

Seattle Public Schools Pre-Design Process

Design Partners Orientation Phase

School Design Advisory Team Process

Seattle School District Stakeholders

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Strategic Planning

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Facilities & End User Groups Workshops

Topics

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- Budget & Schedule
- Communication Model
- Existing Building Documentation
- Educational Specifications
- Technical Specifications
- District Design Philosophy
- School Design Advisory Team Process
- District Consultant Scope

Topics

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- A/E Budget Comments and Concerns
- A/E Educational & Technical Specification Comments and Concerns
- A/E Presents School Design Advisory Team Workshop Presentation
- Early Site Investigation Recommendations
- School Design Advisory Team Formation

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- Introductions
- Project Budget
- Schedule
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- SDAT Guiding Principles of Design
- Resource Materials
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- Project Visioning and Goal Setting.

School Tours

- Critique using Attributes of High Achieving Schools

Visioning and Goal Setting

- School Tour Recap.
- Design Charrette

Conceptual Design Presentation

- Review and refinement of conceptual design

Conceptual Design Presentation

- Review and refinement of conceptual design.

User Groups

- School Staff and Administration.
- Operations
- Maintenance
- Sustainability
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- SPED
- Other

Seattle School District Completes Architectural Design Team Selection

End of Pre-Design Completed Site Specific Educational Specification

Seattle School District Pre-design Process

October 2012

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Introduction

The Building Excellence program (BEX) was begun in 1995 to care for Seattle Public Schools’ building inventory and to respond to the community’s changing needs. Seattle voters approved Building Excellence I in 1995 and Building Excellence II in 2001 and Building Excellence III in 2007. Together, these levies replaced or renovated 42 schools. Building Excellence Phase IV will continue to provide improved facilities and programs in order to meet the District’s commitment to provide investments of capital funds to assure a quality educational program for all students.

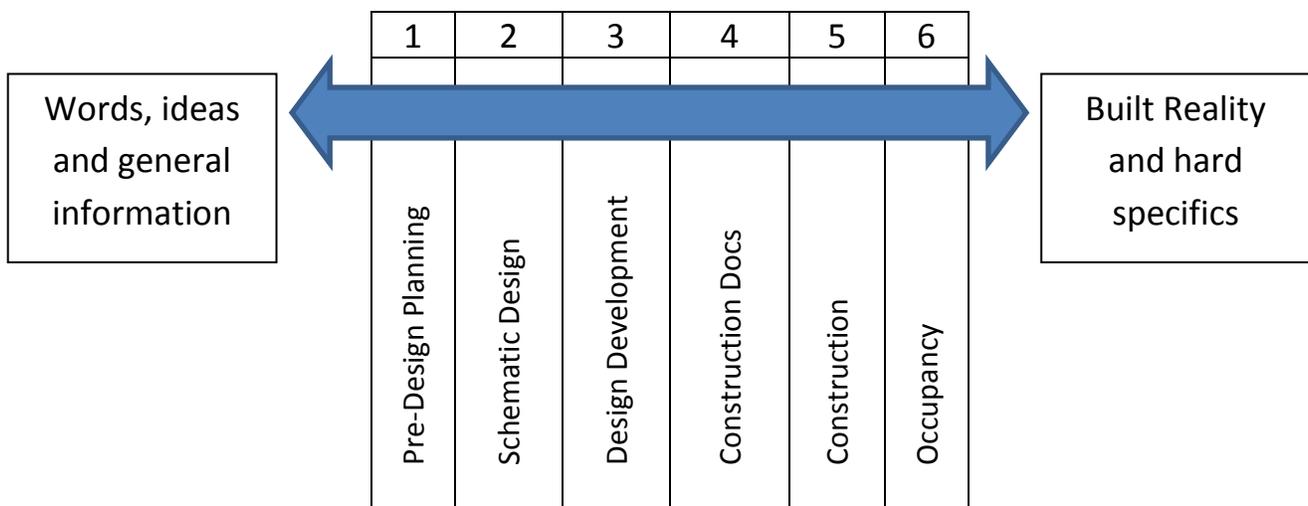
In addition BEX IV will accomplish the following objectives:

- Relieve current overcrowding and projected future enrollment growth
- Facilitate the removal of a portion of the portables
- Facilitate flexibility of program placement (APP, SpEd etc.)

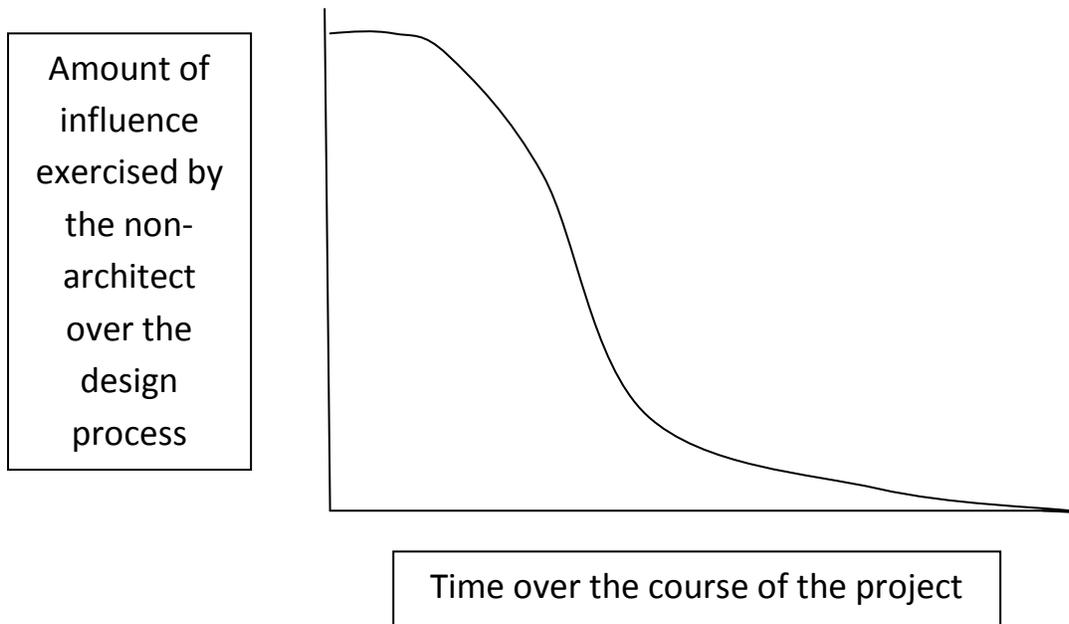
Pre-design Process Goals:

There are six stages to a project each stage moving from general information toward more specificity. The intent of this manual is to outline thorough Pre-design process that accurately defines the project needs and constraints in a way that facilitates the design stages that follow. This is where the most influence of the non-architect stakeholders can be found and is the stage where, if not executed properly, errors, omissions, and oversights tend to become embedded in the design which creates problems for the users of the facility when occupied.

Six Stages of a Project: (Source: “The Non-Architects Guide to Major Capital Projects”)



Influence by Non-architects over time: (Source: "The Non-Architects Guide to Major Capital Projects")



I. Design Partners Orientation Phase

Meeting #1: Data Gathering

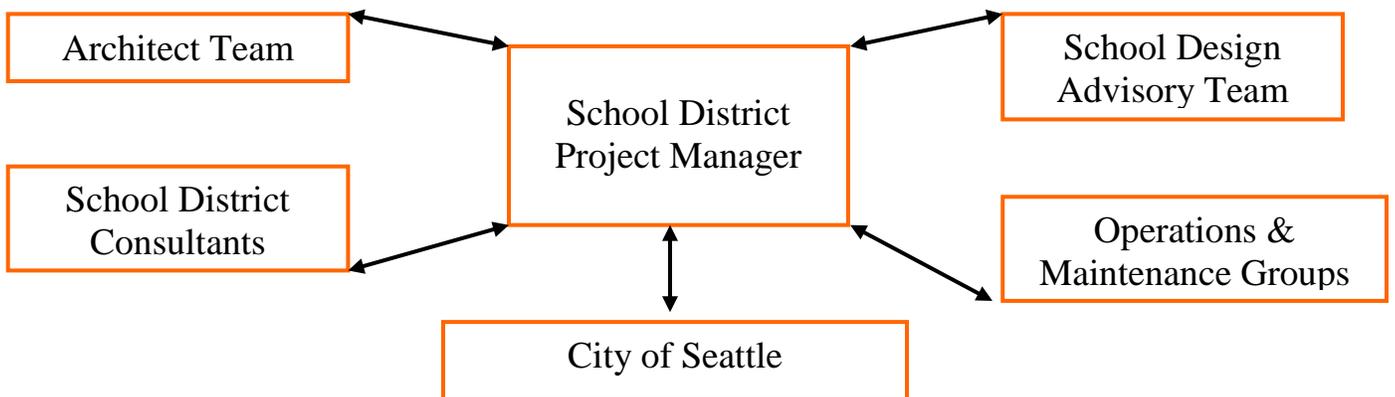
Goal: The goal of this phase is to provide the design professionals with background information about the school district and the capital program to help them better understand our needs prior to beginning design.

The BEX IV Capital Levy is part of Seattle Public Schools' long-range plan to upgrade and renovate aging school facilities on a planned and predictable timetable, ensuring every student a safe and productive learning environment.

- Design and Construction Timeline:

SDAT Process (Site Specific Ed Spec):	2 months
Schematic Design:	2 ½ months
MUP Submittal Materials:	½ month after Schematic Design
Landmarks Nomination:	Concurrent with SDAT Process
Design Development:	Time frame TBD
Construction Documents:	Time frame TBD
Construction:	Time frame TBD
Occupancy:	Time frame TBD

- Communication Model:



- Distribution of Educational Specifications:

The educational specifications are the written record through which the educators and stakeholders identify the program factors that are necessary for teaching and

learning and are an important resource for the architects and engineers during the design process. This process has focused on the development of district-wide standards for the building and furnishing processes, and provides parity throughout Seattle Public Schools. The Seattle Public Schools Strategic Plan has been the source for the vision that will inform all future design processes.

The educational specification document should be used as “guiding document” that encourages design professional to explore creative solutions. It should not be used as a “trapping document” that limits the design professional.

- Distribution of Technical Specifications:

The purpose of the Technical Specifications is to provide the design professionals with technical building materials standards that reflect the Districts commitment to building and maintaining high quality, long-lasting facilities at an affordable cost. The standards serve as the basis of technical information for the Districts in-house Facility staff that service and maintain the Districts buildings and to vendors and Architectural firms doing business with the District. The development of generic facility standards enhances uniformity, consistency and predictability for future education, facility planning and building construction, maintenance and operations. Incorporation of the latest energy saving products and following the Washington Sustainable Schools Protocol Standard along with the EPA’s Energy Star Program of approved equipment will also become standard.

- District Vision

Seattle Public Schools Academic Vision

We are focused on improving academic achievement for all students and committed to ensuring that all students graduate from high school prepared for college, careers, and life. We strive to provide excellent teachers in every classroom, set high expectations for every student, meet the needs of our diverse learners, and prepare our students to excel.

And from the Strategic Plan:

Our Vision

At Seattle Public Schools (SPS), we see a city where:

- All students achieve at high levels, receive the support they need and leave high school prepared for college, career and life;
- Every school is a high quality school;
- District leadership and staff model excellence and accountability; and

The whole community is engaged as partners in supporting and strengthening the school system.

- District Design Philosophy: (see attachments)
 - Attachment A: Site, Neighborhood and Community Considerations
 - Attachment B: Building Considerations
 - Attachment C: Modernization Scope Priorities

- District Consultants and Consultant's Scope of Work:
 - Regulated Materials Consultant
 - Geotechnical Consultant
 - Surveyor
 - SEPA Consultant
 - Arborist
 - Value Engineering and Constructability
 - Commission Agent
 - Roofing/Envelope Consultant

Meeting #2: Strategic Planning

- Architectural and Engineering Team (AE) to present work plan that identifies all major milestones.
- AE Team to comment on Budget, Scope of Work, Educational and Technical Specifications.
- Architect to present SDAT Workshop schedule and activities.
- Architect to identify early site investigation opportunities.
- The School District PM and Architectural Team to review the process and criteria for the formation of the School Design Advisory Team (SDAT). The discussion should include the size and make-up of the SDAT. Once this has been reviewed the School District PM will work with the District's teaching and learning lead and community outreach resource to identify members for the SDAT Team.

II. School Design Advisory Team Phase

Introduction

In recognition of students' varying needs, the District has created a design process that enables each school to have "input" in renovating or constructing its facility. This new, more dynamic process provides a means of integrating the school's vision and educational goals into the design within the limits of the prescribed District Standard Educational Specification (Ed Spec). Because the new process focuses on refinement of District Standard Ed Spec with educational performance, it will result in school designs that can more easily support each school's educational goals.

Make-up of Committee:

Each school's design team will consist of a variety of members, from both within and outside of the School. District Staff (Sr. Project Manager) and the Architectural Design Team will lead this diverse group of teachers, program representatives, support staff, PTSA representatives, students, and community members.

The Ed Director or Principal of the school appoints 8- 12 members to represent the school community during the SDAT process. Suggested members are as follows:

- Ed Director (Teaching and Learning leader for new programs)
- Principal (Teaching and Learning leader for existing programs)
- Teachers/Program Representatives
- Support Staff Representatives: Administrative/Custodial
- Students: when age appropriate
- Member at large: community Organization/Neighborhood representative

Goal

Identify the vision, philosophy and objectives of the school and community and provide a consistent and diverse voice for user groups in the pre-planning phase of the project design. Information gathered in this phase along with "Technical Support" user group information will help create the site specific educational specification that will inform the architectural design team.

Workshop #1: Project Orientation

The initial meeting will include introductions and review of the project budget and schedule.

- Discussion of the School Design Advisory Team (SDAT) roles and responsibilities:
 - Attends meetings and field trip
 - Serves as a representative and reports back to constituencies
 - Provides input
 - Team members do not function in the role of “Designer”
 - Be honest with one another
 - Follow the Ground Rules

- Discussion of the School Design Advisory Team (SDAT) ground rules:
 - Be respectful
 - Value Differences
 - Cooperate and share information
 - Bring suggestions and alternatives
 - Keep commitments
 - Listen to each other
 - Revisit an issue/decision only if new information surfaces
 - Have fun!

- Distribution and discussion of resource materials
 - Educational Specifications
 - Technical Specifications
 - Project Schedule
 - Project Budget

Review of Design Guiding Principles:

While the School Design Advisory Team will have the freedom – within the educational specifications, schedule and budget – to assist the designer in developing a school which will best serve their students, they are also accountable for supporting academic achievement for every student, for reducing the disproportionality gap, and for meeting the Guiding Principles described in this document. In practice, this means that the school’s design team must

consider how each of the attributes of high achieving schools are supported by the building design

Attributes for High Achieving Schools:

1. Learner Centered Environment: Students learning is at the heart of the school.
 2. Personalizing Environment: Each Student is known well and cherished by adults and other students in the school.
 3. Program Adaptability: The schools programs are tailored to individual student needs and talents and make use of a variety of learning tools.
 4. Community Connections: The community is involved, informed and visible in promoting a rigorous academic learning environment, and in encouraging student use of community resources.
 5. Aesthetics: The school is appealing, warm, and inviting to all, and reflects the school's values and focus.
 6. Safety: Students are safe and cared for in all the important aspects of their lives.
 7. Collaboration: Everyone associated with the school works collaboratively to realize the school's hopes for students.
 8. Sustainability: Create schools that encourage a culture of conservation and environmentally responsible behaviors by combining learning with sustainability.
- Establish SDAT meeting schedule
 - Architect will suggest meeting schedule and SDAT members will approve.
 - Begin Visioning and Goal Setting
 - District's established Academic Vision: We are focused on improving academic achieve for all students and committed o ensuring that all students graduate from high school prepared for college, careers, and life. We strive to provide excellent teachers in every classroom, set high expectations for every student, meet the needs of our diverse learner, and prepare out students to excel.

Workshop #2: School Tours

The following information is intended to provide the SDAT members with general framework to consider when touring newly constructed or renovated schools:

School Tour Design Checklist:

The School Design Advisory Team uses this checklist to assess how well the school is currently meeting design guiding principles high achieving schools.

Learner-Centered Environment

- _____ The building is designed with students' needs placed first.
- _____ The building and campus provide opportunities for students to explore hypotheses and test ideas.
- _____ The building provides spaces for interdisciplinary learning to occur, as well as spaces for teachers to collaborate.
- _____ Flexibility in building design enables teachers to engage students' attention with creative learning activities and make them active participants.
- _____ The building provides spaces for student work to be prominently displayed throughout the school.
- _____ The building provides access and space for parents and community members to collaborate meaningfully as learning partners.

Personalizing Environment

- _____ The building provides spaces for students to develop personalized relationships with adults.
- _____ The building provides spaces for students to work and socialize with peers.
- _____ The building design encourages feelings of safety and trust.
- _____ The building provides spaces for individualized support services for students, including mental, physical, social, and academic support.
- _____ The building design enables small learning communities to operate within the school.
- _____ The building contains appropriate spaces to support a wide range of academic subjects and learning opportunities.

Program Adaptability

- _____ Flexibility in building design makes it possible to offer a wide variety of interdisciplinary educational programs.
- _____ The building incorporates technology to support programs that help personalize education and maximize student learning.
- _____ The building provides spaces to support multiple instructional strategies and program delivery models, such as individualized instruction, small and large group learning, and independent learning.
- _____ Learning is enabled at the school with a variety of sizes and spaces.
- _____ The building provides spaces to support a range of formats for students to demonstrate their knowledge, such as exhibitions, projects, portfolios, etc.

Community Connections

- _____ The building design incorporates and helps convey the school's mission to the community.
- _____ The building provides access and spaces for parents to participate in decision-making and curricular activities at the school, and to gain a better understanding of their role in helping students meet academic expectations.
- _____ The building provides spaces for the community to be actively involved and visible in promoting a rigorous academic environment at the school.
- _____ Community resources and spaces help support and supplement the school's educational programs.
- _____ The building provides spaces for students to be mentored by community members.

Aesthetics

- _____ The building is appealing, warm, and inviting.
- _____ The building has comfortable, fun spaces that entice kids.
- _____ The building has a variety of interesting spatial types that allow for exploration.
- _____ The building facilities and landscaping are well maintained.
- _____ The building is pleasing in a tactile way.
- _____ The building provides a stimulating environment.
- _____ The building conveys a sense of place.

Safety

- _____ Spaces within the building promote safety and security.
- _____ The building contains both individual and group meeting spaces, providing opportunities for each student to be known by adults.
- _____ The building provides spaces for support services for students, including mental, physical, social, and academic support.
- _____ The building design contributes to a low incidence of disciplinary actions.
- _____ The building is well lit and can be easily monitored.

Collaboration

- _____ The building provides spaces for everyone associated with the school to work collaboratively.
- _____ The building design incorporates elements that emphasize the purpose of the school and how each person contributes to the school's success.
- _____ The school's vision and focus are apparent in the building design and shared by staff, students, parents, and the community.
- _____ The building provides spaces that promote group work and communication.
- _____ The building provides spaces for students to intercede with each other, listen to their peers, and have a voice in the operation of the school.
- _____ Because students feel ownership of the building and take pride in its appearance, they work actively to minimize graffiti and litter.

Sustainability

- _____ The building incorporates features that make the building healthier, cleaner and less costly.
- _____ The building incorporates features that “show” resource utilization and conservation.
- _____ Building incorporates features that allow students and teachers to affect their environment in an “eco-friendly” manner (resource use / recycling).
- _____ The building incorporates sustainable priority features as identified in the Washington Sustainable Schools Protocol (see attachment “c”)

Workshop #3: Visioning and Goal Setting

SDAT Task: Visioning and Goal Setting:

- Visioning is a process that seeks to create living, useful guides for actions intended to position the school community for the future.
- A goal is an end toward which an effort or direction is specified. In this sense a goal reflects and underlying value that is sought after and is not an object to be achieved. Goal setting can be seen as the guiding process necessary for successful school design.” (Source: Henry Sanoff, AIA; A Visioning Process for Designing Responsive Schools)

Review of School Tours

- Discussion of School Tours relating to the attributes of high achieving schools
- Continue Visioning and Goal Setting

Workshop #4: Conceptual Design Presentation by Architectural Team

- SDAT Task: Review, test and refine “Conceptual Design”

Workshop #5 (if necessary): Revised Conceptual Design Presentation by Architectural Team

- SDAT task: Review, test and refine “Conceptual Design”

III. Technical Support Groups Review

Introduction

The District has created a design process that reflects the District's commitment to building and maintaining high quality, long-lasting facilities at an affordable cost. The technical support group is composed of District "in-house" Facility staff that service and maintain the District's buildings.

Goal

To encourage a design that focuses on Maintenance & Durability in order to minimize operating costs by using building materials and finishes that are durable and easy to maintain. To encourage a design that incorporates well integrated systems facilities design with an emphasis on low life cycle costing. To encourage a design that satisfies the needs of the programs in which they serve.

Workshop #1: Project Orientation

Introduction:

- Operations
 - Nutrition Services
 - Warehouse
 - Security
 - Other
- Maintenance
 - Custodial
 - MEP departments of maintenance
 - Other
- Technology
- Grounds
- Teaching and Learning:
 - Administrative Spaces
 - Music/Performing Arts
 - Physical Education/Athletics
 - Library/Media Center
 - Science
 - Community Spaces

- Special Education
 - Specialized Instruction Areas
- Other
 - Daycare
 - Health clinic

END of Pre-design Process

Attachments

Site / Neighborhood / Community Considerations

Adequate Size for and Access to Learning Activities and Parking

A school site should accommodate size requirements for outdoor physical education, athletic and environmental learning programs, automobile and bicycle parking stalls, and access roads for fire, trash, bus delivery and drop-off areas, and pedestrian egress walkways. Planning and building codes dictate building set backs, area of landscaping, number of street entryways, and ratio of required parking stalls to assembled occupants. Site surveys will indicate the topology and any restrictions, easements, or retention areas that may be required. Geological reports may indicate the optimum methodology for and size of foundation design. In urban environments, priorities are often set to accommodate the most important elements of the site plan after meeting all of the municipal, county, and state requirements. Joint or reciprocal use agreements with adjacent parks and community centers sometimes provide more land area for recreational and nature programs if there is inadequate room on the school site.

Sensitivity to the Neighborhood Scale and Context

Neighborhoods surrounding the school site often have an established character and rhythm. The architects and design team should carefully evaluate the scale and context within which the school buildings will be placed and determine appropriate locations of compatible elements based on the kinds of activities anticipated. The school building should not imitate, but rather, complement, existing neighborhood structures. Sensitivity to neighborhood perceptions of school-generated noise, lighting glare, over views, and potential increased on-street parking should also be considered.

Climatic Conditions

Prevailing breezes, storm winds, solar orientation, and potential views to man-made or natural wonders should be evaluated while situating the school buildings on the site. Attentive consideration of these elements will avoid future inconveniences such as unwanted glare, stiff breezes, and poor vistas, thereby enhancing the overall design as well as enriching the learning experience.

Accessibility, Safety, and Security

Thoughtful attention to student and adult approaches to the building, whether they are walking, riding bicycles, or dropped off by a bus, parent, or friend, is important. Students and staff who are disabled should be well accommodated without visual or physical barriers, whether they are moving from the curbside or parking areas. Clear sight lines with overviews to main and ancillary entries allow adults to oversee student egress. All exterior spaces adjacent to walls and buildings should have some visual supervision to maintain a sense of safety and security. Portions within these outdoor places may be designated for congregation and rest. This ensures some ownership and interaction within these areas, making them potentially more accessible, secure, and safe.

Site Adjacencies and Separation of Disparate Activities

The layout and thoughtful consideration of traffic use patterns that occur on a daily basis is essential. Students are often difficult to see and must not cross between busses. Consequently, bus drop-off and pick-up must be separate from parent drop-off and pick-up lanes. Staff and visitor parking must also be separate from bus traffic patterns. Kitchen delivery, trash, and recycled material pick-up and

maintenance vehicle circulation should be well planned so that they do not cross normal student egress pathways. Fire truck access must reach (within guidelines) all portions of the school building. Loading docks should be adjacent to the kitchen. Trash/recycle bins should be appropriately located for custodial access. Large truck turn-around and back-up drives must be accommodated. Views to these areas may need to be screened and isolated from neighbors and students.

Planting, Landscaping, and Water Retention

Some planting area sizes are required by municipal codes. However, the building's landscape setting and entry can also be enhanced by incorporating elements such as visual displays of flowers, seasonal colors, and natural and native plant habitats. Exterior areas may be used as learning laboratories involving (but not limited to) science, art, literature, math, and history. Aside from complementing the building, landscaping may also include a variety of hard surfaces for play courts, pathways, planters, and sculpture. Water retention is another important element from an engineering standpoint and may also be used as part of an environmental curriculum study if there are no safety concerns. Outdoor learning is an important element of school design and should be considered as more than a backdrop for school buildings.

Identifiable Entries and Community Access

Clearly defined indicators and directions to main and ancillary school entrances support the clarity and cohesion of the building design. Navigating through the building is particularly critical for those visitors who are unfamiliar with the school, perhaps coming from the community or from student homes to support and participate in the learning program. Community access to parts of the building that involve after-school extended learning also should be clear and distinct. Location of these extended-use areas of the school should be somewhat convenient to evening parking, especially when visibility is diminished during fall and winter hours.

End of Attachment A

Building Considerations

Flexibility and Adaptability

The relationship and location of individual building components should be carefully coordinated so that each generation of occupants may configure the school to best meet their needs. These components may include the location of corridor and separating walls, plumbing and wiring conduit, heating, cooling and ventilation equipment and controls, and even exterior zones that may accommodate future additions.

The term flexibility is a working definition for the reconfiguration of some components of the building to enable conversion or transformation more quickly and easily. Examples of a flexible building system may include movable walls, operable windows, or controlled electric illumination that can be switched for different areas within a space or to adjust lighting levels. The term adaptability applies to longer term or more substantial alterations, such as rearranging or relocating constructed walls, conduits, plumbing, and lighting fixtures without significant cost implications. The architect and design team should carefully plan for these future events to ensure that the school building can accommodate necessary changes.

Structural System Approach

Part of what enables a flexible and adaptable educational complex is the configuration of the supporting framework or structural system of the building itself. If many of the interior partitions and infrastructure components are independent of the structural framework, the school may be more easily revised and updated. Often the integration of the structure and walls can be less expensive initially, but conversely be less flexible and adaptable in the future.

The exposure of all or part of a building's structural framework may also provide opportunities to illustrate examples of instructional curriculum programs such as geometry, math, science, art, and so on. A balance of initial and long-term costs for the structural system and building component configurations should be seriously considered.

Maintenance and Use of Materials

The type and quality of building materials have both short and long-term cost implications. Some building materials and systems have measurable life spans and must be periodically replaced or upgraded. Finish materials can either be more permanent such as exposed concrete, stone, brick, and finished metals, or more temporary such as painted surfaces, fabrics, and carpeting. Adequate maintenance of finished products varies with yearly school budgets and may sometimes be deferred in lieu of other pressing expenses.

Finish materials should therefore be selected in terms of wear and durability as well as for correct application, style, and placement. Hard permanent surfaces are usually more durable but less changeable or user friendly and may clearly indicate a style or era of design and construction. Walking and counter surfaces will naturally get the most use and sometimes need more care. Other items such as light fixtures, control devices, and cabinet and door hardware should also be carefully selected for durability and longevity, particularly if they have heavy daily use. Other surfaces may only last 5 to 15 years and will be replaced during an adaptability improvement. As with the

previous two general building considerations, the initial building cost and long-term maintenance budgets will be affected in the architect's and design team's choice of materials.

Signage and Way Finding

As mentioned in the previous section, the clarity of the building layout and simply defined indicators or directions will do much to help occupants and visitors navigate the school facility. The size and complexity of the school will often dictate the need for special signage. Symbols, color, use of unique materials, and/or adequate illumination are all helpful elements in directing visitors and volunteers to designated spaces. Community members who visit the facilities, especially when reception or administrative personnel are not present, will also require clear, concise directions to the appropriate areas. Emergency signage for evacuation will be stipulated by municipal codes but should also be carefully integrated into the overall signage program.

Natural Light, Views, and Overviews

Some educational researchers suggest that it is wise to provide an adequate amount of natural light and a proper sense of orientation (to interior and exterior elements) so that human beings may function normally within enclosed learning spaces. The amount of natural light within each space will depend on the size and configuration of the windows, skylights, and clerestories of the building design. These devices should allow for screening or blocking (usually with blinds) on occasions when the learning environment requires darkening, usually for projection equipment or other situations in which substantial glare may interfere with activities. Interior blinds may also allow some flexibility for privacy when views or overviews are not desired or required.

Overviews of adjacent spaces through the use of windows or relites (interior windows) allow individuals within these areas to feel connected and included when they may otherwise feel isolated or unattended. Visual contact with all the learning spaces within a particular domain or program enables easier supervision for those who may need help.

Accessibility, Circulation, Safety, and Security

All appropriate public areas within the school building should be accessible for individuals with visual, audio, and mobility challenges. The latest edition of guidelines for the Americans with Disabilities Act (ADA) clearly delineates acceptable standards for public buildings and because portions of all public school facilities involve federal funding, these must be followed faithfully.

An appropriate amount of circulation space within the school building allows for the movement of people and materials and should enhance physical and mental wellbeing as well as increase the safety and security of school occupants. As previously noted, clear signage and illumination play an important role in a good circulation plan. An efficient plan would include contiguously related activities.

The daily schedule of the school may also impact the amount and type of circulation required, but this may change over time. Therefore the width of corridors and hallways should accommodate an anticipated average amount of the movement of students and staff at any given time.

Recessing door entrances may increase safety by allowing for outward door swings to avoid collisions with passersby. Larger gathering or meeting spaces should accommodate back-up areas or foyers to avoid bottlenecks or interruptions of adjacent circulation corridors. Potentially busy intersections should be enlarged to accommodate flows that occur through and around these areas. Locker locations, if included, should allow room for opening and access.

As noted in the previous “Natural Light, Views, and Overviews” heading, visibility via relite windows of adjacent spaces from occupied areas enhances ownership of these areas and thereby increases security through natural means. Recognition of familiar or unfamiliar faces within visible school areas alerts regular occupants to take appropriate actions as necessary.

The amount of exterior or perimeter access, centralization, and location of the administration all may affect the safety and security plan for the building depending on the curriculum program. A more traditional approach may involve a centralized administration, focused front entrance, structured schedule, limited exterior egress, and some camera surveillance system. A more dispersed administration and autonomous curriculum strategy may result in multiple entries and less formal security arrangements because more adults are actively involved in the oversight of school activities and students have more freedom of movement. The building should accommodate many scenarios.

HVAC Systems

Heating, ventilating, and air conditioning systems are a sizeable portion of any school facility budget. More substantial systems will likely decrease long-term maintenance costs because they will break down less often and therefore require less maintenance. Conversely, moderate systems may require more maintenance but will leave more initial funds for other building components. The architect and design team should create a balance between the two extremes for a reasonable solution.

Two important aspects of the design of HVAC systems involve acoustical design and temperature control. Acoustical considerations are important to avoid high background noise, usually due to air movement or fan noise. Clear communication among students and teachers is a critical component in learning activities, and noisy HVAC systems prevent this from occurring more easily. Another aspect of good environmental design is the provision of individual thermostat controls for each unique activity space. Human comfort is very subjective and unique for every individual. If the architect and design team allow users easier access and adjustment of their thermal environments, there will be greater perceived comfort and less wasted energy. Prevented from controlling their own environments, teachers and students generally open corridor doors and exterior windows that usually defeat the intended balance of the HVAC system. Newer digital control systems tend to allow greater flexibility when planning the HVAC capabilities.

Acoustics

Two elements relating to sound or noise may affect learning within a school environment: the background sound/noise level and how the sound/noise reverberates within a space. The amount of background noise will affect how loudly one needs to speak to be heard, and the reverberation affects how clearly it is perceived. Background noise depends on the amount of sound that is transmitted through the outer walls, windows, doors, floors, and ceilings, as well as noise generated within the space. Reverberation of sound depends on the shape, volume, and materials used in the construction and finishes within the space. Because of these considerations, an acoustical engineer should be part of the design team.

The transmission of clear, distinguishable sound is important to learning. Standards for the two elements are as follows: background noise level in a learning environment should be no more than 35 db. The reverberation (time lapse of the echo) within a learning environment must be equal to or less than 0.5 seconds. The sound that is to be heard must be +15db over the background noise.

Technology and Control

The nature of technology is ever evolving. Fortunately, the costs are falling, but the architect and design team must determine how best to accommodate this ever- changing element within a permanent building. Horizontal and vertical passageways such as cable trays, large conduits, chase, or ducts must be provided to allow the inevitable change. Wireless systems may free elements of technological use, but for the foreseeable future, some connectivity between networking elements is still required.

One convenience that is a result of the digital age is the ability to control elements of the learning environment more easily. Lighting, temperature, airflow, security, and sound can all be adjusted to the specific learning need more inexpensively and easily than in the past. These innovations allow the teacher and learner to adapt the environment to their specific needs, resulting in accommodation rather than frustration. The architect and design team should weigh the opportunities for this capability within the school.

Community Use

Community use of portions of the building has usually been restricted to a few areas within the school. The task of the architect and design team was to allow access to these portions while restricting access to the rest of the campus. With the realization that more of the learning environment can and will be used by the community, the task of accommodating access to spaces within the building is increased. Members of the community may also be invited to help with learning exercises, which will also require greater access to more of the school facility. Community use is no longer restricted to the library, physical education, and performance areas.

Sustainability Priorities:

Washington Sustainable Schools Protocol spans a wide variety of areas, from site planning and energy use, to material specifications and indoor environmental quality. Required credits in the Protocol generally reflect actions that are required by state law, although they may exceed those requirements slightly if the Protocol Team felt the action could and should be met by most projects.

Listed below are design areas that are recommended as high priorities by the Washington Sustainable Schools Protocol to optimize performance of schools in the State.

Daylighting. Quality daylighting designs have been shown to improve student productivity. When integrated properly with the electric lighting system, daylighting can save significant of energy.

Energy Efficiency. Energy efficiency should be a cornerstone of a Washington Sustainable School to reduce operational expenses, conserve natural resources, and reduce local and global pollution and greenhouse gas emissions. All schools must be commissioned to ensure that the design meets the expectations of the district, and that the school is built as it was designed. Commissioning ensures that all building systems are working properly, and that the school staff know how to operate and maintain them.

Indoor Air Quality. Good indoor air quality is essential for healthy schools and occupants. Indoor air quality can be impacted by design and construction choices, as well material choices and maintenance practices.

Acoustics. If not controlled, noise from loud ventilation systems, outdoor sources, and neighboring rooms can significantly impede communication between teachers and students. Young learners, students with hearing difficulties, and those learning English as a second language are particularly vulnerable. Classrooms should be designed to enable all students to hear clearly.

Sustainable Materials. Hidden within all materials are the resources, energy, chemicals, and environmental damage related to their production. When reuse is possible (of either building materials or the building itself), this can represent avoided costs for new materials and disposal, as well as avoided environmental impacts of producing new building materials.

Site Selection. A high performance school will avoid degrading natural ecosystems, while seeking to incorporate natural conditions to enhance the building's performance. In addition, the school design will encourage non-polluting transportation alternatives.

Water Efficiency. Basic efficiency measures can significantly reduce a school's water use. These reductions help the local environment, while reducing operating expenses.

End of Attachment B

Modernization Scope Priorities

The following represents the recommended prioritization of modernization scope of work categories. This list may serve as a general guide for each site and Architect(s).

Each site may be evaluated in the context of these priorities and project scopes may be matched to project budgets.

Priority 1

Life-Safety issues which may include:

1. Fire alarm system upgrades/replacement (MANDATORY)
2. Asbestos abatement
3. Lead paint abatement
4. Lead piping replacement
5. Dry-rot repairs
6. Mold mitigation
7. Structural repairs
8. Safety repairs to handrails or guard rails
9. Site security fencing and/or lighting
10. Security alarm systems
11. Work to kitchen areas
12. Plumbing system infrastructure replacements
13. Roofing replacements
14. Replacement of landscape irrigation systems
15. Gas system infrastructure replacement
16. Electrical system infrastructure replacement
17. Sewer system infrastructure replacement
18. Communication/data systems. This may include e-rate funded projects
19. PA system

Accessibility (ADA) work which may include:

1. Fire alarm upgrades for horns/strobes
2. Accessible ingress/egress at each building
3. Path of travel ramps or level transitions
4. Parking lot signage/stripping
5. Signage for buildings, doors and site
6. Replacement of door hardware
7. Door threshold transitions
8. Development of accessible work stations and/or sinks (5% required)
9. Reconfigure toilet rooms as required to accommodate ADA
10. Ramps or mechanical lifts for raised platforms/stages
11. Accessible drinking fountains
12. Exhaust fans
13. Elevators
14. Widen existing door opening
15. Assistive listening devices
16. Replacement of unsafe playground equipment and/or safety surfaces at equipment area

Priority 2

Install “teaching” or “smart” walls

Priority 3

Toilet rooms and drinking fountains which may include:

1. Replacement of toilet partitions to reduce maintenance costs
2. Replacement of toilet accessories to support District product standards
3. Replacement of fixtures, valves, or faucets to match District standards and reduce maintenance costs
4. Expansion of toilet fixture capacity due to either growth in capacity and/or due to fixture unit loss due to handicap accessibility upgrades
5. Replacement of wall/floor finishes to reduce maintenance costs

Priority 4

Enhanced Learning Environments which may include:

1. Connecting classrooms via doors or operable walls to facilitate team teaching (as needed)
2. Creation of pull-out learning centers (as needed)
3. Development of/or enhancement of existing libraries, media centers/computer labs or other specialized learning environments
4. Integration or expansion of technology systems including electrical power support
5. Physical enhancements to learning environments such as new or refinished casework, lighting/ceilings, flooring, paint/wall coverings, window replacement or marker boards

The following sub-categories are deemed to be of equal priority and are not listed in any particular order

Priority 5-A

Enhanced Administrative Areas which may include:

1. Physical enhancements to existing ceilings/lights, wall finishes, flooring, window replacements, new or refinished casework, etc.
2. Reconfiguration of existing spaces to improve reception areas or entry identification. Provide additional office or conference areas and provide staff/teacher work rooms.

Priority 5-B

Parking Areas which may include:

1. Reconfigure existing parking to improve traffic flow or to create more parking
2. Expansion of parking areas to increase capacity and/or provide appropriate separation of staff visitors, parent drop-off and bus service
3. Development of parent or bus drop-off areas.

Priority 5-C

Landscaping enhancement which may include:

1. Installation of landscape planters or other playground turf areas

Priority 5-D

Painting of building exteriors

Priority 5-E

Site enhancements which may include:

1. New covered walkways
2. New marquee signs
3. New school monument signs

End of Attachment C