



AUBURN SCHOOL DISTRICT OLYMPIC MIDDLE SCHOOL

AT A GLANCE

The Performance Validation Team successfully completed a comprehensive commissioning project of Olympic Middle School for the Auburn School District. The new facility, supporting grade 6 – 8 was constructed on the existing site while the previous facility remained operational. After the new facilities completion the previous building served as an interim school for four of the districts five elementary schools undergoing replacement. Once these replacements were completed, the old Olympic Middle School was demolished, and the site was converted into athletic fields for the district and community.

The project involved the construction of a 105,000 square foot two-story building, designed to accommodate 800 students. The new facility features upgraded commons, kitchen, gym, conditional, drama, STEM, art, music, general classroom spaces, and support spaces. Construction began in August 2017 and concluded through October 2023, navigating, and persisting through the challenges of the COVID-19 pandemic. The primary focus was to deliver an energy-efficient, operationally sound facility with optimized systems for long-term building longevity and occupant comfort.

Our team of experienced commissioning engineers utilized their extensive expertise to ensure compliance with the Washington Sustainable Schools Protocol (WSSP) E4.0 Fundamental Commissioning and E4.1 Enhanced Commissioning. The commissioning scope covered numerous systems including the food service equipment, plumbing equipment, domestic hot water, HVAC, building automation system, lighting controls, meter monitoring, emergency power, sound reinforcement, and irrigation control system. We diligently ensured that each system not only met compliance requirements but also delivered enhanced performance.

The successful completion of the new Olympic Middle School marks a significant advancement in educational facilities within the Auburn School District. We are proud to have supported the initiative for this project and the replacement of the surrounding elementary schools, fostering improved educational environments and community development.

ELEVATING BUILDING STANDARDS WITH WSSP COMPLIANCE



The commissioning of Olympic Middle School was driven by adherence with the Washington Sustainable Schools Protocol (WSSP) to deliver sustainability and efficiency. WSSP serves as the green building guide for new and modernization school construction projects within the state of Washington. State funding is available for projects that comply with WSSP, contingent on earning credits across six primary environmental categories. Our team, with experience in commissioning over 120 schools for WSSP Compliance, confidently delivered the necessary points for both enhanced and fundamental commissioning at Olympic Middle School.

Our approach was grounded in a thorough understanding of WSSP requirements, execution strategies, and efficient compliance pathways. From the inception, we ensured each phase of the commissioning process aligned with the sustainability goals for compliance. Coordinating the commissioning process with the protocol guidelines was crucial to obtaining the points needed for securing state-matched funding for the district.

The Performance Validation approach to WSSP compliance begins at the design level, prioritizing sustainability through detailed reviews of the Owners Project Requirements (OPR) and Basis of Design (BOD). During the commissioning process, our engineers conduct comprehensive verification, testing, and back-checks of all systems within scope to ensure optimal long-term functionality. This thorough approach guarantees a compliance facility optimized for energy conservation and quality. We are dedicated to supporting the construction and delivery of sustainable learning environments.



The commissioning of the 105,000 square foot, two-story educational facility encompassed a diverse array of spaces including classrooms, commons space, kitchen, gym, conditional, drama, STEM, art, music, and support spaces. The primary goal of the commissioning process was to optimize systems for enhanced efficiency, ensuring compliance with the Washington Sustainable Schools Protocol (WSSP) for both enhanced and fundamental commissioning.

The project scope included food service equipment, plumbing equipment, domestic hot water, HVAC, building automation system, lighting controls, meter monitoring, emergency power, sound reinforcement, and irrigation control system. Extensive coordination with our team, subcontractors, and primary stakeholders was essential in ensuring all systems were optimized for effective efficiency.

During the design phase, our team identified several system discrepancies to ensure overall consistency. This included clarifying sequences across systems and reviewing equipment schedule and floor plans to capacity sizing issues. For example, the HVAC floor plan shows the sum of 2000 CFM supply air, but the equipment schedule shows the unit is sized to 1000 CFM which indicates the equipment is undersized. Identifying this issue early helps to avoid design flaws and change orders. Our team also completed in depth review on the building control sequences to ensure the system operation meets the district standards and user intents.

In the installation verification phase, our team identified opportunities to optimize facility systems for long-term functionality. For example, when verifying systems in the ceiling, we discovered the fire smoke dampers lacked access points due to improperly installed ceiling panels. Our thorough verification ensured these critical access points were identified, facilitating better support for facility maintenance teams.

Energy efficiency was one of the primary focuses of the project, with detailed efforts to ensure systems were properly fitted and running to conserve energy and water. In the irrigation control system, we identified several optimizations to support water conservation. Several lawn sprinkler heads had inaccurate spray ranges, leading to overwatering. Additionally, the team pinpointed several heads with incorrect spray heights, which were adjusted to reduce excess water waste. Furthermore, in the HVAC control system, we identified many units not turning on properly for morning warmup. The fans turned on before the occupied time, but the central plant stayed off and the heating water valves stayed shut during the morning warmup phase. This issue not only impacted the energy waste but also contributed to the temperature comfort issue.

Through consistent testing and verification, all installed food service equipment, plumbing equipment, domestic hot water, HVAC, building automation system, lighting controls, meter monitoring, emergency power, sound reinforcement, and irrigation control systems were verified and optimized. This not only ensured WSSP compliance but also supported the long-term needs of the maintenance team and overall tenant comfort.

Services Provided

- Owners Project Requirements (OPR) Review
- Basis of Design (BOD) Review
- Construction Document Review
- Submittal Review Report
- Control Submittal Review
- Conducted Regular Commissioning Coordination Meetings
- Lead the Project Through Pre-Design, Design, Construction, & Post-Occupancy
- Site Observation & Startup Witness with Observation Reports
- Installation Verification with Checklists
- TAB Verification
- Rigorous Functional Performance Testing for Commissioned Equipment
- Trend Log Analysis
- Commissioning Issues List with Deficiencies
- Systems Manual Created for Commissioned Equipment
- Owner Training Verification
- Warranties & Spare Parts Tracking
- Post Occupancy Review

STRATEGIC FLEXIBILITY: NAVIGATING CHALLENGES WITH SOLUTIONS & ADAPTABILITY



Throughout the commissioning of Olympic Middle School, our team of engineers encountered and resolved numerous challenges. Each issue was approached with a unique route of solution aimed at achieving long-term system functionality. Our team leveraged their knowledge, skills, and consistent communication with primary project stakeholders to ensure adherence to compliance, budget, and timeline.

In total, 550 issues arose during the project, all of which were critical to resolve. Through our thorough commissioning process, the Performance Validation Team significantly contributed to the identification and resolution of issues for project delivery. Our process, refined through years of experience, begins with verifying the installation and performance of commissioning systems to ensure they meet project requirements. We then ensure all systems operate according to the sequence of operation to support to maximize energy efficiencies, verify environmental control strategies to maintain desired set points, and consistently work to reduce maintenance issues and warranty claims. This approach allows us to navigate challenges effectively, particularly in complex projects like Olympic Middle School.

One major challenge involved the ductwork. During the verification and testing, our team ensured all ductwork requirements were met. However, the controls contractors made control logic updates without thoroughly testing the logics right away which resulted in isolation damper failed to open when multiple fans were running simultaneously, causing the ductwork to explode due to trapped air. This issue underscored the importance of detailed system findings and reporting to avoid costly mistakes.

Additionally, we faced several challenges within the lighting control systems. This project was the first in a series of building reconstructions for the district, utilizing a third-party software to integrate the DDC control system, which operated on a separate software. Coordinating between the two different controls contractors was difficult. However, we facilitated communication between the contractors and the owners to ensure the lighting control system became operational for delivery.

Despite the challenges, our diligent commissioning approach enabled us to troubleshoot and resolve issues effectively through fostering communication with primary team members. Our commitment to collaboration and flexibility is crucial in every project, especially those with many operational systems like this one. The team's persistence led to the successful delivery of the project, ensuring that the commissioned systems met the design intent and districts requirements.

LONG-TERM OPERATIONAL EXCELLENCE



At the conclusion of the project, the Performance Validation Team conducted comprehensive functional testing of the facilities systems and provided a detailed commissioning report of findings. Navigating the post-pandemic era, the team continued their efforts for several years post-occupancy, collaborating on various system issues with teams that were less accessible during the pandemic.

The primary focus was on the building controls, as inconsistent present during the pandemic delayed several system timelines. Through persistent communication and diligence, our team worked closely with the controls team to resolve occupancy complaints stemming from inaccuracies within the controls systems. Despite the pandemic-induced delays, our team remained committed to delivering optimized systems.

Our commitment to excellence extends far beyond the building's turnover for occupancy. We stay involved until the owner is fully satisfied, treating each project and facility as if it were our own.

PROJECT SUMMARY



The Performance Validation Team played a critical role in the successful delivery of Olympic Middle School for the Auburn School District. As the primary commissioning authority, our team diligently optimized systems, enhanced energy efficiency, and ensured operational excellence throughout the facility. The project encompassed the construction of a new 105,000 square foot, two-story educational facility supporting 800 students in grades 6 -8. This new middle school sets a precedence for the new facilities district-wide, creating improved educational environments for students across the community.



Our goal as the commissioning provider was to ensure compliance with the Washington Sustainable Schools Protocol (WSSP) E4.0 Fundamental Commissioning and E4.1 Enhanced Commissioning. Our comprehensive approach included the commissioning of the food service equipment, plumbing equipment, domestic hot water, HVAC, building automation system, lighting controls, meter monitoring, emergency power, sound reinforcement, and irrigation control systems. With extensive experience in delivering WSSP compliant schools, our team approached the project with a strategic plan to drive compliance, system functionality, and optimized energy efficiency. We utilized effective communication and persistence in resolving system and equipment issues to ensure the delivery of an outstanding facility.

Through a proactive and thorough commissioning approach, our team of engineers successfully delivered the Auburn School District Olympic Middle School with confidence that all building systems were commissioned for enhanced efficiency, and optimal performance, ensuring long-term facility longevity. We are committed to delivering facilities that drive operational excellence and are proud to support the district in providing the community with exceptional educational environments.

YOUR VALIDATION PARTNER FOR WHAT'S NEXT

Performance Validation (PV) is a global Commissioning, Qualification and Validation partner for pharmaceutical and medical device manufacturers, extending its expertise to include Building Commissioning for Building Owners in a broader scope of industries. Headquartered in Indianapolis, IN, we specialize in turning compressed timelines into compliant ones across a diverse array of environments, using innovative, adaptive approaches that balance production realities with strict regulatory requirements. With Building Commissioning, we leverage our deep understanding of regulatory standards to ensure facilities operate at peak performance, enhancing efficiency, safety, and environmental sustainability. Our dedicated team, consisting of more than 95% engineers, works closely with regulators, equipment suppliers, and construction teams to keep validation and commissioning services ahead of production curves, ensuring quality and operational excellence across all projects.