year life cycle= total added costs to implement strategy - rebates + annual maintenance cost - annual cost savings. 2008 dollars, not corrected for inflation.

1. Washington Middle School – Olympia School District - Water

WASHINGTON SUSTAINABLE SCHOOLS PROTOCOL - POST OCCUPANCY EVALUATION Washington Middle School Addition/ Renovation Project - Olympia, Washington

EXECUTIVE SUMMARY | FIGURE 3 - WMS WATER PERFORMANCE

This table reports water/sewer performance recorded in the first two years of occupancy compared to a conventionally designed code-minimum school, the original WMS design case, and the former WMS facility.

***BASELINE WATER PERFORMANCE**

		UNITS/NOTES
Water usage:	781,560	<i>gallons/year</i>
Bldg area:	100,000	<i>SF</i>
Water cost:	\$0.023	<i>per SF</i>
Sewer cost:	\$0.047	<i>per SF</i>
# of Students:	798	
Water use per student:	980.0	<i>gallons/year</i>

DESIGN WATER PERFORMANCE

		UNITS/NOTES
Water usage:	422,760	<i>gallons/year</i>
Bldg area:	100,000	<i>SF</i>
Water cost:	\$0.012	<i>per SF</i>
Sewer cost:	\$0.025	<i>per SF</i>
# of Students:	798	
Water use per student:	530.0	<i>gallons/year</i>

FORMER WMS WATER

		UNITS/NOTES
Water usage:	569,976	<i>gallons/year</i>
Bldg SF:	71,000	<i>SF</i>
Water cost:	\$0.025	<i>per SF</i>
Sewer cost:	\$0.050	<i>per SF</i>
# of Students:	730	<i>over capacity</i>
Water use per student:	780.0	

ACTUAL WMS WATER PERFORMANCE

		UNITS/NOTES
Water usage:	221,400	<i>gallons/year</i>
Bldg SF:	100,000	<i>SF</i>
Water cost:	\$0.010	<i>per SF</i>
Sewer cost:	\$0.013	<i>per SF **</i>
# of Students:	730	<i>under capacity</i>
Water use per student:	303.0	<i>gallons/year</i>
		<i>gallons/year compared to baseline</i>
Annual water savings:	560,160	<i>gallons/year compared to baseline</i>
Annual cost savings:	\$4,700.00	<i>compared to baseline</i>
		<i>gallons/year compared to design</i>
Annual water savings:	201,360	<i>gallons/year compared to design</i>
Annual cost savings:	\$1,400.00	<i>compared to design</i>
		<i>gallons/year compared to former WMS</i>
Annual water savings:	582,000	<i>gallons/year compared to former WMS</i>
Annual cost savings:	\$3,025.00	<i>compared to former WMS</i>
*30 year life cycle cost savings:	\$16,470.00	<i>compared to baseline</i>
*30 year life cycle cost add:	(\$33,780.00)	<i>compared to former WMS</i>

*Baseline = conventionally designed code-minimum school. For the purpose of this report, a conventionally designed school:

- Does not include a rainwater harvesting system
- Includes code-minimum plumbing fixtures

** It appears that the metering equipment on the rwh system is not properly metering outflow, therefore sewer charges are not being recorded accurately

*** 30 year life cycle = total added costs to implement strategy - rebates + annual maintenance cost - annual cost savings. 2008 dollars, not corrected for inflation.

2. Lincoln Heights Elementary – Spokane Public Schools - Energy

LINCOLN HEIGHTS ELEMENTARY SCHOOL - POST OCCUPANCY EVALUATION

ENERGY PERFORMANCE

This table reports energy usage recorded in the second year of occupancy compared to the national average and to ten prototypical schools within the Spokane Public School District.

<i>BASELINE ENERGY PERFORMANCE¹</i>	<i>UNITS/NOTES</i>	
Power:	1,515,701	kBtu/year
Natural Gas:	2,093,110	kBtu/year
Total:	3,608,811	kBtu/year
Bldg area:	56,460	SF
# of Students:	549	
Energy per student:	6,573	kBtu/student
Energy Cost:	\$1.13	per SF
Energy Performance	64	EUI
<i>ACTUAL ENERGY PERFORMANCE</i>		
Power:	1,181,294	kBtu/year
Natural Gas:	1,624,600	kBtu/year
Total:	2,805,894	kBtu/year
Bldg area:	56,460	SF
# of Students:	549	
Energy per student:	5,111	kBtu/student
Energy Cost:	\$0.88	per SF
Energy Performance	50	EUI
Annual Cost Savings	\$14,241	4
Annual Cost Savings	(-\$10,673)	5
Natural Gas Savings	\$5,615	
Electrical Savings	8,170	
Annual Cost Savings	\$13,785	6
30 year LCC Savings	\$335,148	7
30 year LCC Savings	\$320,375	8
<i>DESIGN ENERGY PERFORMANCE²</i>		
Power:	1,121,796	kBtu/year
Natural Gas:	1,155,500	kBtu/year
Total:	2,277,296	kBtu/year
Bldg area:	56,460	SF
# of Students:	549	
Energy per student:	4,148	kBtu/student
Energy Cost:	\$0.69	per SF
Energy Performance	40	EUI
<i>PROTOTYPE ENERGY PERFORMANCE³</i>		
Power:	1,477,927	kBtu/year
Natural Gas:	2,027,880	kBtu/year
Total:	3,505,807	kBtu/year
Bldg area:	53,031	SF
# of Students:	489	
Energy per student:	7,200	kBtu/student
Energy Cost:	\$1.20	per SF
Energy Performance	66	EUI

1. Baseline = national average elementary school use normalized for Spokane, as reported by the Energy Star Target Finder Tool.

2. Design = annual energy use as estimated by the LEED EAc1 energy simulation.

3. Prototype = average energy use of 10 prototypical elementary schools within the Spokane Public School District.

4. As compared to the baseline.

5. As compared to the design simulation.

6. As compared to the prototype schools.

7. As compared to the baseline. LCC = life cycle cost, considering first cost, utility incentive, energy and maintenance costs over 30 years

8. As compared to the prototype schools. LCC = life cycle cost, considering first cost, utility incentive, energy and maintenance costs over 30 years

9. See Appendix for Energy Use and LCC information.



2. Lincoln Heights Elementary – Spokane Public Schools – Water

LINCOLN HEIGHTS ELEMENTARY SCHOOL - POST OCCUPANCY EVALUATION

WATER PERFORMANCE

This table reports watersewer performance recorded in the second year of occupancy compared to a national baseline and to ten prototypical schools within the Spokane Public School District.

<i>BASELINE WATER PERFORMANCE¹</i>	<i>UNITS/NOTES</i>	
Water usage:	493,000	gallons/year
Bldg area:	56,460	SF
Water cost:	\$619	per year
Sewer cost:	\$1,220	per year
# of Students:	549	
Water use per student:	898	gallons/year
<i>ACTUAL WATER PERFORMANCE</i>		
Water usage:	269,280	gallons/year
Bldg area:	56,460	SF
Water cost:	\$338	per year
Sewer cost:	\$666	per year
# of Students:	549	
Water use per student:	490	gallons/year
Annual Water Savings	223,720	4
Annual Cost Savings	\$835	4
Annual Water Savings	-39,280	5
Annual Cost Savings	[-\$43]	5
Annual Water Savings	184,008	6
Annual Cost Savings	\$1,231	6
30 year LCC Savings	\$24,650	7
30 year LCC Savings	\$36,530	8
<i>DESIGN WATER PERFORMANCE²</i>		
Water usage:	230,000	gallons/year
Bldg area:	56,460	SF
Water cost:	\$289	per year
Sewer cost:	\$672	per year
# of Students:	549	
Water use per student:	419	gallons/year
<i>PROTOTYPE WATER PERFORMANCE³</i>		
Water usage:	453,288	gallons/year
Bldg area:	53,031	SF
Water cost:	\$924	per year
Sewer cost:	\$1,311	per year
# of Students:	489	
Water use per student:	941	gallons/year

1. Baseline = equivalent water use of LHE using 1992 EPACT fixture allowances.
2. Design = annual water use as estimated by the LEED WEC3 water use calculation.
3. Prototype = average water use of 10 prototypical elementary schools within the Spokane Public School District.
4. As compared to the baseline.
5. As compared to the design calculations.
6. As compared to the prototype schools.
7. As compared to the baseline. LCC = life cycle cost, considering first cost, water and sewer costs over 30 years.
8. As compared to the prototype schools. LCC = life cycle cost, considering first cost, water and sewer costs over 30 years.
9. See Appendix for Water Use and LCC information.

***It should be noted:** Approximately \$81,000 was spent on energy/water savings measures that resulted in \$15,000 in savings per year (simple payback = 5.4 years). Compared to the SPS prototype schools, LHE has a 36% lower energy cost and 120% lower water use cost per year, which is significant*



Office of Superintendent of Public Instruction
Old Capitol Building
P.O. Box 47200
Olympia, WA 98504-7200

For more information about the contents
of this document, please contact:
Patricia Jatczak, OSPI
E-mail: patricia.jatczak@K12.wa.us
Phone: (360) 725-4973

To order more copies of this document,
please call 1-888-59-LEARN (1-888-595-3276)
or visit our Web site at <http://www.k12.wa.us/publications>

Please refer to the document number below for quicker service:
11-0006

This document is available online at:
<http://www.k12.wa.us/>

This material is available in alternative format upon request.
Contact the Resource Center at (888) 595-3276, TTY (360) 664-3631.



Office of Superintendent of Public Instruction
Old Capitol Building
P.O. Box 47200
Olympia, WA 98504-7200
2011