Malcolm X Elementary School

MODERNIZATION

Commission of Fine Art
Final Review

DC PUBLIC SCHOOLS

DEPARTMENT OF GENERAL SERVICES

GCS|SIGAL

CGS ARCHITECTS

NOVEMBER 7, 2024

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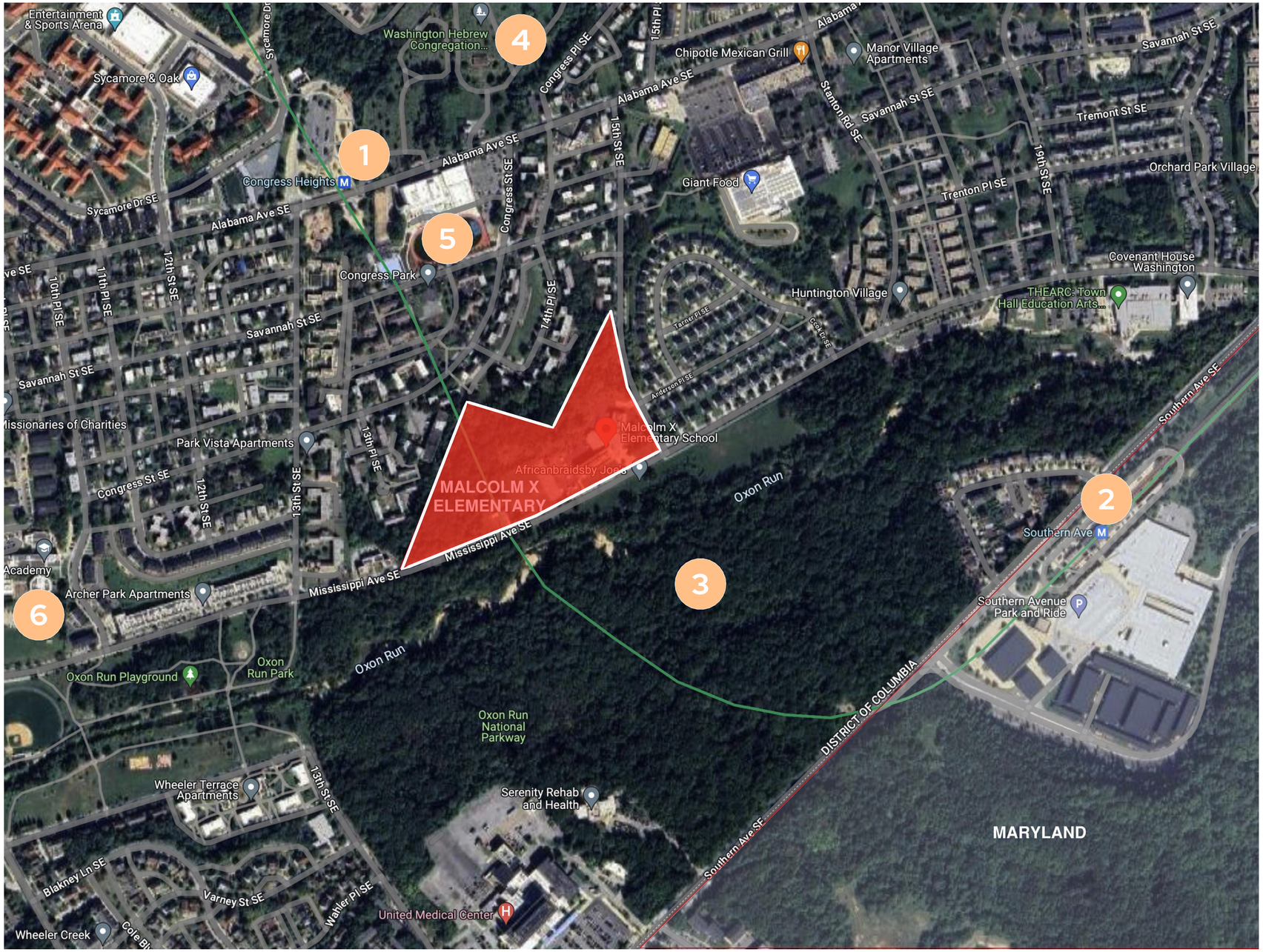
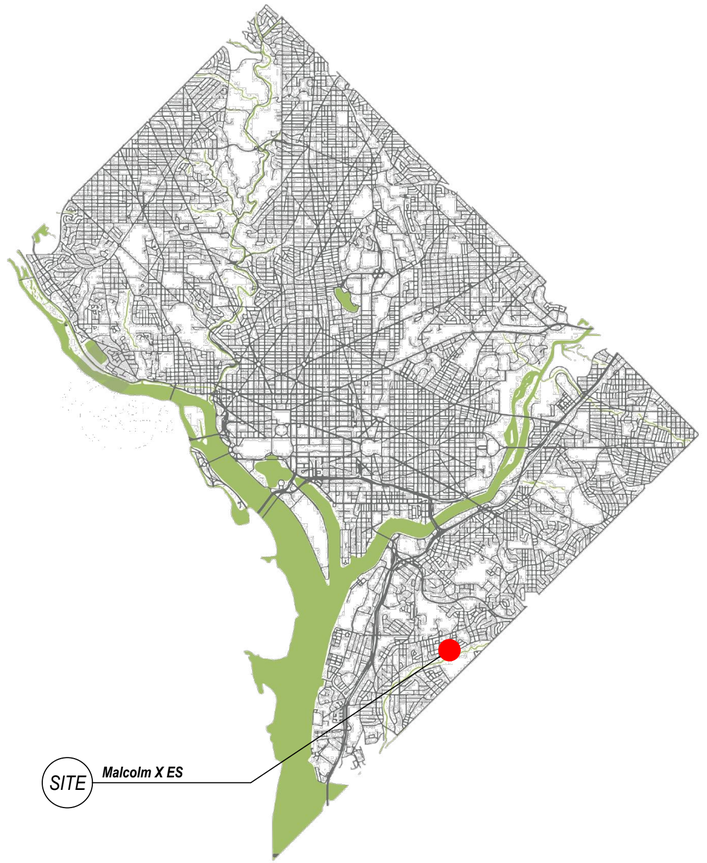
- RENDERINGS
- MATERIALS
- ENTRANCE STAIRS AND RAMPS
- CONSTRUCTION DETAILS - EXCERPT
- PUBLIC ARTS

AREA AND LOCATION

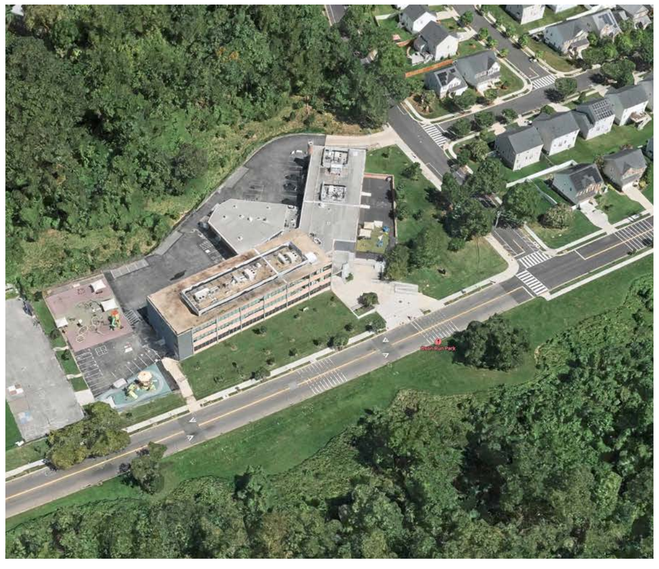


KEYED NOTES :

1 CONGRESS HEIGHTS METRO STATION
2 SOUTHERN AVENUE METRO STATION
3 OXON RUN NATIONAL PARKWAY
4 WASHINGTON HEBREW CONGREGATION
5 BARD HIGH SCHOOL EARLY COLLEGE
6 EAGLE ACADEMY



AERIAL PHOTOS - EXISTING CONDITION

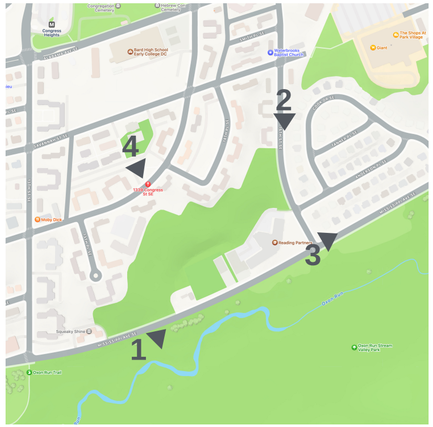


PHOTOS OF EXISTING CONDITION

VIEW OF STEPS TO MAIN ENTRANCE FROM MISSISSIPPI AVENUE

TOP RIGHT - WEST WING FROM MISSISSIPPI AVENUE
MIDDLE RIGHT - MULTI-USE HALL FROM PARKING LOT
BOTTOM RIGHT - EAST WING FROM 15TH STREET

PHOTOS OF SURROUNDING AREA



TOP LEFT - VIEW OF MISSISSIPPI FROM SW CORNER LOOKING EAST

BOTTOM LEFT - VIEW OF 15TH STREET LOOKING SOUTH TOWARDS SITE

TOP RIGHT - VIEW OF MISSISSIPPI FROM SE LOOKING EAST - NEIGHBORHOOD

BOTTOM RIGHT - VIEW OF NEIGHBORHOOD - CONGRESS STREET

Existing Malcolm X at Green Elementary School

The existing school located at 1500 Mississippi SE, Washington DC was originally named for Mildred Green a native Washingtonian who graduated from Central High School, Wilson Normal School (DC Teachers College now the University of the District of Columbia) and George Washington University. Green served as a teacher and principal at numerous DC public schools and died in 1956. She was considered a master teacher and builder of character. The Green Elementary School was closed in 2008 was reopened and named for Malcom X a prominent national civil rights activist in the 1960s. The existing school consisting of an approximately 63,400 gross square foot school building was constructed 1963 – 66, opening on January 31, 1966. The building was designed for the District of Columbia Department of Building and Grounds by McLane and Chewing Architects and Engineers. The building design aesthetic is mid–century modern which was popular in school design nationwide at the time. Several DCPS school buildings constructed at the time throughout the city are similar in plan and design. A third-floor addition the west wing was planned in 1966 and constructed shortly thereafter.

The school campus covers a small portion of a large primarily wooded sloping site currently jointly owned by the District of Columbia and the National Park Service. The school campus rests on a flat graded portion of the sloped site approximately ten feet up from Mississippi Avenue. Single and duplex residential structures are located to the east across 15th Street. Large- and small-scale apartment blocks are located to the north. Oxon Run Park and Oxon Run are directly across Mississippi Ave to the south. There are two small single-story structures to the west serving Metro's green line tunnel below.

The building is comprised of a two-story academic wing fronting 15th Street SE to the east and a three–story academic wing fronting Mississippi Street SE to the south. The two academic form a 'V 'shape with the nodal point between the two oriented to the southeast intersection of 15th Street and Mississippi Avenue. This node forms the main School entrance on the first floor with stair and ramp access from Mississippi Avenue. The building and entrance are raised up from Mississippi Avenue approximately ten feet. There is a large single story multi-use space with stage programmed for student dining, gymnasium, performances, and gatherings to the rear aligned with the main entrance. Administrative staff, teacher and visitor parking is located at the north side of the site behind the building accessed from 15th Street. Playgrounds and playfields are located west of the existing building. A small outdoor space and playground for toddlers and infants parallels the east wing on the 15th Street side of the building.

The existing building structure is formed concrete except for the third floor of the west wing addition which is steel framed. Due to poor soils conditions at the site, the entire structure rests on drilled cast concrete and driven steel piles and formed concrete pile caps and grade beams. The building exterior at the academic wings and multi-purpose structures are typically comprised of low masonry walls with continuous ribbon windows allowing for ample natural light into classrooms while offering views of the forested hillside to the north and the Oxon Run Park to the south. Long double loaded interior corridors extending out from the building entry hub connecting individual classrooms the length of the academic wings. Administrative areas, offices and the kitchen are collocated near the first-floor building entrance. The school library is located on the 2nd floor over the main entrance. The existing exterior windows and doors were replaced in the mid 2020s with modern high performing aluminum equivalents. Membrane roofing over the flat roofs of the academic wings has been replaced as required over time. The membrane sloped roofing on the multi-purpose space has also been replaced as required.

The building is in good overall condition but, has not received any major renovations or modernizations since it was constructed other than the third-floor addition to the academic west wing constructed in 1966. The building systems including mechanical electrical AV/IT, and fire annunciation systems were upgraded in the middle 2020s. There is no fire suppression system throughout the building. An elevator serving three floors was added in 2023. Building services are located throughout the building and in an existing lower level accessed from the exterior and from within the building interior.

Planned Modernization and Additions

The District of Columbia Public Schools program requirements for the modernization of Malcolm X anticipates an enrollment of 275 students with a proportional amount of faculty and staff. Given the proposed project program requirements for a 21st century school the existing building cannot support the program requirements within the existing building envelop necessitating the need for a new addition(s). The existing building is approximately 63,400GSF including the lower-level building service spaces with proposed additions of approximately 20,000GSF.

The planned additions envisioned support expanded administration spaces, classrooms, student dining, and gymnasium programs. The planned additions are located to the southeast of the existing east academic wing along 15th Street to support administrative functions, south and north of the west academic wing to support academic classroom functions and to the west of the existing building to support gymnasium and student dining functions in the available open space currently dedicated to outdoor play areas.

Based on the narrow width of the existing building and the increased program areas for modern classrooms modest bay additions are planned at the north and south facades of the existing west academic wing. New exterior building openings will be complimentary in size and rhythm of the windows in the existing building facade. A similar single-story addition to the east academic wing serving administration and expanded entrance program functions is planned at the southeast facade of the east wing. The location main school entrance is retained. A broad canopy over the entrance and adjoining pedestrian space is planned.

The existing multi-purpose space to the north cannot serve the program requirements of a fully modernized elementary school and bisects the site into two distinct areas compromising visual connectedness and security. Given its size and location the envisioned design plans for its demolition. The gymnasium addition visible along Mississippi Avenue is envisioned as a tall single-story volume designed to respectfully maintain the scale of the original school building. The addition is pulled away from the existing building to create relief between the structures and maintain the existing building envelope and to retain daylight and views into functional program spaces within the existing building and new additions. Clerestory windows into the gymnasium allow for natural light and limited views into and from the gymnasium. The glazed north wall of the gymnasium stage faces the outdoor play space between the proposed gymnasium and the student dining creating a double-sided stage for performance and play. The fully glazed south wall of the student dining faces the proposed open outdoor court intended for dining and play. Both spaces are planned to be available for independent community use after school hours.

By envisioning the additions as separate volumes independent of the existing building the size and scale does not overwhelm the existing building, allowing for alternate aesthetic expression and creates valuable open space on the site allowing for possible independent use. The impact on the existing building is minimized and construction activities may be simplified.

The proposed exterior building materials including brick and exterior high-performance paneling are intended to provide a contemporary interpretation of the original building materiality. Selected patterns and colors are intended to harmonize with the existing natural site setting. New fixed and operable aluminum framed windows, storefront and doors include projecting horizontal and vertical shading devices designed to further support net-zero energy goals.

The project plans to modify and reuse the existing metal screen walls surrounding new roof mounted high performance mechanical units supporting modern HVAC and emergency systems. The existing screen walls around units will be reduced in size to the minimum size required and will minimize views and sound migration into the surrounding neighborhood.

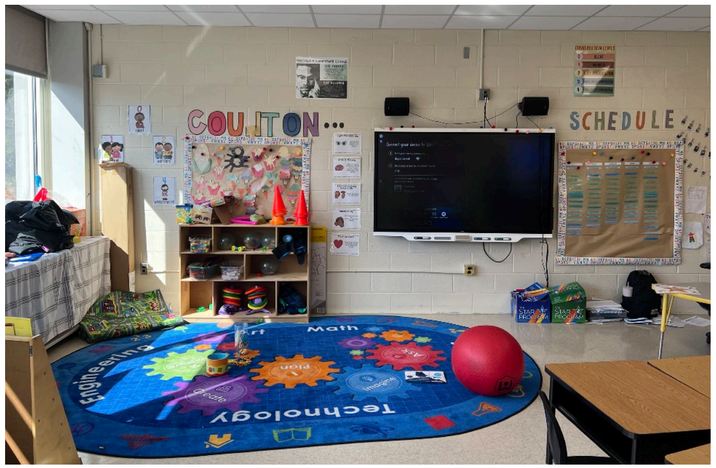
A high efficiency mechanical system is planned which will be supported by a geothermal well field consisting of approximately 130 wells located to the north and west of the existing building and planned additions. To achieve net-zero energy use requirements photovoltaic panel arrays are planned to be installed on the east wing roof and roofs of the new additions. The existing structure of the west wing has insufficient loading capacity to support the addition of any PV arrays. The existing hillside north of the building will support additional ground mount PV arrays the number of which is currently being determined dependent on the building envelope performance, planned occupancy the mechanical and electrical systems efficiency and projected costs. The PV arrays are to be provided and installed by a different entity contracted directly by the District of Columbia under a Power Purchase Agreement (PPA).

Existing Building Facade Improvements

The existing building façade is comprised of a four-inch brick course over a four-inch course of concrete block supported off the face of the existing concrete frame. There is no insulation. Deterioration to the northeast end of the east wing, the west end of the west wing and around the main building entrance has occurred necessitating the construction of new metal paneling overlay to cover deteriorated conditions and to prevent further deterioration. The existing aluminum frame windows while relatively new do not meet current energy requirements for either the frames or the glass. The District of Columbia's program for the modernized school requires that the completed project meet net-zero requirements for energy use and that the Energy Use Intensity (EUI) which refers to the amount of energy used per square foot annually meet an aggressive EUI 20 goal. The design build team has explored multiple options to improve the existing building envelop by adding insulation to the exterior and or interior sides of the walls and has determined that the most efficient approach is to remove the existing windows, doors and exterior walls and replace them with new walls and fenestration that combine high insulation thermal values and minimal air leakage. Refer to the included "Building Demolition Summary" which provides additional detail descriptions of the existing conditions and design approach.

Recommended Building Design Objectives

- Achieve Net-Zero energy use and achieve LEED Gold Certification.
- Maximize the efficient use of the existing building.
- Continue to utilize the east and west academic wings use given the current functional size of the existing structure and the considerable amount of windowing for natural light and view and to take advantage of the existing views to the forested site and Park. The increase in the size and number of classrooms necessitates reconfiguring the west wing by adding bay additions to the north and south sides.
- Remove the existing Multi -Purpose space to support outdoor spaces and access.
- Locate two new single-story connected additions for Student Dining and Gymnasium functions west of the existing academic wing along Mississippi Avenue Street in the area of the existing playgrounds. The new additions are separated from one another to create an outdoor activity and student dining space between the two and to allow views and access to the existing building and site to the east. The planned additions are sited and designed to allow of independent neighborhood use of the gymnasium and student dining spaces during non-school hours while maintaining the school security envelope.
- The main school entrance remains in its current location off Mississippi Avenue.
- Reduce parking for administration and staff is located to the rear north side of the building.
- Provide a secondary entrance off Mississippi Avenue to allow after school use of the student dining and gymnasium spaces.



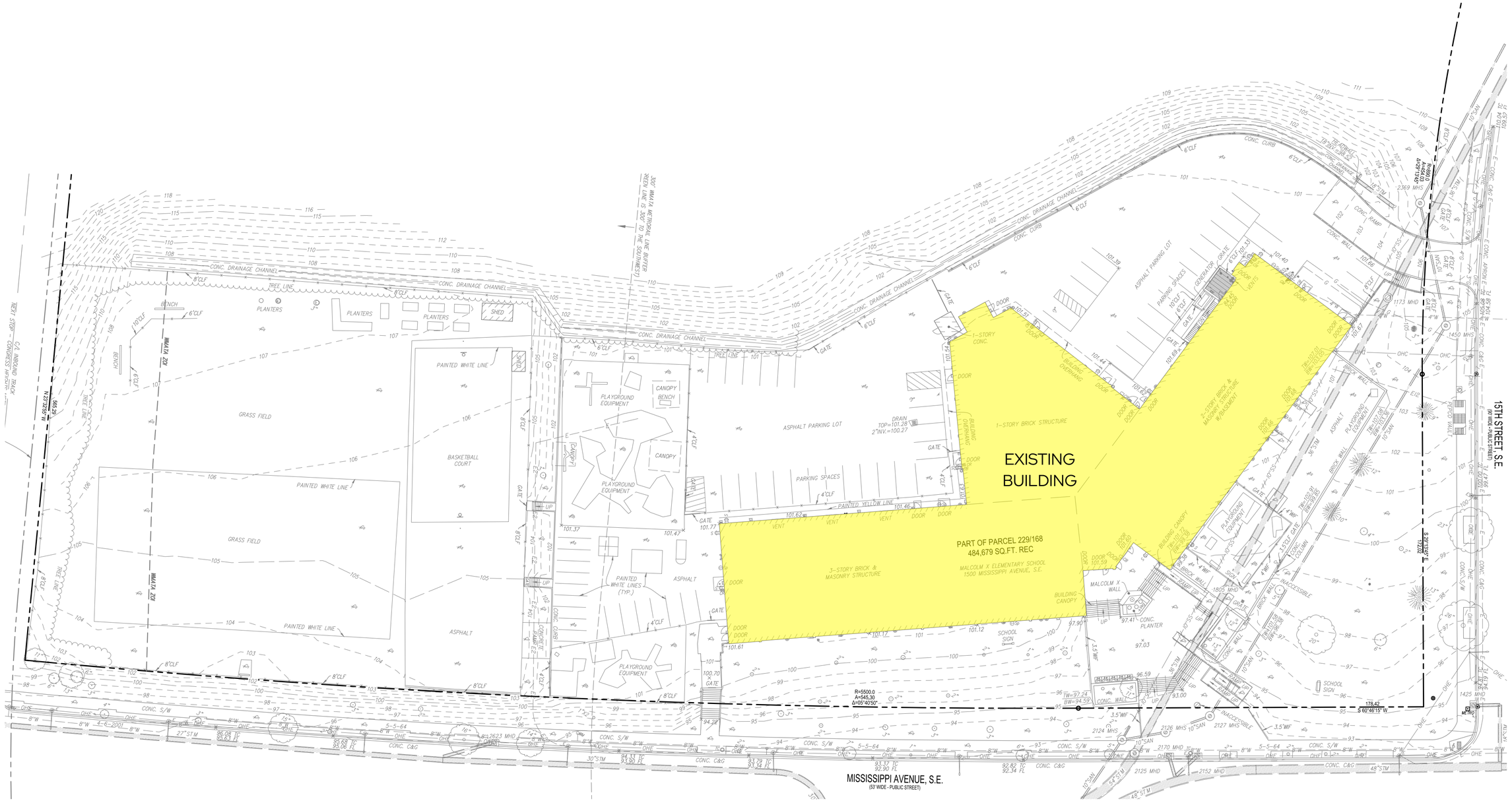
Site Design and Improvements

A new broad terrace is planned at the front entrance including the addition of connecting walks to improve site access from 15th Street and Mississippi Avenue. The existing parking lot will be retained but substantially reduced in size to meet current zoning regulations. A loading dock for deliveries - accessed from 15th Street - and at grade enclosure for trash and recycling are both planed to be located adjacent to the new cafeteria. The proposed design seeks to improve the pathway and building entrance at the north side of the building for teachers and administrative staff parking in the parking lot. Outdoor space between the new additions and north of the existing building are envisioned offering opportunities for enhanced outdoor classrooms for instruction, gardening, and play. Refer to the included "Site Design Narrative" which provides additional detail descriptions of the existing conditions and design approach.

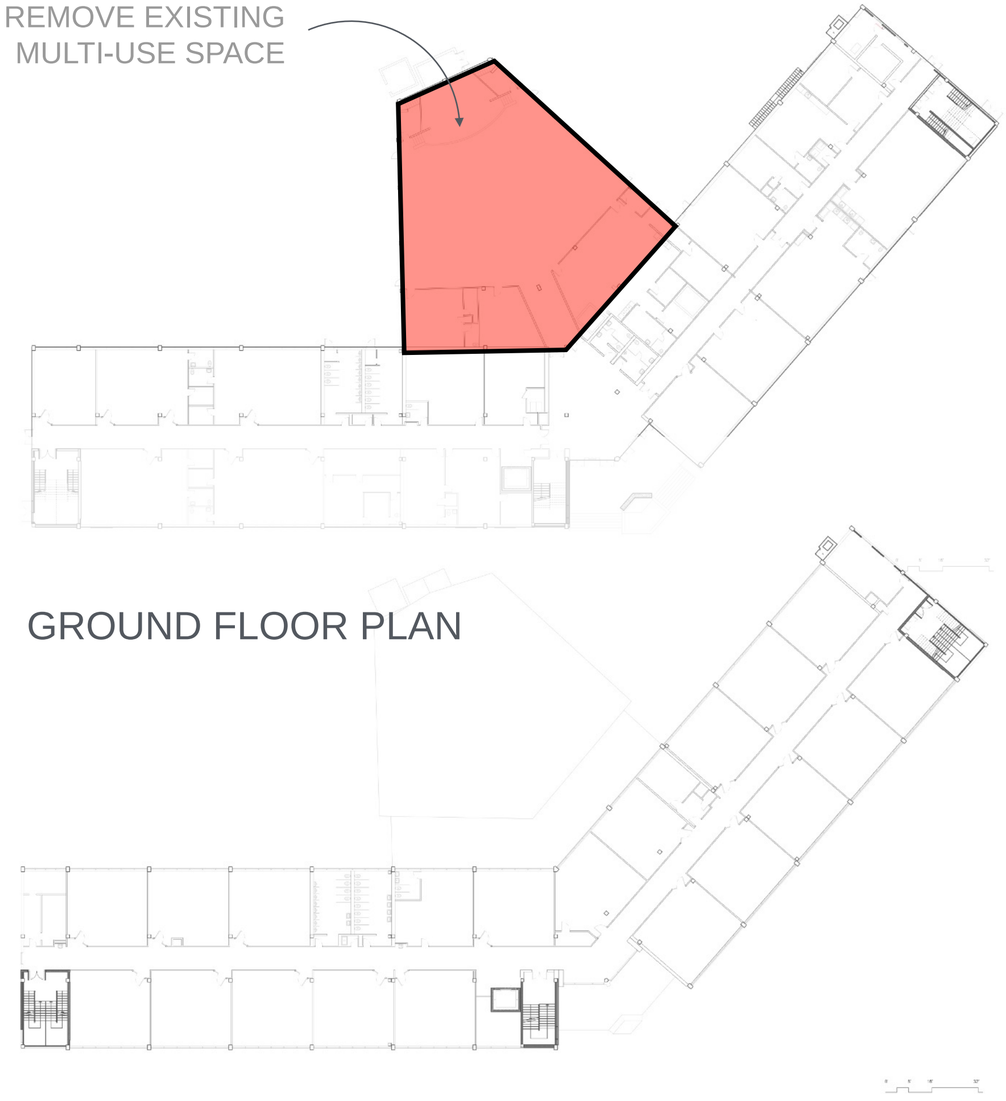
Recommended Site Design Objectives

- Maximize the amount of outdoor space available for school, playground, and open space. Minimize surface parking to the extent possible.
- Preserve the existing site and playground features that are compatible with the new school construction and replicate those site and playground features that are disturbed by new school construction.
- Allow controlled access to gymnasium addition for after -hours neighborhood use while maintaining school security envelope.
- Organize new addition(s) to create a campus like environment with outdoor rooms for instruction and play.
- Provide perimeter security at the site while allowing convenient community access.
- Provide for safe and efficient arrival and departure elements, including additional on-site accessible pedestrian walkways connected to public walks and provide for curbside vehicular drop-off / pick up zones if possible.
- Create a more pedestrian friendly entrance(s) to school for arriving students and visitors from Mississippi Avenue and 15th Street and from the parking lot for teachers and administrative staff.
- Relocate and reuse existing serviceable play structures that may be displaced by new construction.
- Locate Pre-K kindergarten and CDC playgrounds immediately adjacent to planned classrooms.
- Create demonstration rain garden, storm water facilities, vegetable, herb, flower, and butterfly gardens. All areas are to be used for school environmental stewardship program with the possibility of controlled neighborhood access.
- Provide for efficient site lighting that allows for necessary evening access and security while minimizing night lighting migration into the adjacent residential neighborhood and importantly the forested and Park areas. Allow programmable site lighting operation to respond to seasonal and special operations conditions.
- Provide state of the art site environmental program, including preservation of existing open space to the extent possible; minimization of storm water runoff through use of permeable pavements, green roofs, school gardens and bio-retention facilities. Allow environmental facilities to be functionally visible so they can be incorporated into a site stewardship program for the school.

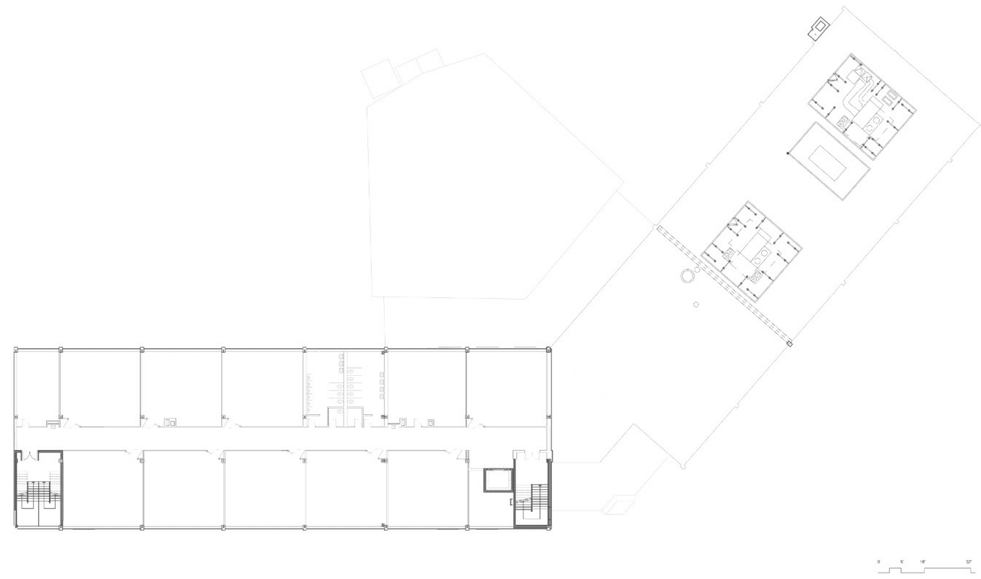
EXISTING SITE PLAN



EXISTING FLOOR PLAN



GROUND FLOOR PLAN



3RD FLOOR PLAN

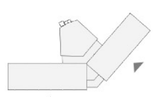
2ND FLOOR PLAN

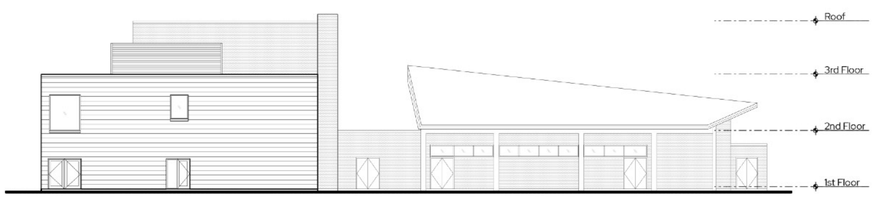
EXISTING ELEVATION

WEST WING - SOUTHEAST ELEVATION

WEST WING - SOUTHWEST ELEVATION

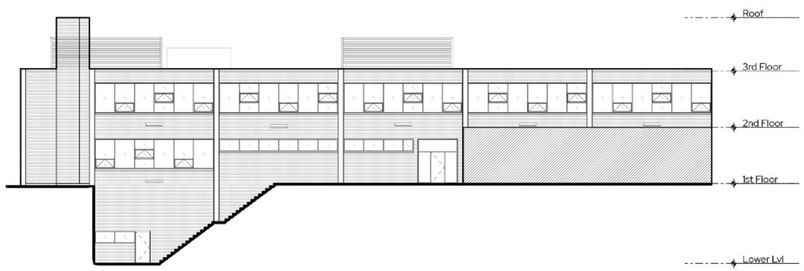
EAST WING - EAST ELEVATION



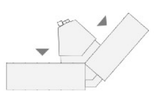


EAST WING - NORTH ELEVATION

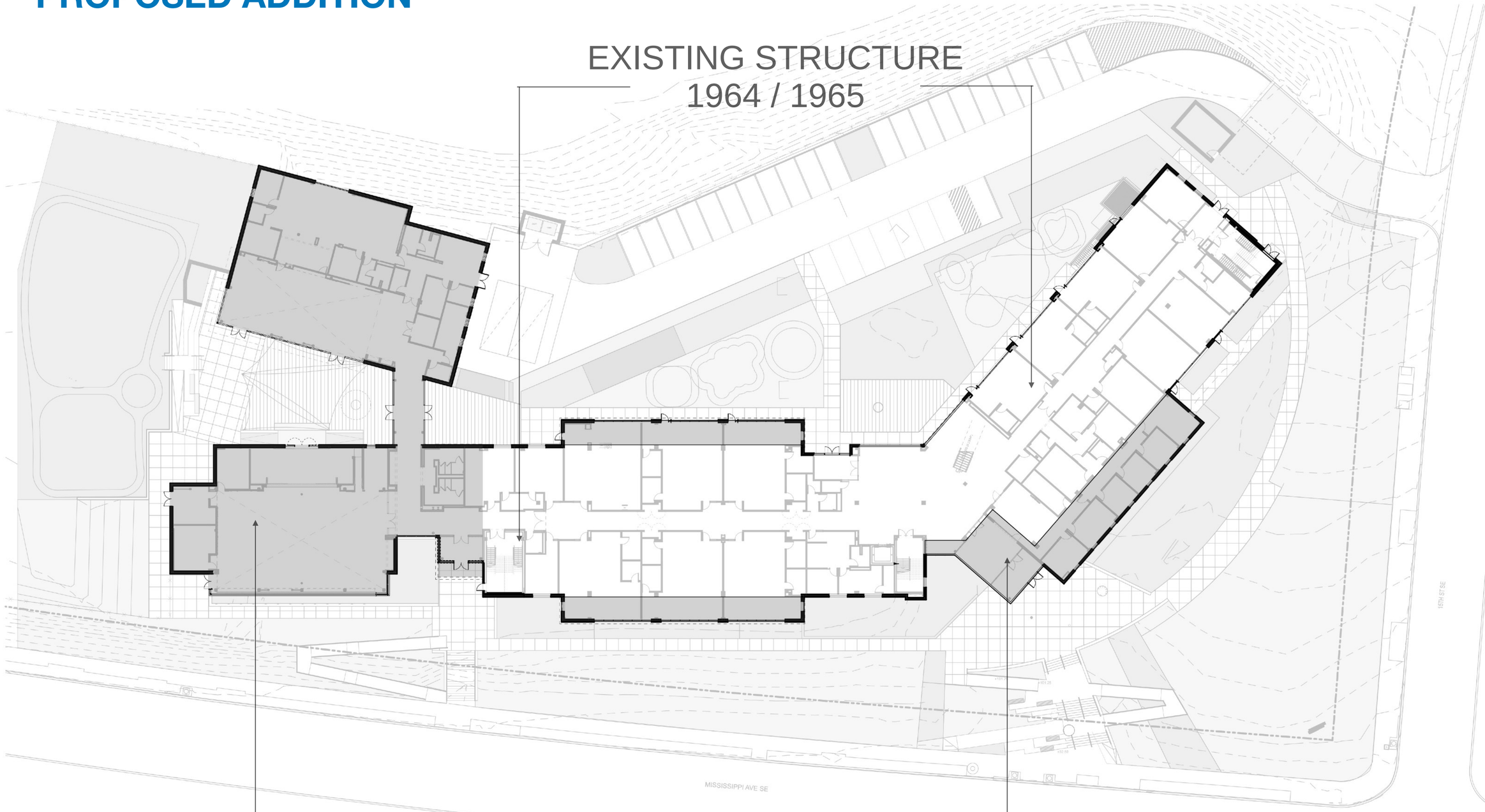
WEST WING - NORTHWEST ELEVATION



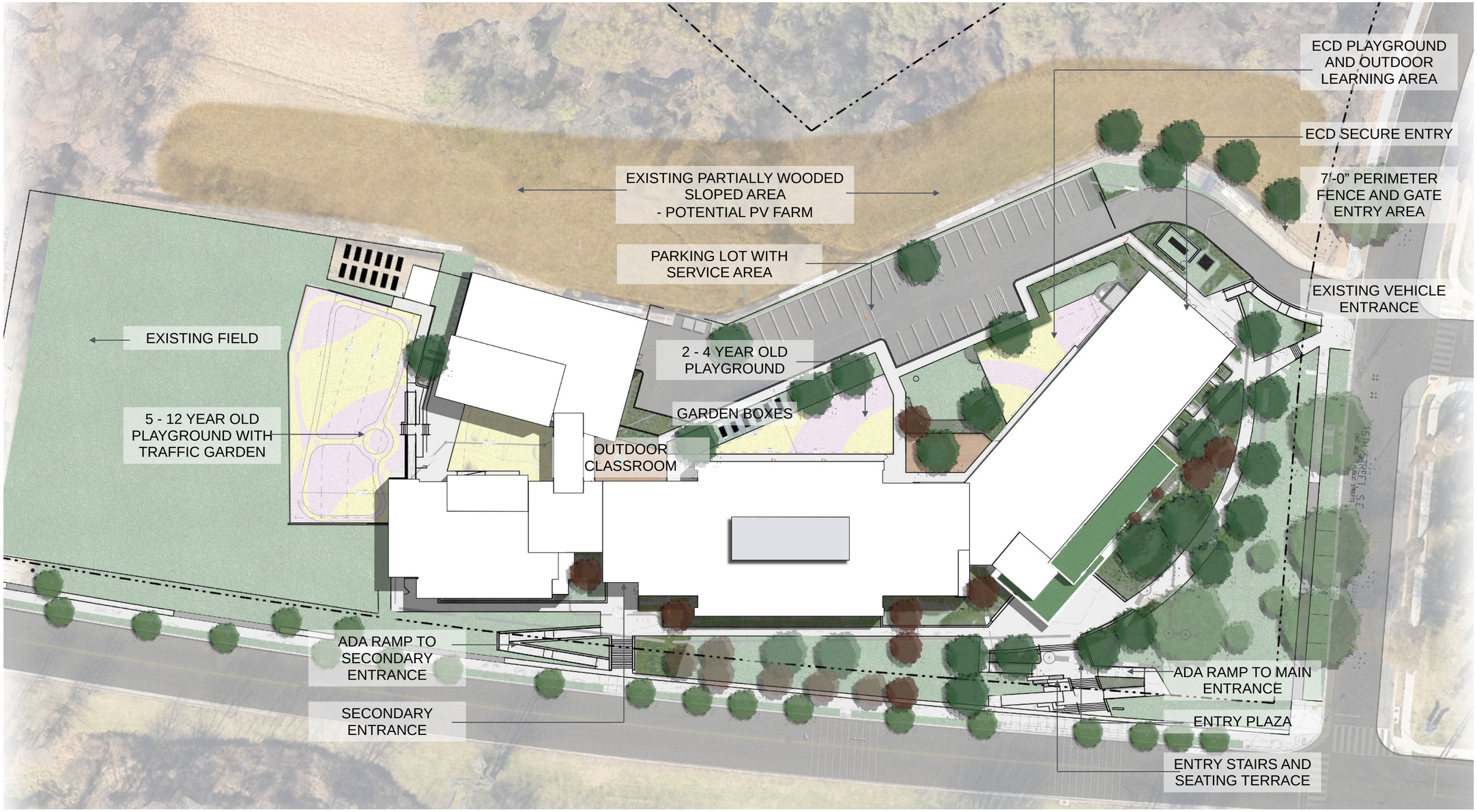
EAST WING - WEST ELEVATION



PROPOSED ADDITION



SITE PLAN


ECD PLAYGROUND AND OUTDOOR LEARNING AREA
ECD SECURE ENTRY
7'-0" PERIMETER FENCE AND GATE ENTRY AREA
EXISTING PARTIALLY WOODED SLOPED AREA - POTENTIAL PV FARM
PARKING LOT WITH SERVICE AREA
EXISTING VEHICLE ENTRANCE
EXISTING FIELD
2 - 4 YEAR OLD PLAYGROUND
GARDEN BOXES
5 - 12 YEAR OLD PLAYGROUND WITH TRAFFIC GARDEN
OUTDOOR CLASSROOM
ADA RAMP TO SECONDARY ENTRANCE
ADA RAMP TO MAIN ENTRANCE
SECONDARY ENTRANCE
ENTRY PLAZA
ENTRY STAIRS AND SEATING TERRACE
15TH STREET S.E.

SOLAR PANEL - ARCHITECTURAL LAYOUT

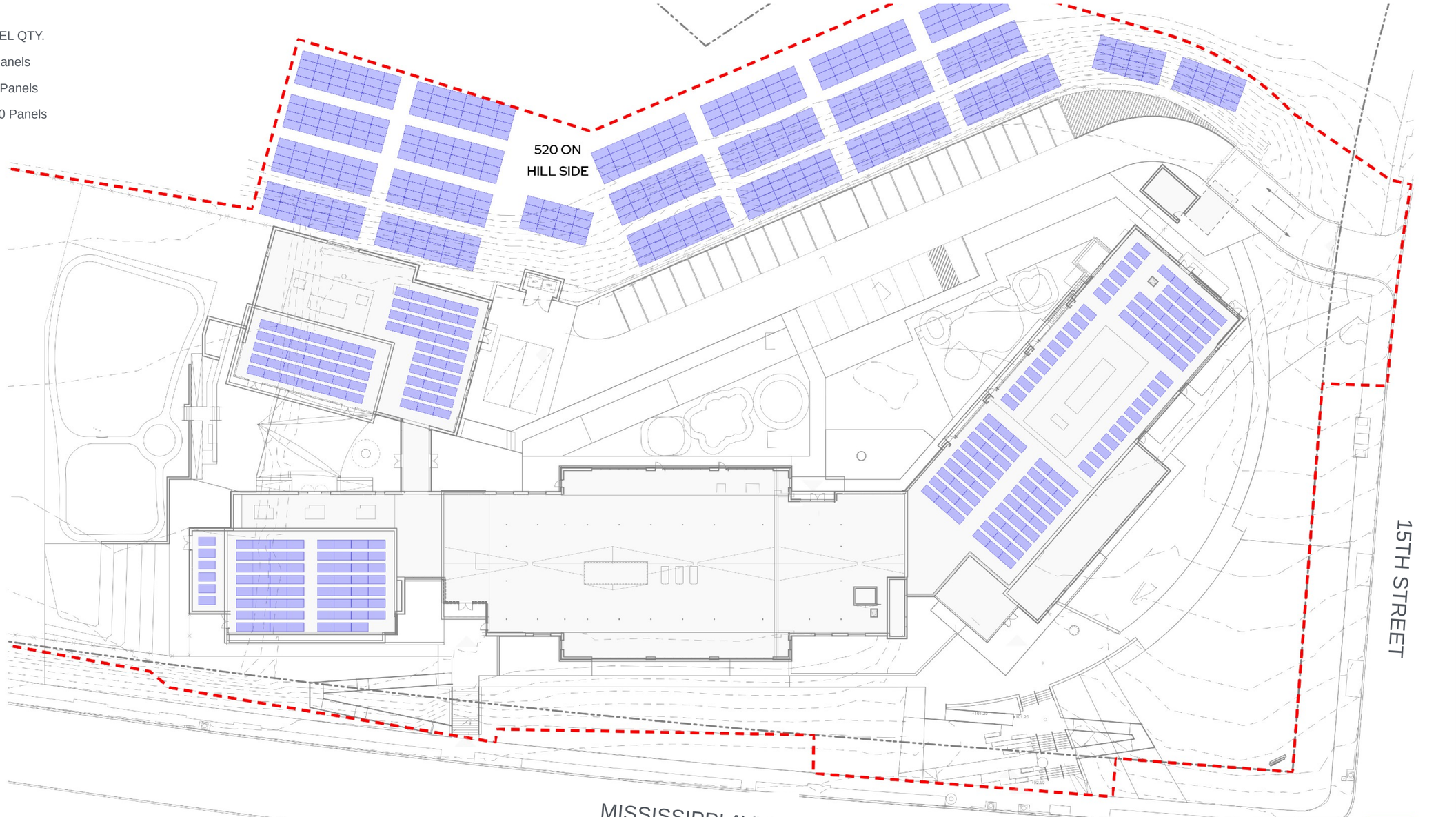
L.O.D.

SOLAR PANEL QTY.

Roofs: 252 Panels

Hillside: 520 Panels

Parking Lot: 0 Panels



STREET VIEW TO LOCATION OF SOLAR PANELS

SOLAR PANEL OVER PARKING ANAYLSIS

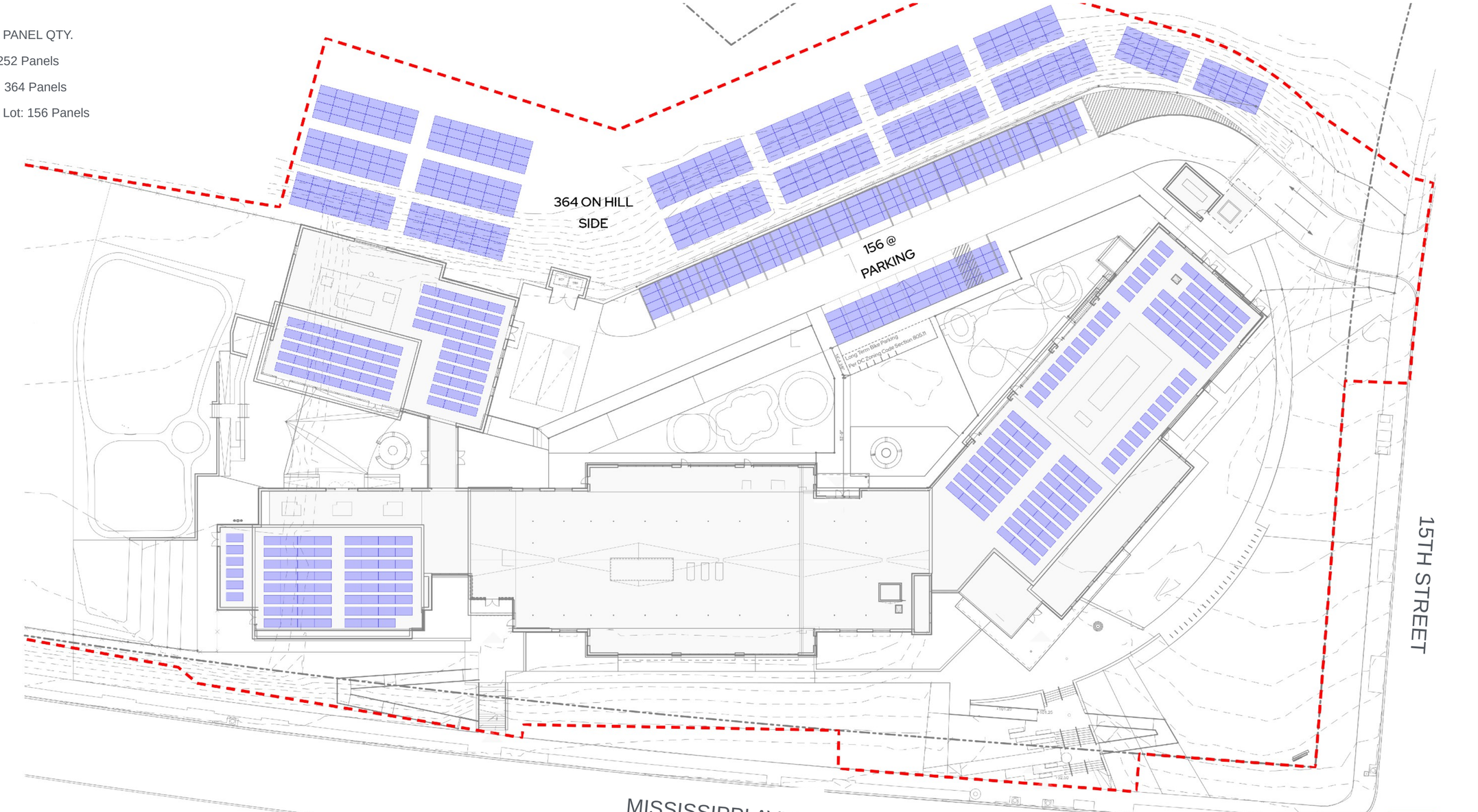
L.O.D.

SOLAR PANEL QTY.

Roofs: 252 Panels

Hillside: 364 Panels

Parking Lot: 156 Panels



SOLAR ARRAY OVER PARKING ANALYSIS

We study the options to include some solar array panels over the parking lot to limit the number of panels on the hillside and to provide shading. Through our research we have determined this is not the most feasible approach. It raises concerns for both the design build team and DCPS. Our concerns are as follows:

1. A geothermal well field is located below the parking lot. Placing the solar array structures above the horizontal piping of the well field creates coordination challenges and unnecessary risk of damaging the piping during construction. The solar array structures may also limit access for future repairs to a well or piping.

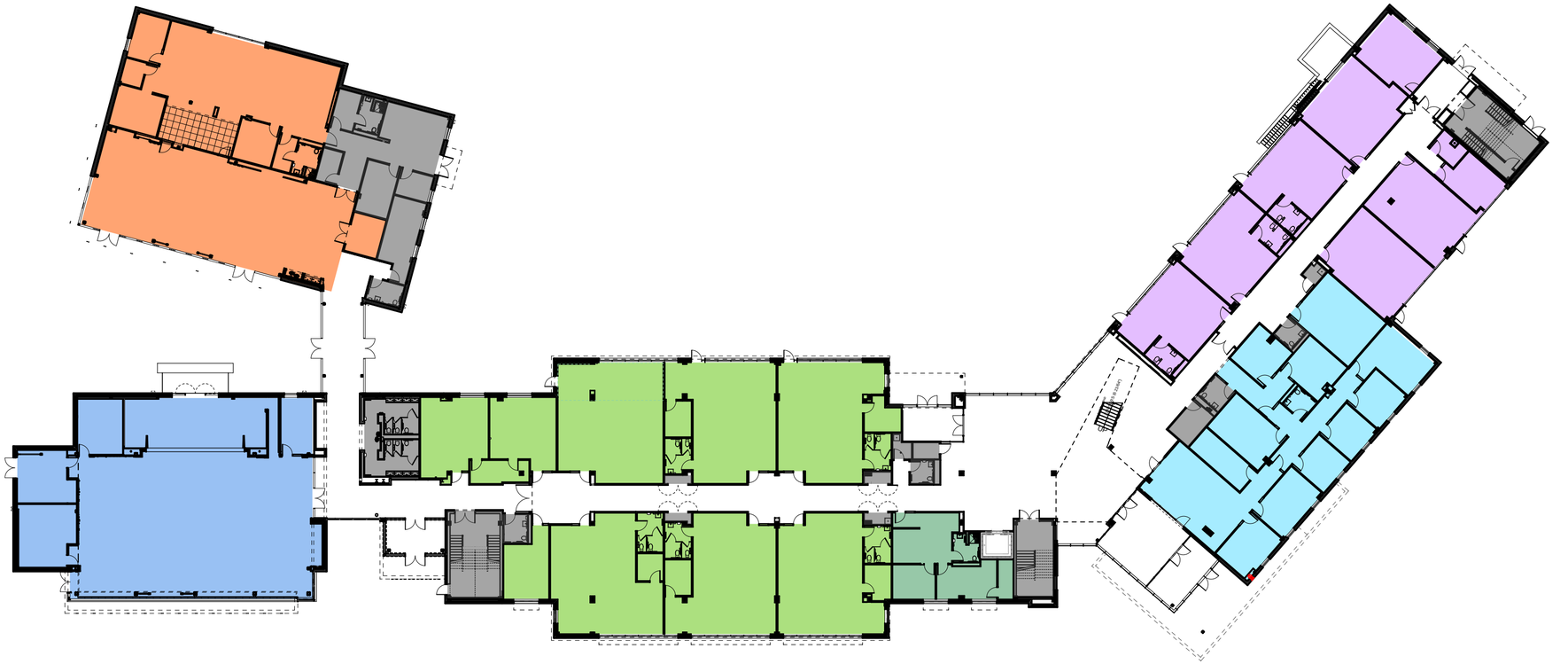
2. Solar array structures over parking may shade PV arrays located on the adjacent hill side at various seasons and times therefore rendering them less efficient.

3. The canopies of the solar array structures in the parking lot are at risk of being damaged by delivery vehicles or emergency response vehicles. This has in fact been an issue in previously completed projects. Placing the panels on the hillside moves them out of the path of vehicular circulation.

4. The solar array structures in the parking lot will not completely offset the quantity of PV panels on the hill side. See previous page for reference.

5. The Phase 2 ESA indicates there is a potential to encounter contaminated soils. The addition of deep footings for the solar array structure further enhances chances of disturbing contaminated soils

PROPOSED FLOOR PLAN



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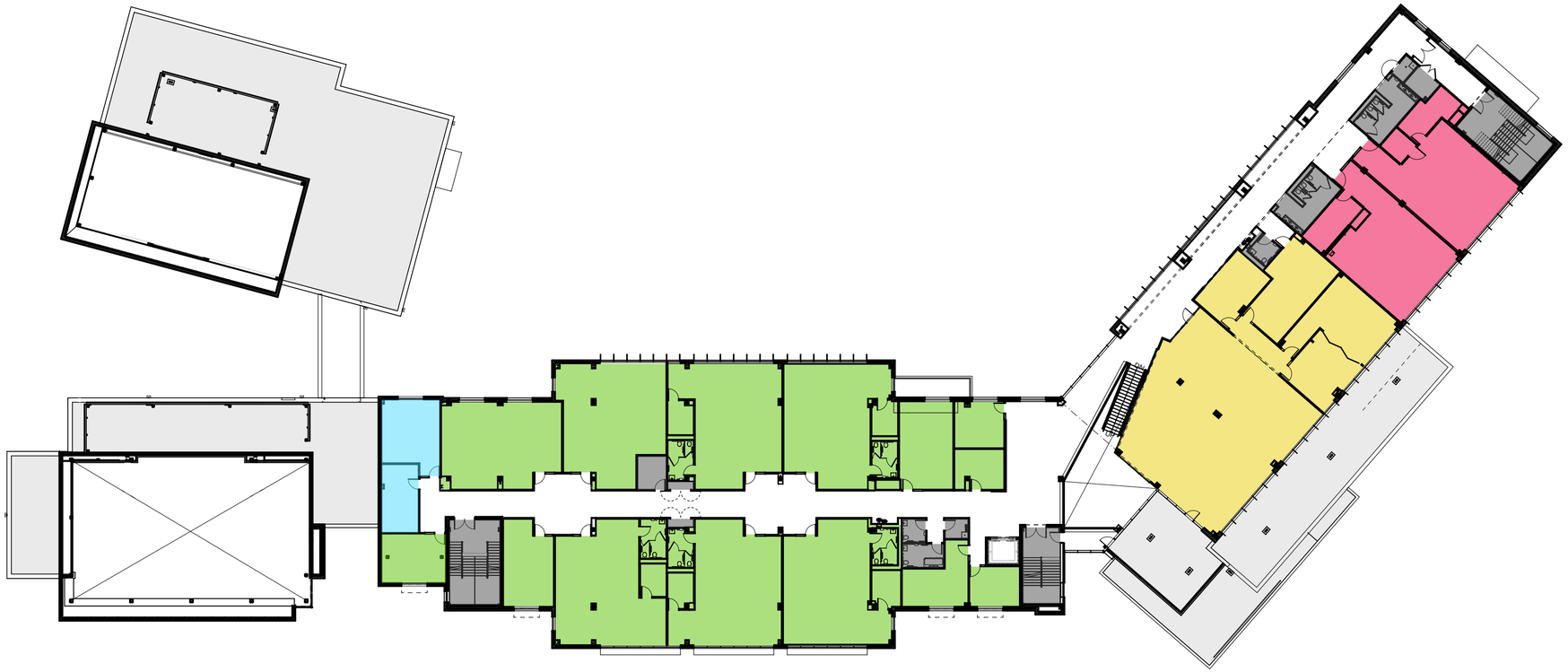
SERVICES

GROUND FLOOR PLAN

PROPOSED FLOOR PLAN



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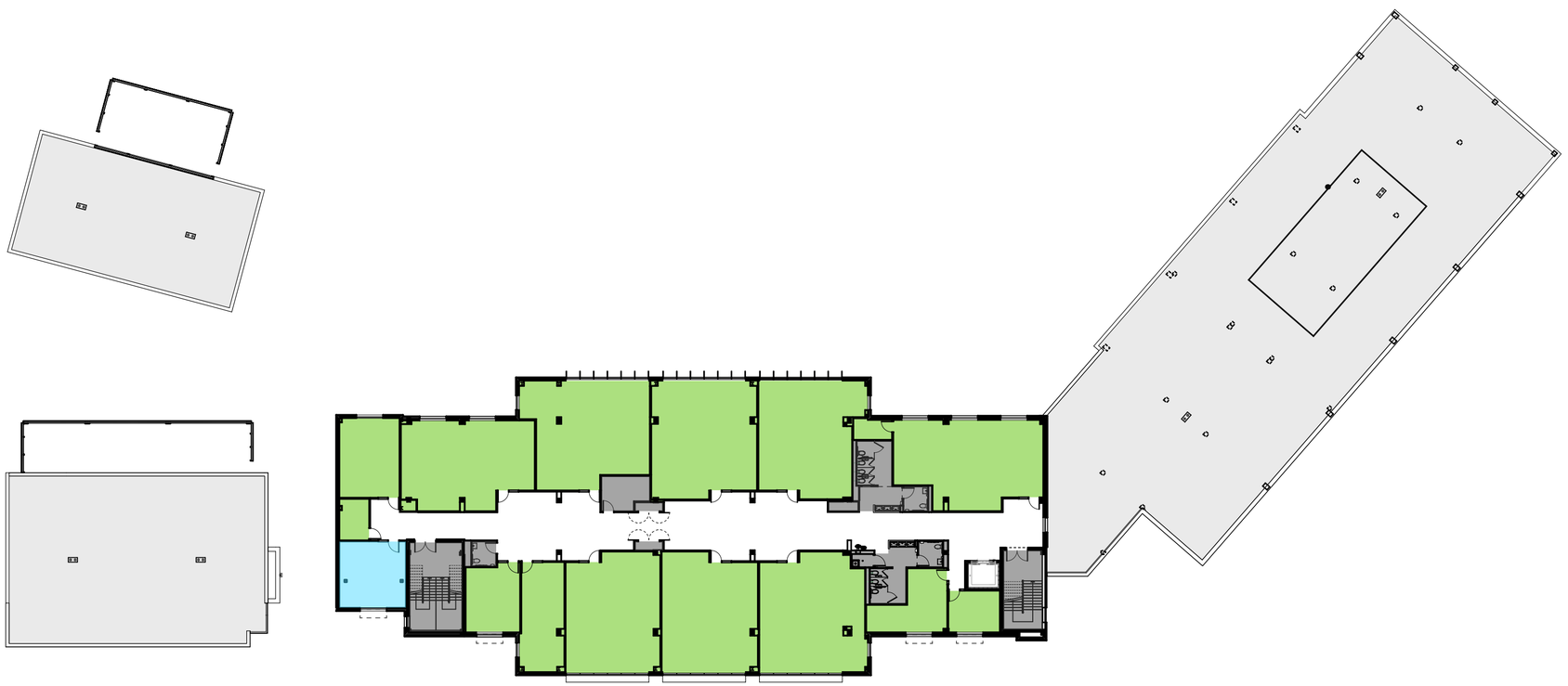
SERVICES

2ND FLOOR PLAN

PROPOSED FLOOR PLAN



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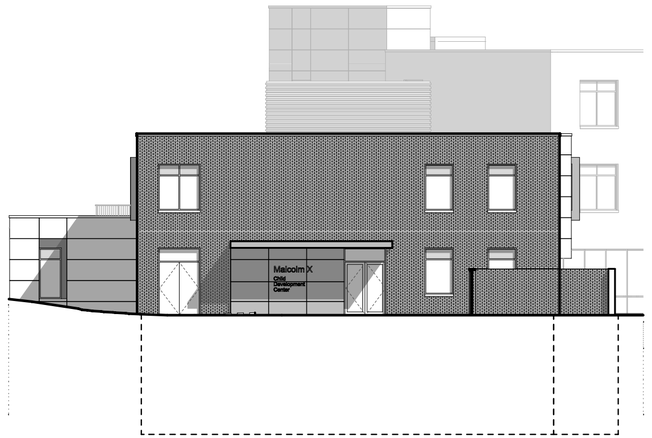
3RD FLOOR PLAN

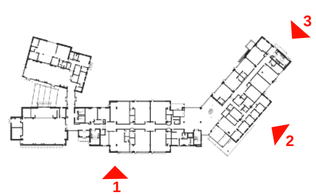
PROPOSED ELEVATION

ELEVATION - SOUTH WEST - 1

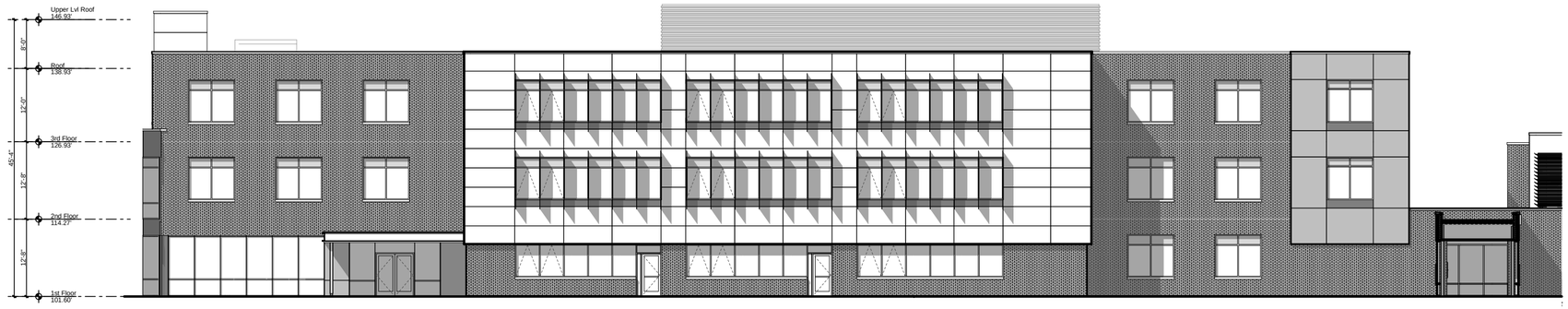
ELEVATION - SOUTH EAST - 2



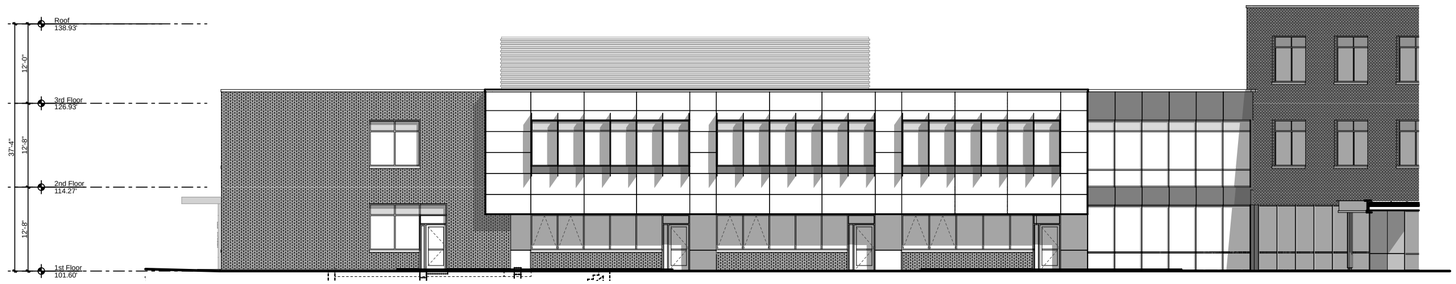
ELEVATION - EAST - 3



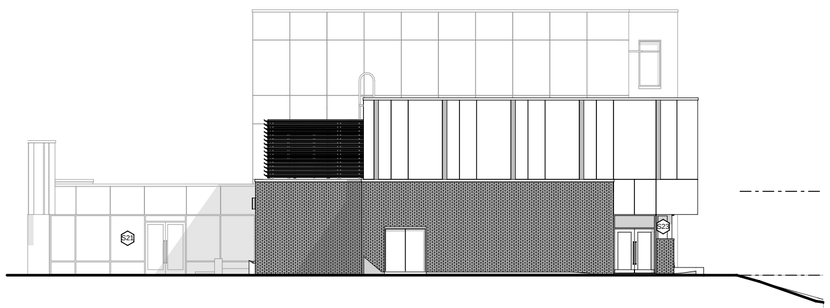
PROPOSED ELEVATION



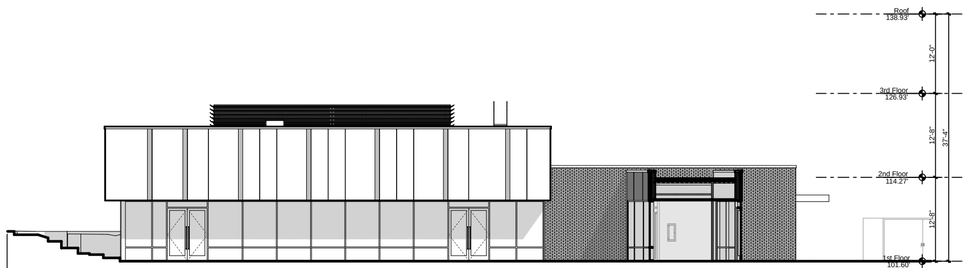
ELEVATION - NORTH WEST - 1



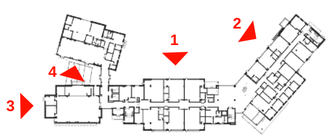
ELEVATION - NORTH EAST - 2



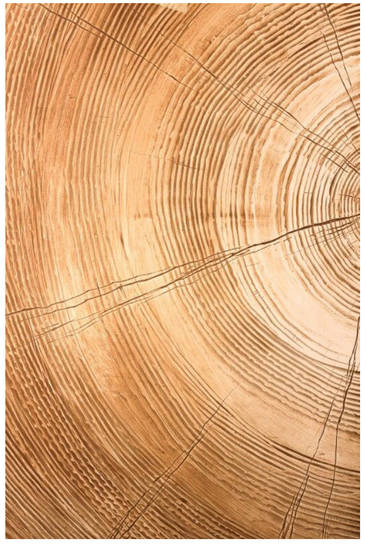
ELEVATION - WEST - 3

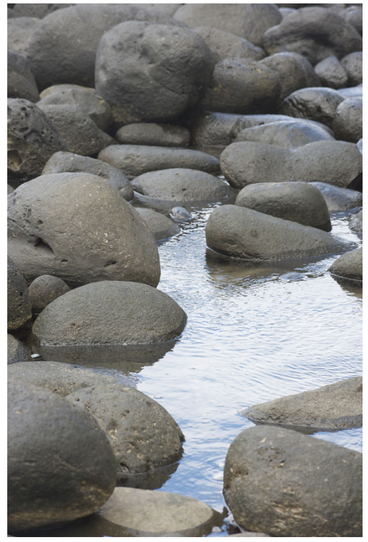


ELEVATION - DINING - 4



INSPIRATION





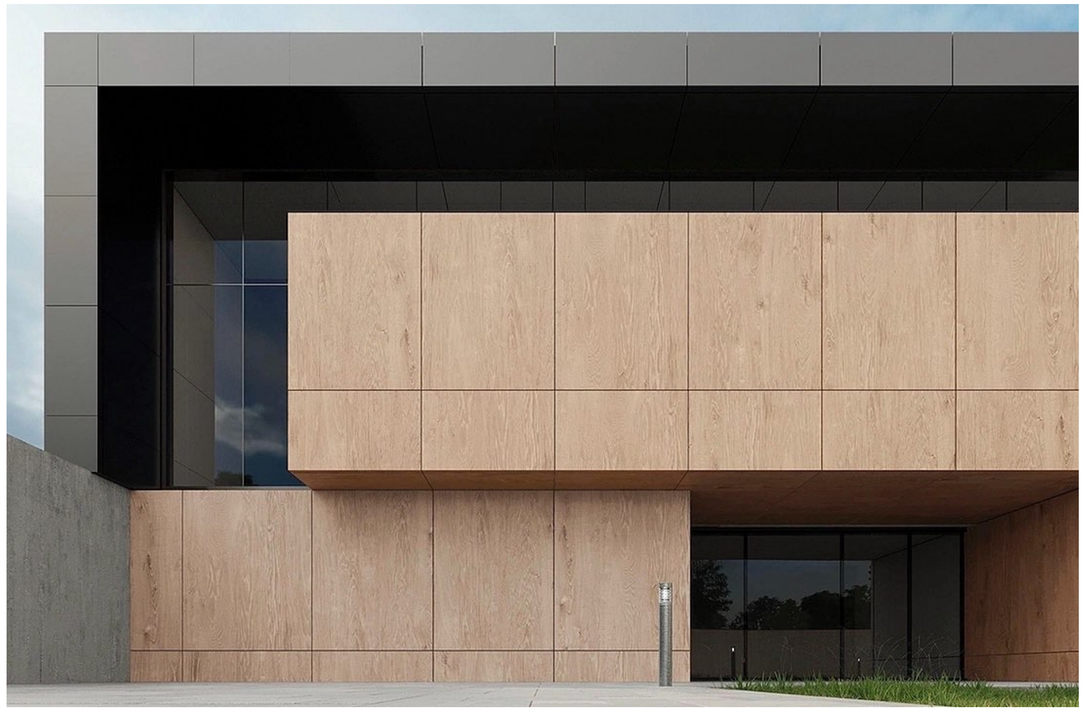
Exterior Material and Color Expression

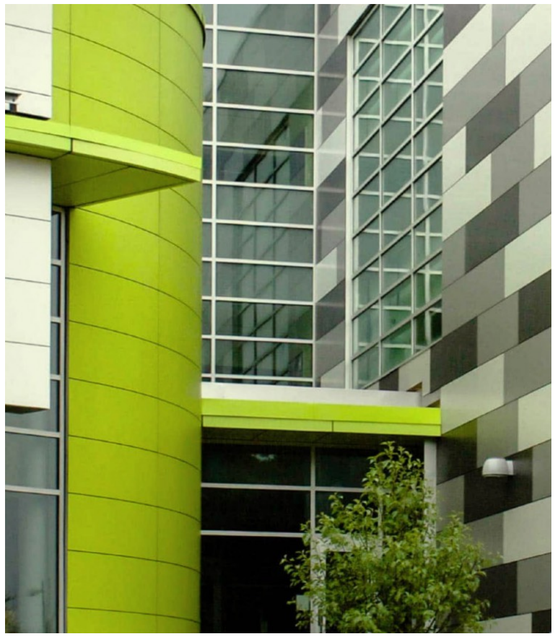
The project envisions a rich and diverse exterior material expression consisting of material, patterns and colors all found in nature with the intent to create calming and trans formative spaces echoing the unique natural beauty of the Malcolm X site. The contemporary palette consists of low- maintenance materials to ensure optimum performance over time and offer high-levels of weather and fire resistance.

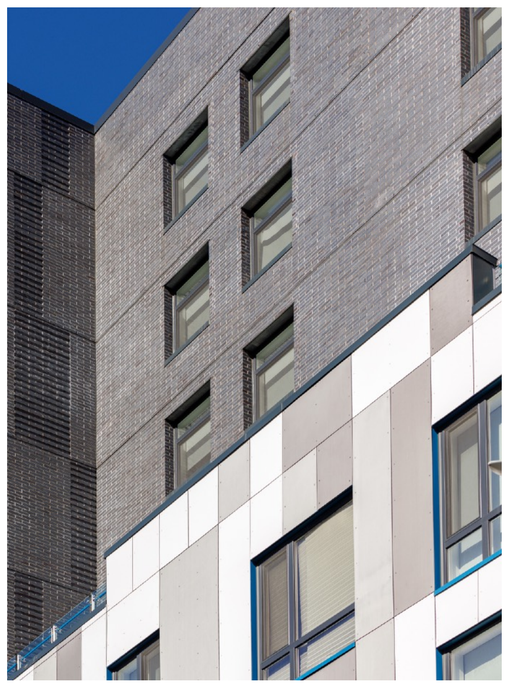
Major material selections include brick, stone veneer and concrete contrasted by hi performance modern exterior cladding panels. The wall panel expression consists of generous areas that show case the natural warmth and beauty of wood as well as other colors found in nature.

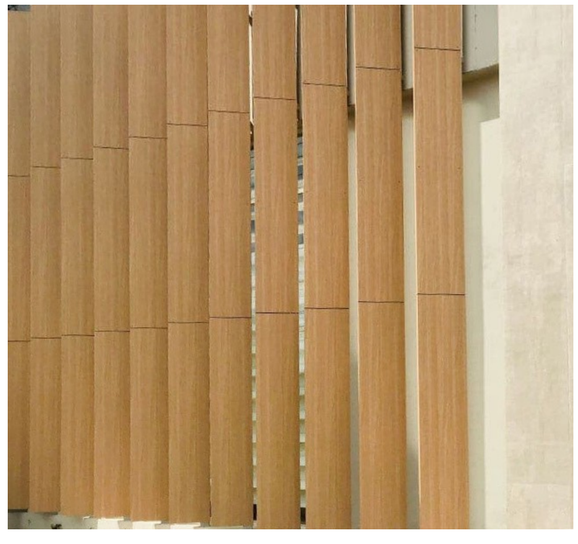
Vertical and horizontal sunshades elements provide shade, reduce glare and save energy. These elements are envisioned as opportunities for bright accent colors. Generous windows and storefront extents are sensitively located to maximize daylighting and views in, out and through spaces while at the same time designed to support Net-Zero goals.

SAMPLES OF SIMILAR MATERIALS









EXTERIOR AND INTERIOR MATERIAL PALETTE

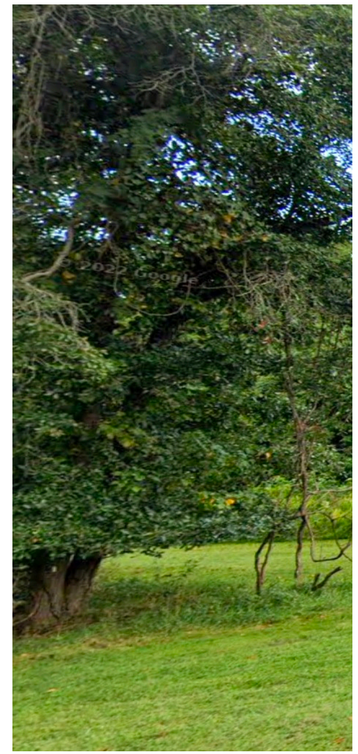
EXTERIOR AND
INTERIOR HPL
PANEL
HPL-3E

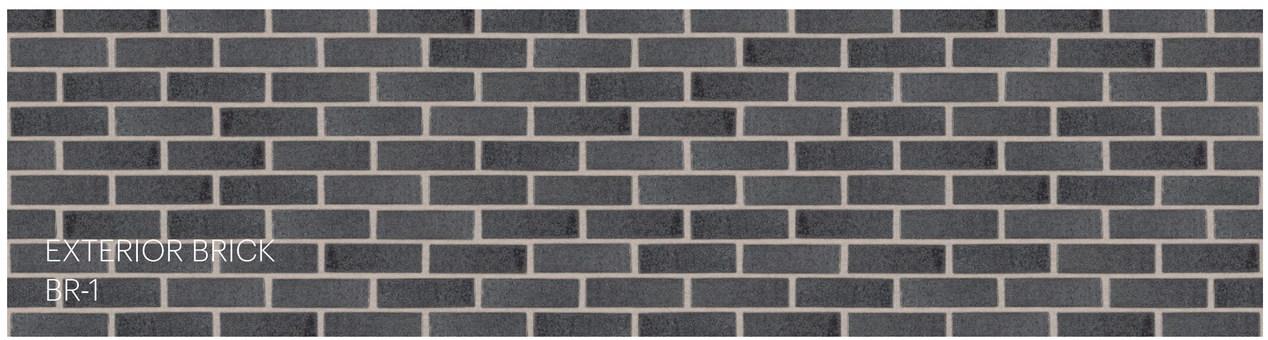
INTERIOR
HPL
PANEL

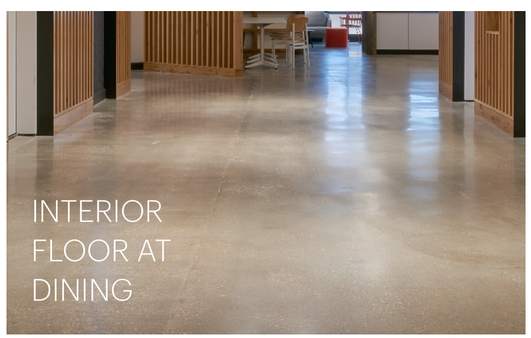
EXTERIOR
AND
INTERIOR
HPL
PANEL
HPL-5E

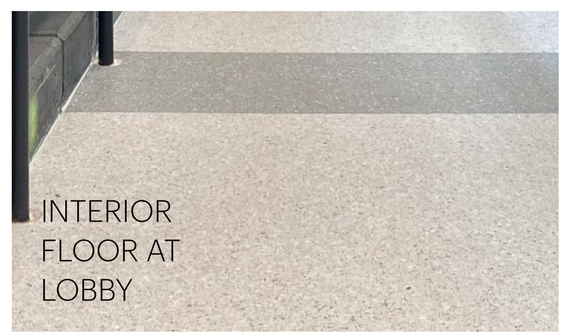
EXTERIOR
HPL
PANEL
HPL-2E

INTERIOR
HPL
PANEL







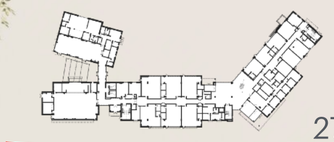


AERIAL VIEW FROM SE

AERIAL VIEW MATERIALS ANNOTATED

AERIAL VIEW FROM SW

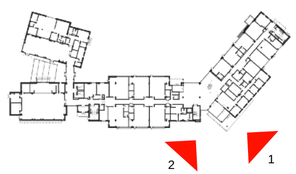
FOR MATERIALS REFERENCE PAGE (24)



AERIAL VIEW FROM NE

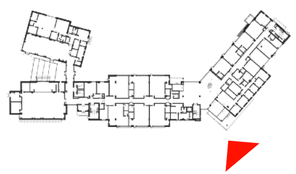
1 - VIEW FROM FRONT STEPS TO ENTRY

2 - VIEW OF ENTRANCE VESTIBULE

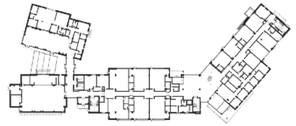


VIEW OF ADMIN EAST WING FROM NE CORNER

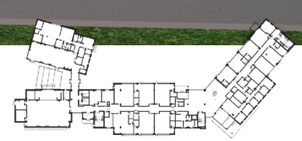
VIEW - CORNER OF MISSISSIPPI AND 15TH STREET



VIEW - ELEVATION FROM MISSISSIPPI AVENUE - WEST WING

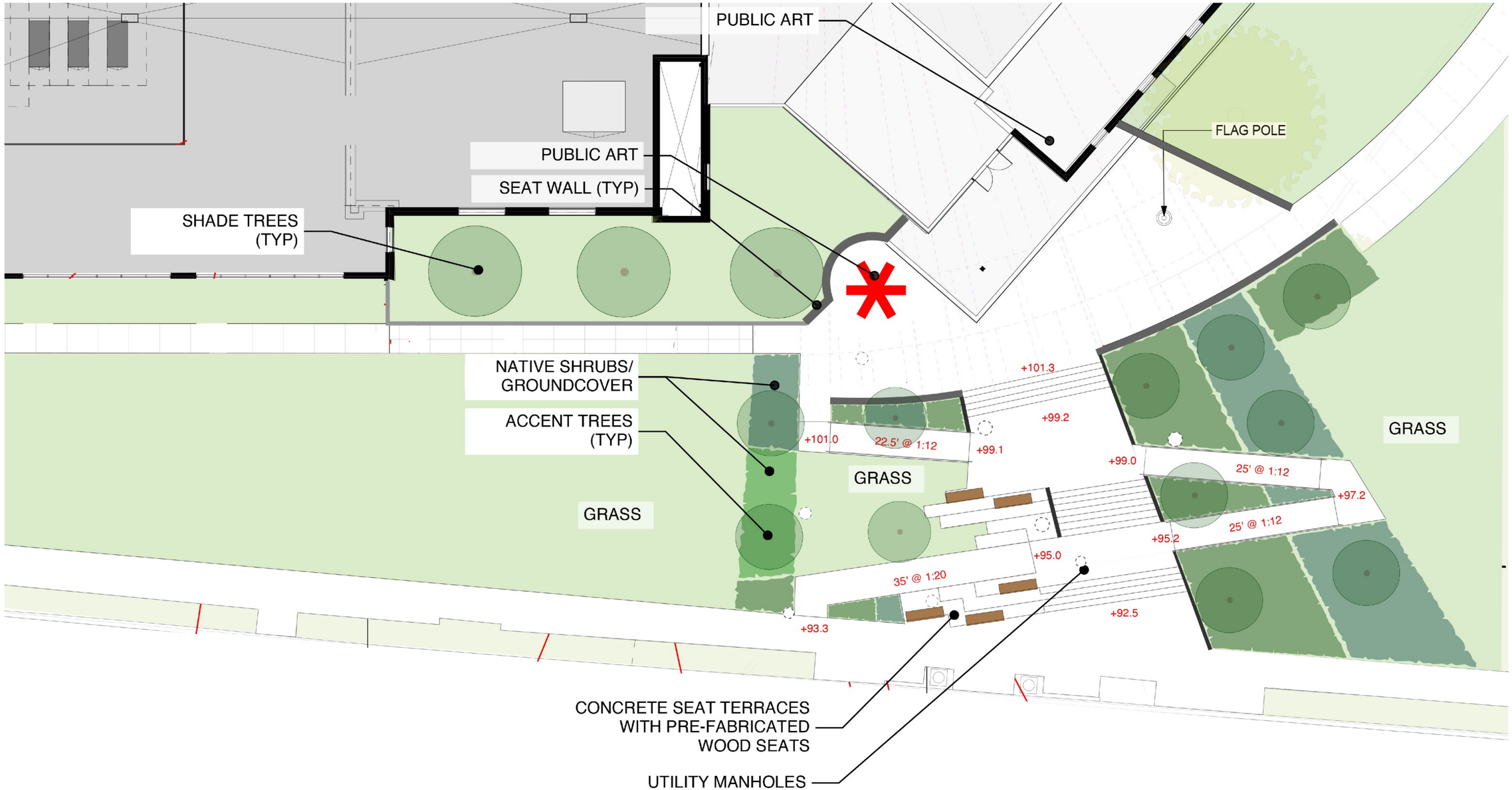


VIEW - ELEVATION FROM MISSISSIPPI AVENUE - GYMNASIUM

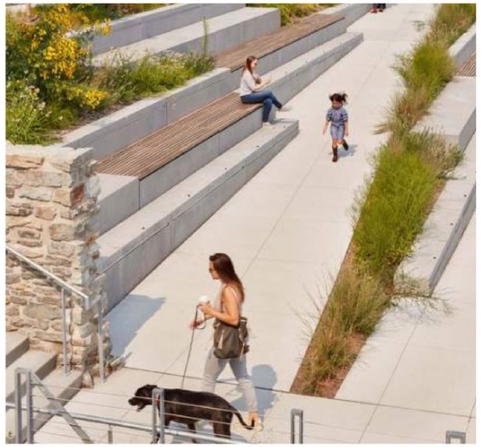


VIEW - GYMNASIUM WING FROM SW - MISSISSIPPI SIDEWALK

MAIN ENTRANCE STAIRS AND RAMPS

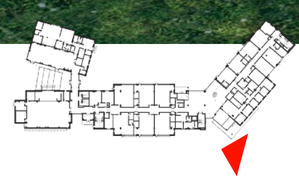


ENTRANCE STAIRS AND RAMPS - DESIGN INTENT

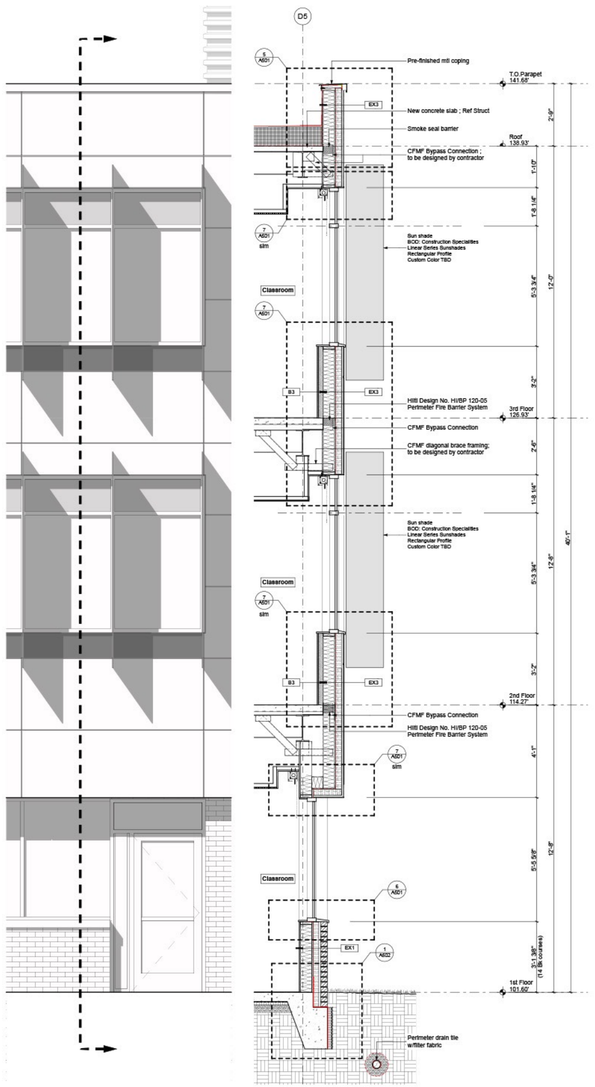


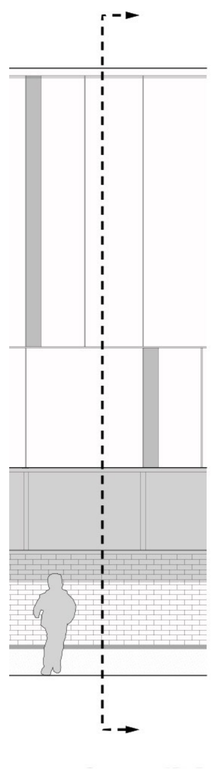
AERIAL CLOSE UP VIEW - STEPS AND RAMPS TO MAIN BUILDING ENTRANCE

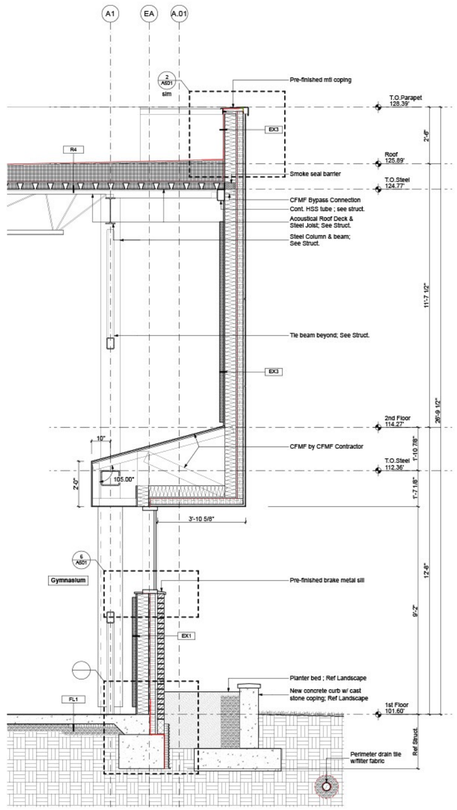
VIEW OF MAIN ENTRY RAMP FROM MISSISSIPPI SIDEWALK

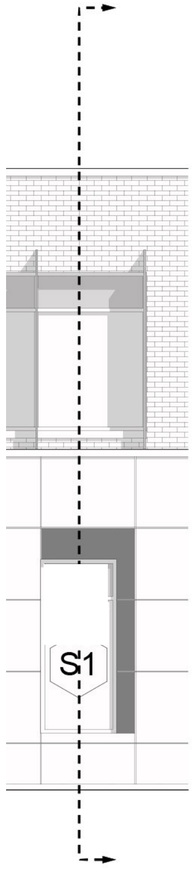


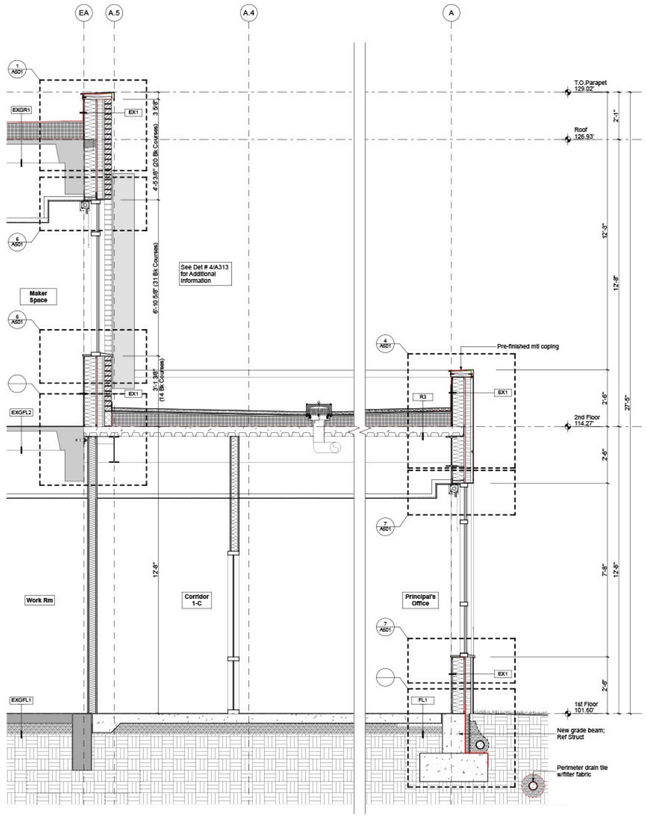
CONSTRUCTION DETAILS - EXCERPT



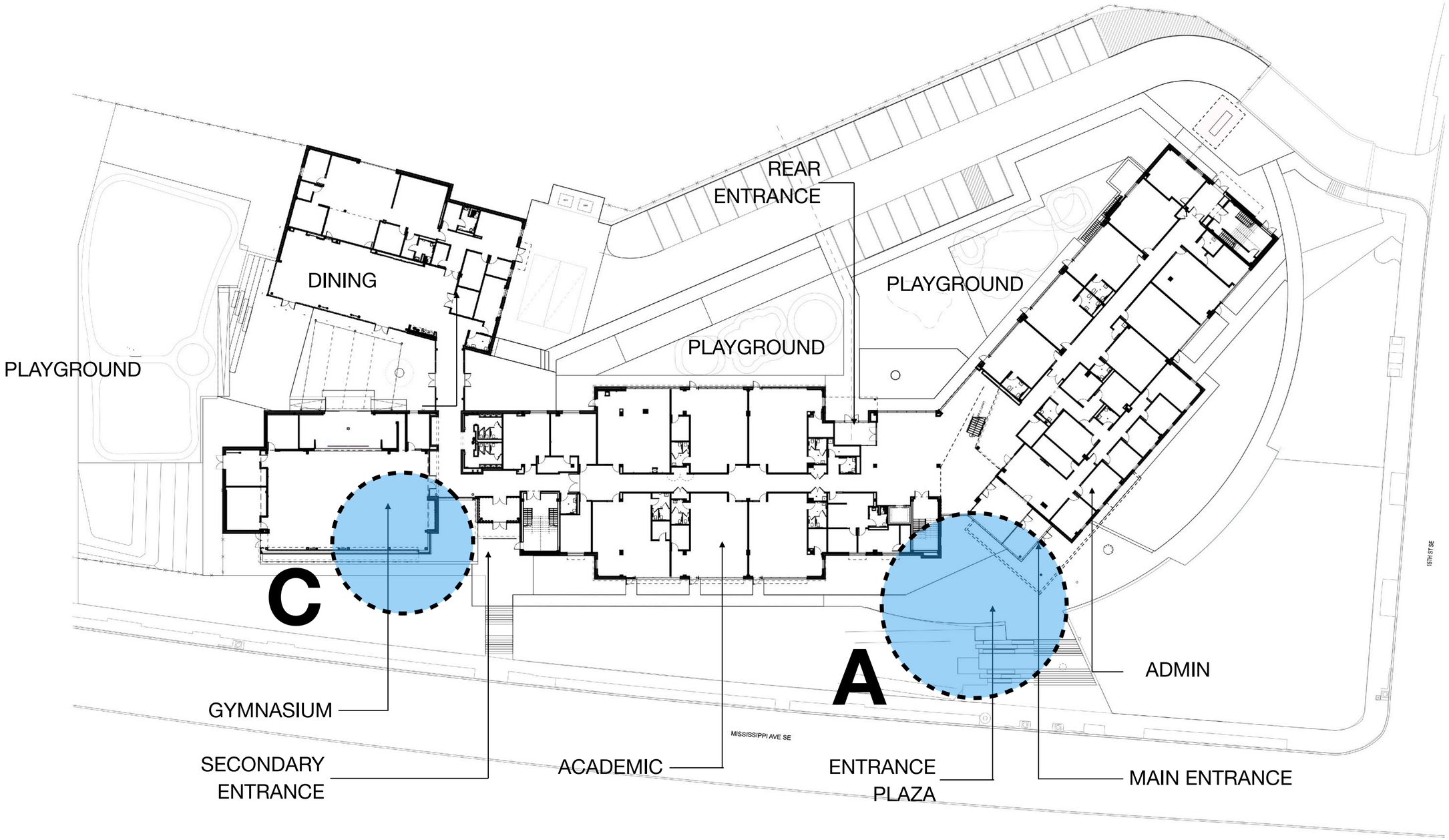






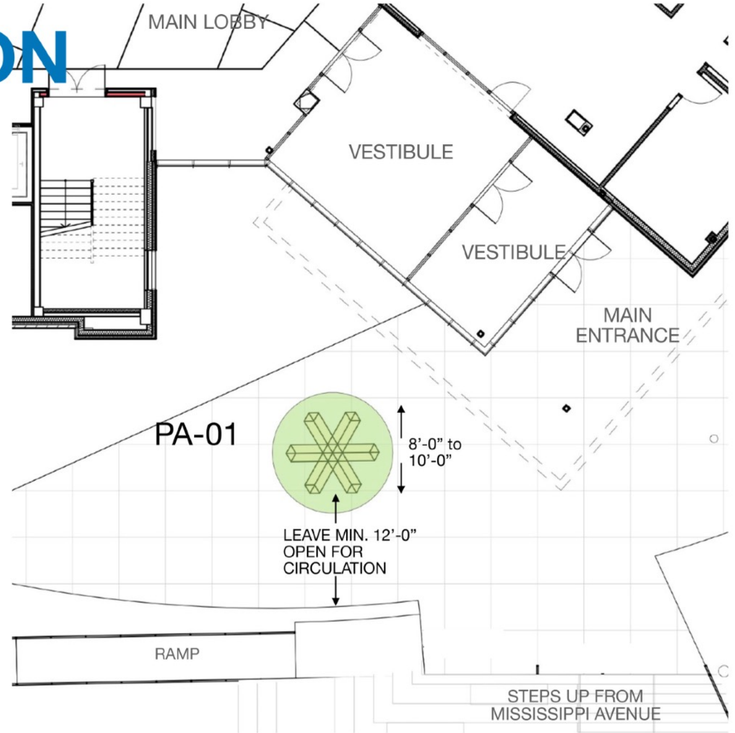


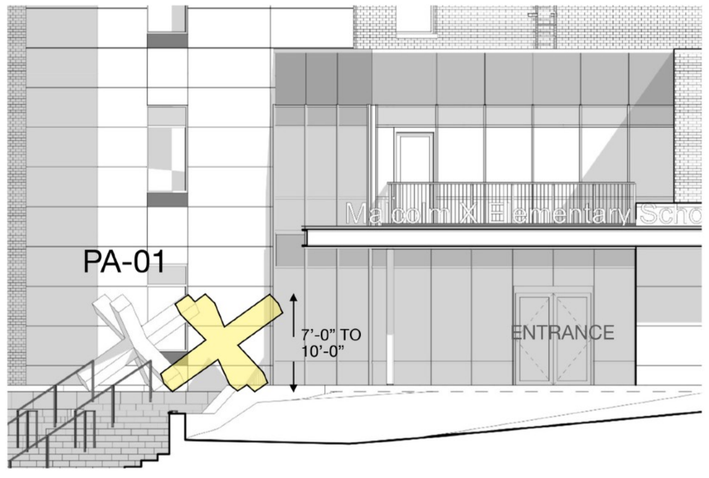
PROPOSED EXTERIOR ART LOCATION



GROUND FLOOR PLAN

PROPOSED ART LOCATION





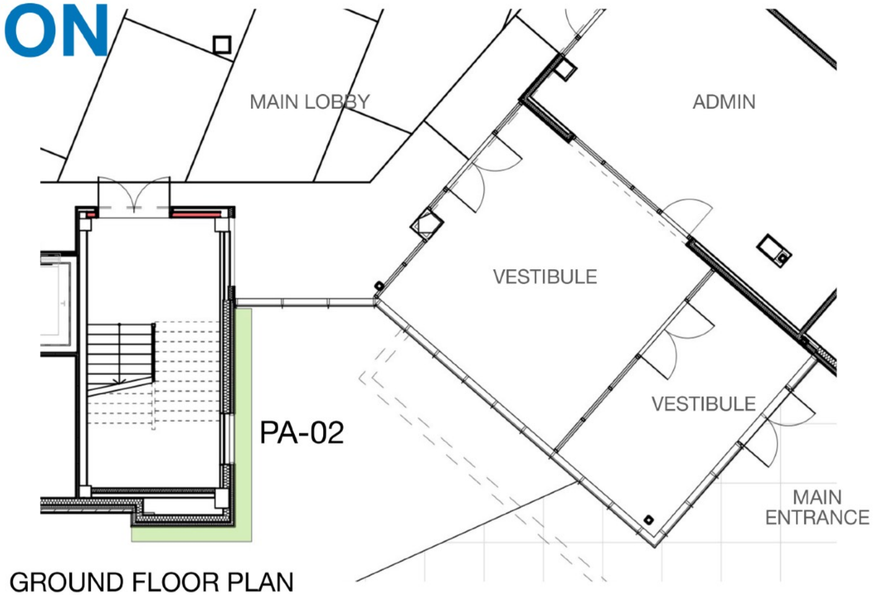
SCULPTURE AT PLAZA

Object art to be displayed in the entry plaza, themed to be Nature or Community (Civic),

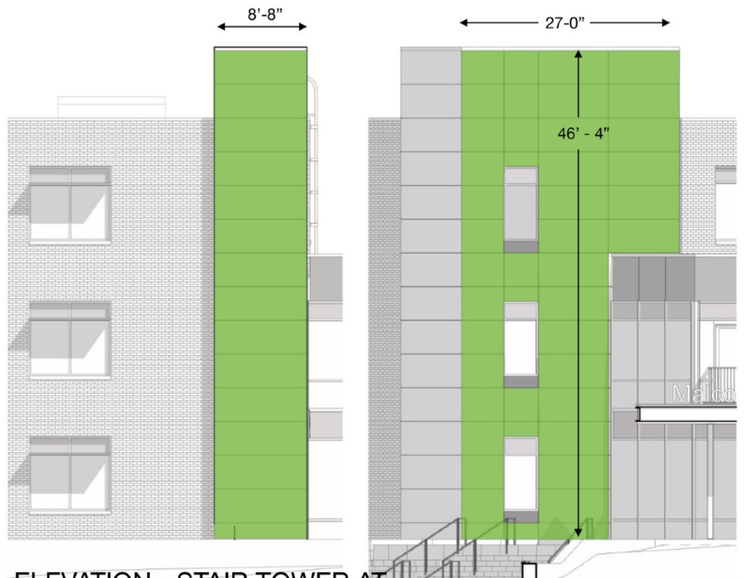
Requirement - Weather proof, durable. Art maximum weight to be 1.5 tons. To be secure to a concrete platform, footing 12" thick, foundation 30" below frost line. Thickness to be coordinate with artist with equal weight distribution and attachment.

PA-01
AREA - A

PROPOSED ART LOCATION



GROUND FLOOR PLAN

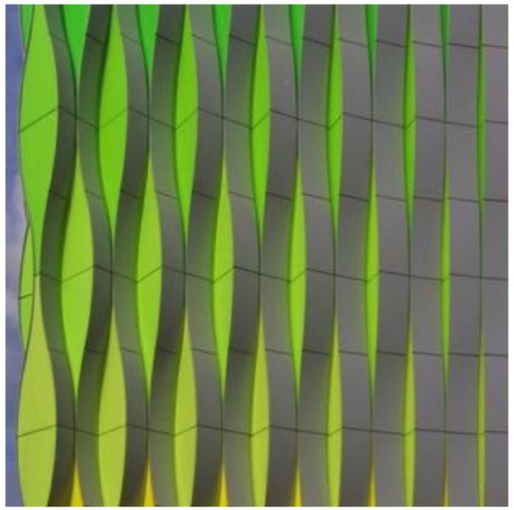


ELEVATION - STAIR TOWER AT MAIN ENTRANCE

GRAPHIC STAIR TOWER

2D graphic art to be custom printed on rain screen panels, with a theme of Nature, Community or Play. Acceptable image data - Pixel data (TIFF or PSD) min 90dpi max 180 dpi x size of final images. For more information, click on - *Guidelines*. Acceptable Vector files - ai, eps or PDF. This piece should be a companion, however not the same concept as PA-08

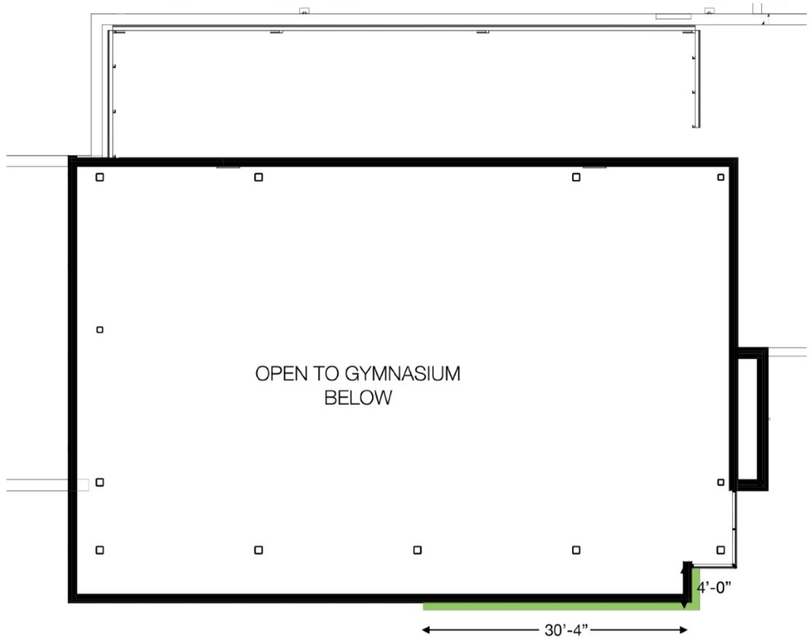
Requirement - Weather proof, durable. Coordination will be required with manufacture of exterior building envelope



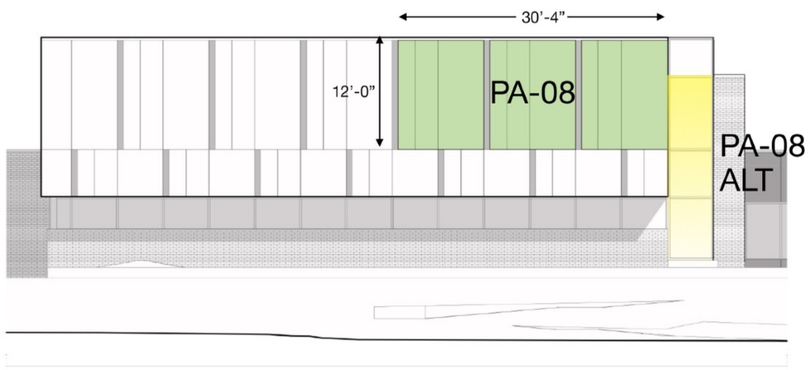
PA-02

AREA - A

PROPOSED ART LOCATION



PLAN - 2ND FLOOR - GYMNASIUM



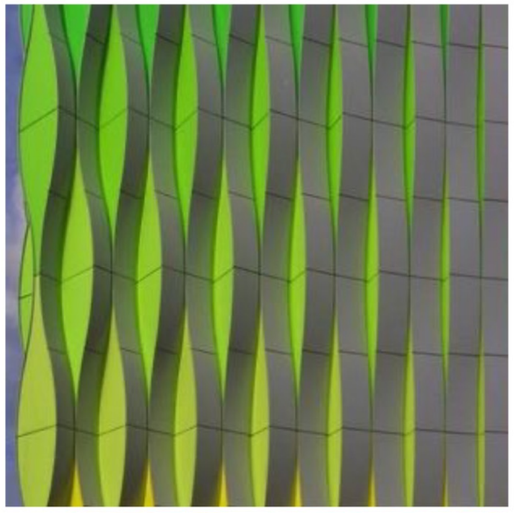
ELEVATION - MISSISSIPPI AVENUE

GRAPHIC OVER GYMNASIUM FACADE

2D graphic art to be custom printed on rain screen panels, with a theme of Nature, Community or Play. Acceptable image data - Pixel data (TIFF or PSD) min 90dpi max 180 dpi x size of final images. For more information, click on - *Guidelines*. Acceptable Vector files - ai, eps or PDF. This piece should be a companion, however not the same concept as PA-02

Requirement - Weather proof, durable. Coordination will be required with manufacture of exterior building envelope

Alternative location, Requirement - graphics on film applied on layer 4, interior facing glass panel.



PA-08
AREA - C