New Academic & Physical Education Building

Center for Deaf and
Hard of Hearing Youth

Project # 2018-173
OFM # 3000036

PREDESIGN

JULY 1, 2019

SSW ARCHITECTS

SCHREIBER
STARLING
WHITEHEAD

TABLE OF CONTENTS

1. Executive Summary 01- 05
2. Problem Statement ..... 07 -16
3. Analysis of the Alternatives ..... 17 - 21
4. Detailed Analysis of the Preferred Alternative ..... 23 - 33
5. Project Budget Analysis ..... 35 - 47
6. Attachments
   - 6.1 Budget Estimates
     - C-100 Forms - Preferred Alternative
     - C-100 Forms - Alternative #3
     - Lease (Alternative #2) - Life-Cycle Cost Model
     - Detailed Estimate for Preferred Alternative
   - 6.2 DAHP MOU
   - 6.3 Preliminary Drawings and Sketches
   - 6.4 Demolition Study

SECTION 1 – EXECUTIVE SUMMARY

A. PROBLEM STATEMENT

1. Critical mission and responsibilities

The Washington School for the Deaf (WSD) has provided educational and residential services to students with deafness and hearing loss since 1886. In 2009, with the passage of RCW 72.40.015, the WSD was charged by the legislature to promote the development of communication-rich learning environments for deaf and hard of hearing students. The WSD is a fully accredited residential school serving students in Pre-K through 12th grade and is the state's only ASL-English bilingual school for deaf and hard of hearing students.

To fully support deaf children's linguistic, cognitive, social and emotional development, WSD provides a comprehensive educational program that includes a commitment to promoting the acquisition, maintenance and study of American Sign Language (ASL) and English for all deaf and hard of hearing children.

2. Aging and ineffective facilities

In 2002 the Joint Legislative Audit and Review Committee (JLARC) found that WSD campus needed substantial capital investment to effectively accomplish its mission. It stated that many buildings were "older and in various stages of disrepair," and basic infrastructure upgrades were needed to insure that deaf and hard of hearing students have access to the full variety of active learning spaces and learning technologies provided to most Washington students in the school districts.

Except for limited projects supporting residential and student life, the campus has had no new academic buildings on campus in over three decades. The available academic facilities on campus are outdated or unsafe and do not adequately support the kinds of instruction envisioned by the legislature. Built in 1937, the facility has significant seismic weakness which, combined with aged-out mechanical and plumbing systems, poor configuration, and multitude of condition defects, make renovations/rehabilitation difficult and expensive. Divine High School is a single-story wood-framed building completed in 1975. Its major systems are past their intended service life and its configuration and condition lack the flexibility to become the communication-rich learning environment envisioned by the legislature.

The Washington State Institute for Public Policy identified both Hunter Gym and Divine High School as being in poor condition and identified them to be demolished/replaced.

3. Impact on mission accomplishment

a. Accreditation

In its 2015 accreditation visit, the CEASD (Conference of Educational Administrators of Schools & Programs for the Deaf) identified the need for additional educational facilities to accommodate an academic program that fully reflects the school's mission and that provides the broad range of needed classroom spaces, including technology capabilities. They noted that WSD has several buildings on campus that need to be razed, and some buildings that need to be upgraded.

In their 2014 accreditation visit, the AdvancedED, (a national school accreditation agency) scored WSD lower than the average score on facilities, service, and equipment (3.0 agains 3.11 national average). They

also scored very low on technology infrastructure that can provide access to media, digital resources and information systems for the unique learning needs of sensory-impacted students. They noted the need to improve the technology infrastructure of all academic spaces.

b. Classroom Environment

Excessive auditory and visual stimuli can distract students and reduce their focus on academic tasks. Classrooms in Divine High School have inherent deficiencies due to their physical arrangement that does not effectively accommodate issues such as flexible seating arrangements for visual connectivity, adjustable lighting, the necessary technology infrastructure, adequate acoustics and effective ventilation.

c. Physical Education Space

It is critical for deaf and hard of hearing students to have access to a gym and activity spaces that accommodate effectiveness in PE and sport pursuits. Just like the classroom environment, communication strategies and instructional techniques for deaf students, including coaching and physical education teaching strategies, require facilities that are not present or are compromised by age and condition in the existing Hunter Gym. These include adjustable lighting, technology infrastructure, tuned acoustics and effective ventilation systems. Also impacting the ability to provide physical education to WSD students is the small size of the Hunter Gym, which totals only 7,600-gsf. The quantity and quality of needed physical education space to support the WSD mission is grossly below standards with the current Hunter Gym.

B. OPPORTUNITY

With renewed focus to ensure continued service to the community of deaf students that attend this school, the opportunity of this proposal is to remove the unsafe, unoccupied and ineffective buildings and construct a new high school classroom and gymnasium building at the heart of the WSD campus. This project will result in WSD being able to offer modern educational facilities that provide the broad range of needed learning environments and technical capabilities and systems that fully reflect the school's mission and accomplish the vision of the legislation contained in RCW 73.45.4.

C. ALTERNATIVES CONSIDERED

1. Do Nothing

The Center for Deaf and Hard of Hearing Youth (CDHY) has been suffering from the do-nothing alternative for past 20 years. No action will continue the status quo of students and teachers getting by with sub-standard facilities.

Advantages

- The option to do nothing does have the lowest first cost.
- Adjacency to other WSD functions will be maintained.

Disadvantages

- Doing nothing will inhibit the WSD's ability to provide effective learning environment to their high school students and PE facilities to the entire K-12 student body.

- Existing inadequate, inefficient, and unsafe conditions would continue.

2. Lease Equivalent Space Off-Campus

In this option, the CDHY would demolish the existing buildings in two-phases and lease off-campus facilities that could provide the needed spaces. As WSD is a residential campus, this option will require providing transportation between sites.

Advantages

- The need for capital would be spread over 30-years.

Disadvantages

- There is no suitable equivalent space in proximity to the WSD campus requiring a develop and lease option at higher initial costs.
- Finding suitable-sized land in proximity to the campus will require a considerable amount of time, thus expanding the overall project schedule.
- The need to provide transportation between separate sites would increase operational costs and decrease effective learning time for the students.
- Remote location will require duplication of some student services, increasing operating costs.
- Removing Divine High School from the campus would weaken social and aspirational connection to the K-8 students remaining on campus.
- The lack of on-campus physical education and will continue to hamper student recruitment.
- This option presents the highest life-cycle cost of all alternatives.

3. Renovate and Expand on the Existing Campus

In this option, the CDHY would develop a multiple phase project where the existing Hunter Gym and Divine High School are renovated and expanded. It will require a minimum of three construction phases to fully execute.

Advantages

- Adjacency to other WSD functions will be maintained.

Disadvantages

- The existing high school and gym operations would need to continue during construction as there is no "flex" space on campus to relocate these functions. Construction in very close proximity will have severe negative impact to the learning environments and effectiveness.
- The seismic issues in the Hunter Gym will increase typical remodel costs due to unreinforced masonry, its high volume and long clear spans.
- Three-phased construction will stretch the project over multiple biennium leading to greater cost escalation.
- The basic "bones" of the 44-year old Divine High School are not suitable for continued use for the minimum target service life of another 30 years.

4. Construct New Academic and Physical Education Building on the Existing Campus

In this option, the CDHY would develop a two-phase project where the existing Hunter Gym and Divine High School remain in operation while the older abandoned campus buildings are removed and a new classroom and gym building is constructed. Occupying the new building, the existing Hunter Gym and Divine High School buildings will be removed and their portion of the campus developed into a sports/PE field.

Advantages

- Provides new space with purpose-designed spaces supporting ASL/Bilingual education with the flexibility and technology infrastructure needed to support visual-intensive deaf education pedagogy.
- The new gym will have adequate size for a regulation high school court. It will also allow consolidation of fitness functions that are currently located in an unsuitable building.
- The new building will have significantly lower operating and energy costs than renovated buildings.
- This option leaves adequate site open to enable construction of suitable outdoor recreations and sports facilities.
- This option provides better adjacency and functional proximity to the rest of the WSD campus by bringing functions into the center of campus.
- Removes hazards of vacant and unsafe building at the heart of campus.
- Enables improvement to below-grade utility infrastructure at core of campus which was constructed in a disjointed manner over decades as individual projects were developed.
- Keeps vehicular circulation to the perimeter of campus.

Disadvantages

- Has high infrastructure costs to clear the central campus of "spaghetti" utilities and vacant/hazardous buildings.

D. PREFERRED ALTERNATIVE

The proposed solution is to implement a phased project that begins with the concurrent detailed design of the new building and the demolition of the four existing core buildings that have been vacated. This phase will also reroute utilities to open the core site for the new building. The second phase would be the construction of a new 60,000-gsf Classroom/Gym building while the existing Divine High and Hunter Gym remain in service. After completion of the new building, the vacated Divine High School and Hunter Gym will be demolished, and a new sports/PE field will take its place.

E. PROJECT COST

The C-100's for both project phases (Attachment 6.1) identifies the Total Project Costs for the project at $55,934,000 (escalated to mid-point of construction) broken down as follows:

Phase-I Demolition & Site Preparation (rounded)	
Consultant Services	$ 786,000
Construction	$ 4,518,000
Agency Project Administration	$ 87,000
Other Costs	$ 32,000
TOTAL PHASE-I	**$ 5,423,000**

Phase-II Building & Site Development (rounded)	
Consultant Services	$ 1,050,000
Design & Construction	$ 46,689,000
Equipment/FF&E	$ 2,143,000
Artwork	$ 196,000
Agency Project Administration	$ 297,000
Other Costs	$ 136,000
TOTAL PHASE-II	**$ 50,511,000**

Page intentionally blank

SECTION 2 - PROBLEM STATEMENT

A. GENERAL

1. Critical mission and responsibilities

The Washington School for the Deaf (WSD) has provided educational and residential services to students with deafness and hearing loss since 1886. In 2009, with the passage of RCW 72.40.015, the WSD became operationally connected to the Center for Dead and Hard of Hearing Youth (CDHY) a statewide resource committed to ensuring all deaf and hard of hearing students in Washington reach their full potential regardless of where they live or attend school.

The legislative intent of the RCW is to promote the development of communication-rich learning environments for deaf and hard of hearing students. As a key mission element of the CHDY, the WSD is a fully accredited residential school serving students in Pre-K through 12th grade and is the state's only ASL-English bilingual school for deaf and hard of hearing students.

To fully support deaf children's linguistic, cognitive, social and emotional development, WSD provides a comprehensive educational program that includes a commitment to promoting the acquisition, maintenance and study of American Sign Language (ASL) and English for all deaf and hard of hearing children.

2. Aging and ineffective facilities

In recent years, concerns about program effectiveness, student safety, and the physical condition of the school's facilities have focused attention on the lack of capital development on the WSD campus, specifically in the academic and supporting functional buildings. In 2002, as part of a series of studies on WSD, the Joint Legislative Audit and Review Committee (JLARC) found that the WSD campus needed substantial capital investment to effectively accomplish its mission. It stated that many buildings were "older and in various stages of disrepair" and basic infrastructure upgrades were needed. In developing the CDHY, the Legislature noted that over the past fifty years, there have been numerous advances in technology as well as a growing awareness about the importance of delivering services to children in a variety of communication modalities to support their early and continued access to communication. Clearly, they intended that deaf and hard of hearing students have access to the full variety of active-learning spaces and learning technologies provided to most Washington students in the school districts.

Except for the Kastel Building, completed in 2009, and the residential cottages completed in 1999, most academic facilities on campus are outdated or unsafe and do not adequately support the kinds of instruction envisioned by the legislature and defined by the CDHY Strategic Plan. The oldest actively used facility on campus is the Hunter Gym. Built in 1937, the facility has significant seismic weakness which, combined with aged-out mechanical and plumbing systems, poor configuration, and multitude of condition defects, make renovation/rehabilitation difficult and expensive. In their 2006 report on the WSD, the Washington State Institute for Public Policy identified Hunter Gym as Seismically Unstable and identified it to be demolished/replaced.

Divine High School is a single-story wood-framed building completed in 1975. Its construction budget was limited, even for 1974, and it was built with the expectation of a 30-year lifespan. Consequently, its major systems are past their intended service-life. More impactful to the program, its configuration and condition lack the flexibility to become the communication-rich learning environment envisioned by the legislature. The Washington State Institute for Public Policy identified Divine High School as being in poor condition and identified it to be demolished/replaced.

In summary, all the facilities identified in this project for demolition and replacement suffer from one or more of the following deficiencies:

- Seismic risk
- Life/Safety
- Fire protection
- Accessibility
- Hazardous materials
- Poor energy efficiency
- Inadequate electrical systems
- Inadequate mechanical systems
- Poor functionality

Of concern are the four vacant, unsafe, and dangerous buildings at the center of the WSD Campus that were subject of the pre-demolition study in Appendix 6.4. These buildings have significant structural deficiencies, hazardous materials contamination, and are located where nearly all students must move directly adjacent to them to access operational campus facilities.

3. Impact on mission accomplishment

a. Accreditation

Accreditation of the WSD is a critical element to its success. If accreditation is lost, the credibility of the WSD in the eyes of the public decreases. Resource utilization such as campus facilites and technology infrastructure are two indicators within a broad category; WSD's scores in this area will only continue to decrease with time due to the aging buildings and deteriorating campus which could eventually impact their accreditation status.

In its 2015 accreditation visit, the CEASD (Conference of Educational Administrators of Schools & Programs for the Deaf) noted that the WSD facilities met the standard for facilities in support of accreditation. They also identified the need for additional educational facilities to accommodate an academic program that fully reflects the school's mission and that provides the broad range of needed classroom spaces, including technology capabilities. They noted that WSD has several buildings on campus that need to be razed, and some buildings that need to be upgraded.

In their 2014 accreditation visit, the AdvancedED evaluators scored WSD lower (3.0) than the national average score (3.11) on facilities, service, and equipment. They also scored very low on technology infrastructure that can provide access to media, digital resources and information systems for the unique learning needs of sensory-impacted students. They noted the need to improve the technology infrastructure of all academic spaces.

WSD is due for accreditation renewal in 2021.

b. Classroom Environment

An effective classroom that can support ASL education needs to provide deaf students elements to facilitate their learning process and modalities, as much as possible eliminating the obstacles created by lack of hearing and allowing them to have the same access to learning as a hearing student. Classrooms in the Divine High School have inherent deficiencies due to their physical arrangement that does not effectively accommodate issues such variable seating arrangements for visual connectivity, adjustable lighting, the necessary technology infrastructure, acoustics that do not interfere with hearing, as well as operable and quiet ventilation systems. Excessive auditory and visual stimuli in the environment at Divine High School can distract students and reduce their focus on academic tasks.

c. Physical Education/Health Space

All people, regardless of ability, need to be able to participate in physical activity for their physical, social, and emotional health. Extracurricular activities and sporting events are very important for the overall educational and social experience of a child, and this is particularly true in the high school environment. It is important for deaf and hard of hearing students to have access to a gym and activity spaces that accommodate effectiveness in PE and sport pursuits. Just like the classroom environment, communication strategies and instructional techniques for deaf students, including coaching and physical education teaching strategies, require facilities that are not present or are compromised by age and condition in the existing Hunter Gym. These include adjustable lighting, the technology infrastructure, effective acoustic attenuation as well as operable and quiet ventilation systems.

Also impacting the ability to provide physical education to WSD students is the small size of the Hunter Gym which totals only 7,600-gsf. Allowing for a standard basketball court and supporting locker rooms, fitness spaces, etc. a functional gymnasium space for a K-12 school of the WSD size would typically contain 18,000-20,000-gsf (OSPI Prototypical Model, DoDOE guidelines, etc.). The quantity and quality of needed physical education space to support the WSD mission is grossly below standards with the current Hunter Gym.

B. PROJECT OPPORTUNITY

The WSD and CDHY have been attempting to update their teaching facilities for over 20 years. These earlier development proposals have undergone scrutiny and varying levels of support as they move through the review and approval processes. With renewed focus to ensure continued service to the community of deaf students that attend this school, the opportunity of this proposal is to remove the unsafe, unoccupied and dangerous buildings from the center of campus and construct a new school classroom and gymnasium building, which will become the new heart of the WSD campus. This project will result in WSD being able to offer modern educational facilities that provide the broad range of needed learning environments and technical capabilities and systems that fully reflect the school's mission and accomplished the vision of the legislation contained in RCW 73.45.4.

By its physical attachment to the Kastel building and its central campus location, this project will connect classrooms, teaching spaces, and instructional areas with the new gymnasium and existing food service to bring all CDHY students together under a single roof. It will also provide a multi-use sports/soccer field adjacent to the school.

Through this project, deaf and hearing loss students at all grade levels will benefit from having access to environments that are specifically designed and configured to maximize learning opportunities of students

with a wide range of characteristics and needs. These new spaces will eliminate barriers and negative impacts to teaching and learning in an ASL/bilingual environment while supporting academic rigor of the WSD curricula.

The opportunity will also enable the State to provide equivalent classroom and physical educations facilities to all students regardless of capabilities.

C. PROGRAM RESPONSE

In order to address the need to provide modern educational facilities that provide the broad range of needed learning environments and technical capabilities and systems at all grade levels, the proposed project will result in a new academic and gym building totaling 60,000-gsf and serving up to 120-FTE students from Pre-School through 12th grade. The proposed project will also provide space for 44 FTE faculty and staff.

D. PROJECT DRIVERS

Children and youth who are deaf and hard of hearing have significant and unique educational needs. The recent and planned campus development at CDHY is planned to respond to these needs. The residential cottages completed in 2001 were the initial step in providing a modern campus designed from the ground-up to support bilingual deaf education. The renovation of Clarke Hall in 2005 provided for the consolidation of key functions to allow redevelopment of the academic portion of the campus. The last capital development to support this goal was the construction of Kastel Hall in 2010. It provided needed replacement of the food service facilities as well as support and facilities space serving the entire campus.

The replacement of instructional and essential support facilities as proposed in this predesign is the next and most vital step in shaping the future of CDHY and providing the school the facilities it needs to meet its mission.

1. Program Needs

To ensure that the full range of program needs were addressed, the CDHY team undertook a planning process that engaged representatives for all current and potential stakeholders. The planning sessions engaged parent groups, alumni, the local and statewide deaf community, local public schools, educational service districts, community colleges, the neighborhood associations, city and county government, and other state agencies. This wide sourcing of input has been key in shaping the many dimensions of an extraordinary vision for the future of Deaf Education in Washington State. The program needs that the proposed project addresses include:

Student Satisfaction and Safety
Insuring students have a positive experience in the CAMT as well as protecting their health and safety are high priorities.

Flexibility
The facility should provide a high degree of flexibility to accommodate inevitable change in programs, equipment, pedagogy, and technology.

Supporting Multi-level Instruction in Classrooms
Team-teaching is required for different ages and abilities at the same grade level in individual classrooms.

Flexibility in the Learning Environment
One size does not fit all. Instruction, assistive technology and accommodations need to be individually designed and available in all learning environments to help deaf or hard of hearing students use their strengths to become confident, independent and full participants in their educational experiences.

Eliminate Restrictive Environment
The learning environment for bilingual deaf education is restrictive unless it provides full, direct and clear access to meaningful language, communication, instruction and social opportunities designed to meet the individual educational needs of the deaf or hard of hearing student.

Supporting Outreach
The rapid increase in outreach and community-related programs supporting deaf education, such as SW Center for the Deaf, Early Intervention Parent Education Program, and other programs, require dedicated support and lab space, which is not available in the existing school.

Staff Support in the Learning Environment
Centralized staff support space reduces the number of staff positions required for required supervision. Having centralized support staff in a new facility will also promote learning effectiveness through improved communication and decrease the overall non-academic space needed.

Physical Education at all Grade Levels
All people, regardless of ability, need to be able to participate in physical activity for their physical, social, and emotional health. It is important for deaf and hard of hearing students to have the same access to facilities supporting physical education that hearing students have at all grade levels. The small size of the Hunter Gym and its limited support facilities limit the ability to integrated PE into all grades.

Energy and Environment
The project is expected to be a high-performance building attaining LEED Silver certification. Energy saving measures with reasonable life-cycle paybacks should be used (see Section 4. Design Program - Narratives for further sustainability goals and technical requirements). Attention must be paid to internal air quality, especially in the labs (through material selection and mechanical system design).

Active Design
To encourage student and faculty health and wellbeing, the project should encourage movement and healthy activities through strategies such as visible and attractive stairs, wayfinding signage that promotes stair use, and attractive open space.

2. Facility Needs

Condition

Conditional issues with the existing Hunter Gym and Divine High School which negatively impact their ability to meet the stated facilities needs include:

Seismic risk – Exterior walls of Hunter Gym are unreinforced brick masonry which poses significant life safety threats to building occupants. There is visible cracking noted on all exterior walls. In an earthquake, the unreinforced masonry could break apart. This failure would result in loss of support for portions of the roof, possibly leading to collapse.

Inadequate electrical systems –Branch panels are scattered throughout the building and are well past their life expectancy. The power distribution system is not easily renovated and would need to be entirely replaced.

Poor energy efficiency – Neither of the two buildings meet current energy codes as there is no insulation in the unreinforced brick walls and very little in the exterior wall construction of the Divine School. Existing glazed openings are single-pane windows and not energy efficient.

Inadequate mechanical systems – Ventilation and HVAC units are past their useful life and the air distribution system does not meet acoustic requirements for deaf or hard of hearing education.

Features

The facilities where students who are deaf and hard of hearing are educated should include:

- Specialized materials, equipment, and services that provide communication access to the core curriculum.
- Clean, well-lit, and acoustically appropriate classrooms that meet ANSI standards for background noise and reverberation, which is distracting to all learners and detrimental for students with hearing loss. Criterion for maximum ambient noise levels of typical unoccupied classrooms is 35 dBA and; reverberation times .6 seconds or less; many students with special listening needs require reverberation times be reduced up to .4 seconds (Acoustical Society of America ANSI S12.60-2009-10) Any construction should include compliance with ANSI standards.

  When hearing aids/implanted devices and hearing assistance technologies are used by children/youth who are deaf and hard of hearing or when a child/youth with a cochlear implant is in a classroom, special consideration must be given to the control and reduction of ambient noise (background noise that competes with the main speech signal) and reverberation (the prolongation of a sound after the sound source has ceased). Reverberation is caused when sounds reflect off non-absorptive surfaces, such as walls, ceilings, and doors. Excessive reverberation causes a speaker's words to become distorted and difficult for the student to understand.

  Because of the importance of sensory clues, color in a classroom that provides contrasting background facilitates speechreading and reception of sign language.
- Visual emergency warning signals in all spaces. Children/youth who are deaf and hard of hearing often are unable to hear fire alarms. Bathrooms, hallways, offices, and play areas should be equipped with visual emergency warning devices, such as strobe lights or other electrical flashing devices, as an accommodation.
- Sufficient space in the classroom to accommodate individual, small-group, or whole-class instruction as well as the use and storage of necessary special equipment and teaching materials.
- Space for itinerant teachers of the deaf and hard of hearing, speech language pathologists, and other support personnel that is clean, well-lit, acoustically appropriate, and of adequate size for instruction and for storage of instructional materials.
- Private space where parent conferences and IFSP/IEP/504 Plan meetings can be held.
- Antistatic precautions. Reduction of electrostatic discharge should be attempted in any setting where children with cochlear implants are educated. Precautions include antistatic guards, glare guards, or both for computer monitors as well as antistatic computer mats. Plastic playground equipment, plastic furniture, and nylon carpet should be avoided because of the added likelihood of damage to the speech processor from electrostatic discharge.

- Lighting. Children/youth who are deaf and hard of hearing must use their eyes extensively in the educational setting. Non-glare lighting is essential, and large windows must have adjustable window coverings to reduce glare when necessary.
- Technology and teaching equipment. Teachers need immediate access to multimedia equipment in their instructional activities for children/youth who are deaf and hard of hearing children/youth. Because teachers usually face students to communicate, efficient and accessible audiovisual equipment, along with other equipment, is necessary. Specialized equipment, films/DVDs, and materials should be located in the classroom, so they can be obtained quickly.
- Audiological equipment and services. School-based audiology assessment for students who are deaf or hard of hearing students should have access to the following equipment for audiology services:
    - Sound booth equipped with specialized lighting and reinforcement equipment for testing young and difficult-to-test children
    - Audiologic assessment equipment (electroacoustic immittance meter, diagnostic audiometer, electroacoustic hearing aid/FM analyzer with real ear measurement capability)
    - Otoscope
    - Sound level meter or application

3. Facility Goals

To meet their mission and provide effective and engaging learning environments for their students, CDHY must have facilities that are designed and maintained to enhance the provision of instruction and services to meet the unique communication, education, and safety needs of children/youth who are deaf and hard of hearing.

4. Program Impacts

The proposed Academic and Physical Education Project will:

- Remove dangerous and vacant buildings at the heart of campus.
- Replace existing inadequate classroom and support space with technologically supportive spaces designed specifically to support bilingual education of deaf and hard of hearing students.
- Allow consolidation of all grades in a single facility that is directly connected to the Kastel Building and at the heart of the CDHY campus. This will, in turn, provide opportunities for the cost-effective sharing of equipment and teaching/support resources between grades and for the development of innovative new programs to meet the needs of deaf and hard of hearing students. Consolidation will also facilitate per-to-peer learning and student mentors.

5. FTE Projections

WSD students come from all areas of the state to attend school. Students that live outside the Vancouver area are eligible to attend the school's residential program. WSD accepts applications throughout the year and admission to the school is based on approval from the administration.

Since 2007, the enrollment at WSD has varied between 115-FTE to a low of 92-FTE in 2016. It has been increasing in the past two years and it is projected to remain between 110–120 FTE. The proportion of these students in specific grades is estimated as follows:

Preschool: 6-7%
Elementary: 35-36%
High School: 55-58%

E. MISSION SUPPORT

1. Mission

The Washington State Center for Deaf and Hard of Hearing Youth (CDHY) is a statewide resource committed to ensuring all deaf and hard of hearing students in Washington reach their full potential regardless of where they live or attend school.To accomplish its mission, the CDHY focus on three operational components which have the following mission goals:

Washington School for the Deaf: WSD Students are Bilingual, Empowered, Successful for Today and Tomorrow—the BEST.

Outreach Services: Every child, everywhere, everyday receives appropriate instruction that meets their educational, cultural, social, emotional and communication needs.

Professional Development: The knowledge base and learning environment at WSD is a model for the CDHY network of trainers and specialists working throughout the state. This work is done in conjunction with public and private partners.

The overarching theme is providing support for all children residing in the state of Washington to receive the highest level of educational services regardless of where they live and where they choose to attend school – whether at the local district or at WSD. Additionally, support is provided to local districts, children and families regardless of the communication modality the family has selected.

The proposed project supports the agencies mission and strategic plan in several ways:

Goal: WSD is the source from which the outreach network of trainers and specialists derive training and instructional guidelines.
Project Response: With the proposed new project, students, interpreters and teachers will be able to access professional development and direct instruction through virtual or on-site opportunities. The project will support this goal by providing facilities and infrastructure to allow for virtual instruction and training.

Goal: WSD's infrastructure will be able to support all operational technology needs as well as educational technology needs.
Project Response: The proposed new project will provide open, accessible infrastructure providing pathways and access points to the wide variety of technical tools needed for effective ASL/visual instruction.

Goal: Academic staff have the tools, training and support necessary to utilize educational technology effectively within their instruction.
Project Response: The proposed project will provide facilities with access to training in the use of technology to support ASL development in the classroom.

Goal: Establish multi-platform facilities for meetings, webinars, consultations and direct instruction for students and parents.
Project Response: The proposed project will provide facilities with access to training in the use of

technology to support ASL development in the classroom

F. PROJECT NEED

The proposed Academic & Physical Education Building at WSD is needed to insure support deaf children's linguistic, cognitive, social and emotional development in Washington State. This project reflects the CDHY's commitment to support students' development of ASL receptive and expressive skills as well as reading and writing in English and, when appropriate for the child, spoken English. Providing bilingual skills is at the core of the mission of the WSD and is best expressed by Shauna Bilyeu, current WSD Superintendent: https://www.youtube.com/watch?v=L3mMslK3hMM#action=share

- Without this project, the WSD will struggle to provide the strong bilingual foundation that is the key to overall successful educational experience for deaf and hearing challenged students.
- Without this project, WSD students will continue to learn in an environment that is less than effective in providing the flexible, adaptive space and access to technology proven to successfully support student learning outcomes.
- Without this project, WSD students will continue to lack access to the equivalent facilities provided for hearing students of similar age and grade.

G. PROJECT HISTORY

1. History

Historically, the Department of Social and Health Services and predecessor agencies provided oversight of WSD and WSB. Increasing emphasis on their educational role (rather than viewing them as "institutions") led to the establishment of the schools as separate state agencies in 1985, each with an advisory board of trustees. The schools remain independent state agencies under oversight of the governor's office. In 2002, the Legislature authorized the WSD board to direct school policies and procedures.

The CDHY campus has been attempting to update teaching facilities for over 20 years. The development proposals have undergone scrutiny and varying levels of support as they move through the review and approval processes. In 2000, CDHY undertook several planning initiatives that involved WSD staff, a consulting architect, and an education consultant. They produced a predesign report that requested a 98,000-gsf academic and physical education building for the school.

The 2002 capital facilities study conducted by JLARC concurred with WSD's desire to redesign its campus, finding that many buildings were "older and in various stages of disrepair" and basic infrastructure upgrades were needed. The study noted that predesign plans for a new facility included capacity for up to 300 students, more than twice the school's enrollment. JLARC recommended that WSD acknowledge the decline in student enrollment in its capital plans in their subsequent capital requests.

2. Current Request

In 2004, the school set the goal to continue to explore the content, structure, and delivery model of deaf education to students and to the adult population of Washington State using the previous predesign document as the starting point. That exploration resulted in the evolved program and design in this request which totals 60,000 GSF. Even with a larger gymnasium than initially envisioned, this is a total

reduction in proposed area over past requests of 39%. The staff and administration accomplished this reduction by focusing on creating a flexible, responsive facility.

This request also includes an initial project phase to remove the vacant and hazardous buildings in the center of the campus and to reroute utilities to allow for continued service to the remaining campus buildings.

SECTION 3 - ANALYSIS OF ALTERNATIVES

A. ALTERNATIVES CONSIDERED

1. Do Nothing

CDHY has been suffering from the do-nothing alternative for past 20 years. Some progress has been achieved in the construction of Kastel building and other minor campus advancements, however the 2001 Master Plan identified the replacement of classrooms as a key to the success of the deaf student learning environment. No action will continue the status quo of students and teachers getting by with sub-standard facilities.

Advantages

- The option to do nothing does have the lowest first cost.
- Adjacency to other WSD functions will be maintained.

Disadvantages

- Doing nothing will inhibit the WSD's ability to provide effective learning environments to their high school students and PE facilities to the entire K-12 student body.
- Existing inadequate, inefficient, and unsafe conditions would continue.
- Leaving unoccupied and abandoned building on campus presents a safety risk to student, staff, and the public.
- Possible impact on accreditation.
- The haphazard feel of older and empty building will continue to hamper student recruitment.

2. Lease Equivalent Space Off-Campus

In this option, the CDHY would lease off-campus facilities that could provide the needed space. As WSD is a residential campus, this option will require providing transportation between sites. This option will also provide for the demolition of the vacant buildings at the campus core.

Advantages

- The need for capital would be spread over 30-years.
- Least first cost except for the do-nothing option.

Disadvantages

- There is no suitable equivalent space in proximity to the WSD campus requiring a develop and lease option at higher initial costs.
- Finding suitable sized land in proximity to the campus will require a considerable amount of time expanding the overall project schedule.
- Configuring the specific program spaces in a leased facility space would be less efficient than purpose-built requiring a larger gross area than equivalent program in new construction.

- The need to provide transportation between separate sites would increase operational costs and decrease effective learning time for the students.
- Remote location will require duplication of some student services, increasing operating costs.
- Removing Divine High School from the campus would weaken social and aspirational connection to the K-8 students remaining on campus.
- The lack of on-campus physical education and will continue to hamper student recruitment.
- Highest life-cycle cost of all alternatives.
- Long duration.

3. Renovate and Expand on the Existing Campus

In this option, the CDHY would develop a multiple phase project where the existing Hunter Gym and Divine High School are renovated and expanded. It will require a minimum of four construction phases to fully execute. As in option 4, the initial phase will be demolition and site utilities at the four vacant core buildings. The second phase will be a 30,000-sf new addition to Divine School. After this addition is completed, the third phase will be renovation of the existing Divine School and Hunter Gym. The final phase will be reconstruction of the parking lot and construction of the sports field.

Advantages

- Adjacency to other WSD functions will be maintained.

Disadvantages

- The existing high school and gym operations would need to continue during construction as there is no "flex" space on campus to relocate these functions. Construction in very close proximity will have severe negative impact to the learning environment and effectiveness.
- The seismic issues in the Hunter Gym will increase typical remodel costs due to unreinforced masonry, its high volume and long clear-span structure.
- This option will require approximately 10% larger area due to inefficiencies of the existing structures.
- Four-phased construction will stretch the project over multiple biennium leading to greater cost escalation.
- There will be no gym during the renovation and expansion of Hunter Gym.
- The lack of a clear campus front door will persist.

4. Construct new Academic and Physical Education Building on the Existing Campus

In this option, the CDHY would develop a two-phase project where the existing Hunter Gym and Divine High School remain in operation while the older abandoned campus buildings are removed, and a new classroom and gym building is constructed. Occupying the new building, the existing Hunter Gym and Divine High School buildings will be removed, and their portion of the campus developed into a sports/PE field.

Advantages

- Provides new space with purpose-designed spaces supporting ASL/Bilingual education with the flexibility and technology infrastructure needed to support visual-intensive deaf education pedagogy.
- The new gym will have adequate size for a regulation high school court. It will also allow for consolidation of fitness functions that are currently located in unsuitable buildings.
- The new building will have significantly lower operating and energy costs than renovated buildings.
- This option leaves adequate site open to enable construction of suitable outdoor recreations and sports facilities.
- Better adjacency and functional proximity to the rest of the WSD campus by bringing functions into the center of campus.
- Removes hazards of vacant and unsafe building at the heart of campus.
- Enables improvement to below-grade utility infrastructure at the core of campus which was constructed in a disjointed manner over decades as individual projects were developed.
- Shortest duration of all alternatives except do-nothing.
- Lowest overall cost of all alternatives except do-nothing.
- Keeps vehicular circulation to the perimeter of campus.

Disadvantages

- Tight schedule with minimal overlap has potential for schedule slippage.

B. PREFERRED ALTERNATIVE

Alternative 4 is the preferred solution alternative. The proposed solution is to implement a phased project that begins with the demolition of the four existing core buildings that have been vacated. This phase will also reroute utilities to open the core site for the new building. The second phase would be the construction of a new 60,000-gsf Classroom/Gym building while the existing Divine High and Hunter Gym remain in service. After completion of the new building, the vacated Divine High and Hunter Gym will be demolished, and a new sports field and parking area constructed. The following chart indicates the preferred alternative is the highest scoring when scored to desired criteria.

Alternative	Adequacy of space supporting deaf education programs	Quality of learning environment	Flexibility for future program chan	Flexibility for future growth	Proximity to other WSD Activities (Primary School, residences, food	Addresses hazards of vacant/unsafe buildings at	Ease of Student Access	Maintenance/operations cost	Sustainability	First Cost	life-Cycle Cost	TOTAL
Do nothing	1	1	1	1	5	1	3	1	1	5	4	**24**
Lease equivalent off-campus space	2	3	2	1	1	3	2	4	3	2	1	**24**
Renovate and expand current buildings	3	3	4	4	3	4	3	4	3	3	3	**37**
Construct a new Classroom/Gym Building	5	5	4	5	5	5	5	5	4	4	4	**51**
	Scoring is 1-5 with 5 = highest value											

C. COST ESTIMATES FOR EACH ALTERNATIVE

The following table provides a summary comparison of the studied alternatives:

	Alternative/Description	Initial Cost	30-yr Total Cost
1	Do nothing	$ -	$ -
2	Lease equivalent space	$ 26,798,151	$ 117,523,951
3	Renovation and expansion	$ 60,624,000	$ 115,522,201
4	New building	$ 55,934,000	$ 101,030,238

1. Do Nothing

The direct capital cost to do nothing is $0, however the lost opportunity costs from the impact of unrealized FTE increases and the impact on the workforce and local manufacturing economy would be considerable.

2. Lease Equivalent Space

The estimated cost to lease equivalent space in the initial year of a 30-year lease is $26,798,151, which includes the lease and the Phase-I demolition and utilities cost to remove the vacant and hazardous buildings at the core of campus. In addition to direct costs, this option will have significant impact on operating costs due to duplication of services and staffing, transportation of students, and other costs to operate in multiple locations.

3. Renovate and Expand Existing

The estimated cost to remove the vacant and hazardous buildings at the core of campus and renovate and expand the building totals $60,624,000 as detailed on the C-100's provided in Attachment 6.1.

4. New Building

The estimated cost to remove the vacant and hazardous buildings at the core of campus and construct a new Academic and Physical Education building connected to Kastel Hall totals $ 55,934,000 as detailed on the C-100's provided in Attachment 6.1. The suggested model for this alternative is provided in Attachment 6.3.

D. SCHEDULE ESTIMATES FOR EACH ALTERNATIVE

1. Do Nothing

There is no identified time/schedule for this option.

2. Lease Space Off Campus

This option assumes that the proposed demolition of the four vacant and hazardous building at the core of campus would proceed once funding in the 2020 supplemental budget is secured. Given the current market for existing space in Vancouver that would be suitable for a K-12 specialty school, it is estimated that identifying a suitable property would require 12-24 months. Following successful negotiation of terms, it is anticipated that design/build the final TI/Site improvements would require an additional 20-months assuming the start of the lease process cannot begin before July 2021.

- Phase-I Demolition and Utilities: July 2020 – June 2021
- Search and Lease: July 2021 – June 2023
- Design/Tenant Improvements: July 2023 – May 2025
- Completion and Occupancy: June 2024– September 2024

3. Renovate

This option assumes that the proposed demolition of the four vacant and hazardous building at the core of campus would proceed once funding in the 2020 supplemental budget is secured.

- Phase-I Demolition and Utilities: July 2020 – June 2021
- Design of entire project: July 2021 – June 2022
- Selection of GC/CM: December 2021
- Phase-II Construction of Addition: July 2022 – September 2023
- Phase-III Construction of Renovation: July 2023 – May 2024
- Phase-IV Construction of Site and Parking: June 2024 – January 2025

4. Preferred Alternative

This option assumes that the proposed demolition of the four vacant and hazardous building at the core of campus would proceed once funding in the 2020 supplemental budget is secured.

- Phase-I Demolition and Utilities: July 2020 – June 2021
- Selection of Design-Builder: April 2021 – June 2021
- Phase-II Design of entire project: July 1, 2021 – July 2022
- Phase-II Construction of entire project: July 2022 – September 2024

Page intentionally blank

SECTION 4 ANALYSIS OF PREFERRED ALTERNATIVE

A. GENERAL DESCRIPTION

1. Nature of the Project

The proposed solution is to implement a two-phased project that results in the development of a consolidated academic and support building serving all grades and students at the Washington State School for the Deaf.

The initial phase will provide for the removal of four vacant, unsafe, and dangerous buildings at the center of the WSD Campus. These buildings have significant structural deficiencies, hazardous materials contamination, and are located where nearly all students must move directly adjacent to them to access operational campus facilities. As these buildings contain utilities which must remain active for other campus buildings to remain in operation, this phase also provides for relocation/rerouting of critical campus utilities.

The second phase of the proposed project provides for the construction of a new 60,000-gsf Academic and Physical Education Building connected to the west side of Kastel Hall. This project will consolidate all grades in a single building that has purpose-designed learning environments to maximize effective bilingual instruction to deaf and hard of hearing students. The location of this new building will enable the existing Divine High and Hunter Gym to remain in service during construction. After completion of the new building, the vacated Divine High and Hunter Gym will be demolished, and a new sport field and replacement parking will be developed as the final step of the second phase.

The building is programmed to total 60,000 Gross Square Feet (gsf) distributed to the following use categories:

FUNCTION	AREA
Pre-School (Ages 3-5)	600
Elementary School (Grades 1-6)	7,725
Secondary School (Grades 7-12)	14,275
Learning Resource Center (All Grades)	4,900
Commons Areas	1,000
Physical Education & Athletics	14,800
Net Assignable SF	*43,300*
MEP/Walls/Circulation	16,700
TOTAL GROSS BUILDING AREA	***60,000***

2. Occupancy

The project is planned to support the following occupancy groups and numbers:

Faculty (FT)	44
Faculty (Adjunct)	0
Students (FTE)	120
TOTAL	164

3. Configuration

One of the current issues with the WSD campus it that there is no clearly identified main entrance. Public and prospective students don't know where to enter the campus and once they do enter, wayfinding is unclear and made difficult by the vacant buildings gathered at the core. The proposed project seeks to use the new building to effectively "zone" the campus around a central quad that supports student recreation with the Clarke Building housing administration and preforming arts, the Kastel Building providing a multi-purpose and support zone, and the new building forming the academic and cultural core of the campus. The project will include a new main campus entrance and consolidated parking area with the new building as the main face of the campus along the south facing the new entrance/parking.

The proposed Campus Plan forms learning environments clustered around the new library. This plan creates a flexible setting that can readily respond to differing educational needs and a mix of grade levels over time and which allows for future expansion. Careful consideration of internal operations has resulted in efficiencies that reduce the program area and reduce time and staff required to monitor student movement. The campus has been organized to support the efforts of teachers and staff as they strive to deliver the highest quality student learning experience possible.

As the proposed new building will be the new center of campus and will physically connect to the Kastel Building, it will become the new "front door" to the WSD. Featuring an open, welcoming lobby, it will provide a clear sense of place to the WSD community and the public. This configuration also provides increased physical security on the campus using the lobby and administration spaces as a "gate" where visual connection to campus visitors is maximized.

By placing all the school functions in a single building, internal security and efficiency are greatly improved. Physical security is a critical element in the consideration for the arrangement of spaces so that public areas inside and outside the buildings are always in the view of teachers and staff. Having the superintendent's office on the ground floor at the main entry controls public access to the campus and is adjacent to the secondary school supervising principal on the second floor directly above. This arrangement makes both offices readily available to the students, staff and public.

The proposed building will locate administrative and academic spaces in a 2-story "L" configuration wrapping along the west and south sides of the new gymnasium. The building will connect to the west face of the Kastel Building, allowing its large multi-purpose space to open to and support the gymnasium when it is used for large assembly functions. The new Learning Resource Center will also connect to the Kastel Building keeping in proximity to the general support functions located there. This placement allows it to be central to the classroom organization and is part of the Cultural Core that includes the Gymnasium, Multi-Purpose, and Auditorium.

Classrooms will be along the south face of the new building facing the center quad. The lower grades will be placed on the ground floor where they can have direct access to the exterior. Upper grades will be located on the upper floors. Staff support spaces are provided on both levels in the classroom wings to promote effective communication and efficiency of staff size.

4. Space Needs

The following tables show a summary of the functional area required for the WSD Academic & Physical Education Building based upon information provided by staff and analysis of peer institutions:

Area Summary

Preschool (Ages 3-5)					8 Students Maximum
Space Name	**Capacity**	**Quantity**	**Area**	**Subtotal**	**Notes**
Instructional Space	8	1	600	600	60-sf/child
			subtotal	**600**	

ELEMENTARY SCHOOL (grades 1-6)					43 Students Maximum
Space Name	**Capacity**	**Quantity**	**Area**	**Subtotal**	**Notes**
Classroom	9	5	600	3,000	55-sf/child
Life Skills Classroom	9	1	1,000	1,000	
Lobby/Reception	-	1	500	500	
Principal	1-3	1	150	150	Meeting area for 2-3
Curriculum & Assessment	1-3	1	150	150	Meeting area for 2-3
Bilingual Director	1-3	1	150	780	Meeting area for 2-3
Interpreters	4	1	250	250	4 Workstations
Paraprofessionals	4	1	250	250	4 Workstations
Counselors	1-3	1	150	150	Meeting area for 2-3
ASL Office	1	1	100	100	
SLP Offices	1-3	1	150	150	
Physical Therapy	1-6	1	500	500	
Testing	1	1	100	100	
Administrative Workroom	1-4	1	200	200	
Files	-	1	100	100	Secured
Parent/Staff Conference	2-4	2	250	500	
Teacher/Staff Support	2-4	1	250	250	
Teacher/Staff Shower/Lockers	-	2	100	200	Adj. to Support Space
			subtotal	**7,725**	

SECONDARY SCHOOL (Grades 7-12)					69 Students Maximum
Space Name	**Capacity**	**Quantity**	**Area**	**Subtotal**	**Notes**
Classrooms	12	6	800	4,800	55-sf/student
ASL Classroom	12	1	800	800	
Media Instruction Classroom	8	1	500	500	
Heavy Duty Shop	-	1	2350	2,350	
Science Lab	12	1	1,200	1,200	
Science Lab Support	-	1	200	200	Adj. to lab

Art Lab	12	1	1,000	1,000	
Art Lab Support	-	1	200	200	Adj. to lab
Life Skills Lab	12	1	1,000	1,000	
Multipurpose /Collaboration Lab	24	1	1,500	1,500	
Testing	1	1	125	125	
Student Store	-	1	500	500	
SECONDARY SCHOOL (Grades 7-12)					
Space Name	**Capacity**	**Quantity**	**Area**	**Subtotal**	**Notes**
Lobby/Reception	-	1	200	200	
Supervising Principal	1-3	1	150	150	Meeting area for 2-3
Registrar	1	1	100	100	
Interpreters	4	1	250	250	4 Workstations
Paraprofessionals	4	1	250	250	4 Workstations
Psychologist	1	1	100	100	
Social Worker	1	1	100	100	
Counselor	1	1	100	100	
SLP Offices	1	1	100	100	
Administrative Workroom	1-4	1	250	250	
Files	-	1	150	150	Secured
Parent/Staff Conference	2-4		250	250	
Teacher/Staff Support	2-4	1	250	250	
Teacher/Staff Shower/Lockers		2	100	200	
			subtotal	**14,275**	

LEARNING COMMONS					
Space Name	**Capacity**	**Quantity**	**Area**	**Subtotal**	**Notes**
Library/Media	35	1	4,000	4,000	All-grades divided for Elementary/Secondary
Materials Workroom	4	1	300	300	
Librarian	1	1	100	100	
Curriculum Development	4	1	500	500	
Collaboration/Student Council	25	1	1,000	1,000	
			subtotal	**5,900**	

PHYSICAL EDUCATION/ATHELTICS					
Gymnasium	150	1	7,500	7,500	Full-size HS basketball
Spectators	400	1	2,400	2,400	Up to 500
Lockers/Showers	35 (each)	2	900	1,800	
Apparatus Room	6	1	500	500	
Dance/Movement	10	1	500	500	
Weight/Strengthening	10	1	1,000	1,000	
Equipment Storage	-	1	1,000	1,000	
Instruction Office	1	1	100	100	
			subtotal	**14,800**	

SUBTOTAL	**43,300**
Circulation	8,000
Walls & Structure	4,100
MEP Services	4,600
TOTAL BUILDING (GSF)	**60,000**

Guidelines used for space assignments includes faculty input, peer institution, DES Space Allocation Standards, OSPI School Facilities Manual, and guidelines use by the accreditation agencies.

B. SITE ANALYSIS

1. Current Studies

No site or facility studies are currently underway.

2. Site Data

a. **Location**

The Washington School for the Deaf occupies 17-acres located at 611 Grand Blvd, Vancouver, WA 98661.

b. **Site Selection**

The Washington School for the Deaf has occupied this site since 1888. There are no other sites contemplated for this recommended project.

c. **Building Footprint**

The proposed building footprint totals approximately 40,000-sf most of which is the new gymnasium as this space is required to be on the ground floor. The new building will be physically connected to the adjacent Kastel Building along its west elevation. This expansion was originally planned for in the design and construction of the Kastel Building.

d. **Stormwater**

WSD has adopted a stormwater management policy and strategies that mitigate the stormwater runoff of new construction, major renovation, and other projects that increase paved surface area on campus or otherwise significantly change the campus grounds. The policy addresses both the quantity and quality of stormwater runoff. Stormwater management is currently provided by on-site collection, transference and discharged to the city's storm drain system.

All facilities are to be designed in accordance with the City of Vancouver and Washington Department of Ecology standards. Extension of the existing stormwater collection system is anticipated for the new building at the campus core. Planted raingardens are anticipated to filter runoff from new development prior to it being discharged into the city collection main.

The campus soils may be suitable for stormwater infiltration. The stormwater system for the proposed sports field is expected to provide below-grade retention and infiltration. The design of the new parking area will include possible use of bio-retention facilities to provide stormwater treatment for pollution-generating (paved) parking areas. Runoff will sheet flow into planted bioretention areas.

e. **Ownership or Acquisition**
The site is owned by the State of Washington. No acquisition will be required for the proposed project.

f. **Easements**
No easements will be required for the proposed project.

g. **Potential Neighborhood Issue**
The recommended project replaces several existing buildings that are in poor condition. Its internal campus location is not expected to generate any concerns from the neighborhood.

h. **Utilities**

1. Water
Water service is provided by City of Vancouver Public Utilities.

The main incoming water service is an 8" line that enters the campus from East Evergreen Boulevard near the north parking lot entrance. Water capacity is adequate for the proposed project. The existing underground service extends south through the middle of campus between the old Boiler/Laundry/Kitchen/Cafeteria and Kastel buildings, then southeast to the west side of Northrup Elementary School, west along the north edge of the three housing cottages and exits campus at the alternate utility service location on North Grand Boulevard.

This line will need to be relocated in order to clear the center of campus for the new building and to provide continued water services to the existing campus buildings that remain. In Phase-I, it is proposed that the incoming 8" line be intercepted north of the new building location and routed to the east and west around the planned new building, connecting to Clarke Hall to the west and to the lines feeding the cottages to the south. A new line will also be provided from the south point of contact along the east side of the Kastel building to the existing Kastel feed. The east line will ensure that the domestic water on campus has a dual pathway for redundant service.
This new routing will also provide feed to new fire protection/sprinklers in the new building.

2. Power
Primary power is provided by Clark Public Utilities.

Electric service to the campus is provided by two campus 12.47kV services into the site and one utility-pad-mounted transformer for the Kastel building. The medium voltage system is owned and maintained by the Washington State School for the Deaf. There is one medium voltage feeder coming from East Evergreen Boulevard to a pad-mounted 12.47 kV switch at the north side of the site. From the west side of the site, the service originates from North Grand Boulevard. The north feeder serves the Epperson Middle School/Vocation Training building and the Divine High School/Hunter Gym building. The west feeder serves Clarke Hall, the three cottages, the Maintenance/Warehouse building, the Laundry/Kitchen/Cafeteria building and the Boiler building. The utility-pad-mounted transformer on the east side of the site serves the Kastel building and Northrup Elementary School.

3. Natural Gas
   Natural Gas service for the site is provided by Northwest Natural Gas.

   Natural gas service enters the campus from three points. One service supplies the Kastel building and Northrup Elementary School. The second service runs between cottages B and C east and then north across the landscaped fields toward the east edge of the Laundry/Kitchen/Cafeteria building. It is reportedly capped near the Boiler building. There is a tee near the southeast end of the Laundry/Kitchen/Cafeteria building where piping continues to the west to serve Clarke Hall. The third service enters the campus from East Evergreen Boulevard and is routed between the Epperson Middle School/Vocational Training and Divine High School buildings to serve Divine High School. Care will need to be taken to not damage or reroute the section of piping passing between the Epperson Middle School/Vocational Training and Divine High School buildings as this leg may be in the demolition zone during Phase-I.

4. Sewer
   Sanitary sewer service to the site is provided by City of Vancouver. The on-campus side sewers connect to the City mains at the south/lower portion of the site. There are 6-inch lines routed along the east side of Clarke Hall and the west side of Kastel that collect sewerage from Divine, Hunter, Clarke, and the four buildings identified for demolition in Phase-I. All sewer lines serving the four buildings removed in Phase-I will be capped at the south manholes and removed to the north with the demolition of the buildings. The line serving Divine and Hunter will be maintained until completion of Phase-II. Sewer for the new building will be provided by extension of an 8" side sewer from the manhole located in the quad southwest of Kastel.

i. Environmental

1. Green Space
   The proposed project will the reduce the total building footprint on the site by approximately 41,800-sf (demolish 86,500-sf/construct 44,700-sf). Some of this increased open area will be used to increase parking (13,000-sf) but the remainder will be added to existing open green space to create an athletic sports field.

   Removing the older vacant buildings at the campus core will also increase the greenspace north of the cottages, expanding the canter campus quad.

2. Potential Mitigation/Contamination
   The WSD has prepared an AHERA Survey of the existing buildings proposed to be removed in Phase-I. This study noted asbestos-containing and lead-containing material in the existing buildings and in some of the existing underground utilities. Additionally, they also found other hazardous materials including PCB issues with older electrical ballasts. The proposed Phase-I of the project will provide for the abatement of these hazards prior to commencement of demolition. This abatement would also be scheduled over the summer to minimize potential exposure to students.

   While the School has not identified controlled or hazardous materials in the soils within the project site, the campus site has been continuously occupied by a series of buildings since 1888 and there have been occurrences of localized contaminated soils on previous projects. The

project will require the successful contractor to exercise due diligence during site operations to identify and address any suspect contamination in the soils.

3. Wetlands
   There are no wetlands on the project site.

4. Shoreline
   The project is not located on or near any regulated shorelines.

5. SEPA/NEPA Requirements
   The project will require SEPA review and the City of Vancouver will be the determining authority. It is expected to receive a Determination of Non-Significance (DNS) with mitigation after the SEPA review process. The mitigation conditions are assumed to include requiring all site development to comply with the Washington Department of Ecology Stormwater Management Manual for Western Washington as adopted by the City of Vancouver.

j. Parking, Access, Roads

The existing paved parking area east of the Epperson Building provides a total of 85 standard and four accessible parking spaces. During Phase-I, 25 of these spaces will be impacted for rerouting of below-grade utilities and another 40 spaces will be used for contractor staging and routing of trucks removing debris. As this area is currently used for pick-up and drop-off of non-resident students (buses and cars) the contractor will be required to coordinate with the school to maintain adequate area for this function as well as safe student transit from the pick-up/drop-off and the campus during both project phases.

Following the completion of the primary building in Phase-II, Divine and Hunter will be demolished, and a new primary parking lot constructed with a new vehicular entrance from North Grand Boulevard. Additionally, the existing campus vehicle entrance from East Evergreen Boulevard will be relocated west to engage the new parking lot.

At the completion of Phase-II, the new parking area will provide a total of 112 standard and eight accessible parking spaces.

k. Impact During Construction

By executing the proposed project in two phases, the impact to the campus during execution will be minimized. The work in Phase-I is planned to decouple utilities and services from the four vacant and hazardous buidings at the core. As noted above, the biggest impact of Phase-I will be the inability to use all the existing parking lot west of Epperson. It is also proposed to do the major portion of the actual demolition during summer months when the student population is negligible.

Following completion of the primary building in Phase-II, parking and bus access will be further impacted. It is anticipated that drop-off and pick-up may be relocated to the parking lot along the east campus boundary or to the parking lot south of Clarke Hall. Once the new building is occupied a temporary parking area will be located where the sports field will be installed.

C. CONSISTENCY WITH LONG-RANGE PLANS

The proposed development is the culmination of the long-range campus plan for the WSD. It has been a part of the campus develop plans since 2001.

D. CONSISTENCY WITH OTHER LAWS AND REGULATIONS

Design and construction shall also adhere to the latest applicable codes, unless stated otherwise. The general applicable codes include:

- 2018 International Building Code as adopted by the City of Vancouver
- 2018 International Fire Code as adopted by the City of Vancouver
- 2018 International Mechanical Code as adopted by the City of Vancouver
- 2018 Uniform Plumbing Code as adopted by the City of Vancouver
- 2018 National Electrical Code
- 2018 International Fuel Gas Code
- ANSI A17.1 - Safety Code for Elevators and Escalators
- ICC/ANSI A117.1-2009 Accessible and Usable Buildings and Facilities
- 2018 Washington State Energy Code (WSEC)
- Washington State Ventilation and Indoor Air Quality Code
- City of Vancouver Public Works, Land Use and Development Codes and Standards
- Clark County Public Works Stormwater Regulations

1. High-Performance Public Buildings
   The CDHY is committed to creating high performance facilities that will ensure the optimal health and productivity of occupants and buildings users. The CDHY will register the project with the U.S. Green Building Council under version LEED Version 4.1. It is anticipated that the project will achieve certification to LEED Silver by the United States Green Building Council (USGBC) in accordance with Chapter 39.35d RCW "High Performance Public Buildings". The design will be a building that cost effectively conserves energy and water.

2. Greenhouse Gas Emissions Reduction
   WSP has an ambitious Greenhouse Gas (GHG) reduction goal of realizing a 15% reduction in GHG emissions below 2005 levels by 2020. To assist this goal, the new Classroom/Gym Building will be designed to meet at least seven of the Best Practices to reduce greenhouse gas emissions, including:

   - Above-code HVAC system efficiency
   - Utilize natural gas instead of electricity for heating
   - Post occupancy commissioning
   - Time-of-day and occupancy-programmed lighting
   - Energy-efficient lighting
   - Roofing materials with high solar reflectance and reliability
   - Solar power-generation

3. Archeological and Cultural Resources
   In their 2008 review of the earlier project submissions, the state Department of Archeology and Historic Preservation (DAHP) determined that the WSD campus was eligible for listing in the National Register of Historic Places as a historic district. Following this determination, DES, WSD, and DAHP agreed to a Memorandum of Understanding (MOU) (see Appendix 6.2) that prior to demolition of the identified buildings, the WSD would:

- Prepare a NRHP Multiple Property Documentation (MPD) Form focusing on the life and architectural work of Donald J. Stewart.
- Prepare a NRHP nomination for the Northrop Elementary School.
- Conduct a Level II Mitigation Documentation of the historic buildings on the WSD campus.

The WSD prepared the requested MPD, Northrop Elementary School NRHP nomination, and Level II Mitigation Documentation and submitted these documents to DAHP.

An updated version of the 2008 documents will be prepared prior to Phase-I and submitted to DAHP as conditioned in the MOU. The final mitigation documentations will be retained by DAHP and the Washington State Archives. Copies will be submitted to the Clark County Museum in Vancouver and the WSD. The Vancouver-Clark County Historic Preservation Commission will be kept apprised of the ongoing efforts.

4. ADA
The design will be required to comply with Chapter 11 of the IBC – Accessibility will meet all the requirements of ICC/ANSI A117.1-2009 Accessible and Usable Buildings and Facilities. To the maximum extent possible the tenets of Universal Design will be applied. The detailed design will be reviewed by the State Facility Accessibility Committee for access.

As the primary users of the building are deaf or hard of hearing detailed design of the project must seek to incorporate DeafSpace Guidelines developed by the DeafSpace Project of Gallaudet University which include more than 150 different architectural elements that should be considered when designing space to be used by Deaf people.

5. Compliance with Regional Planning
In obtaining Land Use Permit from the City of Vancouver, the CDHY will demonstrate GMA Compliance for the project as required under RCW 36.70A.

6. Additional Information per RCW 43.88.0301 (1):

   a. Is the proposed project identified in City of Vancouver comprehensive plan?
   NO

   b. Is the proposed project located within an adopted urban growth area?
   NO

   c. If located within an Urban Growth Area, does the project facilitate, accommodate, or attract planned population and employment growth?
   NO

   d. Was there regional coordination during project development?
   YES

   e. Is the project leveraged with local and or additional funds?
   NO

   f. Have environmental outcomes and the reduction of adverse environmental impacts been examined?
   YES. They will be further developed through the SEPA Process.

E. DEFERRED ISSUES STUDY

There are no known deferred issues requiring further study.

F. COMPONENTS EXCEEDING CODE

This project will require the following that are identified as exceeding current code-minimums:

1. The Energy Reduction Goal for the project is to provide a system that results in a 20% reduction below (better than) the 2018 Washington State Energy Code (WSEC). The goal will exclude the energy used in the various labs which will be isolated by additional sub-metering.

G. IT SYSTEMS

This project is a teaching facility located on a campus with existing IT systems. It will have a robust IT and telecommunications network internal to the building and interconnected to the campus main distribution. Costs for the proposed systems are identified in the budget documents included herein and will be further reported in detail per RCW 43.88.030 as the project progresses. The proposed project is not classified as a major information technology projects per RCW 43.88.092. None of the proposed IT systems apply to business and administrative applications nor are they enterprise-wide, thus are not subject to RCW 43.105.205.

H. BUILDING COMMISSIONING

Commissioning services will be required per the Washington State Energy Code and as necessary to achieve both fundamental and enhanced commissioning LEED Credits. An Independent Commissioning Authority will be required to direct the enhanced commissioning requirements for LEED version 4.1. The Commissioning Authority will review design documents and make recommendations during the program phase, design phase, construction phase, acceptance phase, and post-acceptance phase. Installation verification will be performed, functional testing, and performance period of measurement and verification. Commissioning documents will be provided during design, process, verification, and operation and maintenance documents.

In conjunction with commissioning, a detailed operational training program for the WSD staff will be included in the project to ensure local personnel have the knowledge to operate and maintain the advanced controls to maintain the target high level of efficiency.

I. IMPACT OF FUTURE PLANNING/PHASING

There are no other plans relating to future phasing or expansion of the proposed building. Within the building, the design will seek to maximize flexibility to accommodate future change without requiring major system or structural redesign.

J. PROJECT DELIVERY METHODOLOGY

1. Alternatives Considered

The WSD evaluated three methods of project delivery for the planned new Academic/Physical Education Building:

Design Bid Build

- Design Bid Build is used to procure most public works in Washington State and all previous projects at the WSB.
- The process encourages price competition.
- Responsibility criteria may be utilized to ensure that a qualified contractor is awarded the project.
- The WSD is experienced with this delivery type.

GCCM (General Contractor/Construction Manager)

- GCCM may be utilized on projects with construction costs of $10 million or more where early involvement of the contractor is a benefit in terms of scheduling, phasing, or coordination, construction at an occupied facility; a complex or technical work environment; or specialized work on a building that has historic significance.
- GCCM may involve increased costs for design fees related to working with the contractor and preparing multiple bid packages; and for the GCCM risk contingency.

Design-Build

- Design-Build may be utilized on projects with construction costs of $2 million or more where construction activities are highly specialized; there is an opportunity for greater innovation or efficiencies between the designer and the builder; or significant savings in project delivery time would be realized.
- Design-Build may involve increased costs due to the effort to prepare the RFQ/RFP, stipends for competitors in the RFP phase and the ongoing participation of programming consultants.
- Design-Build may not provide the depth of design/programming interface needed in a building where multiple program needs may be competing for fixed area or assets.
- Design-Build with a guaranteed maximum price (GMP) places much of the decision making on the Design-Builder where cost may be the primary consideration and may not provide the anticipated level of quality.

2. Recommended Project Delivery

As the scope for the Phase-I demolition is clearly known and of relatively simple complexity, it can be most effectively executed using design-bid-build delivery.

Phase-II requires interconnecting the new work to an existing building that must remain in continuous operation. Delivery using design-build process offers better opportunity for addressing project complexities – site safety and accelerated execution. For these reasons, it is recommended that Phase-II be executed using design-build delivery.

3. Agency Management

It is anticipated that DES will provide direct management of the Phase-I D-B-B and Phase-II D-B

Procurement and subsequent project delivery from inception to the end of the one-year performance guarantee/warranty period. The WSB will be represented in the process by their Facilities Director.

The roles and responsibilities are anticipated to be:

Predesign:

WSD Facilities Team:
- Assists in consultant selection
- Coordinates stakeholder participation
- Participates in detailed programming
- Reviews and approves detailed programming and budget

DES Project Manager:
- Directs consultant selection
- Manages consultant contract
- Assists agency in review and approval of programming and budgets

Consultant:
- Provides Predesign services per agreement

Pre-Construction:

WSD Facilities Team:
- Participates in periodic meetings
- Provides design decisions including program adjustments to achieve budget
- Approves design and estimates at 35%, 60% and 95%

DES Project Manager:
- Manages consultant contract
- Assists agency in review and approval of programming and budgets

Design-Builder:
- Provides design and pre-construction services per agreement

Construction:

WSD Facilities Team:
- Participates in periodic construction meetings
- Provides construction decisions including field adjustments and change orders

DES Project Manager:
- Manages contract
- Monitors quality and schedule
- Advises agency in all matters related to the construction

Design-Builder:
- Provides construction services per agreement

Commissioning:

WSD Facilities Team:
- Participates in system commissioning
- Attends operating instruction

DES Project Manager:
- Coordinates selection and contracting of commissioning agent
- Monitors both commissioning agent and design consultant
- Advises agency in all matters related to acceptance of systems

Design-Builder:
- Provides support to the commissioning agent services per agreement

Warranty:

SD Facilities Team:
- Identifies warranty issues
- Notifies consultant of needed warranty repairs

DES Project Manager:
- Assists in obtaining warranty repairs

Design-Builder:
- Executes warranty repairs

K. SCHEDULE

1. Milestone Dates

a.	Predesign Completion	01/1/19 - 07/1/19
b.	Phase-I Budget Request	07/1/19 – 12/01/19
c.	Phase-I Consultant Selection	04/1/20 – 07/01/20
d.	Phase-I Design	07/1/20 – 12/01/20
e.	Phase-I Demolition/Site Prep	01/1/21 – 06/01/21
f.	Selection of Design-Builder	04/1/21– 07/01/21
g.	Pre-Construction/Design	07/1/21 – 07/01/22
h.	Phase-II Building Construction	07/01/22– 03/01/23
i.	Phase-II Substantial Completion	04/01/23
j.	Relocation	07/01/23 - 09/01/23
k.	Phase-II Building Occupancy	09/01/23
l.	Phase-II Site Construction	08/01/23– 03/01/24
m.	Phase-II Site Completion	04/01/24

2. VE and Constructability

Phase-I scope is of limited complexity and will not benefit from a separate VE or Constructability review. As Phase-II will be delivered under alternative procurement, the selected Design-Builder will be responsible for both value-engineering and constructability in preparation for their GMP.

3. Potential for Delay

The project has would have significant delay potential if Phase-I scope is not is not funded in the 2020 Supplemental Capital Budget.

4. Permitting or other Ordinances Potential Schedule Impact

The City of Vancouver was contacted during the Predesign Phase and indicated that permitting would be straightforward for this project as its use is permitted outright in the underlying zone. No extraordinary permit or ordinance compliance issues are anticipated.

5. Jurisdictional and Stakeholder Involvement Plan

The Design-Builder will be required to hold programming and design sessions with the user groups through detailed design conferences, and project reviews will be held at the concept, schematic, and design development phases. Regular (every-other week) progress meetings will be held by the Design-Builder and the WSD as the design and construction progresses. The Design-Builder will have the responsibility to establish regular on-site inspections with the Vancouver Building Inspector and all other authorities having jurisdiction over the project.

Page intentionally blank

SECTION 5 PROJECT BUDGET ANALYSIS

A. Cost Estimate

1. Major Assumptions

Following are the major findings and/or assumptions that form the basis of the estimate for the preferred alternative. See Attachment 6.1 for full elaboration of the basis of cost.

Site/Civil:

- The existing vacant and abandoned buildings at the core of campus will be abated of hazardous materials and demolished as outlined in the Pre-Demolition Study in Attachment 6.6.
- Existing utilities at the campus core will be revised and rerouted as outlined in the Pre-Demolition Study in Attachment 6.6.
- The existing stormwater system is adequate for use.
- Sanitary sewer, domestic and fire protection water are available at the site. New 6-inch sewer service connections will be provided to the existing 8-inch private sewer main south of the proposed building.
- Natural gas will be piped to the building from a connection at the main and distributed to the heating water boilers and the domestic hot water heater.
- Anticipated TESC measures include catch basin protection and perimeter protection with straw wattles or a similar Best Management Practice (BMP).
- Dewatering (SSPTD). The SSPTD permit must be obtained prior to building permit approval.
- Total disturbed area will exceed 1 acre; therefore, the project will be required to apply for coverage under the National Pollution Discharge Elimination System (NPDES) permit through the Department of Ecology.
- Landscape improvements include ground covers, low shrubs and columnar trees along the south, west sides of the building.
- The new soccer field will be natural grass with contour and subsurface appropriate for drainage.
- Parking lot will be 4" asphalt over 4" prepared subgrade. Surface drainage to rain gardens will be provided for stormwater quality and quantity control.

Landscape:

- In general, landscape improvements will include native trees, shrubs, and ground cover at disturbed areas of the site, with focus around the public perimeter of the primary facility. Plantings will be drought tolerant and low maintenance.
- Permanent irrigation systems, if employed, will be low-water-use-type and limited in scope to primary public areas.
- Landscape work will include perimeter plantings at the site boundary (around parking areas) to meet City of Vancouver standards.

Architectural:

As the planned life of the building is 50+ years, proposed building materials and systems have been selected based on durability, ease of maintenance, appropriateness, and initial cost.

- Interior
  - New interior walls, finishes, doors, and systems will be GWB over metal studs at 16 inches on center. Wall finishes will be durable and easy to maintain. Primary finish will be painted.

- An isolated wood gymnasium floor will be provided in the gymnasium.
- Corridors should be short to control running. Extra width in halls, entries, etc. as signing between people walking together requires more space than verbal communication. 8' width is ok, 10' is optimal.
- Visual signal systems are needed throughout the classroom. Include strobe for instructor to get attention of students or overhead light switch near instructor. Avoid conflict with fire alarm strobes. Visual doorbells, and telephone where appropriate.
- Acoustics: Control of vibration and noise in the building is critical to creating effective learning environments for deaf and hard-of-hearing students. The new building will be designed to provide acoustic controls including:
  - Lower reverb time needed, less than 1 second; ambient level less than 20 db.
  - HVAC systems critical for vibration and noise; low velocity air flow desirable.
  - Structure-borne sound a problem; concrete structure is desirable.
- ASL is a visual language and line of sight, lighting, pattern, and color are all elements which can impact clarity of visual communication. The design will seek to incorporate DeafSpace Guidelines including the following:
  - 45-degree cut-off sight line for student/instructor interaction angle.
  - Provide rectangular classroom shape for maximum flexibility of seating.
  - Open classroom environment is not desirable (moveable walls between classrooms); too many visual and acoustic distractions.
  - Should maintain visual openness for variety and supervision.
  - Carpet should not have straight lines, particularly in corridors as this creates visually confusing background.
  - Minimize columns to facilitate signing; columns can cause visual conflicts.
  - Two-story spaces facilitate signing communication between floors.
  - Privacy is an issue in open spaces since signing can be read from long distances unlike voice.
  - Lighting in the learning environment for deaf and hard of hearing students is critical as you need to see entire face for speech reading.
    - Diffused light desirable
    - Avoid back-lighting from windows
    - Prefer interior classrooms with no outside windows; windows ok if skylight or clerestory (high on wall)
    - Natural light provides good visual break in hallways or atriums
    - North exposure preferred
    - Prefer gray glass to reduce glare and retain color
  - Color in the learning environment for deaf and hard of hearing students can also impact communications. Colors of walls should be neutral in instructional areas; brighter colors OK in non-instruction areas
- A new fire protection service will be provided with approved backflow devices. The building will be protected with a complete wet sprinkler system. Dry pipe systems will be used where sprinklers are subject to freezing (e.g. outdoor canopies).

- Exterior

  The exterior wall materials for the building will be compatible with the context of the adjacent Kastel Building as the new building will physically connect to it.
  - Brick, metal and glass will form the major exterior material palette to relate to the adjacent Kastel Building.
  - Windows and storefront with thermally broken aluminum frames with color-anodized-aluminum finish will be used. Glazing will consist of clear or lightly tinted insulating glazing units with hard coat low emissivity (Low-E) coating.
  - New roofing at the gym will be standing-seam metal.
  - Roofing over the classrooms will be single ply membrane and thicker insulation will be added to comply with current codes.
  - Skylights will be diffused, and clearstories provided to allow effective daylighting without glare. Wood soffits may be provided to complement structural framing.
  - South-facing windows will have exterior louvers for glare control.

Structural:

- New Foundations: Conventional spread and continuous concrete footings, bearing directly on grade or compacted structural fill. With a bearing capacity of 3000 psf.
- The primary structural system will be steel framing with light-gauge steel infill framing.
- Open-web steel trusses will provide clear-span at the high-volume gymnasium space.
- Seismic Resistance: The new metal deck roof and composite metal/concrete floor will act as diaphragms that will transfer the loads to steel-braced frames or buckling-resistant frames.
- Interior slabs at grade will consist of conventional reinforced concrete slabs. Slabs will be reinforced for temperature and shrinkage effects and special point loads where required, and control and isolation joints will be placed to control cracking. Slabs will be placed over a vapor barrier and capillary water barrier consisting of a clean aggregate. Typical slabs on grade shall be 4 inches thick.
- The roof decking will be a galvanized steel deck welded to open web steel joists or wide flange steel beam joists. Continuous wide flange girders supported by square or rectangular steel tube columns will support the joists and trusses. The roof will need to support the roof live load or snow load, dead load and any suspended collateral loads. Unbalanced snow and drift and sliding loads shall also need to be considered. The roof will need to be designed as a diaphragm for lateral loads.
- The elevated floors in the main building will consist of concrete reinforced with welded wire mesh cast on composite metal deck. The composite metal deck will be welded to composite wide flange steel floor joists. The floor joists will be supported by continuous steel wide flanged girders supported by the tube columns. The floors will support the dead loads, any collateral loads and the live loads. They shall be designed as diaphragms for lateral forces.
- Lateral forces from wind and earthquake forces will be resisted by a continuous system from the roof down to the foundation. The forces at the floor and roof levels will be resisted by the floor and roof diaphragms, which will span horizontally. These diaphragms will have continuous chords and collectors bounding the diaphragm perimeters and connected to steel-braced

frames. The collectors transfer the loads to the diagonal-braced frames which transfer the lateral forces to the foundation and then to the supporting soils.

Mechanical:

- The proposed building will be served by three air handling systems. The gym will be served from a single-zone variable air volume air handler. The classroom/flex area will be served by a variable air volume air handler with hot water terminal units for zone temperature control. IT rooms and other high heat load areas will be served from stand-alone cooling units.
- The existing Oliver Kastel Building has two sets of heating and chilled water pipes for future, 6-inch-valves, capped and ready to connect to and through to the proposed new building. There has been space allocated within the existing Kastel mechanical spaces for the addition of equipment necessary to serve the new building including, cooling towers, boilers, modular chillers and pumps, all to be provided to meet the needed capacity.
- The building will be fully sprinklered for fire protection.
- To achieve LEED Silver certification, the proposed project will explore the following energy-saving systems:
    - More efficient HVAC performance
    - Reduced lighting power
    - Enhanced lighting controls
    - On-site supply of renewable energy
    - Provisions of a dedicated outdoor air system (DOAS)
    - High-efficiency service water heating
    - Enhanced envelope performance
    - Reduced air infiltration
- Domestic hot and cold water will be provided to the CCDHY building with approved backflow devices and piped to the plumbing fixtures as required. These include toilet room fixtures, electric water coolers, locker room showers, janitor's closets, and exterior hose bibs. Domestic hot water will be generated by a gas-fired storage water heater located in the mechanical room. Domestic hot water will be recirculated.

Electrical:

- Normal power service to the new building will be provided from WSD existing electrical infrastructure, sourced from the existing Oliver Kastel Building directly to the east. As part of the Kastel Building, conduit infrastructure was provided from the Main Distribution Panel (MDP) in the Main Elec Room to an underground vault at the building's west exterior. Refer to site plan shown here for approximate vault and conduit infrastructure location. The new building normal power service is anticipated as follows:
    - 1,000A and 400A, 3-pole circuit breakers to be installed in existing space within Kastel MDP.
    - 1,000A and 400A, 480Y/277V, 3-phase, 4-wire copper feeder conductors installed from existing Kastel MDP to new CDHY Main Elec Room (exact location to be determined), via existing underground conduit and vault. Underground raceway, (8)-4"C, is required to be extended from the existing vault location to the CDHY Main Elec Room location.
    - The two new feeders shall terminate on two separate Main Distribution Panels within the CDHY– one 1,000A and one 400A.

  - These two MDPs will distribute power to the entire CDHY building, which will include step-down 208Y/120V distribution transformers and branch panel equipment.
- Like the normal power service, emergency and optional standby power service will be provided from WSD existing electrical infrastructure, sourced from the existing Oliver Kastel Building. As part of the Kastel project, conduit infrastructure was provided from the Kastel Emergency/Standby Distribution Panel (ESDP) in the Main Electrical Room, to an underground vault at the building's west exterior. Refer to site plan shown here for approximate vault conduit infrastructure location. The new building emergency and standby power service is as follows:
  - 250A, 3-pole circuit breaker to be installed in existing space within Kastel ESDP.
  - 250A, 480Y/277V, 3-phase, 4-wire copper feeder conductors installed from existing Kastel ESDP to new CDHY Main Elec Room (exact location to be determined), via existing underground conduit and vault. Underground raceway, (1)-4"C (power) and (1)-2"C (control), is required to be extended from the existing vault location to the CDHY Main Elec Room location.
  - The new feeder shall terminate at a new CDHY Emergency/Standby Dist. Panel (ESDP) in the CDHY Main Elec Room. This ESDP will be provided with two (2) feeder circuit breakers, plus one (1) spare – one (1) 70A to feed Emergency ATS, one (1) 150A to serve Standby ATS, and one (1) 100A spare.
  - The 100A, 480V/4-Pole emergency ATS and downstream 480V branch panel, distribution transformer and secondary 208V branch panel shall be located within a dedicated fire-rated room. The emergency branch will provide backup power to egress lighting, exit signs and fire alarm equipment.
  - The 150A, 480V/4-Pole standby ATS and downstream 480V branch panel, distribution transformer and secondary 208V branch panel shall be located within the CDHY Main Electrical Room. The standby branch will provide backup power to building systems, equipment and program elements requiring backup power as determined by the Owner.
- Photovoltaic (PV) panels will be explored. As a minimum, the infrastructure for a future PV Array will be included. Any PV panels will be connected in series to rapid shut off combiner boxes on the roof. DC power from the rapid shut off combiner boxes will be routed to DC/AC inverters. The supports for the PV array will be designed so that they are separate from the array and will allow replacement of panels without impacting the roof membrane.
- Lighting will be LED with daylight zoning and continuous dimming.

Technology/Telecommunications:

- An Analog Addressable Fire Alarm (FA) system will be provided. With this system, each device has a unique address and is polled every few seconds. The devices will include smoke and heat detectors, strobes and combination speaker/strobes, manual pull stations, door holders/closers, tamper and water flow switches, and control relays.
- A Visual Public Address System will be provided throughout the facility.
- CATV distribution system will be provided throughout the facility.
- Extension of the existing campus Wireless Clock System is anticipated to include new repeater/transmitter within the CDHY building, as well as clocks distributed throughout the facility.

- The communications cabling system shall be designed to conform to the requirements of TIA-568, Generic Telecommunication Cabining for Customer Premises Standard. Cabling will be Cat-6a.
- A new Main Point of Presence will be established within the new building connected via fiber and copper to the campus system. It is anticipated that fiber and copper will be required to the Kastel Building MDF. Telecommunications pathways and spaces will be designed and installed in accordance with ANSI/TIA/EIA and WSD standards. Cable tray is anticipated throughout the building for horizontal cabling distribution. A minimum of two network cables are anticipated to each outlet location.
- The credentialed access control system currently in use on campus shall be expanded to cover doors in the building.
- Instructional Media will consist of in-classroom audio-visual systems and equipment. Assisted listening systems will be provided for all classrooms, meeting and assembly spaces.

2. Summary of Costs

Following is the major Uniformat Costs estimated for the both the Phase-I and Phase-II Construction (Preferred Alternative) escalated to the mid-point of construction per the attached C-100 forms:

Uniformat System (level 2) for Phase-I Demolition & Utilities ***(Design-Bid-Build)***		**Total**
F. Special Construction & Demolition		
	F20 Selective Demolition	$ 1,704,585
G. Building Sitework		
	G10 Site Preparation	$ 367,475
	G20 Site Improvements	$ 219,267
	G30 Site Civil/Mechanical Utilities	$ 466,470
	G40 Site Electrical Utilities	$ 297,608
Direct Construction Cost Subtotal		**$ 3,055,405**
General Conditions		$ 579,179
Overhead & Profit		$ 153,648
Maximum Allowable Construction Cost (MACC) TOTAL		**$ 3,788,232**

	D30 HVAC	$	2,616,728
	D40 Fire Protection	$	327,091
	D50 Electrical	$	3,116,985
F. Special Construction & Demolition			
	F10 Special Construction	$	891,483
	F20 Selective Demolition	$	-
G. Building Sitework			
	G10 Site Preparation	$	1,422,475
	G20 Site Improvements	$	2,457,525
	G30 Site Civil/Mechanical Utilities	$	636,006
	G40 Site Electrical Utilities	$	654,712
	G60 Building Demolition	$	538,734
	Offsite Improvements	$	623,535
	Temporary Construction & Phasing	$	484,446
Direct Construction Cost Subtotal		**$**	**29,876,402**
General Conditions		$	3,534,427
Design & Engineering		$	3,917,218
Design-Builder Overhead & Profit		$	1,804,357
Maximum Allowable Design & Construction Cost (MDACC) TOTAL		**$**	**39,132,404**

3. C-100

The C-100's for both project phases (Attachment 6.1) identifies the Total Project Costs for the project at $55,934,000 (escalated to mid-point of construction) broken down as follows:

Phase-I Demolition & Site Preparation (rounded)

Consultant Services	$ 786,000
Construction	$ 4,518,000
Agency Project Administration	$ 87,000
Other Costs	$ 32,000
TOTAL PHASE-I	**$ 5,423,000**

Phase-II Building & Site Development (rounded)

Consultant Services	$ 1,050,000
Design & Construction	$ 46,689,000
Equipment/FF&E	$ 2,143,000
Artwork	$ 196,000
Agency Project Administration	$ 297,000
Other Costs	$ 136,000
TOTAL PHASE-II	**$ 50,511,000**

B. PROPOSED FUNDING

Phase-I is anticipated to be funded by the 2020 Supplemental Capital Budget. The balance of the projected Total Project Cost is planned in the 2021-23 Capital Budget.

C. FACILITY OPERATIONS AND MAINTENANCE

1. Operating Budget Impact

Annual cost impacts include custodial, utilities, technology, capital maintenance, general repair and furniture/equipment replacement, walkways, landscaping & grounds maintenance, security and administration costs for the new space added to the campus through the project. As the project is a 60,000-gsf building which replaces 36,000-gsf in Divine Hall and Hunter Gym, the new increase in space on the WSD campus is 24,000-gsf.

The operation and maintenance budget impacts for the added new space is estimated to total $222,000 annually or $9.25 per square foot of new area. Project impact on the WSB's annual operating budget is as follows:

O&M Category	FTE's	Annual Cost/Unit	Quantity	/ Unit	Est. Annual O&M Cost
Janitorial	0.5	$1.77	24,000	/ GSF	$42,480
Utilities	0	$1.83	24,000	/ GSF	$43,920
Technology - Infra. &Tech. Support	0.13	$2.20	24,000	/GSF	$52,800
Capital Maint./Repair	0.25	$2.43	24,000	/ GSF	$58,320
Roads and Grounds	0	$0.62	24,000	/ GSF	$14,880
Security	0	$0.25	24,000	/ GSF	$6,000
Administration	0	$0.15	24,000	/ GSF	$3,600
		TOTAL ANNUAL M & O COSTS			**$222,000**
TOTAL M & O	**0.88**			**$9.25**	**Per GSF**

2. 10-year Capital and Operating Costs

The 10-year forecast of Maintenance and Operations costs for the new Academic and Physical Education Building is as follows:

		Biennium				
O & M Category	***Annual Cost***	***2021-23***	***2023-25***	***2025-27***	***2027-29***	***2029-31***
Janitorial	$ 42,840	$ 91,026	$ 96,706	$ 102,741	$ 109,152	$ 115,963
Utilities	$ 13,920	$ 29,577	$ 31,423	$ 33,384	$ 35,467	$ 37,680
IT/Tech. Support	$ 52,800	$ 112,189	$ 119,190	$ 126,628	$ 134,529	$ 142,924
Repair/Maint/Replace	$ 58,320	$ 123,918	$ 131,651	$ 139,866	$ 148,593	$ 157,866
Roads & Grounds	$ 14,880	$ 31,617	$ 33,590	$ 35,686	$ 37,913	$ 40,278
Security	$ 6,000	$ 12,749	$ 13,544	$ 14,389	$ 15,287	$ 16,241
Administration	$ 3,600	$ 7,649	$ 8,127	$ 8,634	$ 9,172	$ 9,745
TOTAL		**$408,727**	**$434,231**	**$461,327**	**$490,114**	**$520,697**

The forecast is based on the annual estimates for the new space noted above escalated at 3.12% per year.

D. FF&E COSTS

1. Equipment

The C-100 budget includes $810,000 for new and academic and physical education equipment A-V/Instructional Media in classrooms. It also will provide for telecommunications, IT, and computers.

2. Furnishings

The C-100 budget includes $1,662,000 for classroom, office, and shared study/support space furnishings.

Page intentionally blank

APPENDIX 6.1

Budget Estimates

C-100 for Alternative#4 (Preferred)

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Agency	353 - Center for Deaf and Hard of Hearing Youth
Project Name	Academic & Physical Education Building - Phase-I: Demolition & Utilities
OFM Project Number	30000036

Contact Information	
Name	Shauna Bilyeu
Phone Number	(360) 418-0402
Email	shauna.bilyeu@cdhl.wa.gov

Statistics			
Gross Square Feet	0	MACC per Square Foot	
Usable Square Feet	0	Escalated MACC per Square Foot	
Space Efficiency		A/E Fee Class	B
Construction Type	Schools (primary and se	A/E Fee Percentage	12.06%
Remodel	Yes	Projected Life of Asset (Years)	50
Additional Project Details			
Alternative Public Works Project	No	Art Requirement Applies	No
Inflation Rate	3.12%	Higher Ed Institution	No
Sales Tax Rate %	8.40%	Location Used for Tax Rate	Vancouver WA
Contingency Rate	10%		
Base Month	June-18		
Project Administered By	DES		

Schedule			
Predesign Start	December-18	Predesign End	July-19
Design Start	July-20	Design End	December-20
Construction Start	January-21	Construction End	June-21
Construction Duration	5 Months		

Green cells must be filled in by user

Project Cost Estimate

Total Project	**$4,993,127**	Total Project Escalated	**$5,423,477**
		Rounded Escalated Total	**$5,423,000**

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Agency	353 - Center for Deaf and Hard of Hearing Youth	
Project Name	Academic & Physical Education Building - Phase-I: Demolition & Utilities	
OFM Project Number	30000036	

Cost Estimate Summary

Acquisition			
Acquisition Subtotal	**$0**	**Acquisition Subtotal Escalated**	**$0**

Consultant Services			
Predesign Services	$0		
A/E Basic Design Services	$318,937		
Extra Services	$160,000		
Other Services	$183,290		
Design Services Contingency	$66,223		
Consultant Services Subtotal	**$728,450**	**Consultant Services Subtotal Escalated**	**$785,794**

Construction			
Construction Contingencies	$348,430	Construction Contingencies Escalated	$379,684
Maximum Allowable Construction Cost (MACC)	$3,484,298	Maximum Allowable Construction Cost (MACC) Escalated	$3,788,233
Sales Tax	$321,949	Sales Tax Escalated	$350,106
Construction Subtotal	**$4,154,677**	**Construction Subtotal Escalated**	**$4,518,023**

Equipment			
Equipment	$0		
Sales Tax	$0		
Non-Taxable Items	$0		
Equipment Subtotal	**$0**	**Equipment Subtotal Escalated**	**$0**

Artwork			
Artwork Subtotal	**$0**	**Artwork Subtotal Escalated**	**$0**

Agency Project Administration			
Agency Project Administration Subtotal	$0		
DES Additional Services Subtotal	$80,000		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$80,000**	**Project Administation Subtotal Escalated**	**$87,176**

Other Costs			
Other Costs Subtotal	**$30,000**	**Other Costs Subtotal Escalated**	**$32,484**

Project Cost Estimate

Total Project	**$4,993,127**	Total Project Escalated	**$5,423,477**
		Rounded Escalated Total	**$5,423,000**

Cost Estimate Details

Consultant Services				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Pre-Schematic Design Services				
Programming/Site Analysis				
Environmental Analysis				
Predesign Study				
Other	$0			
Insert Row Here				
Sub TOTAL	**$0**	**1.0662**	**$0**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$318,937			69% of A/E Basic Services
Other				
Insert Row Here				
Sub TOTAL	**$318,937**	**1.0730**	**$342,219**	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)	$55,000			
Geotechnical Investigation				
Commissioning				
Site Survey				
Testing	$25,000			
LEED Services				
Voice/Data Consultant				
Value Engineering				
Constructability Review				
Environmental Mitigation (EIS)	$50,000			
Landscape Consultant	$30,000			
Other				
Insert Row Here				
Sub TOTAL	**$160,000**	**1.0730**	**$171,680**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$143,290			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Additional CA Service	$40,000			
Insert Row Here				
Sub TOTAL	**$183,290**	**1.0897**	**$199,732**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$66,223			
Other				
Insert Row Here				
Sub TOTAL	**$66,223**	**1.0897**	**$72,163**	Escalated to Mid-Const.
CONSULTANT SERVICES TOTAL	**$728,450**		**$785,794**	

Green cells must be filled in by user

Cost Estimate Details

Construction Contracts					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Site Work					
G10 - Site Preparation	$339,375				
G20 - Site Improvements	$202,500				
G30 - Site Mechanical Utilities	$430,800				
G40 - Site Electrical Utilities	$274,850				
G60 - Other Site Construction					
Other					
Insert Row Here					
Sub TOTAL	**$1,247,525**		**1.0828**	**$1,350,821**	
2) Related Project Costs					
Offsite Improvements					
City Utilities Relocation					
Parking Mitigation					
Stormwater Retention/Detention					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0828**	**$0**	
3) Facility Construction					
A10 - Foundations					
A20 - Basement Construction					
B10 - Superstructure					
B20 - Exterior Closure					
B30 - Roofing					
C10 - Interior Construction					
C20 - Stairs					
C30 - Interior Finishes					
D10 - Conveying					
D20 - Plumbing Systems					
D30 - HVAC Systems					
D40 - Fire Protection Systems					
D50 - Electrical Systems					
F10 - Special Construction					
F20 - Selective Demolition	$1,564,270				
General Conditions	$141,000				
General Contractor Overhead & Profit	$531,503				
Insert Row Here					
Sub TOTAL	**$2,236,773**		**1.0897**	**$2,437,412**	
4) Maximum Allowable Construction Cost					
MACC Sub TOTAL	**$3,484,298**			**$3,788,233**	

This Section is Intentionally Left Blank

7) Construction Contingency				
Allowance for Change Orders	$348,430			
Other				
Insert Row Here				
Sub TOTAL	**$348,430**	**1.0897**	**$379,684**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0897**	**$0**	
Sales Tax				
Sub TOTAL	**$321,949**		**$350,106**	
CONSTRUCTION CONTRACTS TOTAL	**$4,154,677**		**$4,518,023**	

Green cells must be filled in by user

Cost Estimate Details

Project Management					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Agency Project Management	$0				
Additional Services	$80,000				
Other					
Insert Row Here					
PROJECT MANAGEMENT TOTAL	**$80,000**		**1.0897**	**$87,176**	

Green cells must be filled in by user

Cost Estimate Details

Other Costs					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Mitigation Costs					
Hazardous Material Remediation/Removal					
Historic and Archeological Mitigation					
Permits	$30,000				
Unforseen ACM /Utilities	$0				
OTHER COSTS TOTAL	**$30,000**		**1.0828**	**$32,484**	

Green cells must be filled in by user

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Agency	353 - Center for Deaf and Hard of Hearing Youth
Project Name	Academic & Physical Education Building - Phase-II: Building & Site
OFM Project Number	30000036

Contact Information	
Name	Shauna Bilyeu
Phone Number	(360) 418-0402
Email	shauna.bilyeu@cdhl.wa.gov

Statistics			
Gross Square Feet	60,000	MACC per Square Foot	$563
Usable Square Feet	43,500	Escalated MACC per Square Foot	$652
Space Efficiency	72.5%	A/E Fee Class	A
Construction Type	Special schools for physi	A/E Fee Percentage	7.68%
Remodel	No	Projected Life of Asset (Years)	50
Additional Project Details			
Alternative Public Works Project	Yes	Art Requirement Applies	Yes
Inflation Rate	3.12%	Higher Ed Institution	No
Sales Tax Rate %	8.40%	Location Used for Tax Rate	Vancouver WA
Contingency Rate	5%		
Base Month	June-18		
Project Administered By	DES		

Schedule			
Predesign Start	December-18	Predesign End	July-19
Design Start	July-21	Design End	June-22
Construction Start	July-22	Construction End	May-24
Construction Duration	22 Months		

Green cells must be filled in by user

Project Cost Estimate

Total Project	**$43,603,489**	Total Project Escalated	**$50,510,900**
		Rounded Escalated Total	**$50,511,000**

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Agency	353 - Center for Deaf and Hard of Hearing Youth	
Project Name	Academic & Physical Education Building - Phase-II: Building & Site	
OFM Project Number	30000036	

Cost Estimate Summary

Acquisition			
Acquisition Subtotal	**$0**	**Acquisition Subtotal Escalated**	**$0**

Consultant Services			
Predesign Services	$180,000		
A/E Basic Design Services	$0		
Extra Services	$300,000		
Other Services	$400,000		
Design Services Contingency	$44,000		
Consultant Services Subtotal	**$924,000**	**Consultant Services Subtotal Escalated**	**$1,050,141**

Construction			
GC/CM Risk Contingency	$1,688,654		
GC/CM or D/B Costs	$0		
Construction Contingencies	$1,688,654	Construction Contingencies Escalated	$1,969,140
Maximum Allowable Construction Cost (MACC)	$33,773,074	Maximum Allowable Construction Cost (MACC) Escalated	$39,132,404
Sales Tax	$3,120,632	Sales Tax Escalated	$3,617,938
Construction Subtotal	**$40,271,013**	**Construction Subtotal Escalated**	**$46,688,622**

Equipment			
Equipment	$1,695,400		
Sales Tax	$142,414		
Non-Taxable Items	$0		
Equipment Subtotal	**$1,837,814**	**Equipment Subtotal Escalated**	**$2,143,075**

Artwork			
Artwork Subtotal	**$195,662**	**Artwork Subtotal Escalated**	**$195,662**

Agency Project Administration			
Agency Project Administration Subtotal	$0		
DES Additional Services Subtotal	$80,000		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$255,000**	**Project Administation Subtotal Escalated**	**$297,356**

Other Costs			
Other Costs Subtotal	**$120,000**	**Other Costs Subtotal Escalated**	**$136,044**

Project Cost Estimate

Total Project	**$43,603,489**	Total Project Escalated	**$50,510,900**
		Rounded Escalated Total	**$50,511,000**

Cost Estimate Details

Consultant Services				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Pre-Schematic Design Services				
Programming/Site Analysis				
Environmental Analysis				
Predesign Study				
D-B Procurement Assistance	$180,000			
Insert Row Here				
Sub TOTAL	**$180,000**	**1.0994**	**$197,892**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$1,879,188			69% of A/E Basic Services
Adjust for D-B	-$1,879,188			
Insert Row Here				
Sub TOTAL	**$0**	**1.1150**	**$0**	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)	incl. in D-B			
Geotechnical Investigation	$15,000			
Commissioning	$140,000			
Site Survey	$25,000			
Testing	$120,000			
LEED Services	incl. in D-B			
Voice/Data Consultant	incl. in D-B			
Value Engineering	incl. in D-B			
Constructability Review	incl. in D-B			
Environmental Mitigation (EIS)	$0			
Landscape Consultant	incl. in D-B			
Other				
Insert Row Here				
Sub TOTAL	**$300,000**	**1.1150**	**$334,500**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$844,273			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Adjust for D-B	-$844,273			
DB Validation	$400,000			
Sub TOTAL	**$400,000**	**1.1661**	**$466,440**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$44,000			
Other				
Insert Row Here				
Sub TOTAL	**$44,000**	**1.1661**	**$51,309**	Escalated to Mid-Const.
CONSULTANT SERVICES TOTAL	**$924,000**		**$1,050,141**	

Green cells must be filled in by user

Cost Estimate Details

Construction Contracts					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Site Work					
G10 - Site Preparation	$1,254,719				
G20 - Site Improvements	$2,167,703				
G30 - Site Mechanical Utilities	$561,000				
G40 - Site Electrical Utilities	$577,500				
G60 - Other Site Construction					
Demolition of Divine/Hunter	$475,200				
Site Design Engineering	$604,335				
Site General Conditions	$676,855				
Design/Builder OH&P	$315,866				
Insert Row Here					
Sub TOTAL	**$6,633,177**		**1.1337**	**$7,520,034**	
2) Related Project Costs					
Offsite Improvements	$550,000				
City Utilities Relocation					
Parking Mitigation					
Stormwater Retention/Detention					
Temporary Construction and Phasing	$427,314				
Design Engineering	$117,278				
Sub TOTAL	**$1,094,591**		**1.1337**	**$1,240,939**	
3) Facility Construction					
A10 - Foundations	$1,175,350				
A20 - Basement Construction	$0				
B10 - Superstructure	$2,502,789				
B20 - Exterior Closure	$3,639,402				
B30 - Roofing	$2,155,395				
C10 - Interior Construction	$1,848,000				
C20 - Stairs	$88,000				
C30 - Interior Finishes	$1,468,500				
D10 - Conveying	$110,000				
D20 - Plumbing Systems	$825,000				
D30 - HVAC Systems	$2,244,000				
D40 - Fire Protection Systems	$280,500				
D50 - Electrical Systems	$2,673,000				
F10 - Special Construction	$764,500				
F20 - Selective Demolition	$0				
General Conditions	$2,372,932				
Design & Engineering	$2,657,684				
Design Builder OH & Profit	$1,240,253				
Insert Row Here					
Sub TOTAL	**$26,045,305**		**1.1661**	**$30,371,431**	
4) Maximum Allowable Construction Cost					
MACC Sub TOTAL	**$33,773,074**			**$39,132,404**	

5) GCCM Risk Contingency				
GCCM Risk Contingency				
D-B Risk Contingency	$1,688,654			
Insert Row Here				
Sub TOTAL	**$1,688,654**	**1.1661**	**$1,969,140**	
6) GCCM or Design Build Costs				
GCCM Fee				
Bid General Conditions	Included above			
GCCM Preconstruction Services				
Insert Row Here				
Sub TOTAL	**$0**	**1.1661**	**$0**	
7) Construction Contingency				
Allowance for Change Orders	$1,688,654			
Other				
Insert Row Here				
Sub TOTAL	**$1,688,654**	**1.1661**	**$1,969,140**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.1661**	**$0**	
Sales Tax				
Sub TOTAL	**$3,120,632**		**$3,617,938**	
CONSTRUCTION CONTRACTS TOTAL	**$40,271,013**		**$46,688,622**	

Green cells must be filled in by user

Cost Estimate Details

Equipment					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
E10 - Equipment	$694,400				
E20 - Furnishings	$1,001,000				
F10 - Special Construction					
Other					
Insert Row Here					
Sub TOTAL	**$1,695,400**		**1.1661**	**$1,977,006**	
1) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1661**	**$0**	
Sales Tax					
Sub TOTAL	**$142,414**			**$166,069**	
EQUIPMENT TOTAL	**$1,837,814**			**$2,143,075**	

Green cells must be filled in by user

Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Project Artwork	$195,662				0.5% of Escalated MACC for new construction
Higher Ed Artwork	$0				0.5% of Escalated MACC for new and renewal construction
Other					
Insert Row Here					
ARTWORK TOTAL	**$195,662**		**NA**	**$195,662**	

Green cells must be filled in by user

Cost Estimate Details

Project Management					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Agency Project Management	$0				
Additional Services	$80,000				
On-Site Observer	$175,000				
Insert Row Here					
PROJECT MANAGEMENT TOTAL	**$255,000**		**1.1661**	**$297,356**	

Green cells must be filled in by user

Cost Estimate Details

Other Costs					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Mitigation Costs					
Hazardous Material Remediation/Removal					
Historic and Archeological Mitigation					
Permits	$120,000				
OTHER COSTS TOTAL	**$120,000**		**1.1337**	**$136,044**	

Green cells must be filled in by user

C-100 for Alternative #3

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Agency	353 - Center for Deaf and Hard of Hearing Youth
Project Name	Academic & Physical Education Building - Phase-I: Demolition & Utilities
OFM Project Number	30000036

Contact Information	
Name	Shauna Bilyeu
Phone Number	(360) 418-0402
Email	shauna.bilyeu@cdhl.wa.gov

Statistics			
Gross Square Feet	0	MACC per Square Foot	
Usable Square Feet	0	Escalated MACC per Square Foot	
Space Efficiency		A/E Fee Class	B
Construction Type	Schools (primary and se	A/E Fee Percentage	12.06%
Remodel	Yes	Projected Life of Asset (Years)	50
Additional Project Details			
Alternative Public Works Project	No	Art Requirement Applies	No
Inflation Rate	3.12%	Higher Ed Institution	No
Sales Tax Rate %	8.40%	Location Used for Tax Rate	Vancouver WA
Contingency Rate	10%		
Base Month	June-18		
Project Administered By	DES		

Schedule			
Predesign Start	December-18	Predesign End	July-19
Design Start	July-20	Design End	December-20
Construction Start	January-21	Construction End	June-21
Construction Duration	5 Months		

Green cells must be filled in by user

Project Cost Estimate

Total Project	**$4,993,127**	Total Project Escalated	**$5,423,477**
		Rounded Escalated Total	**$5,423,000**

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Agency	353 - Center for Deaf and Hard of Hearing Youth	
Project Name	Academic & Physical Education Building - Phase-I: Demolition & Utilities	
OFM Project Number	30000036	

Cost Estimate Summary

Acquisition			
Acquisition Subtotal	**$0**	**Acquisition Subtotal Escalated**	**$0**

Consultant Services			
Predesign Services	$0		
A/E Basic Design Services	$318,937		
Extra Services	$160,000		
Other Services	$183,290		
Design Services Contingency	$66,223		
Consultant Services Subtotal	**$728,450**	**Consultant Services Subtotal Escalated**	**$785,794**

Construction			
Construction Contingencies	$348,430	Construction Contingencies Escalated	$379,684
Maximum Allowable Construction Cost (MACC)	$3,484,298	Maximum Allowable Construction Cost (MACC) Escalated	$3,788,233
Sales Tax	$321,949	Sales Tax Escalated	$350,106
Construction Subtotal	**$4,154,677**	**Construction Subtotal Escalated**	**$4,518,023**

Equipment			
Equipment	$0		
Sales Tax	$0		
Non-Taxable Items	$0		
Equipment Subtotal	**$0**	**Equipment Subtotal Escalated**	**$0**

Artwork			
Artwork Subtotal	**$0**	**Artwork Subtotal Escalated**	**$0**

Agency Project Administration			
Agency Project Administration Subtotal	$0		
DES Additional Services Subtotal	$80,000		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$80,000**	**Project Administation Subtotal Escalated**	**$87,176**

Other Costs			
Other Costs Subtotal	**$30,000**	**Other Costs Subtotal Escalated**	**$32,484**

Project Cost Estimate

Total Project	**$4,993,127**	Total Project Escalated	**$5,423,477**
		Rounded Escalated Total	**$5,423,000**

Cost Estimate Details

Consultant Services				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Pre-Schematic Design Services				
Programming/Site Analysis				
Environmental Analysis				
Predesign Study				
Other	$0			
Insert Row Here				
Sub TOTAL	**$0**	**1.0662**	**$0**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$318,937			69% of A/E Basic Services
Other				
Insert Row Here				
Sub TOTAL	**$318,937**	**1.0730**	**$342,219**	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)	$55,000			
Geotechnical Investigation				
Commissioning				
Site Survey				
Testing	$25,000			
LEED Services				
Voice/Data Consultant				
Value Engineering				
Constructability Review				
Environmental Mitigation (EIS)	$50,000			
Landscape Consultant	$30,000			
Other				
Insert Row Here				
Sub TOTAL	**$160,000**	**1.0730**	**$171,680**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$143,290			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Additional CA Service	$40,000			
Insert Row Here				
Sub TOTAL	**$183,290**	**1.0897**	**$199,732**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$66,223			
Other				
Insert Row Here				
Sub TOTAL	**$66,223**	**1.0897**	**$72,163**	Escalated to Mid-Const.
CONSULTANT SERVICES TOTAL	**$728,450**		**$785,794**	

Green cells must be filled in by user

Cost Estimate Details

Construction Contracts					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Site Work					
G10 - Site Preparation	$339,375				
G20 - Site Improvements	$202,500				
G30 - Site Mechanical Utilities	$430,800				
G40 - Site Electrical Utilities	$274,850				
G60 - Other Site Construction					
Other					
Insert Row Here					
Sub TOTAL	**$1,247,525**		**1.0828**	**$1,350,821**	
2) Related Project Costs					
Offsite Improvements					
City Utilities Relocation					
Parking Mitigation					
Stormwater Retention/Detention					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.0828**	**$0**	
3) Facility Construction					
A10 - Foundations					
A20 - Basement Construction					
B10 - Superstructure					
B20 - Exterior Closure					
B30 - Roofing					
C10 - Interior Construction					
C20 - Stairs					
C30 - Interior Finishes					
D10 - Conveying					
D20 - Plumbing Systems					
D30 - HVAC Systems					
D40 - Fire Protection Systems					
D50 - Electrical Systems					
F10 - Special Construction					
F20 - Selective Demolition	$1,564,270				
General Conditions	$141,000				
General Contractor Overhead & Profit	$531,503				
Insert Row Here					
Sub TOTAL	**$2,236,773**		**1.0897**	**$2,437,412**	
4) Maximum Allowable Construction Cost					
MACC Sub TOTAL	**$3,484,298**			**$3,788,233**	

This Section is Intentionally Left Blank

7) Construction Contingency				
Allowance for Change Orders	$348,430			
Other				
Insert Row Here				
Sub TOTAL	**$348,430**	**1.0897**	**$379,684**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.0897**	**$0**	
Sales Tax				
Sub TOTAL	**$321,949**		**$350,106**	
CONSTRUCTION CONTRACTS TOTAL	**$4,154,677**		**$4,518,023**	

Green cells must be filled in by user

Cost Estimate Details

Project Management					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Agency Project Management	$0				
Additional Services	$80,000				
Other					
Insert Row Here					
PROJECT MANAGEMENT TOTAL	**$80,000**		**1.0897**	**$87,176**	

Green cells must be filled in by user

Cost Estimate Details

Other Costs					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Mitigation Costs					
Hazardous Material Remediation/Removal					
Historic and Archeological Mitigation					
Permits	$30,000				
Unforseen ACM /Utilities	$0				
OTHER COSTS TOTAL	**$30,000**		**1.0828**	**$32,484**	

Green cells must be filled in by user

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Agency	353 - Center for Deaf and Hard of Hearing Youth
Project Name	Academic & Physical Ed. Building - Phase-II: Addition
OFM Project Number	30000036

Contact Information	
Name	Shauna Bilyeu
Phone Number	(360) 418-0402
Email	shauna.bilyeu@cdhl.wa.gov

Statistics			
Gross Square Feet	30,000	MACC per Square Foot	$506
Usable Square Feet	20,000	Escalated MACC per Square Foot	$583
Space Efficiency	66.7%	A/E Fee Class	A
Construction Type	Special schools for physi	A/E Fee Percentage	8.75%
Remodel	No	Projected Life of Asset (Years)	50
Additional Project Details			
Alternative Public Works Project	Yes	Art Requirement Applies	Yes
Inflation Rate	3.12%	Higher Ed Institution	No
Sales Tax Rate %	8.40%	Location Used for Tax Rate	Vancouver WA
Contingency Rate	5%		
Base Month	June-18		
Project Administered By	DES		

Schedule			
Predesign Start	December-18	Predesign End	July-19
Design Start	July-21	Design End	June-22
Construction Start	July-22	Construction End	September-23
Construction Duration	14 Months		

Green cells must be filled in by user

Project Cost Estimate

Total Project	**$22,999,376**	Total Project Escalated	**$26,418,862**
		Rounded Escalated Total	**$26,419,000**

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Agency	353 - Center for Deaf and Hard of Hearing Youth	
Project Name	Academic & Physical Ed. Building - Phase-II: Addition	
OFM Project Number	30000036	

Cost Estimate Summary

Acquisition			
Acquisition Subtotal	**$0**	**Acquisition Subtotal Escalated**	**$0**

Consultant Services			
Predesign Services	$85,000		
A/E Basic Design Services	$962,514		
Extra Services	$591,000		
Other Services	$612,434		
Design Services Contingency	$112,547		
Consultant Services Subtotal	**$2,363,496**	**Consultant Services Subtotal Escalated**	**$2,662,465**

Construction			
GC/CM Risk Contingency	$759,156		
GC/CM or D/B Costs	$778,268		
Construction Contingencies	$759,156	Construction Contingencies Escalated	$876,294
Maximum Allowable Construction Cost (MACC)	$15,183,113	Maximum Allowable Construction Cost (MACC) Escalated	$17,481,249
Sales Tax	$1,468,294	Sales Tax Escalated	$1,691,105
Construction Subtotal	**$18,947,986**	**Construction Subtotal Escalated**	**$21,823,297**

Equipment			
Equipment	$1,232,000		
Sales Tax	$103,488		
Non-Taxable Items	$0		
Equipment Subtotal	**$1,335,488**	**Equipment Subtotal Escalated**	**$1,541,555**

Artwork			
Artwork Subtotal	**$87,406**	**Artwork Subtotal Escalated**	**$87,406**

Agency Project Administration			
Agency Project Administration Subtotal	$0		
DES Additional Services Subtotal	$40,000		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$180,000**	**Project Administation Subtotal Escalated**	**$207,774**

Other Costs			
Other Costs Subtotal	**$85,000**	**Other Costs Subtotal Escalated**	**$96,365**

Project Cost Estimate

Total Project	**$22,999,376**	Total Project Escalated	**$26,418,862**
		Rounded Escalated Total	**$26,419,000**

Cost Estimate Details

Consultant Services				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Pre-Schematic Design Services				
Programming/Site Analysis				
Environmental Analysis				
Predesign Study				
GCCM Procurement Assistance	$85,000			
Insert Row Here				
Sub TOTAL	**$85,000**	**1.0994**	**$93,449**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$962,514			69% of A/E Basic Services
Insert Row Here				
Sub TOTAL	**$962,514**	**1.1150**	**$1,073,204**	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)	$75,000			
Geotechnical Investigation	$16,000			
Commissioning	$85,000			
Site Survey	$30,000			
Testing	$75,000			
LEED Services	$85,000			
Voice/Data Consultant	$60,000			
Value Engineering	$50,000			
Constructability Review	$50,000			
Environmental Mitigation (EIS)	$0			
Landscape Consultant	$65,000			
Other				
Insert Row Here				
Sub TOTAL	**$591,000**	**1.1150**	**$658,965**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$432,434			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Additional CA Administration	$180,000			
Insert Row Here				
Sub TOTAL	**$612,434**	**1.1543**	**$706,933**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$112,547			
Other				
Insert Row Here				
Sub TOTAL	**$112,547**	**1.1543**	**$129,914**	Escalated to Mid-Const.
CONSULTANT SERVICES TOTAL	**$2,363,496**		**$2,662,465**	

Green cells must be filled in by user

Cost Estimate Details

Construction Contracts					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Site Work					
G10 - Site Preparation	$800,000				
G20 - Site Improvements	$300,000				
G30 - Site Mechanical Utilities	$300,000				
G40 - Site Electrical Utilities	$400,000				
G60 - Other Site Construction					
Demolition of Existing Buildings	$0				
Site General Conditions	$216,000				
Insert Row Here					
Sub TOTAL	**$2,016,000**		**1.1337**	**$2,285,540**	
2) Related Project Costs					
Offsite Improvements	$0				
City Utilities Relocation					
Parking Mitigation					
Stormwater Retention/Detention					
Temporary Construction and Phasing	$150,000				
Sub TOTAL	**$150,000**		**1.1337**	**$170,055**	
3) Facility Construction					
A10 - Foundations	$480,000				
A20 - Basement Construction	$0				
B10 - Superstructure	$1,200,000				
B20 - Exterior Closure	$1,620,000				
B30 - Roofing	$600,000				
C10 - Interior Construction	$1,350,000				
C20 - Stairs	$90,000				
C30 - Interior Finishes	$750,000				
D10 - Conveying	$104,000				
D20 - Plumbing Systems	$420,000				
D30 - HVAC Systems	$1,500,000				
D40 - Fire Protection Systems	$165,000				
D50 - Electrical Systems	$1,500,000				
F10 - Special Construction	$350,000				
F20 - Selective Demolition	$150,000				
General Conditions	$1,233,480				
OH&P	$1,504,633				
Insert Row Here					
Sub TOTAL	**$13,017,113**		**1.1543**	**$15,025,654**	
4) Maximum Allowable Construction Cost					
MACC Sub TOTAL	**$15,183,113**			**$17,481,249**	

5) GCCM Risk Contingency				
GCCM Risk Contingency	$759,156			
Insert Row Here				
Sub TOTAL	**$759,156**	**1.1543**	**$876,294**	
6) GCCM or Design Build Costs				
GCCM Fee	$478,268			
Bid General Conditions				
GCCM Preconstruction Services	$300,000			
Other				
Insert Row Here				
Sub TOTAL	**$778,268**	**1.1543**	**$898,355**	
7) Construction Contingency				
Allowance for Change Orders	$759,156			
Other				
Insert Row Here				
Sub TOTAL	**$759,156**	**1.1543**	**$876,294**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.1543**	**$0**	
Sales Tax				
Sub TOTAL	**$1,468,294**		**$1,691,105**	
CONSTRUCTION CONTRACTS TOTAL	**$18,947,986**		**$21,823,297**	

Green cells must be filled in by user

Cost Estimate Details

Equipment					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
E10 - Equipment	$462,000				
E20 - Furnishings	$770,000				
F10 - Special Construction					
Other					
Insert Row Here					
Sub TOTAL	**$1,232,000**		**1.1543**	**$1,422,098**	
1) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1543**	**$0**	
Sales Tax					
Sub TOTAL	**$103,488**			**$119,457**	
EQUIPMENT TOTAL	**$1,335,488**			**$1,541,555**	

Green cells must be filled in by user

Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Project Artwork	$87,406				0.5% of Escalated MACC for new construction
Higher Ed Artwork	$0				0.5% of Escalated MACC for new and renewal construction
Other					
Insert Row Here					
ARTWORK TOTAL	**$87,406**		**NA**	**$87,406**	

Green cells must be filled in by user

Cost Estimate Details

Project Management					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Agency Project Management	$0				
Additional Services	$40,000				
Site Observer	$140,000				
Insert Row Here					
PROJECT MANAGEMENT TOTAL	**$180,000**		**1.1543**	**$207,774**	

Green cells must be filled in by user

Cost Estimate Details

Other Costs					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Mitigation Costs					
Hazardous Material Remediation/Removal					
Historic and Archeological Mitigation					
Permits	$85,000				
OTHER COSTS TOTAL	**$85,000**		**1.1337**	**$96,365**	

Green cells must be filled in by user

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Agency	353 - Center for Deaf and Hard of Hearing Youth
Project Name	Academic & Physical Ed. Building - Phase-III: Renovation
OFM Project Number	30000036

Contact Information	
Name	Shauna Bilyeu
Phone Number	(360) 418-0402
Email	shauna.bilyeu@cdhl.wa.gov

Statistics			
Gross Square Feet	36,000	MACC per Square Foot	$367
Usable Square Feet	24,000	Escalated MACC per Square Foot	$440
Space Efficiency	66.7%	A/E Fee Class	A
Construction Type	Special schools for physi	A/E Fee Percentage	11.93%
Remodel	Yes	Projected Life of Asset (Years)	50
Additional Project Details			
Alternative Public Works Project	Yes	Art Requirement Applies	Yes
Inflation Rate	3.12%	Higher Ed Institution	No
Sales Tax Rate %	8.40%	Location Used for Tax Rate	Vancouver WA
Contingency Rate	5%		
Base Month	June-18		
Project Administered By	DES		

Schedule			
Predesign Start	December-18	Predesign End	July-19
Design Start	July-21	Design End	June-22
Construction Start	October-23	Construction End	December-24
Construction Duration	14 Months		

Green cells must be filled in by user

Project Cost Estimate

Total Project	**$19,860,687**	Total Project Escalated	**$23,669,513**
		Rounded Escalated Total	**$23,670,000**

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Agency	353 - Center for Deaf and Hard of Hearing Youth	
Project Name	Academic & Physical Ed. Building - Phase-III: Renovation	
OFM Project Number	30000036	

Cost Estimate Summary

Acquisition			
Acquisition Subtotal	**$0**	**Acquisition Subtotal Escalated**	**$0**

Consultant Services			
Predesign Services	$0		
A/E Basic Design Services	$1,142,038		
Extra Services	$225,000		
Other Services	$653,090		
Design Services Contingency	$101,006		
Consultant Services Subtotal	**$2,121,134**	**Consultant Services Subtotal Escalated**	**$2,428,787**

Construction			
GC/CM Risk Contingency	$660,650		
GC/CM or D/B Costs	$416,210		
Construction Contingencies	$660,650	Construction Contingencies Escalated	$792,451
Maximum Allowable Construction Cost (MACC)	$13,213,008	Maximum Allowable Construction Cost (MACC) Escalated	$15,830,303
Sales Tax	$1,255,844	Sales Tax Escalated	$1,504,814
Construction Subtotal	**$16,206,362**	**Construction Subtotal Escalated**	**$19,419,263**

Equipment			
Equipment	$1,060,000		
Sales Tax	$89,040		
Non-Taxable Items	$0		
Equipment Subtotal	**$1,149,040**	**Equipment Subtotal Escalated**	**$1,378,274**

Artwork			
Artwork Subtotal	**$79,152**	**Artwork Subtotal Escalated**	**$79,152**

Agency Project Administration			
Agency Project Administration Subtotal	$0		
DES Additional Services Subtotal	$80,000		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$220,000**	**Project Administation Subtotal Escalated**	**$263,890**

Other Costs			
Other Costs Subtotal	**$85,000**	**Other Costs Subtotal Escalated**	**$100,147**

Project Cost Estimate			
Total Project	**$19,860,687**	Total Project Escalated	**$23,669,513**
		Rounded Escalated Total	**$23,670,000**

CDHY Academic Physical Education Building

Cost Estimate Details

Consultant Services				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Pre-Schematic Design Services				
Programming/Site Analysis				
Environmental Analysis				
Predesign Study				
Incl. in Phase-II	$0			
Insert Row Here				
Sub TOTAL	**$0**	**1.0994**	**$0**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$1,142,038			69% of A/E Basic Services
Insert Row Here				
Sub TOTAL	**$1,142,038**	**1.1150**	**$1,273,373**	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)	$45,000			
Geotechnical Investigation	$0			
Commissioning	$85,000			
Site Survey	$0			
Testing	$60,000			
LEED Services	$0			
Voice/Data Consultant	incl. in Phase-II			
Value Engineering	incl. in Phase-II			
Constructability Review	incl. in Phase-II			
Environmental Mitigation (EIS)	$0			
Landscape Consultant	$35,000			
Other				
Insert Row Here				
Sub TOTAL	**$225,000**	**1.1150**	**$250,875**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$513,090			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Additional CA Services	$140,000			
Insert Row Here				
Sub TOTAL	**$653,090**	**1.1995**	**$783,381**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$101,006			
Other				
Insert Row Here				
Sub TOTAL	**$101,006**	**1.1995**	**$121,158**	Escalated to Mid-Const.
CONSULTANT SERVICES TOTAL	**$2,121,134**		**$2,428,787**	

Green cells must be filled in by user

Cost Estimate Details

Construction Contracts					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Site Work					
G10 - Site Preparation	$200,000				
G20 - Site Improvements	$200,000				
G30 - Site Mechanical Utilities	$100,000				
G40 - Site Electrical Utilities	$150,000				
G60 - Other Site Construction					
Site General Conditions	$78,000				
Insert Row Here					
Sub TOTAL	**$728,000**		**1.1782**	**$857,730**	
2) Related Project Costs					
Offsite Improvements	$0				
City Utilities Relocation					
Parking Mitigation					
Stormwater Retention/Detention					
Temporary Construction and Phasing	$150,000				
Sub TOTAL	**$150,000**		**1.1782**	**$176,730**	
3) Facility Construction					
A10 - Foundations	$0				
A20 - Basement Construction	$0				
B10 - Superstructure	$320,000				
B20 - Exterior Closure	$1,080,000				
B30 - Roofing	$720,000				
C10 - Interior Construction	$1,980,000				
C20 - Stairs	$108,000				
C30 - Interior Finishes	$1,080,000				
D10 - Conveying	$0				
D20 - Plumbing Systems	$504,000				
D30 - HVAC Systems	$1,800,000				
D40 - Fire Protection Systems	$198,000				
D50 - Electrical Systems	$1,800,000				
F10 - Special Construction	$350,000				
F20 - Selective Demolition	$450,000				
General Conditions	$1,246,800				
Contractor OH&P	$698,208				
Insert Row Here					
Sub TOTAL	**$12,335,008**		**1.1995**	**$14,795,843**	
4) Maximum Allowable Construction Cost					
MACC Sub TOTAL	**$13,213,008**			**$15,830,303**	

5) GCCM Risk Contingency				
GCCM Risk Contingency	$660,650			
Insert Row Here				
Sub TOTAL	**$660,650**	**1.1995**	**$792,451**	
6) GCCM or Design Build Costs				
GCCM Fee	$416,210			
Bid General Conditions				
GCCM Preconstruction Services				
Other				
Insert Row Here				
Sub TOTAL	**$416,210**	**1.1995**	**$499,244**	
7) Construction Contingency				
Allowance for Change Orders	$660,650			
Other				
Insert Row Here				
Sub TOTAL	**$660,650**	**1.1995**	**$792,451**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.1995**	**$0**	
Sales Tax				
Sub TOTAL	**$1,255,844**		**$1,504,814**	
CONSTRUCTION CONTRACTS TOTAL	**$16,206,362**		**$19,419,263**	

Green cells must be filled in by user

Cost Estimate Details

Equipment					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
E10 - Equipment	$360,000				
E20 - Furnishings	$700,000				
F10 - Special Construction					
Other					
Insert Row Here					
Sub TOTAL	**$1,060,000**		**1.1995**	**$1,271,470**	
1) Non Taxable Items					
Other					
Insert Row Here					
Sub TOTAL	**$0**		**1.1995**	**$0**	
Sales Tax					
Sub TOTAL	**$89,040**			**$106,804**	
EQUIPMENT TOTAL	**$1,149,040**			**$1,378,274**	

Green cells must be filled in by user

Cost Estimate Details

Artwork					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Project Artwork	$79,152				0.5% of Escalated MACC for new construction
Higher Ed Artwork	$0				0.5% of Escalated MACC for new and renewal construction
Other					
Insert Row Here					
ARTWORK TOTAL	**$79,152**		**NA**	**$79,152**	

Green cells must be filled in by user

Cost Estimate Details

Project Management					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Agency Project Management	$0				
Additional Services	$80,000				
Site Observer	$140,000				
Insert Row Here					
PROJECT MANAGEMENT TOTAL	**$220,000**		**1.1995**	**$263,890**	

Green cells must be filled in by user

Cost Estimate Details

Other Costs					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Mitigation Costs					
Hazardous Material Remediation/Removal					
Historic and Archeological Mitigation					
Permits	$85,000				
OTHER COSTS TOTAL	**$85,000**		**1.1782**	**$100,147**	

Green cells must be filled in by user

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Agency	353 - Center for Deaf and Hard of Hearing Youth
Project Name	Academic & Physical Ed. Building - Phase-IV: Atheletic Field/Site
OFM Project Number	30000036

Contact Information	
Name	Shauna Bilyeu
Phone Number	(360) 418-0402
Email	shauna.bilyeu@cdhl.wa.gov

Statistics			
Gross Square Feet	66,000	MACC per Square Foot	$43
Usable Square Feet	45,000	Escalated MACC per Square Foot	$53
Space Efficiency	68.2%	A/E Fee Class	A
Construction Type	Special schools for physi	A/E Fee Percentage	13.73%
Remodel	Yes	Projected Life of Asset (Years)	50
Additional Project Details			
Alternative Public Works Project	Yes	Art Requirement Applies	No
Inflation Rate	3.12%	Higher Ed Institution	No
Sales Tax Rate %	8.40%	Location Used for Tax Rate	Vancouver WA
Contingency Rate	5%		
Base Month	June-18		
Project Administered By	DES		

Schedule			
Predesign Start	December-18	Predesign End	July-19
Design Start	July-21	Design End	June-22
Construction Start	December-24	Construction End	June-25
Construction Duration	6 Months		

Green cells must be filled in by user

Project Cost Estimate

Total Project	**$4,221,070**	Total Project Escalated	**$5,112,020**
		Rounded Escalated Total	**$5,112,000**

STATE OF WASHINGTON
AGENCY / INSTITUTION PROJECT COST SUMMARY

Agency	353 - Center for Deaf and Hard of Hearing Youth	
Project Name	Academic & Physical Ed. Building - Phase-IV: Atheletic Field/Site	
OFM Project Number	30000036	

Cost Estimate Summary

Acquisition			
Acquisition Subtotal	**$0**	**Acquisition Subtotal Escalated**	**$0**

Consultant Services			
Predesign Services	$0		
A/E Basic Design Services	$283,500		
Extra Services	$180,000		
Other Services	$127,370		
Design Services Contingency	$29,544		
Consultant Services Subtotal	**$620,414**	**Consultant Services Subtotal Escalated**	**$709,918**

Construction			
GC/CM Risk Contingency	$142,500		
GC/CM or D/B Costs	$89,775		
Construction Contingencies	$142,500	Construction Contingencies Escalated	$175,375
Maximum Allowable Construction Cost (MACC)	$2,850,000	Maximum Allowable Construction Cost (MACC) Escalated	$3,480,705
Sales Tax	$270,881	Sales Tax Escalated	$331,124
Construction Subtotal	**$3,495,656**	**Construction Subtotal Escalated**	**$4,273,066**

Equipment			
Equipment	$0		
Sales Tax	$0		
Non-Taxable Items	$0		
Equipment Subtotal	**$0**	**Equipment Subtotal Escalated**	**$0**

Artwork			
Artwork Subtotal	**$0**	**Artwork Subtotal Escalated**	**$0**

Agency Project Administration			
Agency Project Administration Subtotal	$0		
DES Additional Services Subtotal	$25,000		
Other Project Admin Costs	$0		
Project Administration Subtotal	**$85,000**	**Project Administation Subtotal Escalated**	**$104,610**

Other Costs			
Other Costs Subtotal	**$20,000**	**Other Costs Subtotal Escalated**	**$24,426**

Project Cost Estimate

Total Project	**$4,221,070**	Total Project Escalated	**$5,112,020**
		Rounded Escalated Total	**$5,112,000**

CDHY Academic Physical Education Building

Cost Estimate Details

Consultant Services				
Item	**Base Amount**	**Escalation Factor**	**Escalated Cost**	**Notes**
1) Pre-Schematic Design Services				
Programming/Site Analysis				
Environmental Analysis				
Predesign Study				
Other	$0			
Insert Row Here				
Sub TOTAL	**$0**	**1.0994**	**$0**	Escalated to Design Start
2) Construction Documents				
A/E Basic Design Services	$283,500			69% of A/E Basic Services
Adjust for D-B				
Insert Row Here				
Sub TOTAL	**$283,500**	**1.1150**	**$316,104**	Escalated to Mid-Design
3) Extra Services				
Civil Design (Above Basic Svcs)	$60,000			
Geotechnical Investigation	$0			
Commissioning	$0			
Site Survey	$0			
Testing	$60,000			
LEED Services	$0			
Voice/Data Consultant	$0			
Value Engineering				
Constructability Review				
Environmental Mitigation (EIS)	$0			
Landscape Consultant	$60,000			
Other				
Insert Row Here				
Sub TOTAL	**$180,000**	**1.1150**	**$200,700**	Escalated to Mid-Design
4) Other Services				
Bid/Construction/Closeout	$127,370			31% of A/E Basic Services
HVAC Balancing				
Staffing				
Insert Row Here				
Sub TOTAL	**$127,370**	**1.2307**	**$156,754**	Escalated to Mid-Const.
5) Design Services Contingency				
Design Services Contingency	$29,544			
Other				
Insert Row Here				
Sub TOTAL	**$29,544**	**1.2307**	**$36,360**	Escalated to Mid-Const.
CONSULTANT SERVICES TOTAL	**$620,414**		**$709,918**	

Green cells must be filled in by user

Cost Estimate Details

Construction Contracts					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
1) Site Work					
G10 - Site Preparation	$200,000				
G20 - Site Improvements	$1,950,000				
G30 - Site Mechanical Utilities	$100,000				
G40 - Site Electrical Utilities	$250,000				
G60 - Other Site Construction					
Site General Conditions	$300,000				
Insert Row Here					
Sub TOTAL	**$2,800,000**		**1.2213**	**$3,419,640**	
2) Related Project Costs					
Offsite Improvements	$0				
City Utilities Relocation					
Parking Mitigation					
Stormwater Retention/Detention					
Temporary Construction and Phasing	$50,000				
Design Engineering					
Sub TOTAL	**$50,000**		**1.2213**	**$61,065**	
3) Facility Construction					
A10 - Foundations	$0				
A20 - Basement Construction	$0				
B10 - Superstructure	$0				
B20 - Exterior Closure	$0				
B30 - Roofing	$0				
C10 - Interior Construction	$0				
C20 - Stairs	$0				
C30 - Interior Finishes	$0				
D10 - Conveying	$0				
D20 - Plumbing Systems	$0				
D30 - HVAC Systems	$0				
D40 - Fire Protection Systems	$0				
D50 - Electrical Systems	$0				
F10 - Special Construction	$0				
F20 - Selective Demolition	$0				
General Conditions	$0				
Contractor OH&P	$0				
Insert Row Here					
Sub TOTAL	**$0**		**1.2307**	**$0**	
4) Maximum Allowable Construction Cost					
MACC Sub TOTAL	**$2,850,000**			**$3,480,705**	

5) GCCM Risk Contingency				
GCCM Risk Contingency	$142,500			
Insert Row Here				
Sub TOTAL	**$142,500**	**1.2307**	**$175,375**	
6) GCCM or Design Build Costs				
GCCM Fee	$89,775			
Bid General Conditions				
GCCM Preconstruction Services				
Other				
Insert Row Here				
Sub TOTAL	**$89,775**	**1.2307**	**$110,487**	
7) Construction Contingency				
Allowance for Change Orders	$142,500			
Other				
Insert Row Here				
Sub TOTAL	**$142,500**	**1.2307**	**$175,375**	
8) Non-Taxable Items				
Other				
Insert Row Here				
Sub TOTAL	**$0**	**1.2307**	**$0**	
Sales Tax				
Sub TOTAL	**$270,881**		**$331,124**	
CONSTRUCTION CONTRACTS TOTAL	**$3,495,656**		**$4,273,066**	

Green cells must be filled in by user

Cost Estimate Details

Project Management					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Agency Project Management	$0				
Additional Services	$25,000				
Site Observer	$60,000				
Insert Row Here					
PROJECT MANAGEMENT TOTAL	**$85,000**		**1.2307**	**$104,610**	

Green cells must be filled in by user

Cost Estimate Details

Other Costs					
Item	**Base Amount**		**Escalation Factor**	**Escalated Cost**	**Notes**
Mitigation Costs					
Hazardous Material Remediation/Removal					
Historic and Archeological Mitigation					
Permits	$20,000				
OTHER COSTS TOTAL	**$20,000**		**1.2213**	**$24,426**	

Green cells must be filled in by user

LCCA for Alternative #2

Lease Option 1 Information Sheet

*	***Requires a user input***	*Green Cell*	*= Value can be entered by user.*	*Yellow Cell*	*= Calculated value.*

*	**New Lease Option 1 Description**	Lease approximately 66,000-gsf with 44,000-suitable for use as classroom and adsministrative space for elementary & secondary school and approx. 22,000-sf as a gymnasium and physical education facility for K-12 school

	New Lease Information		
*	Lease Location	Vancouver	Market Area: Clark County
*	Lease Square Feet Type	Gross	
*	New Facility Square Feet	66,000	
*	New Lease Start Date	7/1/2022	
	SF per Person Calculated		

	New Lease Costs	**Years of Term**	**Rate / SF / Year**	**Rate / Month**	**Adjusted to FS Rate**	**Total FS Rate / Month**	**Estimated FSG Market Rate**	**Estimated FSG Rate / Month**	**Real Estate Transaction Fees for Term**
*	Years 1 - 5	5	$ 25.00	$ 137,500	$ 45.60	$ 250,800	$ 40.32	$ 221,733	$ 206,250
	Years 6 - 15	10	$ 30.00	$ 165,000	$ 50.60	$ 278,300	$ 47.01	$ 258,550	$ 247,500
	Years 16 - 30	15	$ 35.00	$ 192,500	$ 55.60	$ 305,800	$ 63.92	$ 351,539	$ 433,125
	Years								
	Years								
	Total Length of Lease	30							$ 886,875
	Transaction Fee for first 5 Years	2.50%	*of total rent for first 5 years of term*						
	Transaction Fee for Additional Years	1.25%	*of total rent for term beyond 5 years*						

Note: Real estate transaction fees calculated on base lease - not full service rate including added services and utilities.

Added Services	**New Lease Operating Costs (Starting in current year)**	**Known Cost / SF / Year**	**Estimated Cost / SF / Year in 2022 - Gross**	**Total Cost / Year**	**Cost / Month**
☐	Energy (Electricity, Natural Gas)	$ 2.50	$0.00	$ 165,000	$ 13,750
☐	Janitorial Services	$ 1.80	$0.00	$ 118,800	$ 9,900
☐	Utilities (Water, Sewer, & Garbage)	$ 2.00	$0.00	$ 132,000	$ 11,000
☐	Grounds	$ 0.75	$0.00	$ 49,500	$ 4,125

Escalated to lease start date

☐	Pest Control	$ 0.15	$0.00	$ 9,900	$ 825
☐	Security	$ 0.40	$0.00	$ 26,400	$ 2,200
☐	Maintenance and Repair	$ 2.00	$0.00	$ 132,000	$ 11,000
☐	Management	$ 0.70	$0.00	$ 46,200	$ 3,850
☐	Road Clearance	$ -	$0.00	$ -	$ -
☐	Telecom	$ 2.30	$0.00	$ 151,800	$ 12,650
	Additional Parking	$ 8.00	$ -	$ 528,000	$ 44,000
	Other	$ -	$ -	$ -	$ -
	Total Operating Costs	**$ 20.60**	**$ -**	**$ 1,359,600**	**$ 113,300**

	New Lease One Time Costs	**Current Estimate**	**Calculated (for reference)**	
*	Real Estate Transaction Fees	$ 1,402,151	$ 886,875	*Per Std %*
*	Tenant Improvements	$ 17,160,000	$ 990,000	*$260 per SF*
*	IT Infrastructure	$ 990,000	$ -	
*	Furniture Costs	$ 1,540,000	$ -	
*	Building Security and Access Systems	$ 198,000		
*	Moving Vendor and Supplies	$ 85,000	$ -	
	Other / Incentive			
	Total	$ 21,375,151	$ 1,876,875	

Biennium Budget Impacts for New Lease	**Biennium Time Period**		**Existing Lease Option**	**New Lease Option 1**	**Biennium Impact:**
	Start	**Finish**			
19-21 Biennium Lease Expenditure	7/1/2019	6/30/2021	$ -	$ -	$ -
21-23 Biennium Lease Expenditure	7/1/2021	6/30/2023	$ -	$ 24,384,751	$ 24,384,751
23-25 Biennium Lease Expenditure	7/1/2023	6/30/2025	$ -	$ 6,019,200	$ 6,019,200
25-27 Biennium Lease Expenditure	7/1/2025	6/30/2027	$ -	$ 6,019,200	$ 6,019,200
27-29 Biennium Lease Expenditure	7/1/2027	6/30/2029	$ -	$ 6,679,200	$ 6,679,200

Ownership Option 1 Information Sheet

*	***Requires a user input***	*Green Cell*	*= Value can be entered by user.*	*Yellow Cell*	*= Calculated value.*

*	**Project Description**	New Academic and Physical Education Building for Washington State School for the Deaf constructed in 2 Phases. Phase-I includes demo of 4 vacant building and modifying utilities. Phase-II is a 60,000-gsf new building, demolition of 2 buildings and site work using Design-Build
*	**Construction or Purchase/Remodel**	Construction
*	**Project Location**	Vancouver — Market Area = Clark County

	Statistics	
*	Gross Sq Ft	60,000
*	Usable Sq Ft	43,500
	Space Efficiency	73%
	Estimated Acres Needed	3.00
	MACC Cost per Sq Ft	$620.96
	Estimated Total Project Costs per Sq Ft	$816.41
	Escalated MACC Cost per Sq Ft	$724.06
	Escalated Total Project Costs per Sq Ft	$951.97

*	**Move In Date**	5/1/2024

Interim Lease Information	**Start Date**
Lease Start Date	
Length of Lease (in months)	
Square Feet (holdover/temp lease)	
Lease Rate- Full Serviced ($/SF/Year)	
One Time Costs (if double move)	

	Construction Cost Estimates (See Capital Budget System For Detail)			
		Known Costs	**Estimated Costs**	**Cost to Use**
	Acquisition Costs Total	$ 1	$ 750,000	$ 1
A & E	**Consultant Services**			
	A & E Fee Percentage (if services not specified)		6.32% Std	6.32%
	Pre-Schematic Design services	$ 180,000		
	Construction Documents	$ 318,937		
	Extra Services	$ 460,000		
	Other Services	$ 583,290		
	Design Services Contingency	$ 110,223		
	Consultant Services Total	$ 1,652,450	$ 2,386,145	$ 1,652,450
	Construction Contracts			
C	Site Work	$ 7,880,702		

MAC				
	Related Project Costs	$ 1,094,591		
	Facility Construction	$ 28,282,078		
	MACC SubTotal	$ 37,257,371	$ 18,000,000	$ 37,257,371
	Construction Contingency (5% default)	$ 3,849,828	$ 1,862,869	$ 3,849,828
	Non Taxable Items			$ -
	Sales Tax	$ 3,557,241	$ 3,129,619	$ 3,557,241
	Construction Additional Items Total	$ 7,407,069	$ 4,992,488	$ 7,407,069
	Equipment			
	Equipment	$ 1,837,814		
	Non Taxable Items			
	Sales Tax	$ 142,414		
	Equipment Total	$ 1,980,228		$ 1,980,228
	Art Work Total	$ 202,696	$ 186,287	$ 202,696
	Other Costs			
	Permits	$ 150,000		
	Other Costs Total	$ 150,000		$ 150,000
	Project Management Total	$ 335,000		$ 335,000
	Grand Total Project Cost	**$ 48,984,815**	**$ 26,314,919**	**$ 48,984,815**

Construction One Time Project Costs			
One Time Costs	**Estimate**	**Calculated**	
Moving Vendor and Supplies	$ 85,000	$ -	*$205 / Person in FY09*
Other (not covered in construction)			
Total	$ 85,000	$ 85,000	

	Ongoing Building Costs				
Added Services	New Building Operating Costs	Known Cost /GSF/ 2024	Estimated Cost /GSF/ 2024	Total Cost / Year	Cost / Month
☑	Energy (Electricity. Natural Gas)	$ 2.50	$ 1.35	$ 150,000	$ 12,500
☑	Janitorial Services	$ 1.80	$ 1.66	$ 108,000	$ 9,000
☑	Utilities (Water, Sewer, & Garbage)	$ 2.00	$ 1.26	$ 120,000	$ 10,000
☑	Grounds	$ 0.75	$ 0.07	$ 45,000	$ 3,750
☑	Pest Control	$ 0.15	$ 0.12	$ 9,000	$ 750
☑	Security	$ 0.40	$ 0.10	$ 24,000	$ 2,000
☑	Maintenance and Repair	$ 2.00	$ 6.70	$ 120,000	$ 10,000
☑	Management	$ 0.70	$ 0.62	$ 42,000	$ 3,500
☑	Road Clearance	$ -	$ 0.07	$ 4,464	$ 372
☑	Telecom	$ 2.30	$ -	$ 138,000	$ 11,500
	Additional Parking	$ -	$ -	$ -	$ -
	Other	$ -	$ -	$ -	$ -
	Total Operating Costs	**$ 12.60**	**$ 11.97**	**$ 760,464**	**$ 63,372**

Ownership Option 2 Information Sheet

*	***Requires a user input***	*Green Cell*	*= Value can be entered by user.*	*Yellow Cell*	*= Calculated value.*

*	**Project Description**	Alternate-3: New Academic and Physical Education Building for WSSD in 4 Phases. Phase-I includes demo of 4 vacant building and modifying utilities (D-B-B). Phase-II is a 30,000-gsf addition to Divine/Hunter Gym and Phase-III is renovation of existing Divine/Hunter. Phase-IV is site work. Phases II - IV using
*	**Construction or Purchase/Remodel**	Construction
*	**Project Location**	Vancouver — Market Area = Clark County

	Statistics	
*	Gross Sq Ft	66,000
*	Usable Sq Ft	44,000
	Space Efficiency	67%
	Estimated Acres Needed	3.00
	MACC Cost per Sq Ft	$526.22
	Estimated Total Project Costs per Sq Ft	$784.46
	Escalated MACC Cost per Sq Ft	$632.74
	Escalated Total Project Costs per Sq Ft	$943.25

*	**Move In Date**	8/1/2025

Interim Lease Information	**Start Date**
Lease Start Date	
Length of Lease (in months)	
Square Feet (holdover/temp lease)	
Lease Rate- Full Serviced ($/SF/Year)	
One Time Costs (if double move)	

	Construction Cost Estimates (See Capital Budget System For Detail)			
		Known Costs	**Estimated Costs**	**Cost to Use**
	Acquisition Costs Total	$ 1	$ 750,000	$ 1
A & E	**Consultant Services**			
	A & E Fee Percentage (if services not specified)		6.4% Std	6.40%
	Pre-Schematic Design services	$ 385,000		
	Construction Documents	$ 2,706,989		
	Extra Services	$ 1,156,000		
	Other Services	$ 1,576,114		
	Design Services Contingency	$ 309,320		
	Consultant Services Total	$ 6,133,423	$ 2,224,306	$ 6,133,423
	Construction Contracts			
C	Site Work	$ 6,791,525		

MAC				
	Related Project Costs	$ 350,000		
	Facility Construction	$ 27,588,894		
	MACC SubTotal	$ 34,730,419	$ 19,800,000	$ 34,730,419
	Construction Contingency (5% default)	$ 1,910,736	$ 1,910,736	$ 1,910,736
	Non Taxable Items			$ -
	Sales Tax	$ 3,316,968	$ 2,917,355	$ 3,316,968
	Construction Additional Items Total	$ 5,227,704	$ 5,227,704	$ 5,227,704
	Equipment			
	Equipment	$ 2,292,000		
	Non Taxable Items	$ -		
	Sales Tax	$ 192,528		
	Equipment Total	$ 2,484,528		$ 2,484,528
	Art Work Total	$ 166,558	$ 173,652	$ 166,558
	Other Costs			
	CGCM Risk Contingency	$ 1,262,306		
	GCCM Fee	$ 984,253		
	Permits	$ 220,000		
	Other Costs Total	$ 2,466,559		$ 2,466,559
	Project Management Total	$ 565,000		$ 565,000
	Grand Total Project Cost		**$ 28,175,663**	**$ 51,774,192**

Construction One Time Project Costs			
One Time Costs	**Estimate**	**Calculated**	
Moving Vendor and Supplies	$ 85,000	$ -	*$205 / Person in FY09*
Other (not covered in construction)			
Total	$ 85,000	$ 85,000	

	Ongoing Building Costs				
Added Services	New Building Operating Costs	Known Cost /GSF/ 2025	Estimated Cost /GSF/ 2025	Total Cost / Year	Cost / Month
☑	**Energy (Electricity. Natural Gas)**	$ 2.50	$ 1.39	$ 165,000	$ 13,750
☑	**Janitorial Services**	$ 1.80	$ 1.71	$ 118,800	$ 9,900
☑	**Utilities (Water, Sewer, & Garbage)**	$ 2.00	$ 1.30	$ 132,000	$ 11,000
☑	**Grounds**	$ 0.75	$ 0.08	$ 49,500	$ 4,125
☑	**Pest Control**	$ 0.15	$ 0.13	$ 9,900	$ 825
☑	**Security**	$ 0.40	$ 0.10	$ 26,400	$ 2,200
☑	**Maintenance and Repair**	$ 2.00	$ 6.90	$ 132,000	$ 11,000
☑	**Management**	$ 0.70	$ 0.64	$ 46,200	$ 3,850
☑	**Road Clearance**	$ -	$ 0.08	$ 5,063	$ 422
☑	**Telecom**	$ 2.30	$ -	$ 151,800	$ 12,650
	Additional Parking	$ -	$ -	$ -	$ -
	Other	$ -	$ -	$ -	$ -
	Total Operating Costs	**$ 12.60**	**$ 12.34**	**$ 836,663**	**$ 69,722**

Life Cycle Cost Analysis - Project Summary

Agency	
Project Title	

Existing Description	

Lease Option 1 Description	Lease approximately 66,000-gsf with 44,000-suitable for use as classroom and adsministrative space for elementary & secondary school and approx. 22,000-sf as a gymnasium and physical education facility for K-12 school

Lease Option 2 Description	

Ownership Option 1 Description	New Academic and Physical Education Building for Washington State School for the Deaf constructed in 2 Phases. Phase-I includes demo of 4 vacant building and modifying utilities. Phase-II is a 60,000-gsf new building, demolition of 2 buildings and site work using Design-Build

Ownership Option 2 Description	Alternate-3: New Academic and Physical Education Building for WSSD in 4 Phases. Phase-I includes demo of 4 vacant building and modifying utilities (D-B-B). Phase-II is a 30,000-gsf addition to Divine/Hunter Gym and Phase-III is renovation of existing Divine/Hunter. Phase-IV is site work. Phases II - IV using GC/CM

Ownership Option 3 Description	

Lease Options Information	Existing Lease	Lease Option 1	Lease Option 2
Total Rentable Square Feet	-	66,000	-
Annual Lease Cost (Initial Term of Lease)	$ -	$ 1,650,000	$ -
Full Service Cost/SF (Initial Term of Lease)	$ -	$ 25.00	$ -
Occupancy Date	n/a	7/1/2022	
Project Initial Costs	n/a	$ 21,375,151	$ -
Persons Relocating	-	-	-
RSF/Person Calculated			

Ownership Information	Ownership 1	Ownership 2	Ownership 3
Total Gross Square Feet	60,000	66,000	-
Total Rentable Square Feet	43,500	44,000	-
Occupancy Date	5/1/2024	8/1/2025	
Initial Project Costs	$ 85,000	$ 85,000	$ -
Est Construction TPC ($/GSF)	$ 952	$ 943	$ -
RSF/Person Calculated	-	-	-

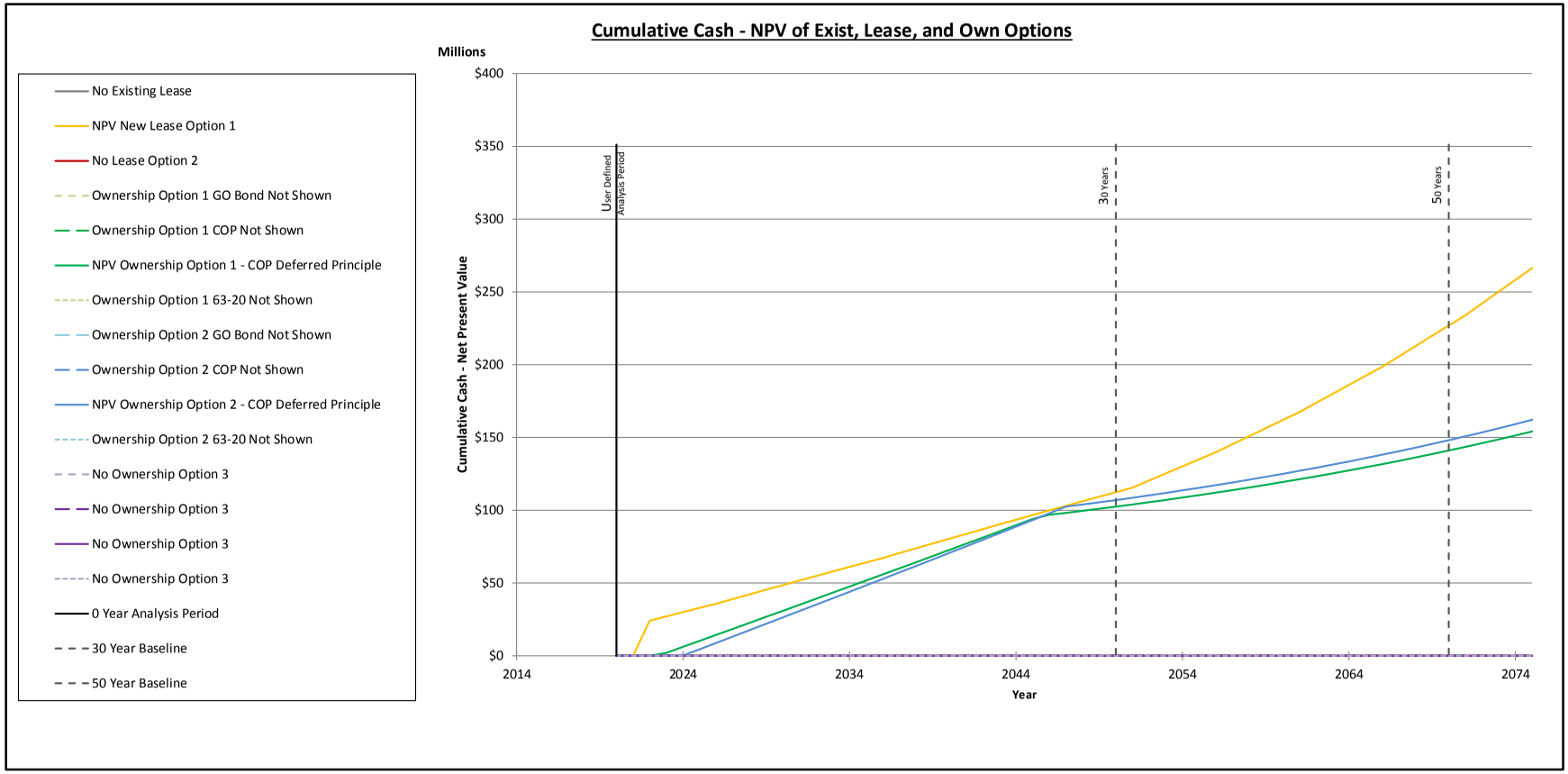
Financial Analysis of Options

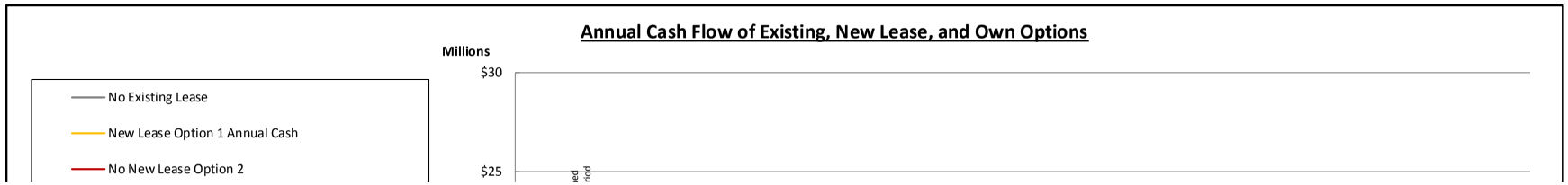
	Display Option?	Yes	Yes	Yes	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No
	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
0	0 Year Cumulative Cash	$ -	$ -	$ -			$ -				$ -				$ -	
	0 Year Net Present Value	$ -	$ -	$ -			$ -				$ -				$ -	
	Lowest Cost Option (Analysis Period)															

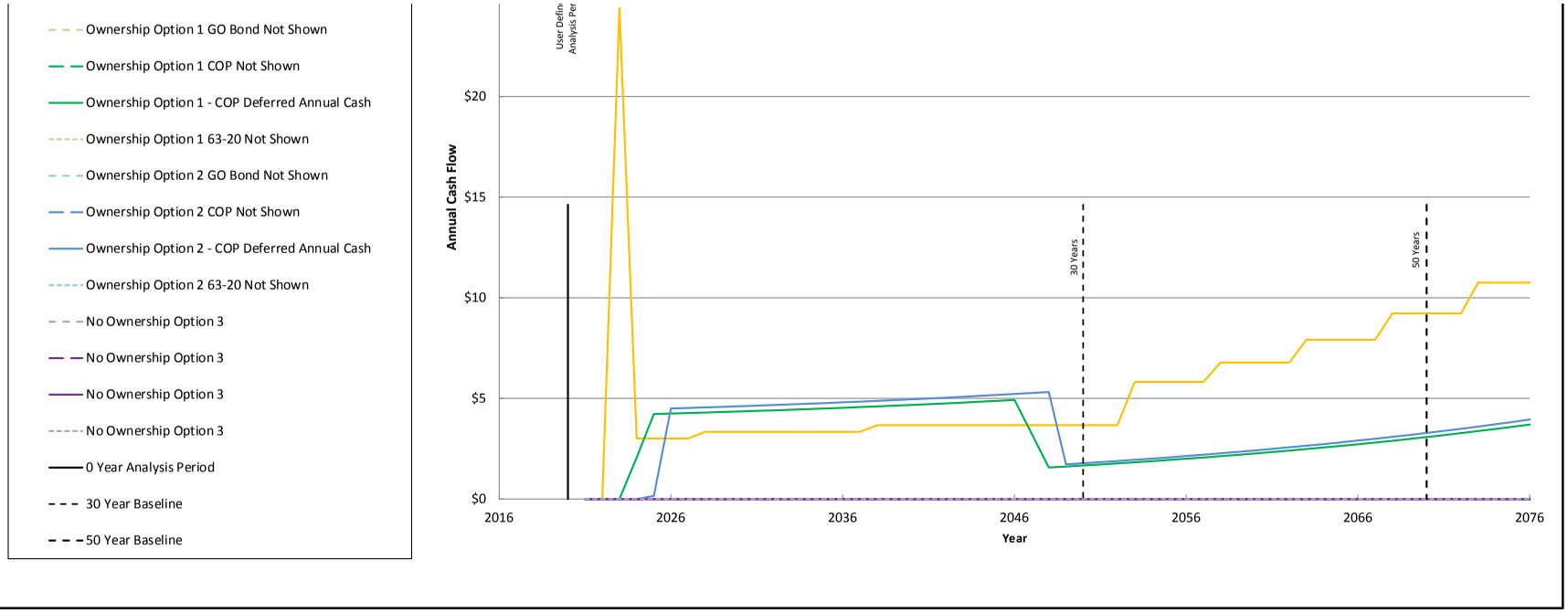
	Financial Comparisons	**Existing Lease**	**Lease 1**	**Lease 2**	**Ownership 1**				**Ownership 2**				**Ownership 3**			
Years	**Financing Means**	**Current**	**Current**	**Current**	**GO Bond**	**COP**	**COP Deferred ***	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**	**GO Bond**	**COP**	**COP Deferred**	**63-20**
30	30 Year Cumulative Cash	$ -	$ 117,523,951	$ -			$ 109,984,517				$ 115,522,201				$ -	
	30 Year Net Present Value	$ -	$ 109,302,986	$ -			$ 101,030,238				$ 105,436,679				$ -	
	Lowest Cost Option (30 Years)		**3**				**1**				**2**					

	Financial Comparisons	Existing Lease	Lease 1	Lease 2	Ownership 1				Ownership 2				Ownership 3			
Years	Financing Means	Current	Current	Current	GO Bond	COP	COP Deferred *	63-20	GO Bond	COP	COP Deferred	63-20	GO Bond	COP	COP Deferred	63-20
50	50 Year Cumulative Cash	$ -	$ 255,094,177	$ -			$ 156,682,503				$ 165,344,924				$ -	
	50 Year Net Present Value	$ -	$ 219,850,244	$ -			$ 138,599,614				$ 145,519,961				$ -	
	Lowest Cost Option (50 Years)		3				1				2					

** - Defers payment on principle for 2 years while the building is being constructed. See instructions on Capitalized Interest.*







Financial Assumptions

Date of Life Cycle Cost Analysis:	
Analysis Period Start Date	7/1/2020
User Input Years of Analysis	0

All assumptions subject to change to reflect updated costs and conditions.

	Lease Options			Ownership Option 1			Ownership Option 2			Ownership Option 3		
	Existing Lease	**Lease Option 1**	**Lease Option 2**	**GO Bond**	**COP**	**63-20**	**GO Bond**	**COP**	**63-20**	**GO Bond**	**COP**	**63-20**
Inflation / Interest Rate	3.120%	3.120%	3.120%	3.540%	3.670%	3.670%	3.540%	3.670%	3.670%	3.540%	3.720%	3.720%
Discount Rate	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%	0.533%
Length of Financing	N/A	N/A	N/A	25	25	25	25	25	25	25	25	25

See Financial Assumptions tab for more detailed information

COP Deferred and 63-20 Financing defer the payment on principle until construction completion.

New Lease Assumptions

Real Estate Transaction fees are 2.5% of the lease for the first 5 years and 1.25% for each year thereafter in the initial term of the lease.

Tenant Improvements are estimated at $260 per rentable square foot.

IT infrastructure is typically estimated at $350 per person.

Furniture costs are typically estimated at $500 per person and do not include new workstations.

Moving Vendor and Supplies are typically estimated at $205 per person.

Default Ownership Options Assumptions

Assumes a 2 month lease to move-in overlap period for outfitting building and relocation.

Assumes surface parking.

The floor plate of the construction option office building is 25,000 gross square feet.

The estimated total project cost for construction is $420.00 per square foot.

See the Capital Construction Defaults tab for more construction assumptions.

Estimate Detail of Concept

Center for Childhood Deafness & Hearing Loss
Concept Rev2

Location Summary

GFA: Gross Floor Area
Rates Current At June 2019

Location		GFA SF	Cost/SF	Total Cost
A BUILDING		**60,000**	**423.15**	**25,389,015**
B SITEWORK				
B1 ON-SITE WORK				8,190,205
B2 OFF-SITE WORK				691,732
	B - SITEWORK			***$8,881,937***
	ESTIMATED NET COST	**60,000**	**$571.18**	**$34,270,952**
MARGINS & ADJUSTMENTS				
Escalation to 3Q2020	6.0 %			$2,056,257
WA State/Clark Cty/Vancouver Sales Tax				Excl.
	ESTIMATED TOTAL COST	**60,000**	**$605.45**	**$36,327,209**

Center for Childhood Deafness & Hearing Loss
Concept Rev2

Location Summary

GFA: Gross Floor Area
Rates Current At June 2019

Location		GFA SF	Cost/SF	Total Cost
A BUILDING		**60,000**	**305.86**	**18,351,760**
B SITEWORK				
B1 ON-SITE WORK				5,920,068
B2 OFF-SITE WORK				500,000
	B - SITEWORK			***$6,420,068***
	ESTIMATED NET COST	**60,000**	**$412.86**	**$24,771,828**
MARGINS & ADJUSTMENTS				
Phasing & Temporary Work	1.5 %			$371,577
General Conditions	9.0 %			$2,262,906
Bonds & Insurance	3.5 %			$959,221
Overhead & Profit	3.0 %			$850,966
Design Contingency	15.0 %			$4,382,475
Market Volatility Contingency	2.0 %			$671,979
Escalation to 3Q2020	6.0 %			$2,056,257
WA State/Clark Cty/Vancouver Sales Tax				Excl.
	ESTIMATED TOTAL COST	**60,000**	**$605.45**	**$36,327,209**

Center for Childhood Deafness & Hearing Loss
Concept Rev2

Uniformat Level 2 Summary

Gross Floor Area: 60,000 SF
Rates Current At June 2019

Description			Cost/SF	Total Cost
A10	**Foundations**		**$17.81**	**$1,068,500**
B10	**Superstructure**		**$37.92**	**$2,275,263**
B20	**Exterior Enclosure**		**$55.14**	**$3,308,547**
B30	**Roofing**		**$32.66**	**$1,959,450**
C10	**Interior Construction**		**$28.00**	**$1,680,000**
C20	**Stairs**		**$1.33**	**$80,000**
C30	**Interior Finishes**		**$22.25**	**$1,335,000**
D10	**Conveying**		**$1.67**	**$100,000**
D20	**Plumbing**		**$12.50**	**$750,000**
D30	**HVAC**		**$34.00**	**$2,040,000**
D40	**Fire Protection**		**$4.25**	**$255,000**
D50	**Electrical**		**$40.50**	**$2,430,000**
E10	**Equipment**		**$4.08**	**$245,000**
E20	**Furnishings**		**$7.50**	**$450,000**
F20	**Selective Building Demolition**		**$35.81**	**$2,148,775**
G10	**Site Preparations**		**$19.01**	**$1,140,654**
G20	**Site Improvements**		**$41.18**	**$2,470,639**
G30	**Site Civil/Mechanical Utilities**		**$8.50**	**$510,000**
G40	**Site Electrical Utilities**		**$8.75**	**$525,000**
		ESTIMATED NET COST	**$412.86**	**$24,771,828**
MARGINS & ADJUSTMENTS				
Phasing & Temporary Work		1.5 %		$371,577
General Conditions		9.0 %		$2,262,906
Bonds & Insurance		3.5 %		$959,221
Overhead & Profit		3.0 %		$850,966
Design Contingency		15.0 %		$4,382,475
Market Volatility Contingency		2.0 %		$671,979
Escalation to 3Q2020		6.0 %		$2,056,257
WA State/Clark Cty/Vancouver Sales Tax				Excl.
		ESTIMATED TOTAL COST	**$605.45**	**$36,327,209**

Center for Childhood Deafness & Hearing Loss
Concept Rev2

Uniformat Level 3 Summary

Gross Floor Area: 60,000 SF
Rates Current At June 2019

Description		Cost/SF	Total Cost
A1010	Standard Foundations	$9.83	$590,000
A1030	Slab on Grade	$7.98	$478,500
B1010	Floor Construction	$12.65	$759,000
B1020	Roof Construction	$25.27	$1,516,263
B2010	Exterior Walls	$41.56	$2,493,872
B2020	Exterior Windows	$11.83	$709,675
B2030	Exterior Doors	$1.75	$105,000
B3010	Roof Coverings	$32.66	$1,959,450
C1010	Partitions	$14.75	$885,000
C1020	Interior Doors	$6.25	$375,000
C1030	Specialties	$7.00	$420,000
C2010	Stair Construction	$1.33	$80,000
C3010	Wall Finishes	$6.50	$390,000
C3020	Floor Finishes	$9.09	$545,500
C3030	Ceiling Finishes	$6.66	$399,500
D1010	Elevators and Lifts	$1.67	$100,000
D2010	Plumbing Fixtures	$12.50	$750,000
D3090	Other HVAC Systems and Equipment	$34.00	$2,040,000
D4040	Sprinklers	$4.25	$255,000
D5010	Electrical Service & Distribution	$10.50	$630,000
D5020	Lighting & Branch Wiring	$19.00	$1,140,000
D5030	Communications & Security	$11.00	$660,000
E1090	Other Equipment	$4.08	$245,000
E2010	Fixed Furnishings	$7.50	$450,000
F2010	Building Elements Demolition	$35.81	$2,148,775
G1020	Site Demolition & Relocations	$6.71	$402,570
G1030	Site Earthwork	$12.30	$738,084
G2010	Roadways	$8.33	$500,000
G2020	Parking Lots	$9.77	$586,070
G2030	Pedestrian Paving	$2.27	$136,472
G2040	Site Development	$10.00	$600,000
G2050	Landcaping	$10.80	$648,097
G3010	Water Supply	$3.33	$200,000
G3020	Sanitary Sewer	$1.00	$60,000
G3030	Storm Sewer	$4.17	$250,000
G4010	Electrical Distribution		Excl.
G4020	Site Lighting	$7.50	$450,000

Center for Childhood Deafness & Hearing Loss
Concept Rev2

Uniformat Level 3 Summary

Gross Floor Area: 60,000 SF
Rates Current At June 2019

Description		Cost/SF	Total Cost
G4030 Site Communication and Security		**$1.25**	**$75,000**
	ESTIMATED NET COST	**$412.86**	**$24,771,828**
MARGINS & ADJUSTMENTS			
Phasing & Temporary Work	1.5 %		$371,577
General Conditions	9.0 %		$2,262,906
Bonds & Insurance	3.5 %		$959,221
Overhead & Profit	3.0 %		$850,966
Design Contingency	15.0 %		$4,382,475
Market Volatility Contingency	2.0 %		$671,979
Escalation to 3Q2020	6.0 %		$2,056,257
WA State/Clark Cty/Vancouver Sales Tax			Excl.
	ESTIMATED TOTAL COST	**$605.45**	**$36,327,209**

Center for Childhood Deafness & Hearing Loss

Concept Rev2

Location Uniformat Level 2/Uniformat Level 3 Item

GFA: 60,000 SF Cost/SF: $305.86

A BUILDING

Rates Current At June 2019

Description	Unit	Qty	Rate	Total
A10 Foundations				
A1010 Standard Foundations				
7 Elevator pit - complete incl. waterproofing	Item			20,000
6 Standard foundations	SF	60,000	9.50	570,000
Standard Foundations			***$9.83/SF***	***$590,000***
A1030 Slab on Grade				
8 Slab on grade, incl. base course and vapor barrier	SF	43,500	11.00	478,500
Slab on Grade			***$7.98/SF***	***$478,500***
Foundations			***$17.81/SF***	***$1,068,500***
B10 Superstructure				
B1010 Floor Construction				
10 Concrete topping slab over metal deck	SF	16,500	13.00	214,500
9 Structural steel floor framing (assumes 12 psf + 10% allowance for misc. metals and connections)	T	108.90	5,000.00	544,500
Floor Construction			***$12.65/SF***	***$759,000***
B1020 Roof Construction				
63 Exterior metal canopy	SF	720	60.00	43,200
12 Metal roof deck	SF	45,675	7.50	342,563
11 Structural steel roof framing (assumes 9 psf + 10% allowance for misc. metals and connections)	T	226.10	5,000.00	1,130,500
Roof Construction			***$25.27/SF***	***$1,516,263***
Superstructure			***$37.92/SF***	***$2,275,263***
B20 Exterior Enclosure				
B2010 Exterior Walls				
13 Exterior wall assembly; brick veneer, weather-resistive barrier, rigid insulation, sheathing, flashings, metal stud framing, secondary support steel, vapor barrier, batt insulation, and finished gyp board to the inside face of exterior wall	SF	31,257	72.00	2,250,504
51 Sun control louvers, incl. structural support	SF	2,570	50.00	128,500
45 Work at interface between (N) and (E) building	SF	2,209	52.00	114,868
Exterior Walls			***$41.56/SF***	***$2,493,872***
B2020 Exterior Windows				
14 Curtainwall	SF	3,157	135.00	426,195
15 Exterior storefront windows	SF	2,984	95.00	283,480
Exterior Windows			***$11.83/SF***	***$709,675***
B2030 Exterior Doors				
16 Exterior doors	SF	60,000	1.75	105,000
Exterior Doors			***$1.75/SF***	***$105,000***
Exterior Enclosure			***$55.14/SF***	***$3,308,547***

Description	Unit	Qty	Rate	Total
B30 Roofing				
B3010 Roof Coverings				
17 Low-slope membrane roof system	SF	24,255	26.00	630,630
53 Skylights at Classrooms/Offices	SF	1,230	190.00	233,700
46 Skylights at Gym	SF	2,160	150.00	324,000
52 Standing seam metal roof system	SF	21,420	36.00	771,120
Roof Coverings			***$32.66/SF***	***$1,959,450***
Roofing			***$32.66/SF***	***$1,959,450***
C10 Interior Construction				
C1010 Partitions				
20 Allowance for rough carpentry	SF	60,000	0.75	45,000
19 Partitions, incl. CMU walls	SF	60,000	14.00	840,000
Partitions			***$14.75/SF***	***$885,000***
C1020 Interior Doors				
21 Interior doors and glazing	SF	60,000	6.25	375,000
Interior Doors			***$6.25/SF***	***$375,000***
C1030 Specialties				
22 Specialties; Includes markerboards, tackboards, signage, corner/wall protection, fire extinguishers, etc.	SF	60,000	7.00	420,000
Specialties			***$7.00/SF***	***$420,000***
Interior Construction			***$28.00/SF***	***$1,680,000***
C20 Stairs				
C2010 Stair Construction				
24 Metal pan stair	EA	4	20,000.00	80,000
Stair Construction			***$1.33/SF***	***$80,000***
Stairs			***$1.33/SF***	***$80,000***
C30 Interior Finishes				
C3010 Wall Finishes				
25 Wall finishes	SF	60,000	6.50	390,000
Wall Finishes			***$6.50/SF***	***$390,000***
C3020 Floor Finishes				
26 Floor finishes	SF	46,000	7.75	356,500
41 Wood athletic flooring	SF	14,000	13.50	189,000
Floor Finishes			***$9.09/SF***	***$545,500***
C3030 Ceiling Finishes				
27 Ceiling finishes	SF	46,000	8.00	368,000

Description	Unit	Qty	Rate	Total
42 Gym ceiling finishes; assumes mostly open to structure with minor acoustical treatments	SF	14,000	2.25	31,500
Ceiling Finishes			***$6.66/SF***	***$399,500***
Interior Finishes			***$22.25/SF***	***$1,335,000***
D10 Conveying				
D1010 Elevators and Lifts				
28 Elevator	Stop	2	50,000.00	100,000
Elevators and Lifts			***$1.67/SF***	***$100,000***
Conveying			***$1.67/SF***	***$100,000***
D20 Plumbing				
D2010 Plumbing Fixtures				
29 Plumbing fixtures and pipework	SF	60,000	12.50	750,000
Plumbing Fixtures			***$12.50/SF***	***$750,000***
Plumbing			***$12.50/SF***	***$750,000***
D30 HVAC				
D3090 Other HVAC Systems and Equipment				
30 HVAC, incl. DDC controls	SF	60,000	34.00	2,040,000
Other HVAC Systems and Equipment			***$34.00/SF***	***$2,040,000***
HVAC			***$34.00/SF***	***$2,040,000***
D40 Fire Protection				
D4040 Sprinklers				
31 Fire sprinklers	SF	60,000	4.25	255,000
Sprinklers			***$4.25/SF***	***$255,000***
Fire Protection			***$4.25/SF***	***$255,000***
D50 Electrical				
D5010 Electrical Service & Distribution				
32 Electrical service and distribution	SF	60,000	10.50	630,000
Electrical Service & Distribution			***$10.50/SF***	***$630,000***
D5020 Lighting & Branch Wiring				
33 Lighting and branch wiring	SF	60,000	19.00	1,140,000
Lighting & Branch Wiring			***$19.00/SF***	***$1,140,000***
D5030 Communications & Security				
34 Systems; Fire alarm, PA, tel/data, security. A/V backbone, etc.	SF	60,000	11.00	660,000
Communications & Security			***$11.00/SF***	***$660,000***
Electrical			***$40.50/SF***	***$2,430,000***

Center for Childhood Deafness & Hearing Loss

Concept Rev2

Location Uniformat Level 2/Uniformat Level 3 Item

GFA: 60,000 SF Cost/SF: $305.86

A BUILDING (continued)

Rates Current At June 2019

Description	Unit	Qty	Rate	Total
E10 Equipment				
E1090 Other Equipment				
44 Allowance for A/V equipment	SF	60,000	2.00	120,000
43 Allowance for bleachers	Item			75,000
36 Allowance for fitness/gym equipment	Item			50,000
35 Allowance for kitchen equipment - Assumes none in scope	Item			Excl.
Other Equipment			***$4.08/SF***	***$245,000***
Equipment			***$4.08/SF***	***$245,000***
E20 Furnishings				
E2010 Fixed Furnishings				
37 Casework, furnishings, misc. equipment	SF	60,000	7.50	450,000
38 Movable furnishings incl. carts, desks, chairs, etc. -- Excluded	Item			Excl.
Fixed Furnishings			***$7.50/SF***	***$450,000***
Furnishings			***$7.50/SF***	***$450,000***
G10 Site Preparations				
G1030 Site Earthwork				
39 Allowance for structural excavation, misc. earthwork	SF	60,000	6.25	375,000
Site Earthwork			***$6.25/SF***	***$375,000***
Site Preparations			***$6.25/SF***	***$375,000***
BUILDING			***$305.86/SF***	***$18,351,760***

Center for Childhood Deafness & Hearing Loss

Concept Rev2

Location Uniformat Level 2/Uniformat Level 3 Item

B SITEWORK

B1 ON-SITE WORK

Rates Current At June 2019

Description	Unit	Qty	Rate	Total
F20 Selective Building Demolition				
F2010 Building Elements Demolition				
40 Demo of (E) Classroom and Gym buildings, incl. abatement of hazardous materials	SF	65,297	25.00	1,632,425
67 Demo of Boiler building, incl. abatement of hazardous materials	SF	1,935	30.00	58,050
68 Demo of Cafeteria building, incl. abatement of hazardous materials	SF	10,932	25.00	273,300
69 Demo of Maintenance/Training Building, incl. abatement of hazardous materials	SF	7,400	25.00	185,000
Building Elements Demolition				***$2,148,775***
Selective Building Demolition				***$2,148,775***
G10 Site Preparations				
G1020 Site Demolition & Relocations				
50 Demo hardscapes and softscapes	SF	242,056	1.25	302,570
65 Demo of (E) utilities - Allowance	Item			100,000
Site Demolition & Relocations				***$402,570***
G1030 Site Earthwork				
66 Grading, leveling, compaction (Assumes significant cut/fill is not required)	SF	242,056	1.50	363,084
Site Earthwork				***$363,084***
Site Preparations				***$765,654***
G20 Site Improvements				
G2020 Parking Lots				
47 Parking lot; complete incl. paving, base courses, curbs, signage, etc.	SF	58,607	10.00	586,070
Parking Lots				***$586,070***
G2030 Pedestrian Paving				
49 Standard pedestrian paving, incl. base course	SF	16,542	8.25	136,472
Pedestrian Paving				***$136,472***
G2040 Site Development				
4 Allowance for misc. site development	Item			600,000
Site Development				***$600,000***
G2050 Landcaping				
54 Landscaping, incl. irrigation	SF	46,378	6.50	301,457
48 Soccer field, natural grass, incl. irrigation and drainage	SF	77,031	4.50	346,640
Landcaping				***$648,097***
Site Improvements				***$1,970,639***

Center for Childhood Deafness & Hearing Loss

Concept Rev2

Location Uniformat Level 2/Uniformat Level 3 Item

B SITEWORK

B1 ON-SITE WORK (continued) Rates Current At June 2019

Description	Unit	Qty	Rate	Total
G30 Site Civil/Mechanical Utilities				
G3010 Water Supply				
55 Domestic water - Allowance	Item			100,000
56 Fire water - Allowance	Item			100,000
Water Supply				***$200,000***
G3020 Sanitary Sewer				
57 Sanitary sewer - Allowance	Item			60,000
Sanitary Sewer				***$60,000***
G3030 Storm Sewer				
59 Stormwater - Allowance	Item			250,000
Storm Sewer				***$250,000***
Site Civil/Mechanical Utilities				***$510,000***
G40 Site Electrical Utilities				
G4010 Electrical Distribution				
60 Site electrical service - Not Required. Will utilize service from adjacent building	Item			Excl.
Electrical Distribution				***Excl.***
G4020 Site Lighting				
61 Site lighting	Item			150,000
64 Soccer field lighting	Item			300,000
Site Lighting				***$450,000***
G4030 Site Communication and Security				
62 Site data/telecom service - Allowance	Item			75,000
Site Communication and Security				***$75,000***
Site Electrical Utilities				***$525,000***
ON-SITE WORK				***$5,920,068***

Center for Childhood Deafness & Hearing Loss

Concept Rev2

Location Uniformat Level 2/Uniformat Level 3 Item

B SITEWORK

B2 OFF-SITE WORK

Rates Current At June 2019

Description	Unit	Qty	Rate	Total
G20 Site Improvements				
G2010 Roadways				
5 Off-site work - Allowance	Item			500,000
Roadways				***$500,000***
Site Improvements				***$500,000***
OFF-SITE WORK				***$500,000***

APPENDIX 6.2

DAHP Review

Allyson Brooks Ph.D., Director
State Historic Preservation Officer

December 4, 2018

Ms. Shauna Bilyeu
Superintendent
Washington School for the Deaf
611 Grand Blvd.
Vancouver, WA 98661

In future correspondence please refer to:
Project Tracking Code: 040808-04-WSD
Property: School for the Deaf
Re: 2008 Memorandum of Understanding

Dear Ms. Bilyeu:

Thank you for contacting the Washington State Department of Archaeology and Historic Preservation (DAHP). The above referenced project has been reviewed on behalf of the State Historic Preservation Officer (SHPO) under provisions Governor's Executive Order 05-05. Our review is based upon documentation contained in your communication. As a result of our review, we have the following comments that summarize our understanding of the progress of the project up to the present day, and DAHP's recommendations for the completion of the project:

1. The Washington School for the Deaf (WSD) campus was determined to be eligible for listing in the National Register of Historic Places in 2008 as a historic district. The State of Washington Department of General Administration (now the Department of Enterprise Services [DES]) proposed to demolish eight historic buildings within the campus, all of which were determined to contribute to the historic district, to accommodate a new Academic Building and Gym.

2. The WSD, DES, and DAHP agreed that the demolition of these buildings would adversely impact the historically significant resources, and therefore agreed to measures that would mitigate the loss of the resources into a Memorandum of Understanding (MOU); all three parties signed the MOU in 2008. The stipulations of the MOU included the following:
    a. Preparation of a NRHP Multiple Property Documentation (MPD) Form focusing on the life and architectural work of Donald J. Stewart.
    b. A NRHP nomination for the Northrop Elementary School.
    c. Level II Mitigation Documentation of the historic buildings on the WSD campus.

3. In late 2008, DAHP received drafts of the MPD, Northrop Elementary School NRHP nomination, and Level II Mitigation Documentation. DAHP reviewed and sent comments back regarding the draft documents, but has not received any further communication regarding draft or final versions of any mitigation documents at the writing of this letter. DAHP therefore does not consider the MOU completed.

4. DAHP understands that Deer Hall, a building that was determined to be eligible, was demolished and replaced with the Kastel Cafeteria in 2009.

In order to complete the execution of the MOU, we request that aforementioned mitigation documents incorporate DAHP's 2008 comments and be re-submitted to DAHP for review and listing in the NRHP. As conditioned in the MOU, the final mitigation documentations will be retained by DAHP and the Washington State Archives. Copies will be submitted to the Clark County Museum in Vancouver and the

WSD. The Vancouver-Clark County Historic Preservation Commission must be kept apprised of the ongoing efforts.

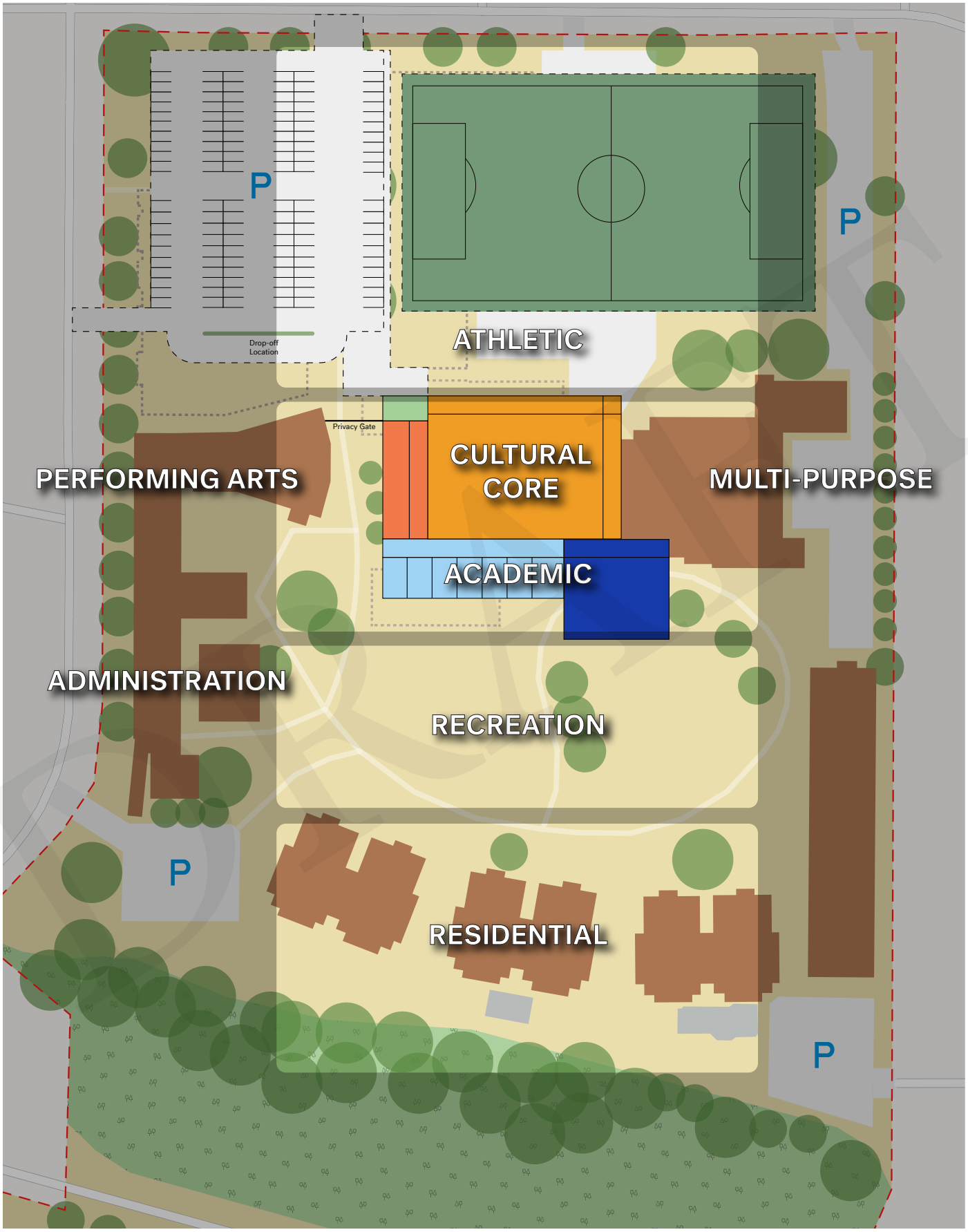
Thank you for the opportunity to review and comment. Please ensure that the DAHP Project Number (a.k.a. Project Tracking Code) is shared with any hired cultural resource consultants and is attached to any communications or submitted reports. If you have any questions, please feel free to contact me.

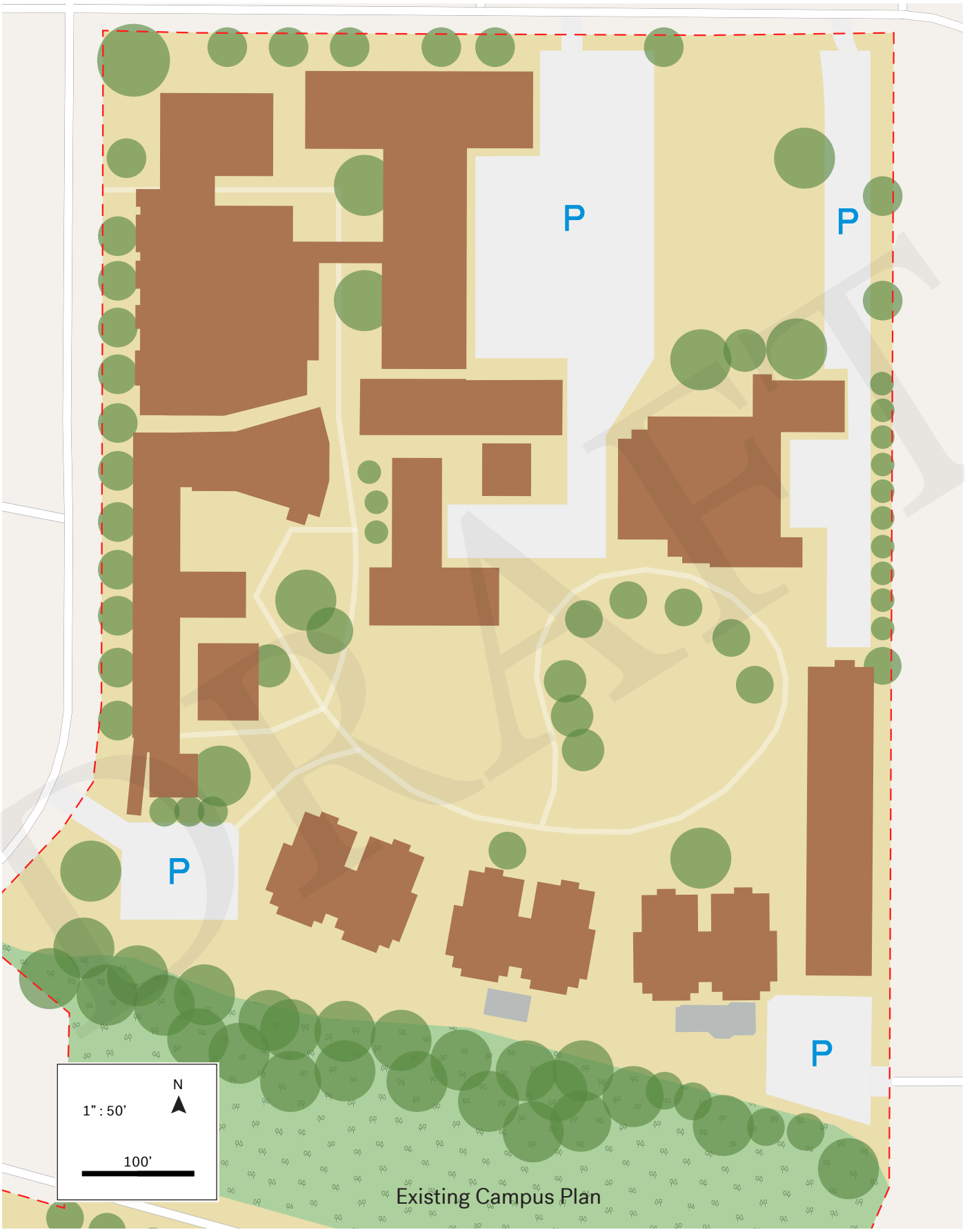
Sincerely,

Holly Borth
Project Compliance Reviewer
(360) 586-3533
holly.borth@dahp.wa.gov

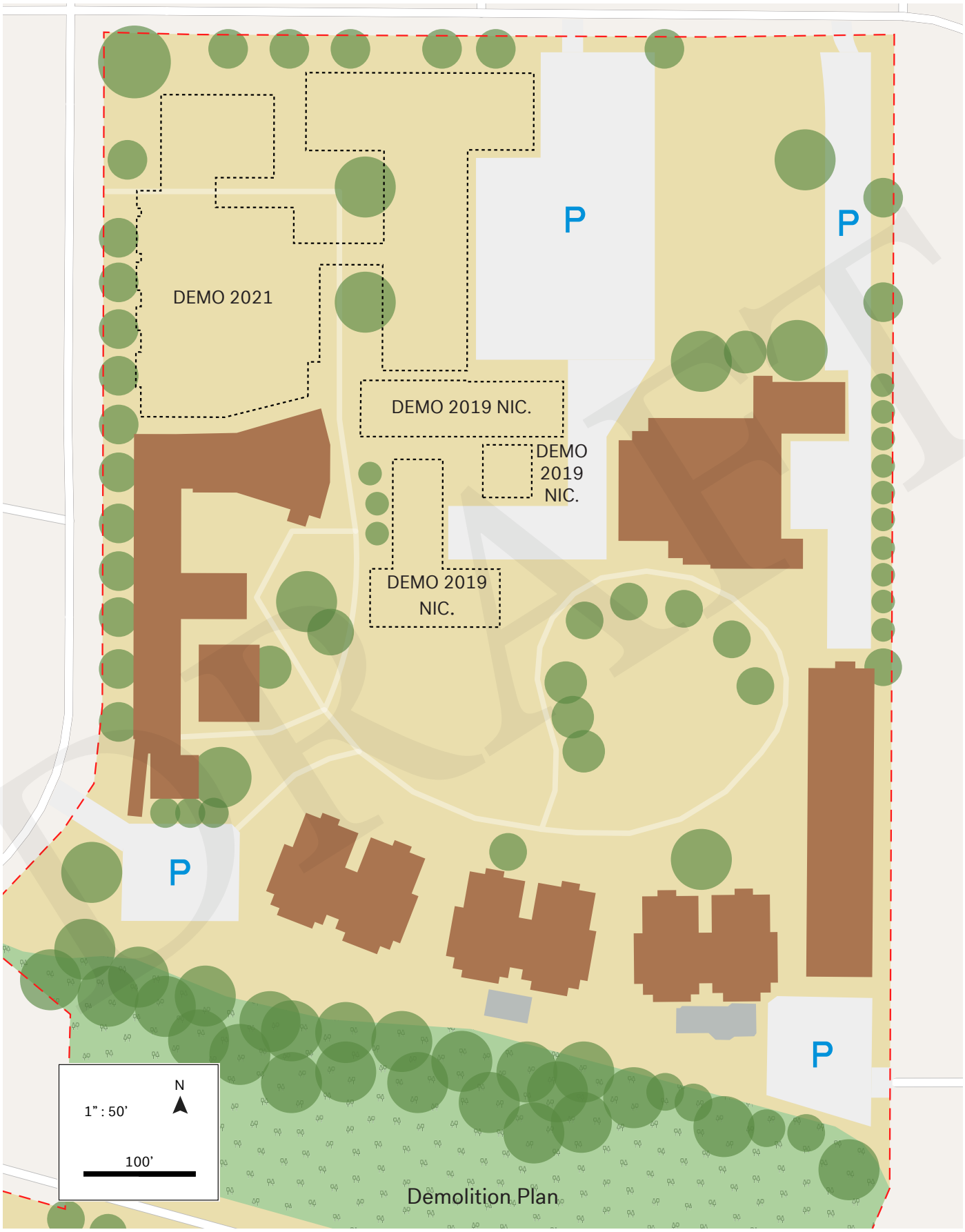
APPENDIX 6.3

Drawings and Sketches


P
P
Drop-off Location
ATHLETIC
Privacy Gate
CULTURAL CORE
PERFORMING ARTS
MULTI-PURPOSE
ACADEMIC
ADMINISTRATION
RECREATION
P
RESIDENTIAL
P

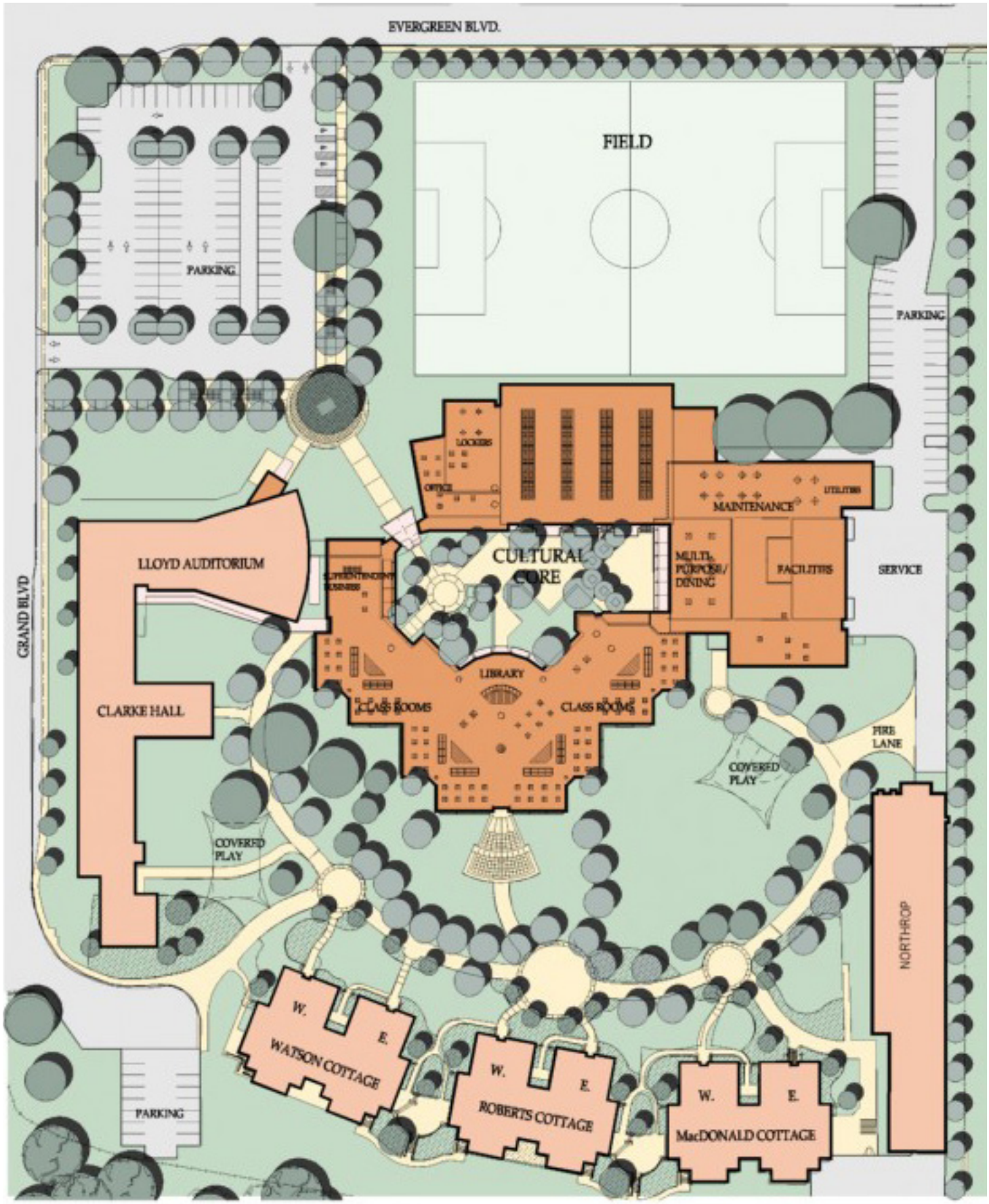


Existing Campus Plan


DEMO 2021
DEMO 2019 NIC.
DEMO 2019 NIC.
DEMO 2019 NIC.
P
P
P
P
N
1” : 50’
100’
Demolition Plan

P
Drop-off
Location
P
Lobby
Privacy Gate
Gym
20,400 sf
Offices
4,200 sf
Classrooms
8,200 sf
Flex
8,200 sf
P
P
N
1" : 50'
100'
Proposed First Floor

P
Drop-off
Location
P
L2
Privacy Gate
L2
Offices
4,200 sf
L2
Gym
20,400 sf
L2
Classrooms
8,200 sf
L2
Flex
8,200 sf
P
P
N
1" : 50'
100'
Proposed Second Floor


EVERGREEN BLVD.
FIELD
PARKING
PARKING
LOCKERS
OFFICE
MAINTENANCE
UTILITIES
LLOYD AUDITORIUM
CULTURAL CORE
MULTI PURPOSE/ DINING
FACILITIES
SERVICE
GRAND BLVD
LIBRARY
CLASS ROOMS
CLASS ROOMS
CLARKE HALL
FIRE LANE
COVERED PLAY
COVERED PLAY
NORTHROP
W.
E.
WATSON COTTAGE
W.
E.
ROBERTS COTTAGE
W.
E.
MacDONALD COTTAGE
PARKING

APPENDIX 6.4

Phase-I Demolition Study

1.0 INTRODUCTION

1.1 PROBLEM STATEMENT

The Center for Childhood Deafness and Hearing Loss (CDHL) has been in the planning and conceptual phase of project to build a new classroom and gymnasium building to serve their students. The scope of this project identified a new building which would be constructed in the central area of the campus which currently houses four existing buildings. It would also replace the existing Devine School and Hunter Gymnasium, both of which being removed in a second phase under the new project. The proposed project identified the demolition of the four existing buildings as being completed under a separate project prior to the start of the new.

The CCDHL was successful in obtaining $1M funding in the 2017-19 Capital Budget to update the Predesign Study and to fund the "*removal five aging and decayed buildings*". In reviewing the previous studies and project work on the campus, it became clear that no specific analysis of the existing buildings identified for removal had been made. Cursory review of their condition coupled with the interconnected nature of the campus utilities called into questions the adequacy of the funded amount to cover the intended demolition.

Aerial of CCDHL Campus with buildings to be demolished highlighted

Reviewing the site and plans with CCDHL Facilities staff, noted several issues that will impact developing an accurate demolition plan and estimate. These include:

- There are a considerable number of existing active and abandoned utilities (water, sewer, gas, power, telecommunications, signal, etc.) that traverse the site from building to building including utilities that are routed through the buildings to be demolished, that currently serve buildings that remain. These utilities will have to be identified and rerouted out of the subject buildings to allow for their demolition.
- There is known asbestos-containing materials (ACM) in the buildings to be removed. Additionally, there is likely other hazardous materials present such as lead paint, PCB/s, freon, and other industrial waste.

- There is no existing plan or survey of utilities that reflect the full extent of the existing conditions.
- The last record assessment of hazardous materials was over 10-years ago, and it was not complete enough to use in planning the demolition.

The CCDHL has undertaken this pre-demolition study to address the above issues and define the scope, schedule, and cost of a demolition project to proceed the planned new building.

1.2 FINDINGS

The demolition of the subject building can be accomplished by normal mechanical and manual means provided adequate pre-demolition scope is accomplished. This includes:

- Installation of temporary shoring in the Boiler House to make the structure safe for pre-demolition and demolition scope execution.
- Abatement and removal of identified ACM and other identified hazardous materials (Appendix B)
- Removal of the large equipment and structural framing within the Boiler House.
- Installation of new emergency power generator to replace active one adjacent to and in the Boiler House.
- Interception and rerouting of existing "dry" utilities (fire alarms, fiber optic) that are in or directly adjacent to the subject buildings and their attached utility tunnels.
- Interception and rerouting of existing "wet" utilities (domestic and fire protection water, sanitary, stormwater) that are in or directly adjacent to the subject buildings and their attached utility tunnels.

1.3 RECOMMENDATIONS

We recommend that the project be designed and bid as a single project using traditional design-bid-build. This approach will ensure that a responsible General Contractor will be leading the effort with major subcontractors for Abatement, and Site Civil work.

1.4 ESTIMATED COST

For the proposed demolition, we have estimated the construction MACC to be $4,395,251 and the overall project costs to be $5,376,000. Both estimates have been escalated to July 2020.

The estimated costs are considerably greater that was anticipated in the initial project request, primarily due to the extent of hazardous materials in the subject buildings and the extent of site utilities which have to be relocated and/or removed prior to building removal.

1.5 PROPOSED SCHEDULE

As the initial funding is not adequate to cover the full or partial cost of the demolition, we recommend that the estimated cost above the current allocation be requested in the 2020 supplemental capital budget. It is desired that the bulk of the work be planned to occur over the summer months when the school is on summer break. The project can be designed and bid prior to 1 July and the execution can be planned for July-September 2020.

This would ensure the Phase-I Demolition is complete prior to the start of construction of the new school in 21-23 Biennium.

2.0 SCOPE OF STUDY

2.1 STUDY METHODOLOGY

The study team conducted a review of the available documentation on the subject buildings and conducted a series of site investigations accompanied by campus facilities staff to accomplish the following

a. Identify physical constraints and parameters for the physical demolition of the buildings.
b. Conduct a field survey of the subject buildings and utilities to locate, identify, and quantify asbestos-containing building materials; lea-containing paint and building materials; polychlorinated biphenyl (PCB) containing sealants and light ballasts; mercury-containing thermostats and fluorescent light tubes, chlorofluorocarbon (CFC) or hydrochlorofluorocarbon (HCFC) containing equipment; and tritium containing exit signs prior to impact via demolition activities. The survey is also intended to satisfy Occupational Safety and Health Administration (OSHA) hazard communication requirements as well as Washington Administrative Code (WAC) 296-62 which requires a "Good Faith" inspection prior to demolition and renovation activities.
c. inspecting the utilidors affected by the demolition work and locating service connections supplied by piping to be removed during the building demolition.
d. Inspecting the utilidors affected by the demolition work and locating MEP and Telecommunications services be removed during the building demolition.

2.2 STUDY TEAM

The study team was composed of the following consulting firms:

- Schreiber Starling Whitehead Architects – Prime Architect
- PBS Environmental – Hazardous Materials Testing and Abatement Planning
- PBS Engineering - Site Civil utilities, location, assessment, and relocation. Site restoration.
- Wood Harbinger, Inc. Site Mechanical, Electrical and Telecommunications systems assessment, and relocation

3.0 EXISTING CONDITIONS

3.1 BOILER HOUSE

General

Built in 1923, the Boiler house is the second oldest existing building on the CCDHL campus. It was designed by the Northwest Engineering Company of Seattle and contains approximately 2,300-gsf of area. Originally housing coal-fired boilers, the heating equipment was changed to natural gas-fired boilers and heat exchangers in the early 1950's. At that time, a large brick smokestack was removed from the southwest corner along with a section of the brick wall to allow for transfer of equipment out and in to the building. This opening was infilled with concrete masonry.

It is difficult to tell from the minimal original drawings available of the building, but it appears that the northern 12-ft of the building may have been a later addition to the original 1923 construction. The change in window type to a square opening and the presence of a low-slope roof support this speculation along with relationship of the steam tunnel to the northwest corner of the building.

Boiler House from Southwest

Boiler House from Northeast

Foundations/Floor Slab

The foundations appear to be continuous cast concrete spread footings at a depth of 3-4 ft below grade with a 12" concrete foundation wall. The wall extends to approximately 3'-6" above exterior grade. The building has a cast-concrete floor slab (assumed 6" thick" on grade with a lower section to the east and sumps and a coal elevators pits that were formed approx. 3-ft below the main floor level. There is a shallow concrete utility trench containing abandoned steam piping running from the building at the northwest corner into the adjacent Cafeteria Building.

Some steel reinforcing is assumed to be present in the cast concrete as was common practice when it was initially constructed.

Exterior Wall

The exterior wall is load-bearing and appears to be three-wythe deep brick masonry for a total of 12" thickness. The wall extends approximately 30-ft above adjacent grade. It is assumed that this wall has no or minimal steel reinforcing within. When the equipment was changed out in the 1950's, section of

original masonry on the west wall was removed to create an opening supported by an applied steel channel header bolted through on the interior and exterior. The opening was then infilled with 8" concrete CMU flush to the interior face of the brick. The CMU wall is assumed to have minimal reinforcing, typical to its age.

Windows are steel framed single-glazed with arched tops. There is a double door at the Northwest corner of the building that opens on grade. It was added in an earlier opening that was narrower than the current opening. There is another single door on the south elevation that opens at the lower sump level. This door has a concrete stair well up to the adjacent grade.

The condition of the exterior wall is very poor. Mortar is soft and loose at places and there are several areas where the masonry has cracked, particularly at the building corners. The condition of the windows and doors are equally poor with some of the glass being missing. Plants have grown up and through one of the windows on the south elevation.

Roof Structure
The majority of the roof structure is comprised of large-timber, lower chord-bearing bolted trusses in a pyramidal form with a vent/dormer to the east and a cupula vent at the peak. There are wood joists between the top chords of the trusses and a corrugated metal roof. The north 12-ft has a lower-sloped shed roof.

The condition of the roof wall very poor. As the building has been abandoned, there has been no effort to repair leaking.

Interior Wall
There is one interior wall that appears to be un-reinforced 3-wythe brick masonry atop a cast-concrete stem wall creating a 12x12-ft control room that is elevated approx. 4.5-ft off the floor level. Its construction is similar to the exterior wall which support the finding that the northern 12-ft was a later addition.

Boiler House interior with plant growth

Boiler House equipment and interior structural frame

Interior/Equipment
The Boiler Building houses three large gas-fired boilers that are circa 1950-1960. These have attached pumps, blowers, piping, heat-exchanges, valves, etc. The piping and equipment are supported by a steel-framed armature surrounding the boilers This framework appears to be supported on thinker slab areas and raised to a height of approximately 21-ft. There are interior access stairs and service platforms attached to the framework. All the steam/hot water systems in the building have been deactivated.

There is considerable insulation and lagging on the boilers and piping, much of it asbestos-containing. See appendix for locations and quantities.

Demolition Issues

- The condition of the load-bearing walls and the need to do significant abatement followed by deconstruction and removal of the old boilers and their supporting structure will require temporary shoring and bracing of the structure prior to full demolition.
- In addition to usual building demolition of the building, the scope will include removing the shallow utility trench and piping
- The existing generator and transfer switch location in/adjacent to the building will need to be replaced prior to demolition

KITCHEN/CAFETERIA

General
Built in 1927, the Kitchen/Cafeteria building was one of the last buildings designed by Spokane architect Julius Zittle. The design incorporated an existing concrete-framed pump/well room in its northwest corner. It totaled 9,202-sf and housed a commissary, repair room, and storeroom, in addition to the campus kitchen, bakery, and the dining hall. In 1955, a 1,700-sf addition was made to east, expanding the Dining Hall designed by Portland architects Stewart and Richardson. As part of the addition project, the commissary and pump room functions were changed to serve as the campus laundry.

Kitchen/Cafeteria from the southeast

Foundations/Structure
The foundations appear to be continuous cast concrete spread footings, 2-ft x 1-ft at a depth of 4'-10" ft below the upper floor line on the perimeter and at load-bearing interior walls. Along the east wall, running north-south and approx. at the center of the dining hall, running east-west a utility tunnel is formed by lowering the foundation to 7'-2" below the floor and casting a slab-on grade turned up 1'-10" to the bottom of the crawlspace excavation. The tunnel turns to the east and connects to the adjacent boiler building. It loops around the perimeter of the addition and once ran south out of the dining hall are to an administration building. This tunnel section was removed and closed-off when the original administration building was demolished.

Foundation walls are typically 14" thick cast-concrete and columns are 12"x12" concrete.

The floor structure is comprised of 12" x 22" reinforced concrete beams spanning 15–18-ft supported by 13" concrete walls or 12" columns. A composite joist/slab with 5-1/2" x 8" joists and 2-1/2" slab, spans 10-12-ft between beams at 5-ft centers.

Exterior Wall
The exterior wall at the old Dining Hall consists of load-bearing 5" thick cast concrete pilasters wrapped in brick masonry and faced on the interior with plaster. The concrete is indicated to be reinforced. At the windows only 2-wythes of brick are used. The concrete thickens to 8" and extends over the head of the windows. The exterior wall at the Kitchen area consists of continuous load-bearing 5" thick cast concrete wall wrapped in brick masonry on both sides and faced on the interior with plaster. The concrete is indicated to be reinforced.

Exterior Windows are steel-framed with single-pane glazing. The glazing is stopped into the frame with putty which has been tested to contain asbestos. This material must be abated in conjunction with demolition of the windows. (see Appendix B).

Roof Structure
The roof structure is comprised of composite steel-reinforced concrete joist with 5" x 10–14" joists and an integral 2-1/2" reinforced slab spanning between interior and exterior bearing walls. Drainage to roof drains is accomplished by adding sloped concrete fill above the 2-1/2" minimum thickness.

Exterior stair to utility tunnel under building

Exterior wall at Dining Room addition.

Interior
Load-bearing interior walls are 13" thick with 10" cast concrete and plaster facing. Non-load bearing walls are 6" with brick masonry and plaster facing. Ceilings are lay-n acoustic tile. Flooring varies from linoleum to VCT to quarry tile.

Interior at old Dining Room, currently serving as a fitness room.

Interior/Equipment
The Kitchen/Cafeteria houses a large inventory of pre-fabricated refrigeration and kitchen equipment which has been abandoned. There are considerable quantities of pipe runs in the crawlspace/utility tunnels. There is a considerable quantity of hazardous materials which must be abated in order to demolish/remove the equipment and its serving utilities.

Demolition Issues
- In addition to usual building demolition of the building, the scope will include removing the shallow utility trench and piping
- There are several walk-in refrigeration rooms which will need to be cleared of residual freon or other controlled gasses.
- There is a cast-in-place concrete grease separator in the crawlspace below the kitchen which may require special handling.

Interior kitchen equipment to be removed

MAINTENANCE/STORAGE

General

Completed in 1911 as the first Vocational Education building on the campus, the Maintenance/Storage Building is the oldest existent campus building. Totaling approximately 9,160-sf, the western third of the building is original construction. There have been two additions to the structure, one in 1914 and the last in 1955.

There are no record drawings of the original building or the 1914 addition however drawings of the 1955 eastern addition exist.

Maintenance/Storage from the Northwest

Structure/Foundations

The west portion of the building has a cast concrete basement with concrete foundation walls and a slab on grade approximately 8-ft below the ground floor. The 1955 addition has a 4" concrete floor slab with WWM reinforcing placed over an existing slab on grade.

There is a continuous raised concrete loading dock on the north side of the building.

Exterior Wall

The exterior walls of the original and initial addition are cast-in-place concrete, approximately 8" thick. It is assumed that there is some steel reinforcing in these walls which was typical of construction at the time. The exterior wall of the 1955 addition is 8" concrete block with K-web reinforcing every other course. On the north side, this wall is set atop an existing partial height concrete wall.

Roof Structure

The majority of the roof structure is comprised of a truss of 4x bolted timber trusses with 2x wood joists, ¾" wood sheathing and composition shingle roof. There is a continuous light monitor at the roof peak farmed with 2x wood with glazing to the north and metal siding to the south.

Interior Walls

Interior wall in the original portion of the building are wood framed with plaster finish. There is one interior wall that appears to be reinforced 6" concrete masonry

Interior/Equipment
There is not a significant amount of equipment in the building which would need to be separately removed. Fire alarm circuits from Clarke Hall and the cottages are routed through the Maintenance/Warehouse Fire Alarm Cabinet which needs to be relocated and wires re-pulled prior to demolition.

Demolition Issues

- Relocation of the existing fire alarm junction box in the basement of this building will need to be relocated and reconnected prior to demolition.

EPPERSON VOCATIONAL

General
Constructed in 1961 as the Vocational Education building on the campus, the Epperson Vocational School totals approximately 38,576-sf configured in a "T" plan with the cross part of the tee being a 2-story wing that housed the middle school and the base part being a high-bay vocational trades wing. In 1990, there was a small addition to the southwest corner of the 2-story wing which provided an elevator for ADA access.

Epperson from the Northwest (2-story Classroom Wing)

Epperson from the Southeast (1-story Shop Wing)

Structure
The building has a concrete frame structure with non-load bearing masonry or curtainwall infill. Vertical loads are carried by 16-in square concrete columns in the shop wing and a variety of sized concrete columns in the two-story classroom wing. The end columns of the classroom wing are 16-in x 10-in concrete with a 8WF48 steel section embedded.

Reinforced-concrete footings measuring 4′-6″ x 4′-6″ x 13″ thick at the classroom wing and 16″ thick at the shop wing bear on prepared soil and support the columns. Footings where the wings connect are increased to 5′-9″ square. Depth of the footings verify between 4–6-ft depending on location and presence of an adjacent tunnel. The exterior walls and interior block walls in the shop area are supported on continuous concrete footings. Floor slabs are typically 4-in reinforced with 6x6 wire mesh.

The second floor of the classroom wing is comprised of 5-in wide, 10-in deep ribbed reinforced-concrete joist at 25-in on center with an integral 2-1/2-in floor slab. The joist bear on 10-in concrete beams spanning between columns. The roof of the classroom wing is comprised of 5-in wide, 8-in deep ribbed reinforced-concrete joist at 25-in on center with an integral 1-1/2-in floor slab. The joists bear on 10-in concrete beams spanning between columns with the outer beams approx. 3-ft higher than the center columns to provide slope for drainage.

There is a small section of wood-framed mezzanine in the shop wing. All this structure is 2x framing and plywood bearing on 8-in CMU walls.

The roof structure at the shop wing uses nominal 10x26-in glue-laminated beams spanning north-south between concrete columns. The roof decking is 4x6 tongue-groove wood decking spanning E-W between beams and to the 3-3x10 headers at the perimeter walls. The roof slopes to the middle of the span for drainage.

Stairs at the classroom wing are reinforced concrete that act at shear walls in both the N-S and E-W direction.

Basement/Tunnels
There are two small equipment cast-concrete basement areas in the shop wing. One in the north shop serves as an electrical vault. It is accessed from a stair in the northeast of the shop wing and is partially outside (for heat venting) and partially under the shop floor. It has a two-level floor 7-ft and 10-ft below the floor level. The second is an extension of a 6x6-ft utility tunnel that runs along the west side of the shop wing 6.5-ft west of the foundation wall. The tunnel is accessed from a stair at the southwest corner of the shop wing. The utility tunnel continues north under the classroom wing to the north foundation wall. It branches to the east and west and continues along the E-W foundation walls but at a 3-ft width and 3-ft depth. The tunnels typically have 6″ thick reinforced walls and 4″ floor slabs. Where the tunnel roof serves as the floor above, it is supported by corrugated steel spanning the tunnel width.

Exterior Wall
Classroom wing: The north and south exterior walls f are 8″ concrete wall/beam turned up at the floor 3-ft and extending down at the roof/floor 1-ft. The wall is faced with an aluminum curtainwall with glass or porcelain panel infill. The east and west facades are non-load-bearing 6-in concrete shear walls with brick veneer except at the center corridor section where the 6-in concrete wall is exposed as a spandrel on the second floor.

Shop wing: The east and west exterior walls are 6″ concrete block wall with either brick veneer or aluminum curtainwall over a 3-ft high 4″ concrete block veneer. The north wall is an 8-in reinforced concrete shear wall while the south wall is non-load-bearing 6-in CMU with brick veneer.

Typical Shop interior

Typical Classroom interior

Interior Walls

Classroom Wing: Most interior walls are 2x4 wood framing at 16-in O.C. with ¾-in lath & plaster on finish facing. The interior wall where the two wings connect is 8-in reinforced concrete.

Shop Wing: Interior walls are 6" CMU except at the 2-story center section where 8-in CMU is used to support the wood-framed mezzanine. in the original portion of the building are wood framed with plaster finish. There is one interior wall that appears to be reinforced 6" concrete masonry

Interior/Equipment

There is not a significant amount of equipment in the building which would need to be separately removed except for the large transformer in the basement.

Demolition Issues

- Decommissioning the hydraulic fluid in the elevator would also need to precede demolition.

4.0 COST

4.1 Estimate of Overall Costs

As the C-100 form in Appendix A illustrates, the MACC for the recommended project is anticipated to total $3,687,448 and total project costs to be $5,376,000 both escalated to mid-point of construction.

Elements of the demolition scope that contribute significantly to the cost exceeding the funding include:

- Extensive quantity of abatement identified in the existing buildings and anticipated in the below-grade structures.
- Extent of utilities that must be relocated prior demolition of the building.

5.0 SCHEDULE

10.1 Major Milestones

Activity	*Start Date*	*End Date*	*Duration*
Prepare Demolition Bid Documents	February 2020	May 2020	3 Months
Bidding	May 2019	June 2020	2 Months
Demolition Duration	July 2020	September 2020	3 Months
	(note the City Demolition permit for physical removal is limited to 30-days)		
Close-Out	September 2020	October 2020	1 Month

ARCHITECTURE IN THE PUBLIC INTEREST