New Academic & Physical Education Building Project

CDHY (Washington State Center for Deaf and Hard of Hearing Youth)
Home of the Terriers

History of the School

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.

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.


Clarke Hall
Cottages
Lloyd Auditorium
Old Cafeteria
Divine Hall
Hunter Gym
Northrop Building
Boiler House
Old Red Barn/Maintenance Bldg
Epperson Building
Kastel Building
CDHY Campus July 2021

Washington Center for Deaf and Hard of Hearing Youth (CDHY)
Academic & Physical Education Project Three Phases

Project Timeline – Phase I

- 2000 CDHY began the process to replace the school.
- Between 2000 and 2010, 4 buildings on campus were deemed unsafe and closed. In 2010 construction of a new Cafeteria & Campus Services (Kastel Building) was completed.
- September of 2020 CDHY received Supplemental funding approval of $5M for Phase I Demolition
- July 27th of 2021 an NTP was issued for Phase I Demolition, Design Bid Build


Old Cafeteria
Boiler House
Old Red Barn/Maintenance Bldg
Epperson Building
Phase I Demolition July 2021


Phase I Demolition Starts July 27th 2021

Washington Center for Deaf and Hard of Hearing Youth (CDHY)
Academic & Physical Education Project Three Phases

Project Timeline – Phase I & II Overlap

While in Phase I demolition, CDHY & DES continued to pursue the full project funding, Phase II Design & Construction of a new Academic & Physical Education Building.

- September 2020, along with receiving Supplemental budget approval for Phase I demolition, Phase II Budget request for the new Academic & PE building was also resubmitted as part of Biennium 21-23 budget request.

- January 2022 Phase I Demolition reached Substantial Completion


Hunter Gym
Divine Hall
Lloyd Building
Clarke Building
Kastel Building
Northrop Building
Cottages
End of Phase I February 2022

Washington Center for Deaf and Hard of Hearing Youth (CDHY)
Academic & Physical Education Project Three Phases

Project Timeline – Phase II

- February of 2021, Phase II Progressive Design Build of the Academic & Physical Education Building was approved.

- July 2021 with Phase II approval, RFQ went out in search of a Progressive Design Build Team
  - August 2021 Three Short listed firms.
  - October 2021 Finalist Team selected, Skanska/Mithun.
  - February 2022 Phase II Progressive Design Build Team Skanska/Mithun under contract to complete Phase I Design

February 2022 Phase II Progressive Design Build Starts with the selection of Skanska/Mithun team

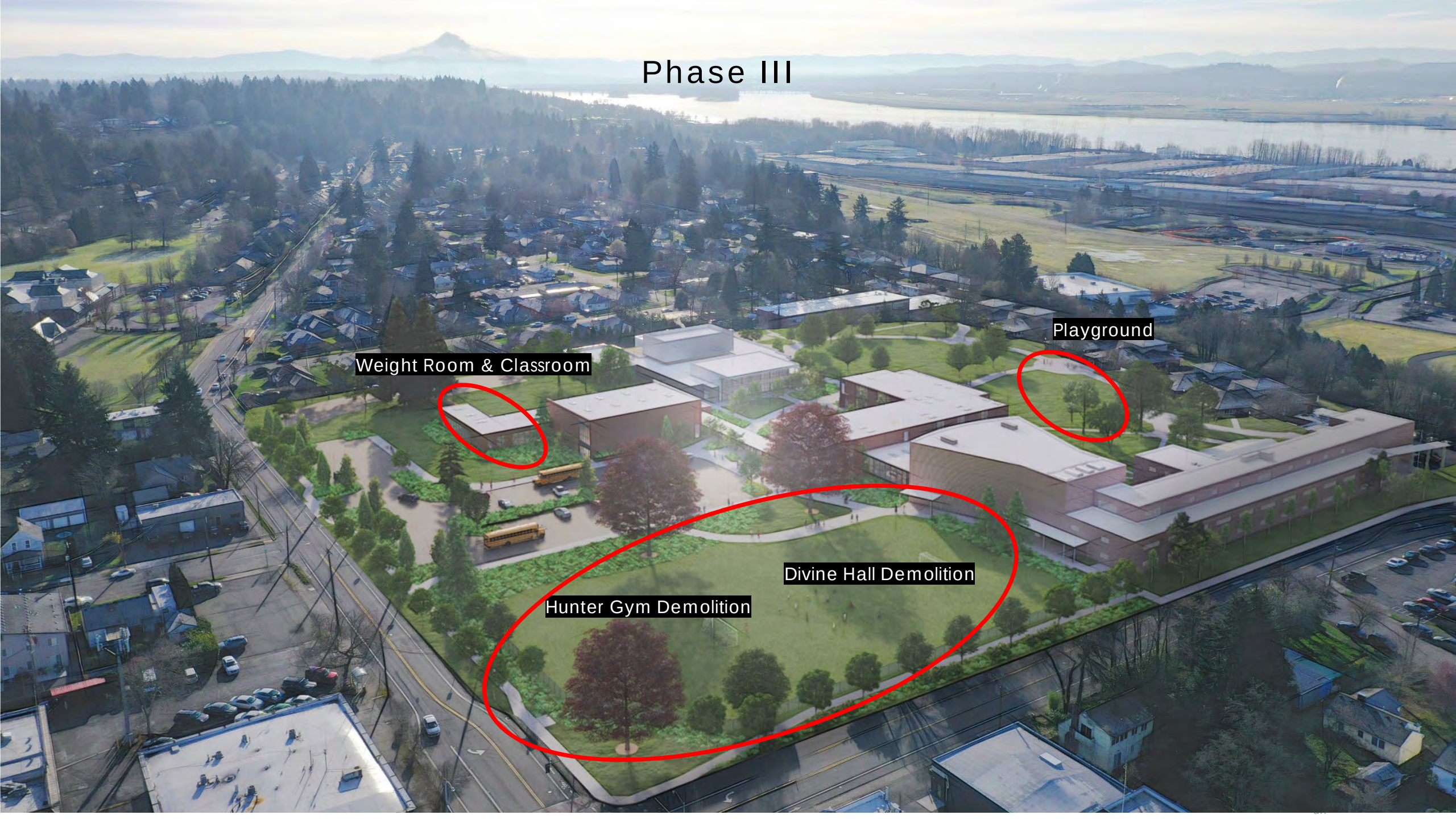

New Divine Hall
New Hunter Gym
New Athletic Fieldl

Washington Center for Deaf and Hard of Hearing Youth (CDHY)
Academic & Physical Education Project Three Phases

Project Timeline – Phase II Challenges

- February 2022 Start of Phase II Design Validation
- May 2022 Phase II Validation Phase reveals a program deficiency and subsequent $12M budget shortfall
- August 2022 Phase II is redefined, the team continues design in reaching 35% design. Revised scope by deferring Phase III demolition of Divine Hall & Hunter Gym, the build out of the new athletic field and playground & weight room.
- September 2022 Phase III Budget Request Submitted

Phase III


Weight Room & Classroom
Playground
Divine Hall Demolition
Hunter Gym Demolition

DeafSpace Foundations & Design

- Open Campus
- WSD Identifiers
- Gym as Public Magnet
- Library and Academic Adjacency
- Struggle with Entry - Locations and Presence


TERRIERS
BRAVELY
TERRIERS


Campus Site Plan
Center for Deaf and Hard of Hearing Youth
Academic and Physical Education Building
Cottages


Lloyd Auditorium
Kastel Hall
Clarke Hall
Cottages
Cottages
Athletic Field
SUN PATH LIGHT

DeafSpace

Benchmarking Distribution by Area

School	Age Range	Student : Teacher Ratio*	Private School	Boarding School	Deaf Program	Total Area	Distribution of Area	Classroom SF / Student	Campus SF / Student	% Circulation
Model Secondary School for the Deaf (Existing) *Washington, D.C.*	15-18	6.10 : 1.00	Y	Y	Y	141,000		45	357	46%
Kendall Demonstration Elementary School (Existing) *Washington, D.C.*	4-14	4.80 : 1.00	Y	N	Y	139,000		84	428	38%
American School for the Deaf *West Hartford, Connecticut*	3-21	3.00 : 1.00	Y	Y	Y	47,000		56	268	28%
Rocky Mountain Deaf School *Denver, Colorado*	0-18	4.49 : 1.00	N	N	Y	47,000		90	406	17%
Ohio School for the Deaf *Columbus, Ohio*	0-22	-	N	Y	Y	68,000		92	389	20%
Exeter Royal Academy for the Deaf *Exeter, England*	6-22	-	Y	Y	Y	39,000		65	320	32%

Robert T. Sirvage
DeafSpace Research Specialist

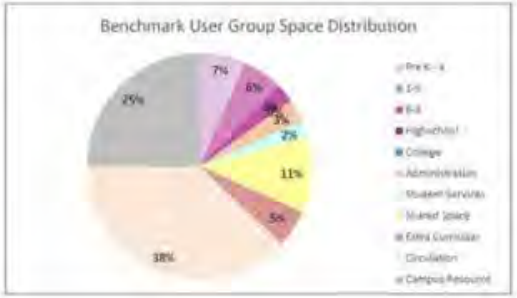
Hansel Bauman
DeafSpace Planning Integration

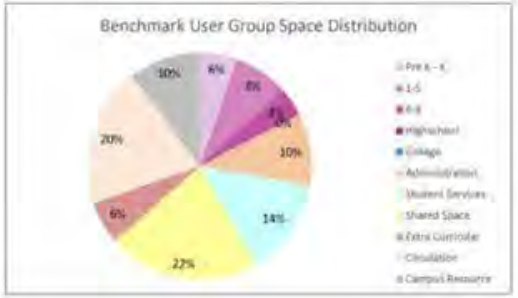
Benchmarking Students + Major Program Elements

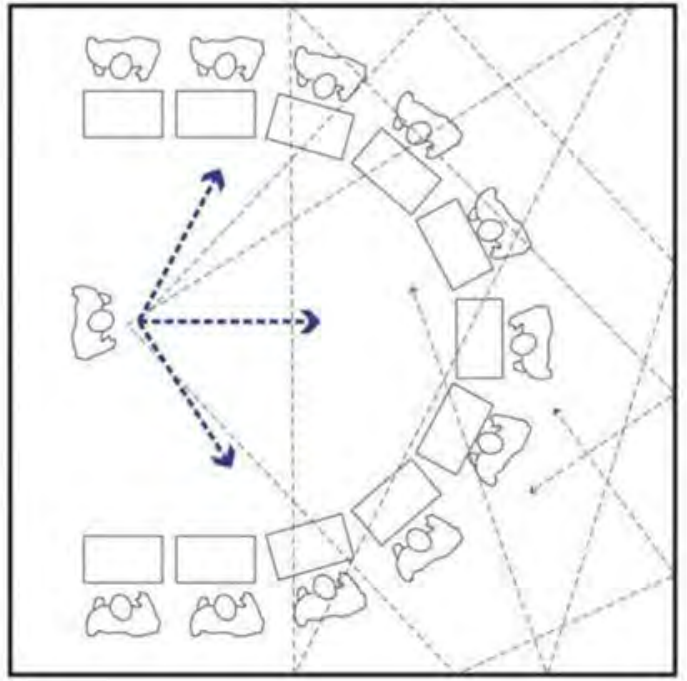
	American School for the Deaf				
	Total SF	*Count*	*Avg. SF*	*Students per Room*	*Total Students*
Pre K - K	3,472	7	496	8	56
1-5	2,625	5	525	8	40
6-8	-	-	-	-	
Highschool	3,840	10	384	8	80
College	-	-	-	-	
Administration	6,243	35			
Student Services	3,830	22			
Shared Space	7,613	6			
Extra Curricular	3,153	8			
Circulation	13,000				
Campus Resource	3,359				
Total	47,135				176
Classroom SF / Student	56				
Campus SF / Student	268				
Program / Circulation	28%				

	KDES Existing Program				
	Total SF	*Count*	*Avg. SF*	*Students per Room*	*Total Students*
Pre K - K	9,347	11	800	12	132
1-5	8,098	11	700	12	132
6-8	3,548	5	750	12	60
Highschool	-	-	-	-	
College	-	-	-	-	
Administration	4,581	-	-	-	
Student Services	3,270				
Shared Space	14,923				
Extra Curricular	7,497				
Circulation	52,746				
Campus Resource	34,590				
Total	138,600				324
Classroom SF / Student	84				
Campus SF / Student	428				
Program / Circulation	38%				

	KDES Proposed Program				
	Total SF	*Count*	*Avg. SF*	*Students per Room*	*Total Students*
Pre K - K	11,678	12	973	19	228
1-5	16,896	20	845	9.6	192
6-8	8,667	11	787.909	6.545455	72
Highschool					
College	0				
Administration	21,936				
Student Services	29,681				
Shared Space	46,943				
Extra Curricular	13,058				
Circulation	42,689				
Campus Resource	21,898				
Total	213,446				492
Classroom SF / Student	76				
Campus SF / Student	434				
Program / Circulation	20%				

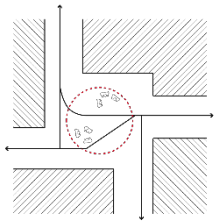




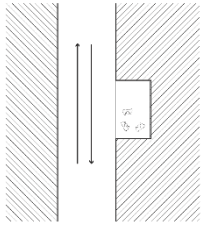


Building Layout

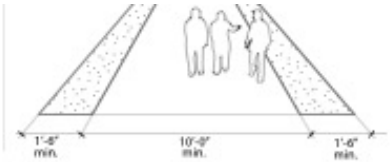
Circulation + Connectivity



1.3.2 Nodes



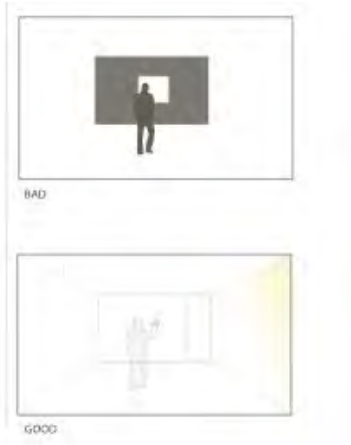
1.3.3 Eddies



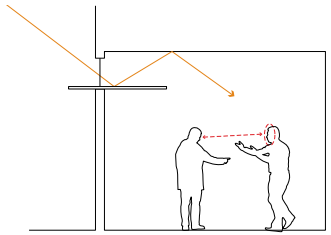
3.1.7 sign

Ambient Conditions

Natural Light



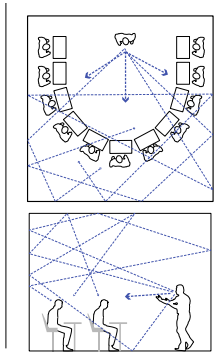
4.2.2 Wash Surfaces with Light



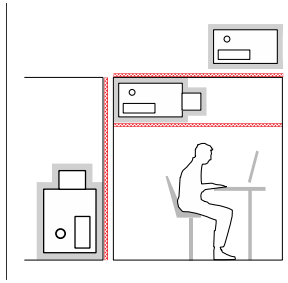
4.2.5 Light Shelves

Ambient Conditions

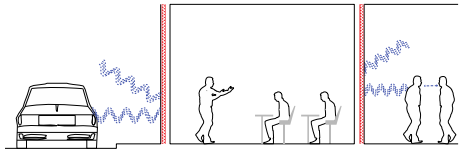
Acoustics



5.1.1 Sound Reverberation



5.1.2 Equipment Noise



5.1.3 Background Noise

SECTION 808
ENHANCED ACOUSTICS FOR CLASSROOMS

808.1 General. Classrooms not exceeding 20,000 cubic feet (565 m³) and required to provide enhanced acoustics shall comply with Section 808.

808.2 Reverberation time. Classroom reverberation times shall comply with either Section 808.2.1 or Section 808.2.2, depending on the size of the room.

808.2.1 Performance method. For each of the octave frequency bands with center frequencies of 500, 1000, and 2000 Hz, the reverberation time (T60) shall not exceed the times specified below:

1. 0.6 seconds in classrooms with volumes up to and including 10,000 cubic feet (285 m³).
2. 0.7 seconds in classrooms with volumes of more than 10,000 cubic feet (285 m³), but less than 20,000 cubic feet (566 m³).

Reverberation times shall apply to fully-furnished, unoccupied classrooms. Reverberation times shall be field verified via measurements over a minimum 20 dB decay in each octave frequency band in accordance with ASTM E2235 listed in Section 106.2.13.

808.2.2 Prescriptive method. The Noise Reduction Coefficient (NRC) ratings for floor, wall and ceiling surface finishes shall conform to the following equations:

For a classroom with a volume less than or equal to 10,000 cubic feet (285 m³):

(NRCFloor x SFloor)+ (NRCCeiling x SCeiling) + (NRCWall x SWall) ≥ Volume/12

For a classroom with a volume between 10,000 cubic feet (285 m³) and 20,000 cubic feet (565 m³):

(NRCFloor x SFloor)+ (NRCCeiling x SCeiling) + (NRCWall x SWall) ≥ Volume/14

Where:

NRCFloor = NRC rating of the floor finish material

SFloor = floor area in square feet

NRCCeiling = NRC rating of the ceiling finish material

SCeiling = ceiling area in square feet

NRCWall = NRC rating of the wall acoustical treatment

SWall = wall treatment area in square feet

Volume = room volume in cubic feet

Where a floor, ceiling or wall has multiple surface finishes, the NRC x S product for each surface finish shall be added to the left side of the equation.

808.3 Ambient sound level. Classroom ambient sound levels shall comply with Sections 808.3.1 and 808.3.2. Ambient sound levels from sound sources outside and inside the classroom shall be evaluated individually. The greatest one-hour averaged sound levels shall be evaluated at the loudest usable location in the room at a height of 36 inches (915 mm) to 42 inches (1065 mm) above the floor and no closer than 36 inches (915 mm) from any wall, window or object. The ambient sound level limits shall apply to fully-furnished, unoccupied classrooms, and with only permanent HVAC, electrical and plumbing systems functioning. Classroom equipment, including, but not limited to, computers, printers and fish tank pumps shall be turned off during these measurements.

808.3.1 Sound sources outside of the classroom. Classroom ambient sound levels shall not exceed 35 dBA and 55 dBC due to intruding noise from sound sources outside of the classroom, whether from the exterior or from other interior spaces.

808.3.2 Sound sources inside the classroom. Classroom ambient sound levels shall not exceed 35 dBA and 55 dBC for noise from sound sources inside the classroom.

2017 ICC Accessibility Standard: A117.1

Washington Center for Deaf and Hard of Hearing Youth (CDHY)
Academic & Physical Education Project Three Phases

Project Timeline – Phase II & III Overlap

- 3/2023 Phase II GMP 35% Design is Reached
- 6/01/2023 Groundbreaking Ceremony
- 7/2023 Phase III Construction budget approved a revised GMP $52.8M and Substantial Completion date of 3/19/2025
  - Phase III Revised scope of work added back demolition of Divine Hall & Hunter Gym, and completion of athletic field, playground and weight room


METRO
Plan B: Drive faster
on the motorways


METRO
15


Washington School
for the Deaf

Mass Timber Design

Structural Systems

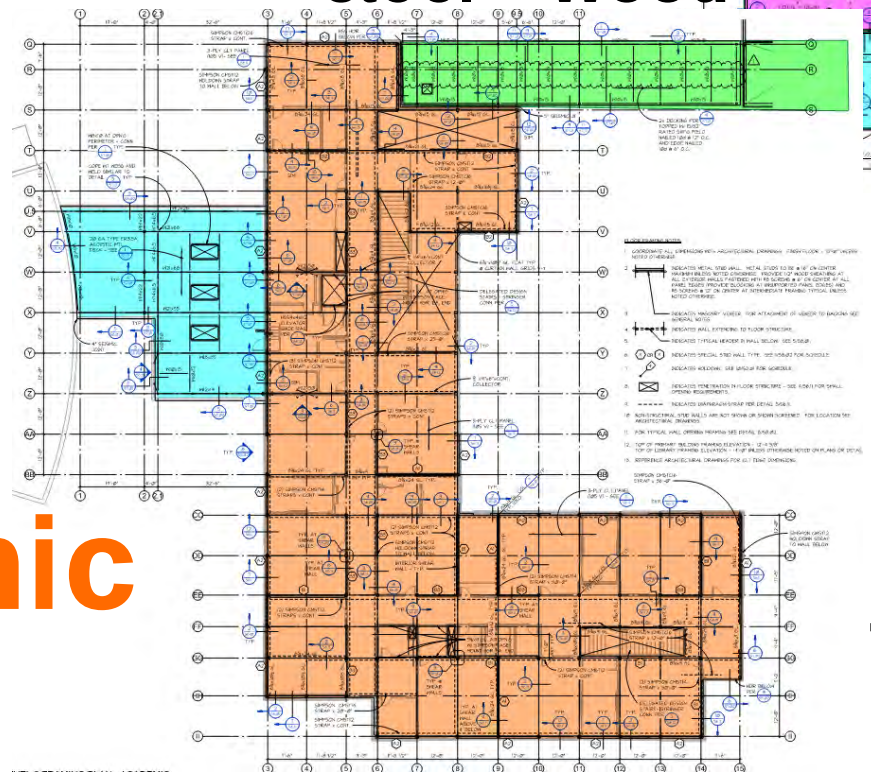
Steel

Tilt up Concrete

PE Wing

Steel + Wood

Steel



Academic Wing

Mass Timber

Designing with Mass Timber

There is a growing body of research that associates biophilic spaces with student health and cognitive benefits.

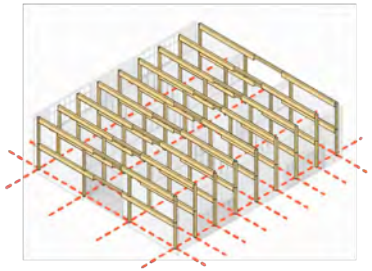
+

Emerging mass timber technology is positively impacting the way we design and construct buildings.

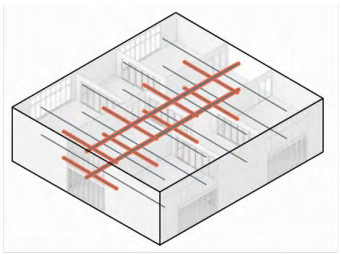
=

By combining timber technology and growing biophilic research, we can Build Better Schools.

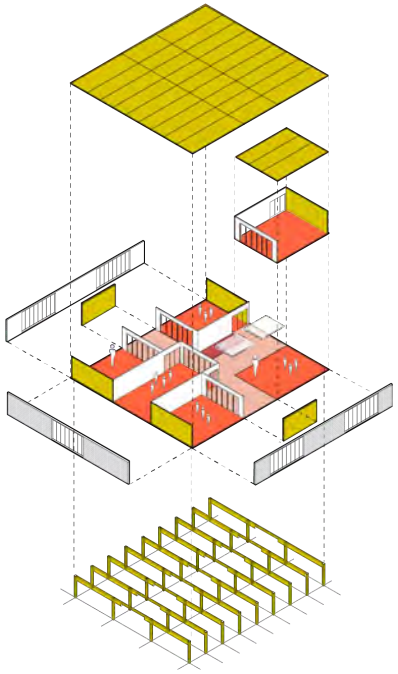
STRUCTURAL BONES



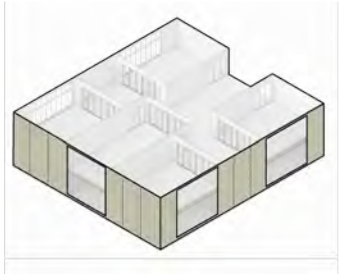
MECHANICAL SYSTEM



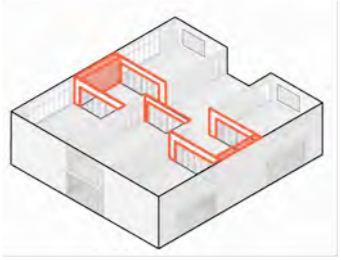
KIT-OF-PARTS



EXTERIOR ENCLOSURE

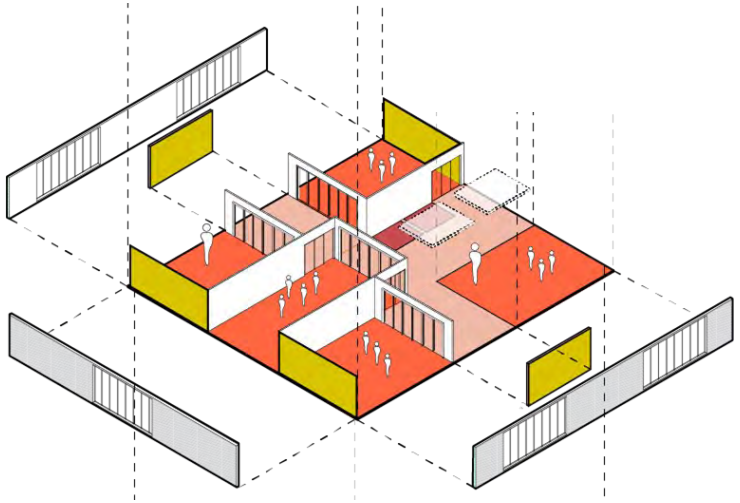


INTERIOR FLEXIBILITY

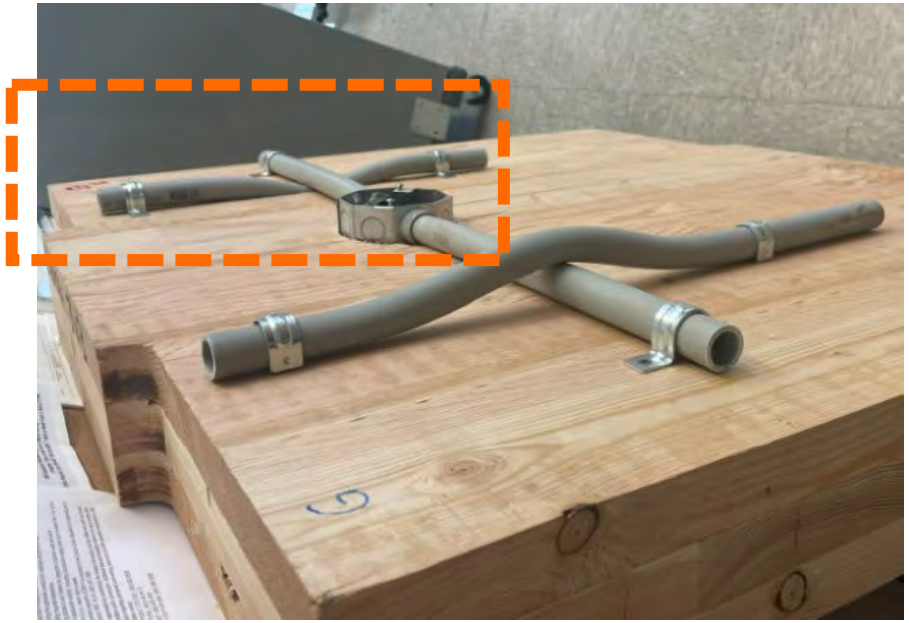


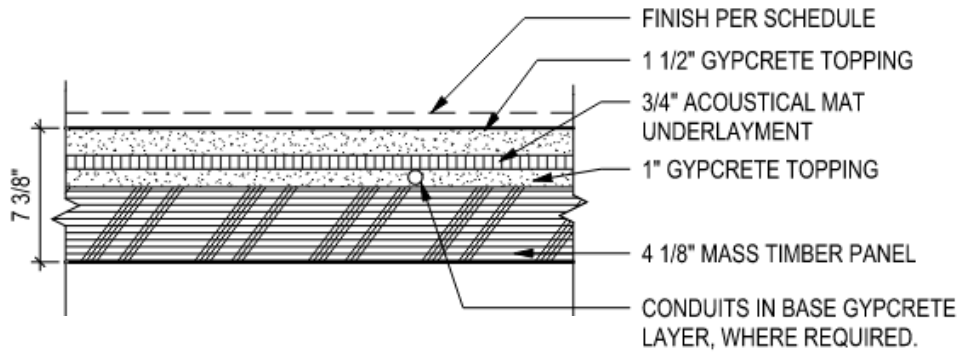
BUILDING BETTER SCHOOLS

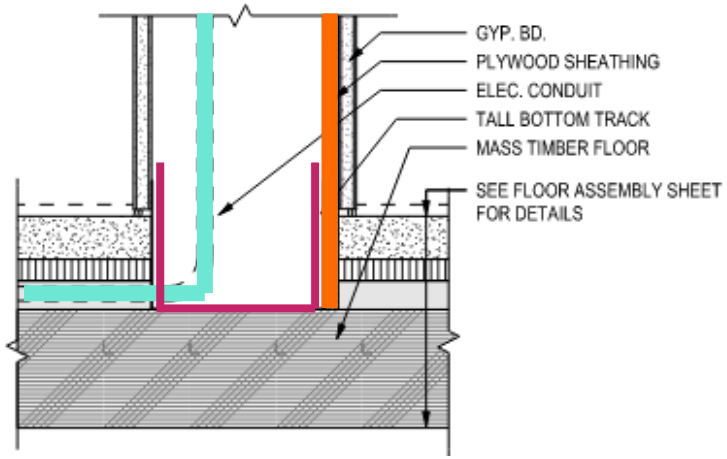
Mass Timber System - shear

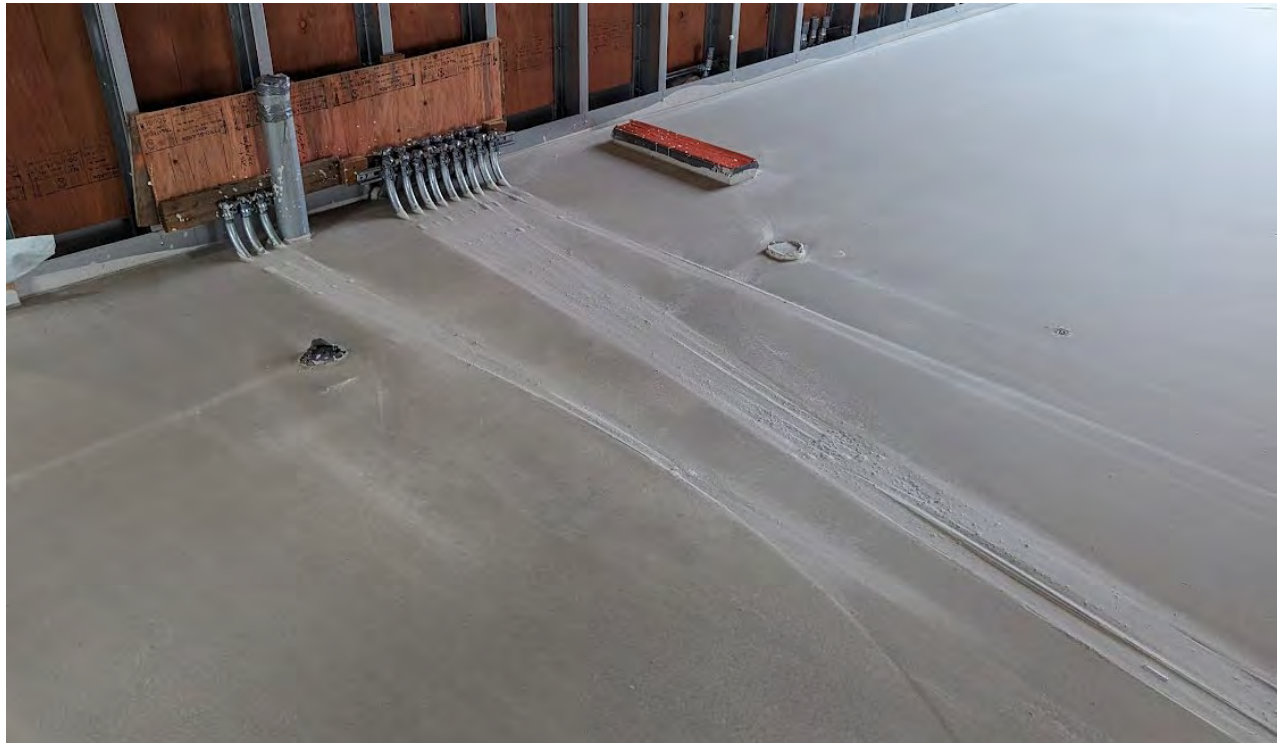


Mass Timber Details w/ Contractor Input









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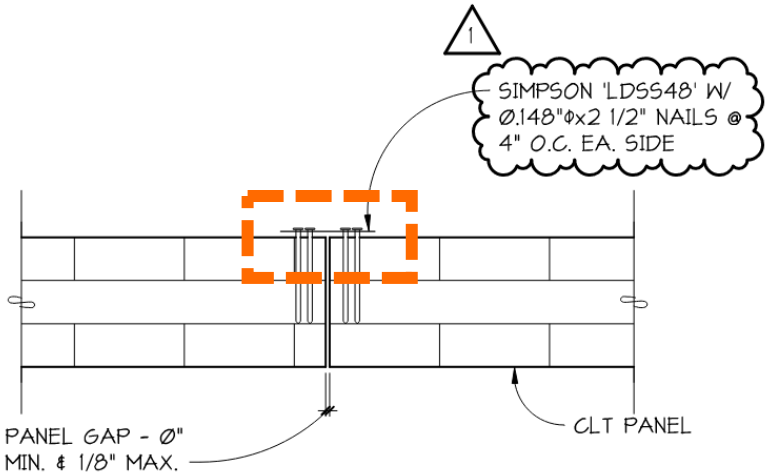
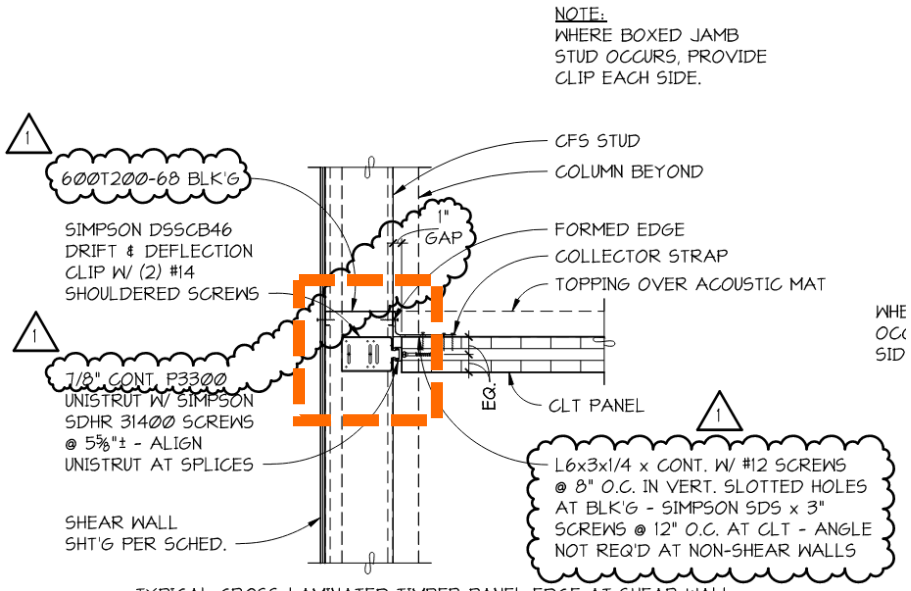


3-PLY CROSS-LAMINATED TIMBER PANELS

1 / S6.11 DETAIL

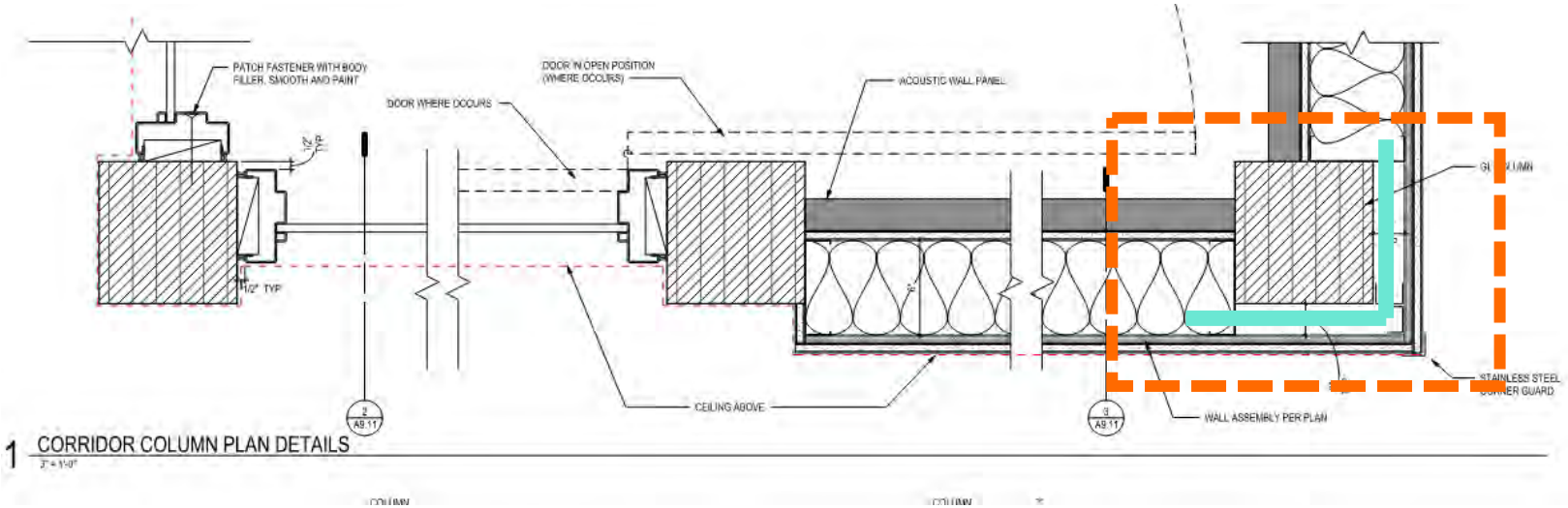
3" = 1'-Ø"



TYPICAL CROSS-LAMINATED TIMBER PANEL EDGE AT SHEAR WALL

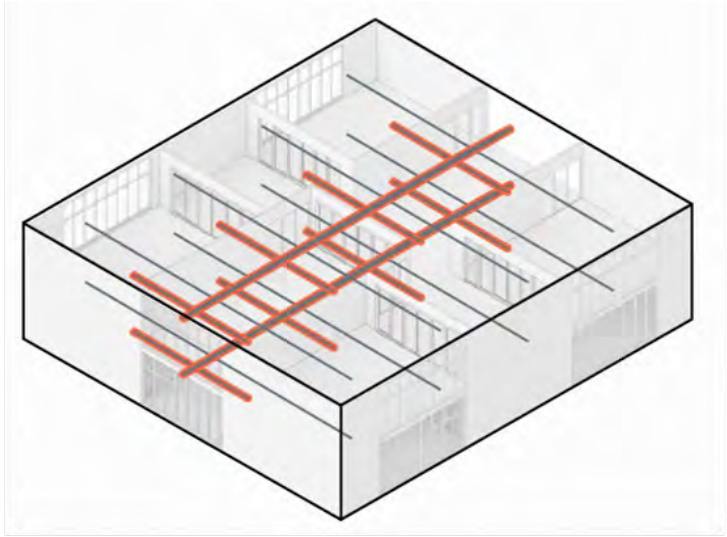
7 / S6.11 SECTION

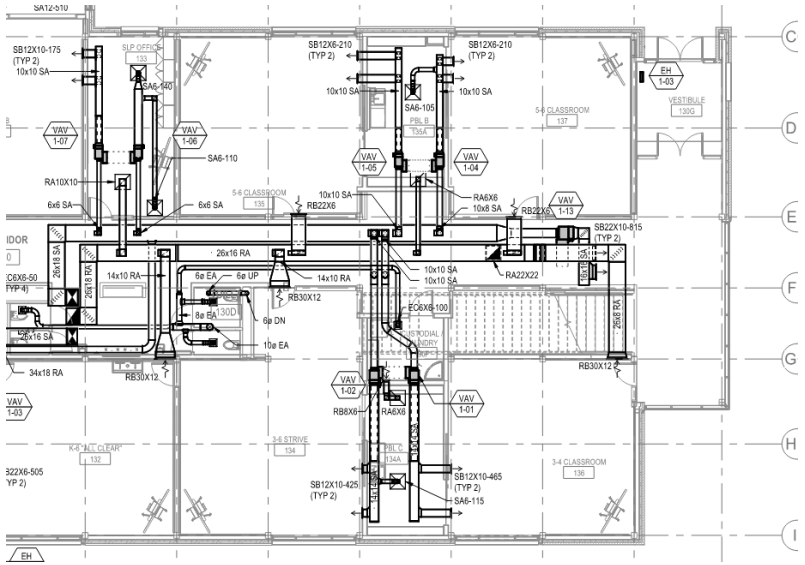
1" = 1'-Ø"

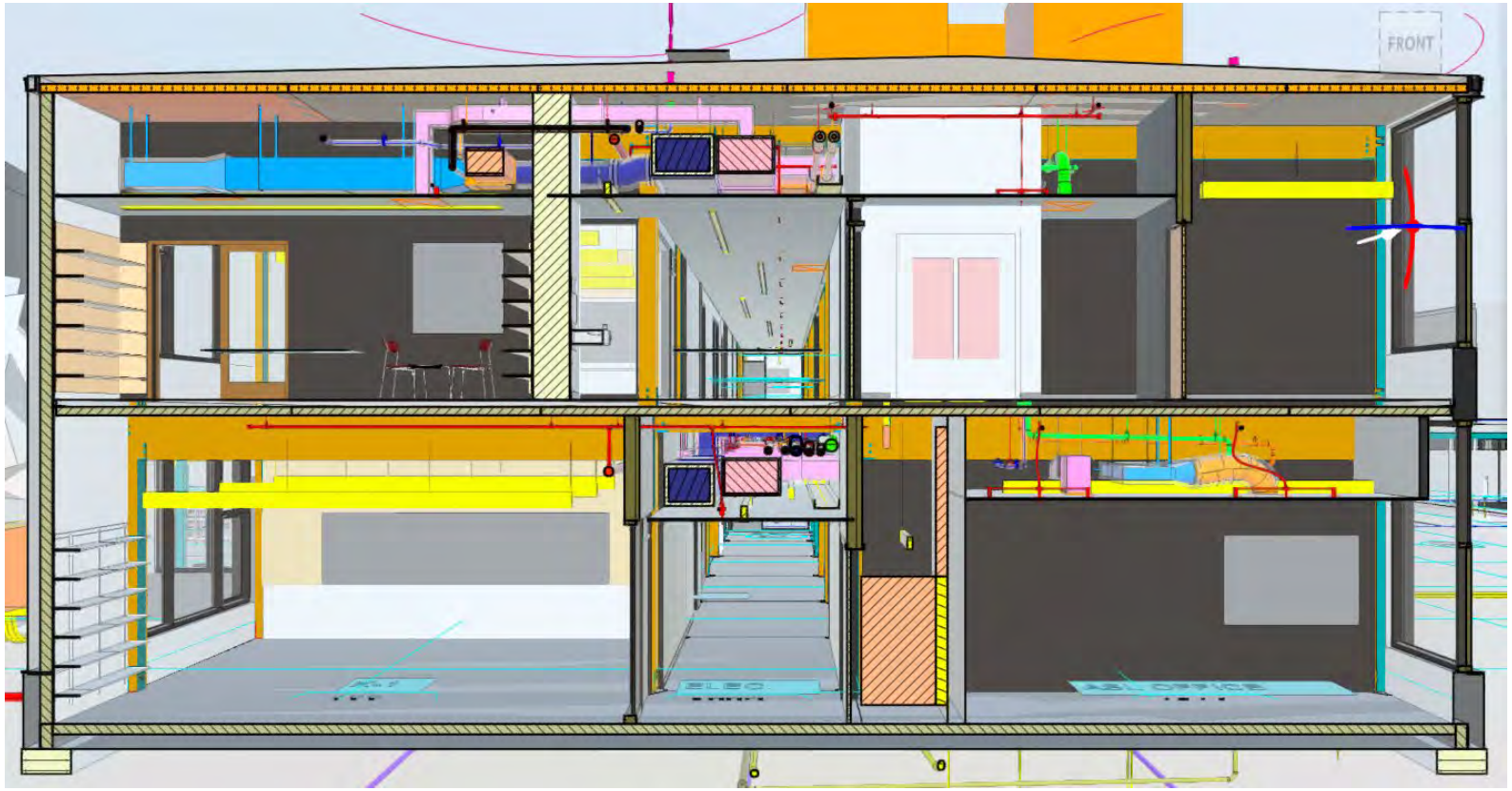


1 CORRIDOR COLUMN PLAN DETAILS

Utility Routing



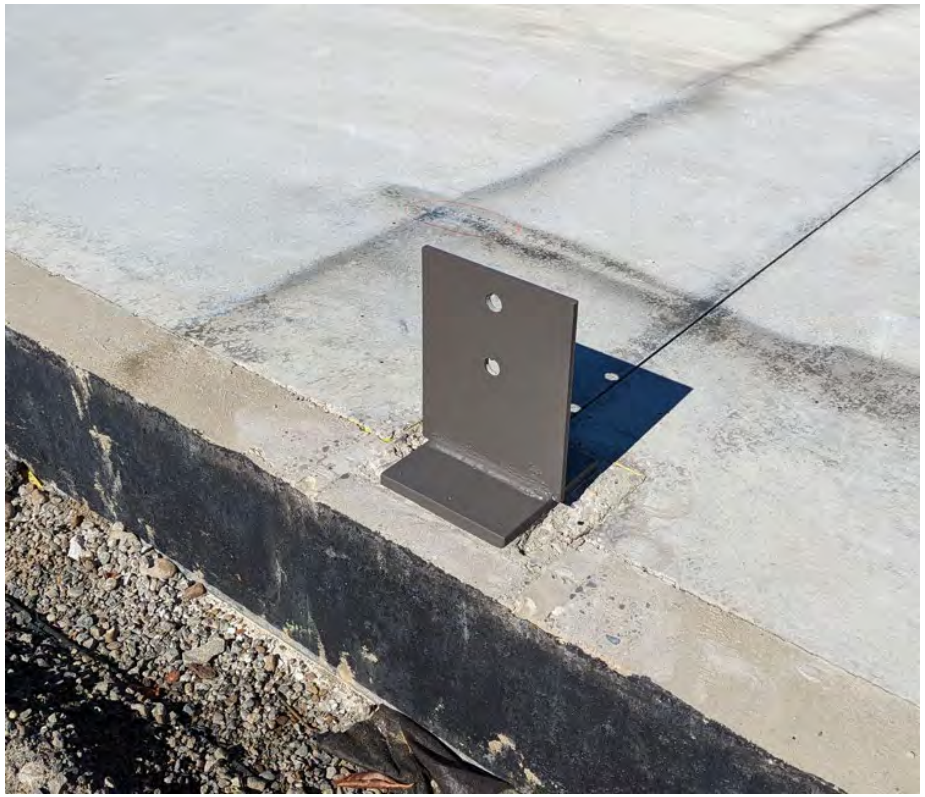




Construction Means

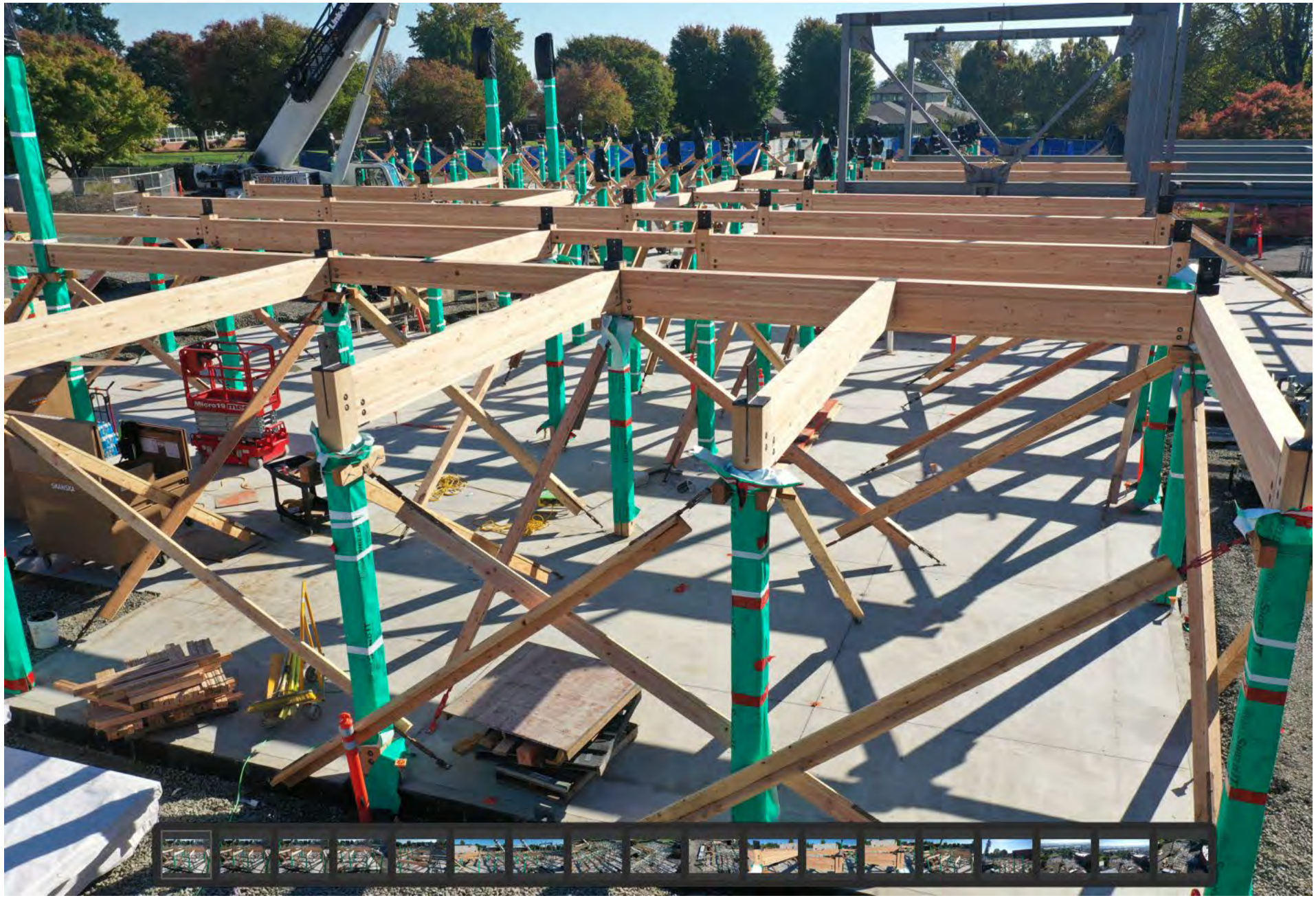

MITHÜN

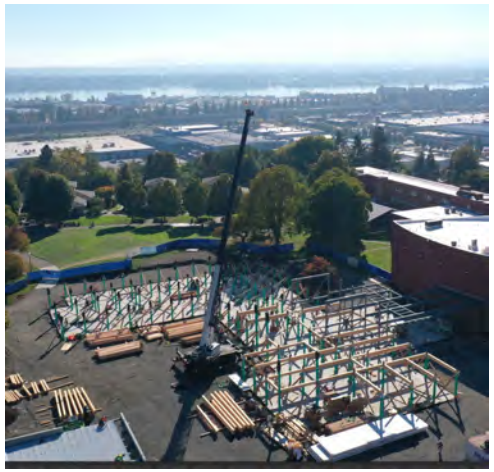

CDHY-C118-
CDHY-C117
CDHY-C118-2
CDHY-C119



Challenges of protecting the timber while constructing

Collaboration within the trades is critical With Mass timber construction





A benefit of Mass timber construction is it goes up quickly


SKANSKA

Thank You—