ENGINEERING BUILDING
JOINT CAMPUS AREA COMMITTEE

UNIVERSITY OF WISCONSIN-MADISON

DFD PROJECT NO. 21L3J

07-27-2023

continuum ARCHITECTS + PLANNERS SMITHGROUP RD RING & DUCHATEAU CONSULTING ENGINEERS

PROJECT DESCRIPTION

PROJECT OVERVIEW

THE COLLEGE OF ENGINEERING HAS EXPERIENCED AN EXTRAORDINARY 61% GROWTH IN ENROLLMENT PRESSURE OVER THE LAST DECADE BASED BOTH ON STUDENT DEMAND FOR ENGINEERING DEGREES, AND INDUSTRY DEMAND FOR MORE ENGINEERING WORKFORCE. UNABLE TO ACCOMMODATE THIS DEMAND DUE TO LACK OF SPACE, UW HAS FALLEN BEHIND PEER INSTITUTIONS IN BOTH DEGREES GRANTED AND RESEARCH ENTERPRISE OPPORTUNITIES.

THE NEW ENGINEERING BUILDING WILL BE A 380,000 GSF ACADEMIC AND RESEARCH FACILITY LOCATED AT THE INTERSECTION OF CAMPUS DRIVE AND RANDALL AVENUE BUILT SPECIFICALLY TO MEET THESE DEMANDS.

THE BUILDING WILL ALSO ALLOW UW TO CONTINUE MEETING IT'S ACADEMIC AND RESEARCH NEEDS INTO THE FUTURE BY UTILIZING A "RESILIENT CHASSIS" DESIGN THAT ALLOWS BOTH TEACHING AND RESEARCH LAB SPACES TO BE QUICKLY AND INEXPENSIVELY ADAPTED TO VARIED USES OVER TIME, A NECESSITY FOR A COLLEGE THAT IS BOTH WIDE AND DEEP IN PROGRAMMATIC INVENTORY AND A LEADER IN AN INNOVATIVE AND RAPIDLY EVOLVING FIELDS.

THE PROJECT WILL ALSO DEMOLISH THE 68,000 GSF COMPUTER AIDED ENGINEERING FACILITY AT 1410 ENGINEERING DRIVE

PROJECT VISION AND GOALS

ENGINEERING THE FUTURE: THE SPACE TO GROW

Enable College Enrollment and Faculty **Growth**

- Modern, flexible, student classroom and laboratory facilities that allow us to provide safe, team-based hands-on engineering education
- Flexible, reconfigurable, safe research spaces that foster collaboration and support our ability to pursue current and emerging research areas

Multidisciplinary

- Nearly all engineering departments will be part of the educational and research aspects of the building
- Maximize use of shared facilities: Enable the college to use resources efficiently, promote collaboration, share spaces and equipment across groups

Architecturally **Striking** and **Meaningful**

- Building represents the architectural future of the engineering campus
- Given its prominent location, the building will be the gateway to the College of Engineering
- High functioning to meet research and instructional needs
- Contextual to the campus neighborhood

OVERVIEW

PROJECT COSTS & SCHEDULE

10% Project Budget *June 9, 2023*			
Construction:		$	244,584,392
Hazardous Materials:		$	338,505
Total Construction:		$	**244,922,897**
Design Fees (Basic+Add):		$	20,989,892
Fees (Other):		$	5,205,921
Total Design Fees:		$	**26,195,813**
Contingency:	15.00%	$	36,738,435
Management Fees:	4.00%	$	11,266,453
Furnishings/Fixtures/Eqpt:		$	19,446,402
Total Budget Estimate:		**$**	**338,570,000**

10% Project Schedule	
A/E Selection:	May 2022
CM Selection:	Jul 2023
Project Enumeration:	Jul 2023
Design Report-CMAR GMP:	Nov 2023
Approval:	Dec 2023
Demo Bid Package:	Feb 2024
1st Bid Package New Building (Est*.):	Jun 2024
Substantial Completion (Est*.):	Jul 2026
Project Close Out (Est.*):	Dec 2026

(Est.*) To be determined by selected CM

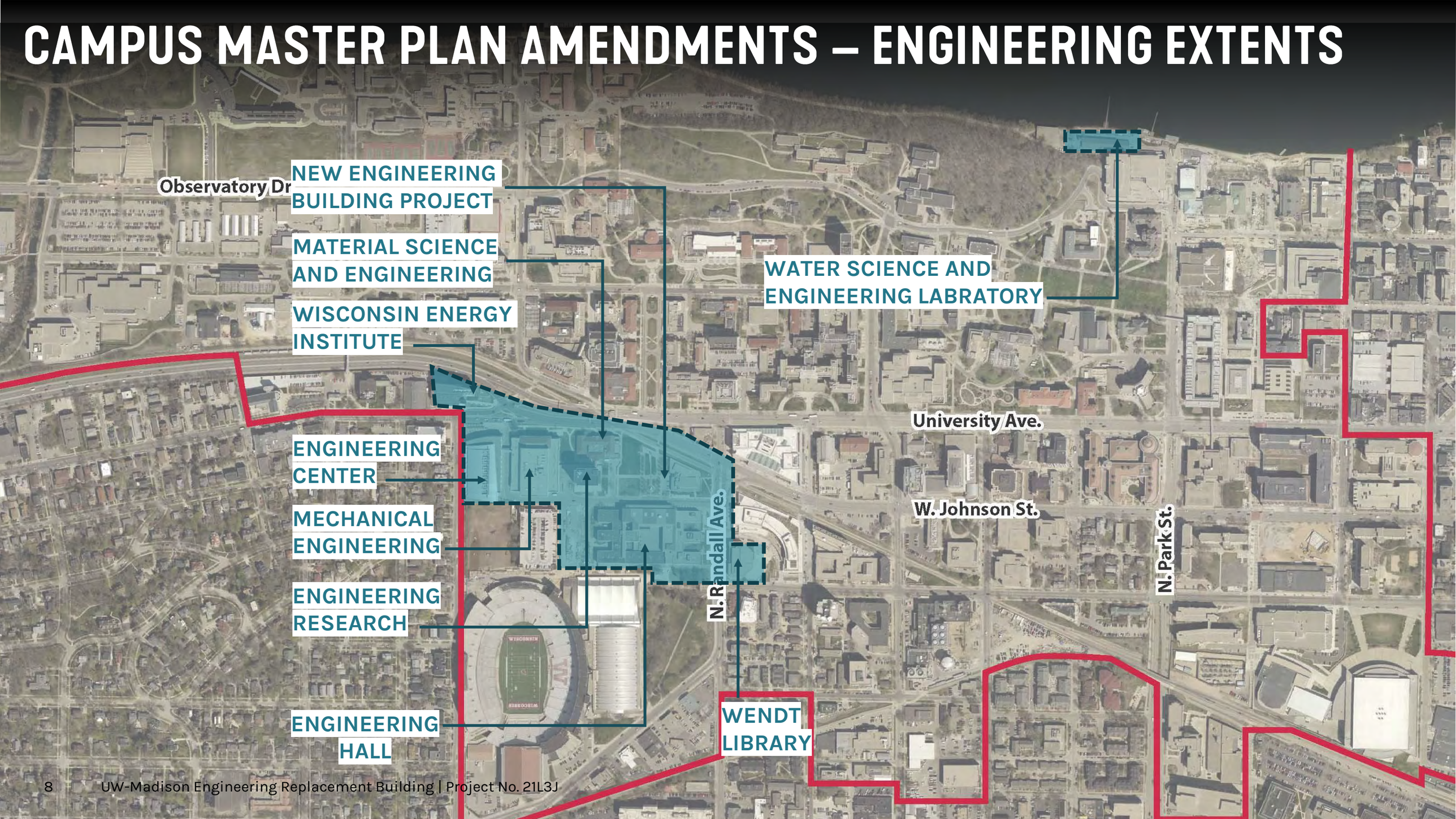
CAMPUS MASTER PLAN AMENDMENTS

GOALS

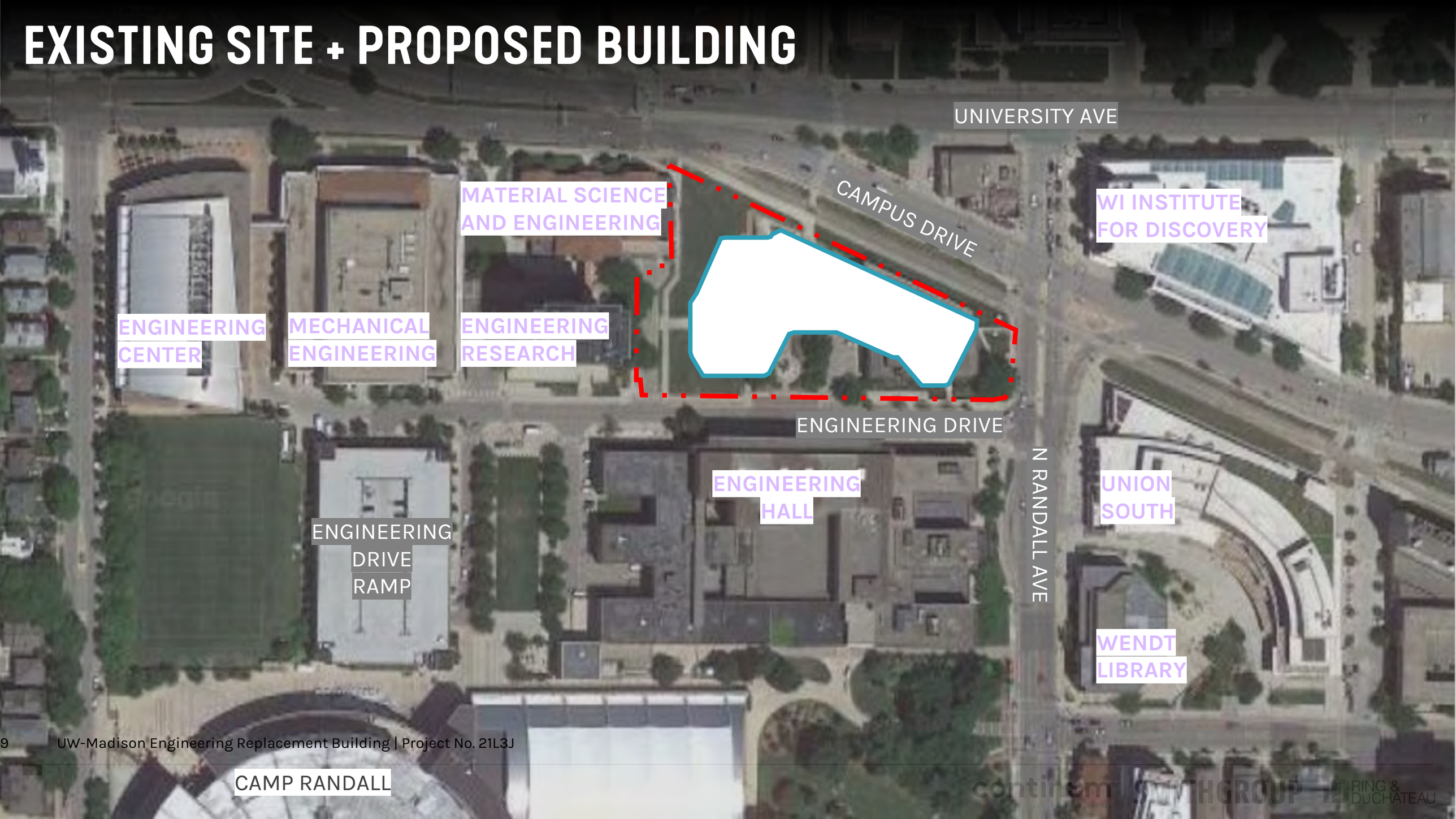
- **THE MASTER PLAN AMENDMENT WILL REVISE THE 2015 CAMPUS MASTER PLAN AND INTEGRATE CHANGES ASSOCIATED WITH THE CURRENT NEW ENGINEERING ACADEMIC/RESEARCH BUILDING (NEW BUILDING) AND THE LONG-RANGE PUBLIC REALM NETWORK WITHIN THE COE DISTRICT.**

- **IT WILL SEEK TO:**
    - Create a long-term vision to better achieve balance between the buildings and open space of the CoE district.
    - Analyze, consider, and balance the needs of current and future CoE growth while ensuring a collegiate campus open space network that provides educational opportunities, district identity, ecological resilience, and pedestrian priority.
    - Consider relocation of the Maquina sculpture (or other significant public art) within the new district plan.
    - Analyze and recommend methods for mobility into and throughout the site, including bike rack locations for the district, parking access and egress, pedestrian amenities and the Campus Drive multi-use path location within or adjacent to the railroad corridor.
    - Provide an approval schedule identifying deliverable dates and materials.
    - Ensure the plan reflects physical campus institutional priorities as well as the reputation and culture of a top national engineering institution.

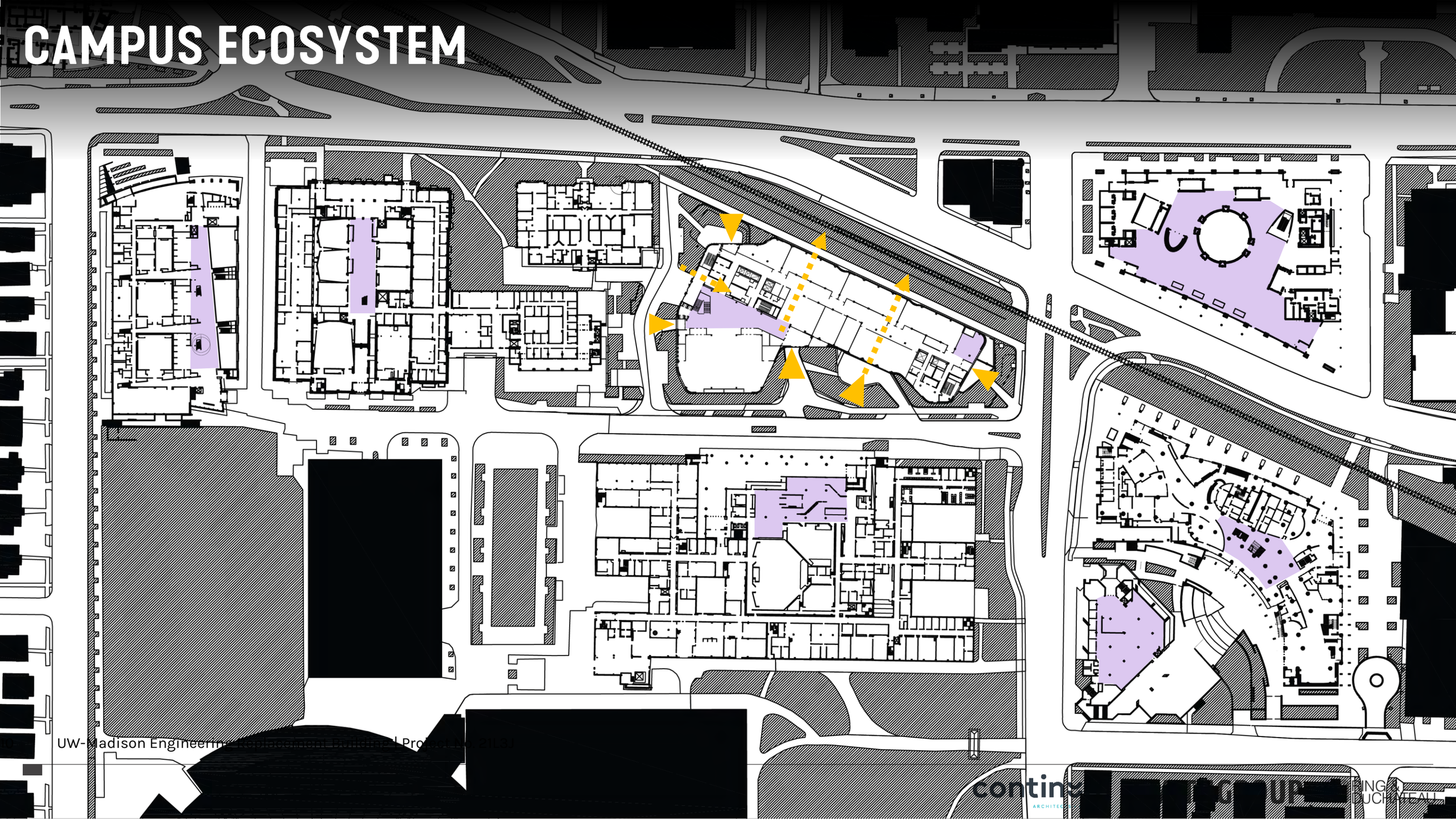
CAMPUS MASTER PLAN AMENDMENTS – ENGINEERING EXTENTS



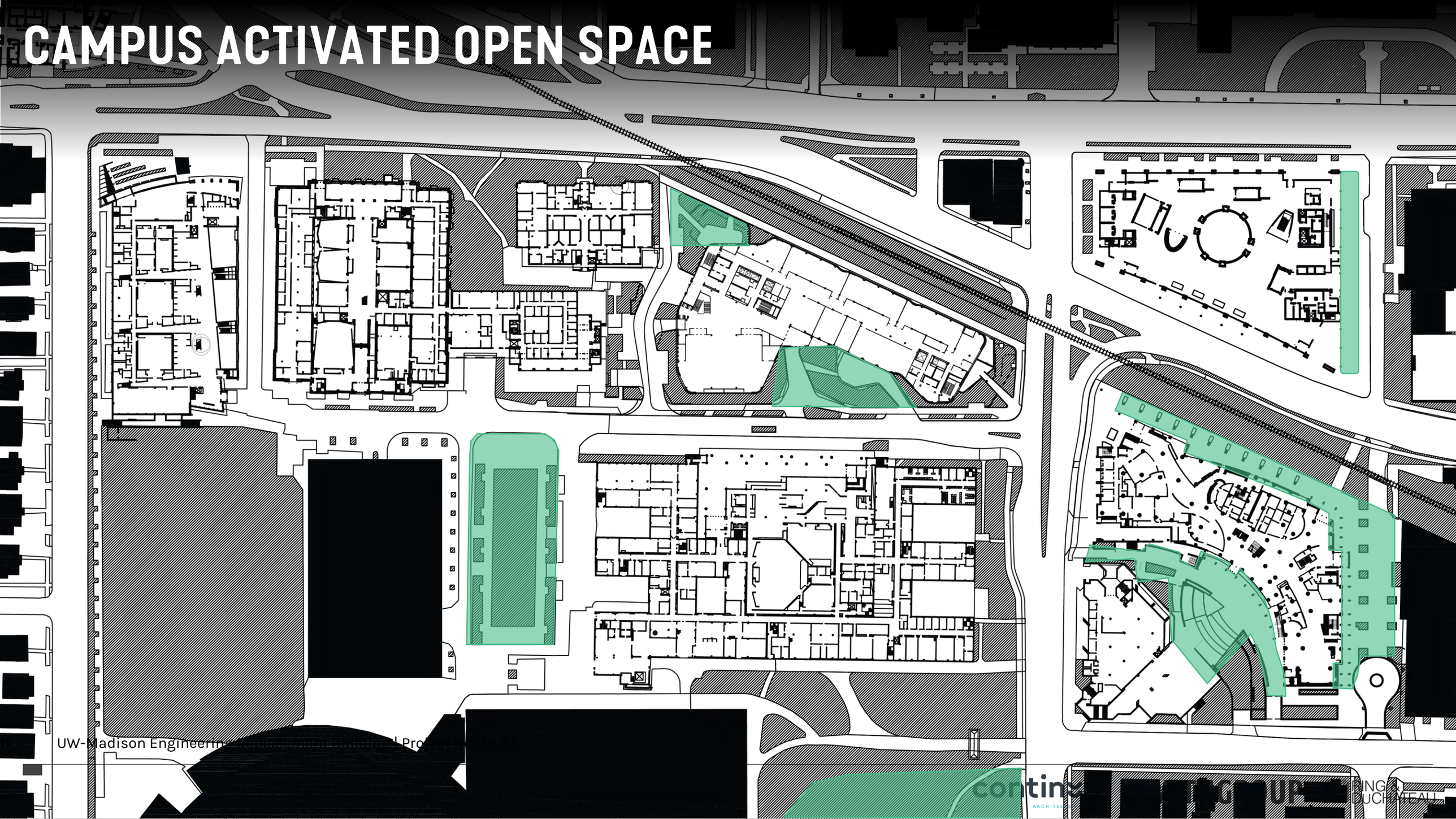
EXISTING SITE + PROPOSED BUILDING



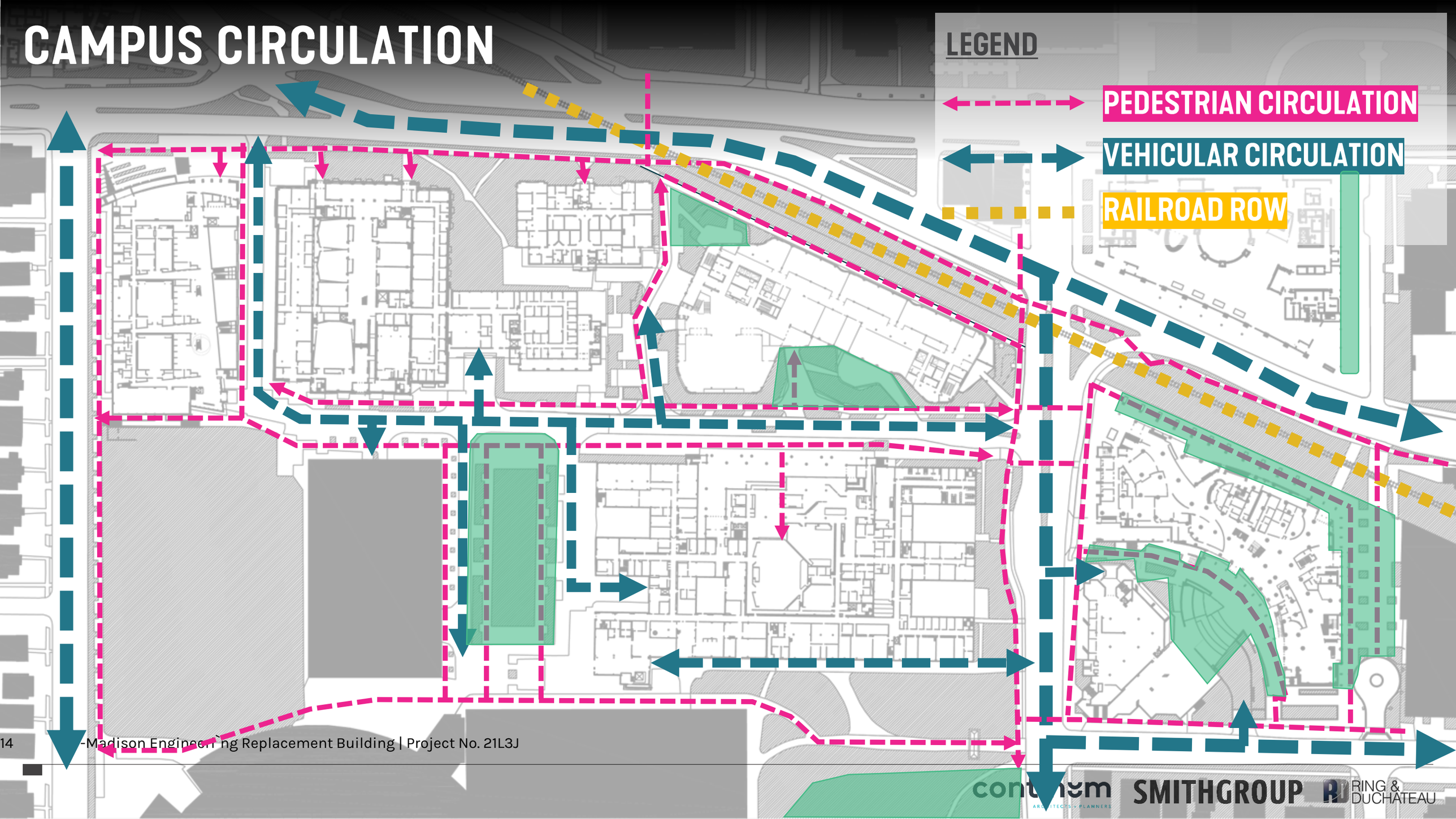
CAMPUS ECOSYSTEM



CAMPUS ACTIVATED OPEN SPACE



CAMPUS CIRCULATION



SITE EXISTING CONDITIONS

+876

CAMPUS DRIVE

MATERIAL SCIENCE AND ENGINEERING

ENGINEERING RESEARCH

RAILROAD ROW

+874

1410 ENGINEERING DRIVE

N RANDALL AVE

+874

+871

ENGINEERING DRIVE

ENGINEERING HALL

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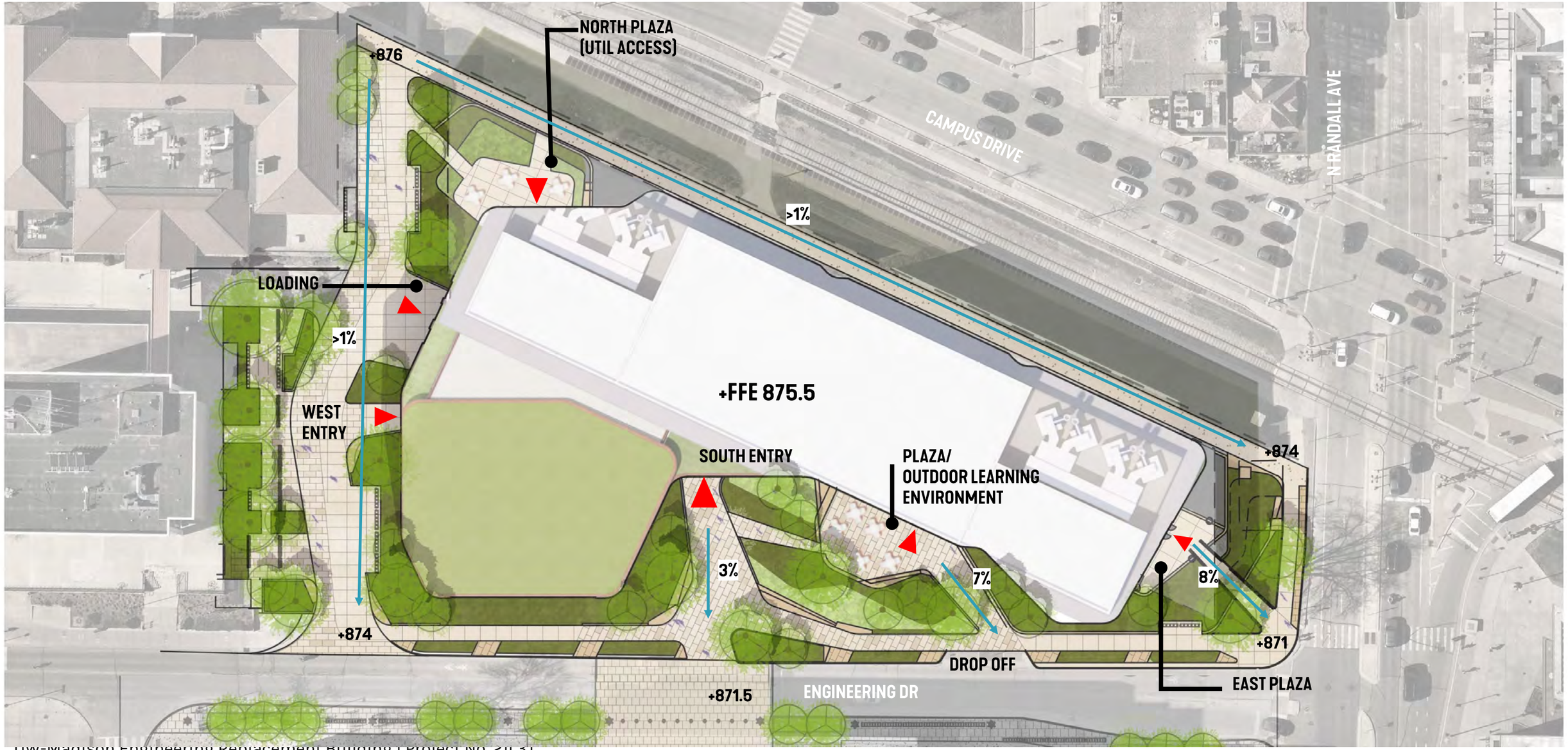
SITE PLAN AND GRADING



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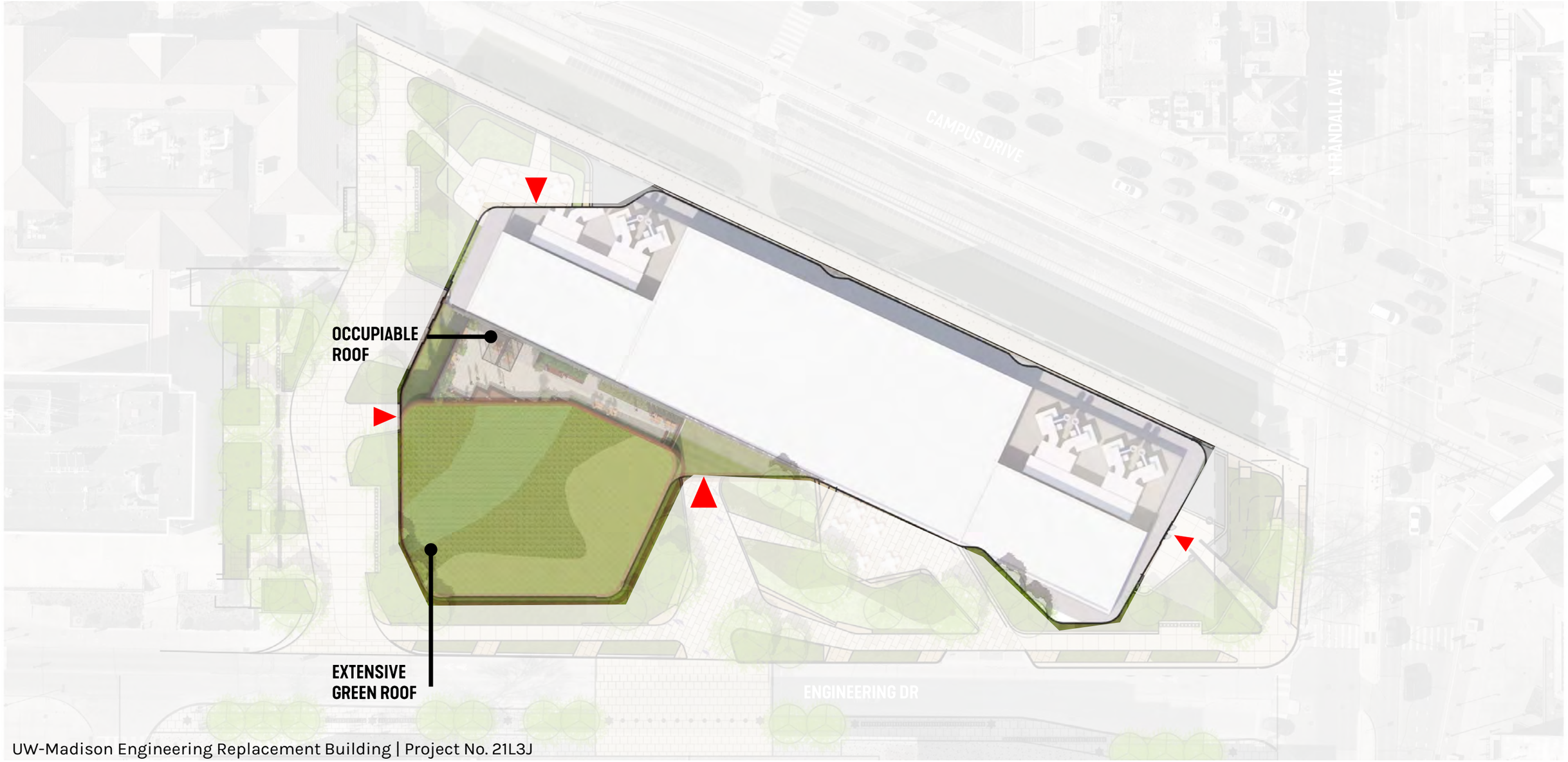
SITE PLAN – ROOF



SITE STORMWATER

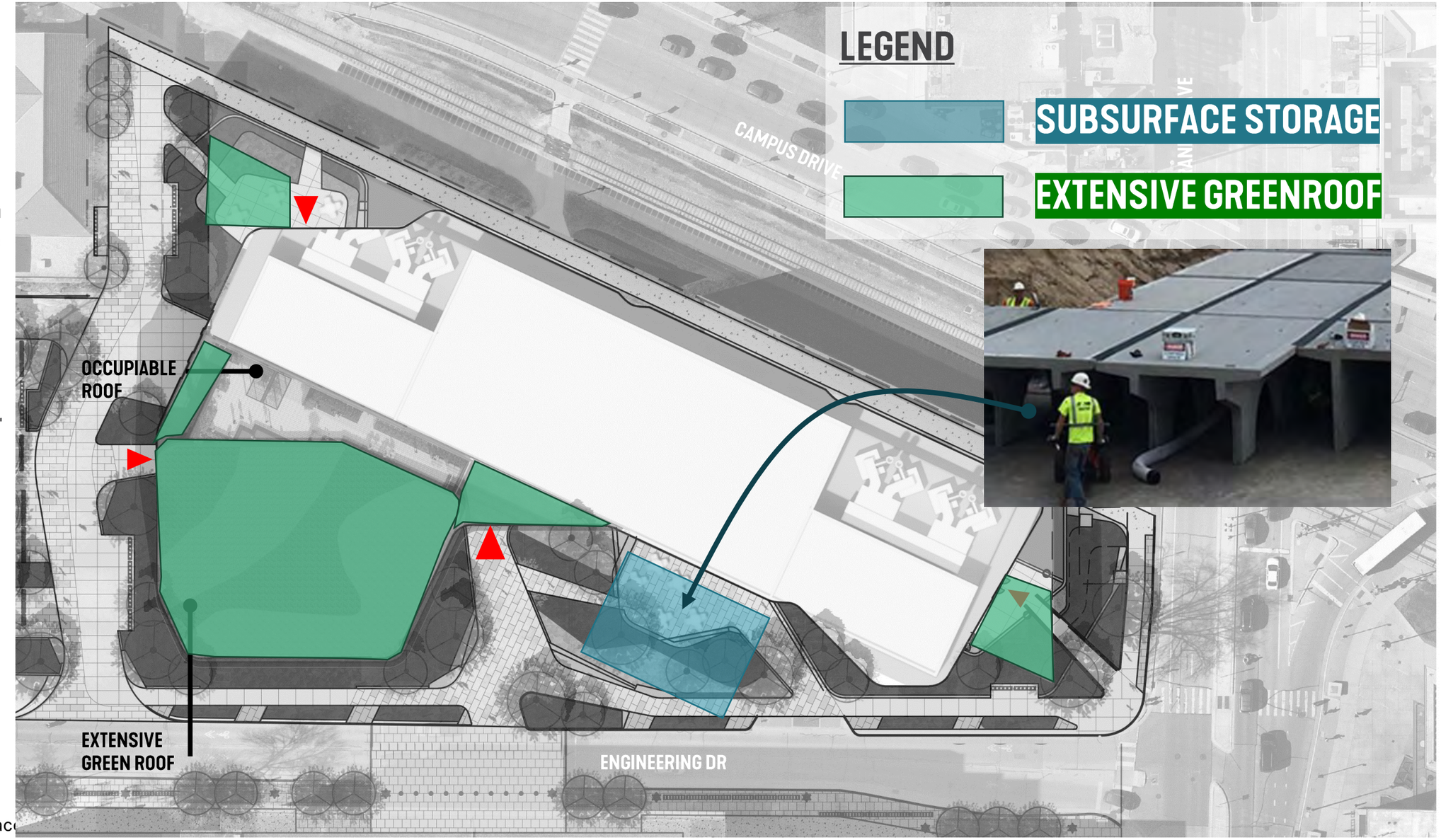
REQUIREMENTS

City of Madison:
- 15% peak runoff rate reduction
- 5% runoff volume reduction
- First ½" of rainfall over site capture by green infrastructure (~4596 c.f.)

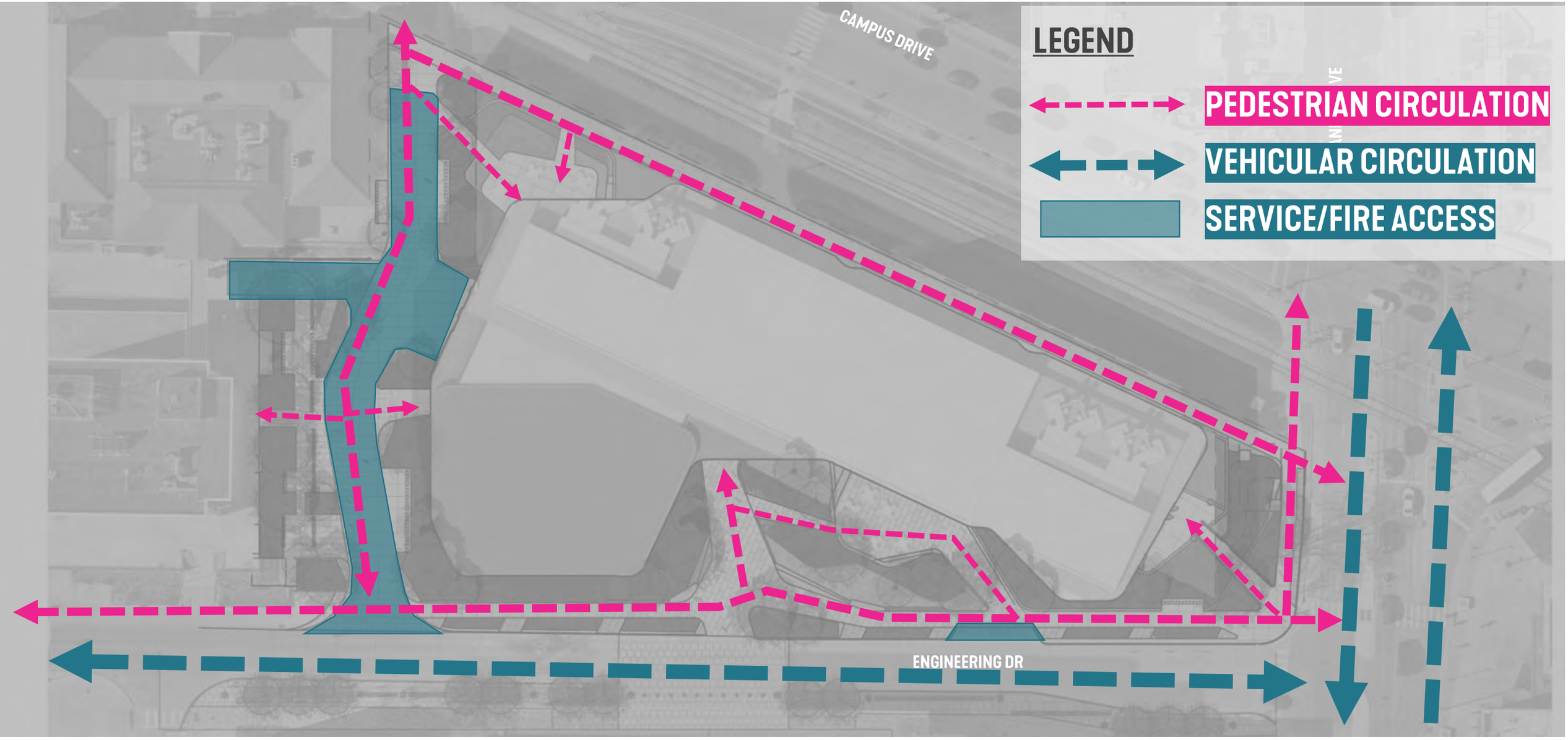
Dane County
- Pre-development Peak Run-off Rates for 200-year Event

Department of Natural Resources
- Reduce Total Suspended Solids (40%)

University of Wisconsin, Madison Guidelines
- Green Infrastructure Master Plan, 2015, Chapter 5.2



SITE CIRCULATION



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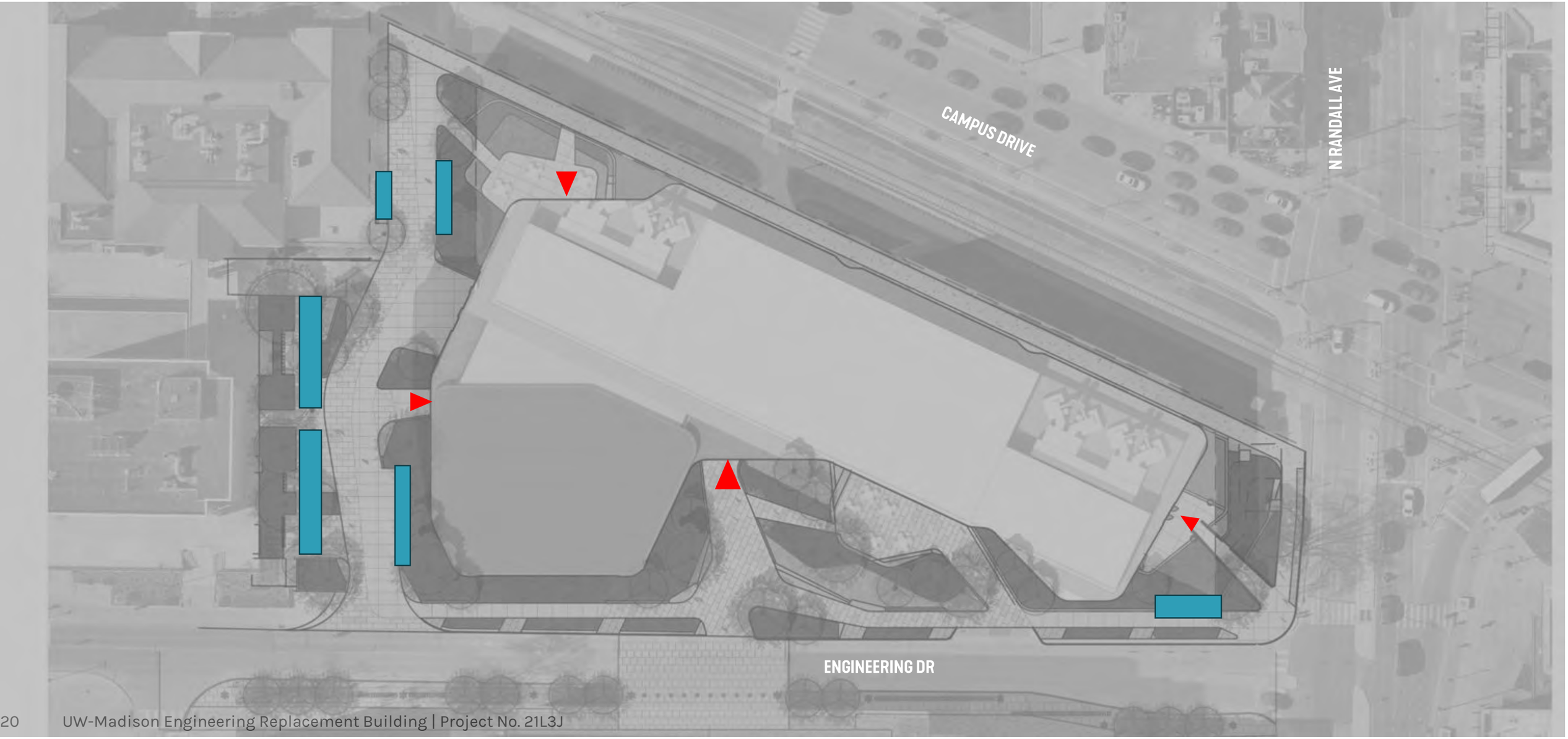
POTENTIAL BIKE PARKING DISTRIBUTION



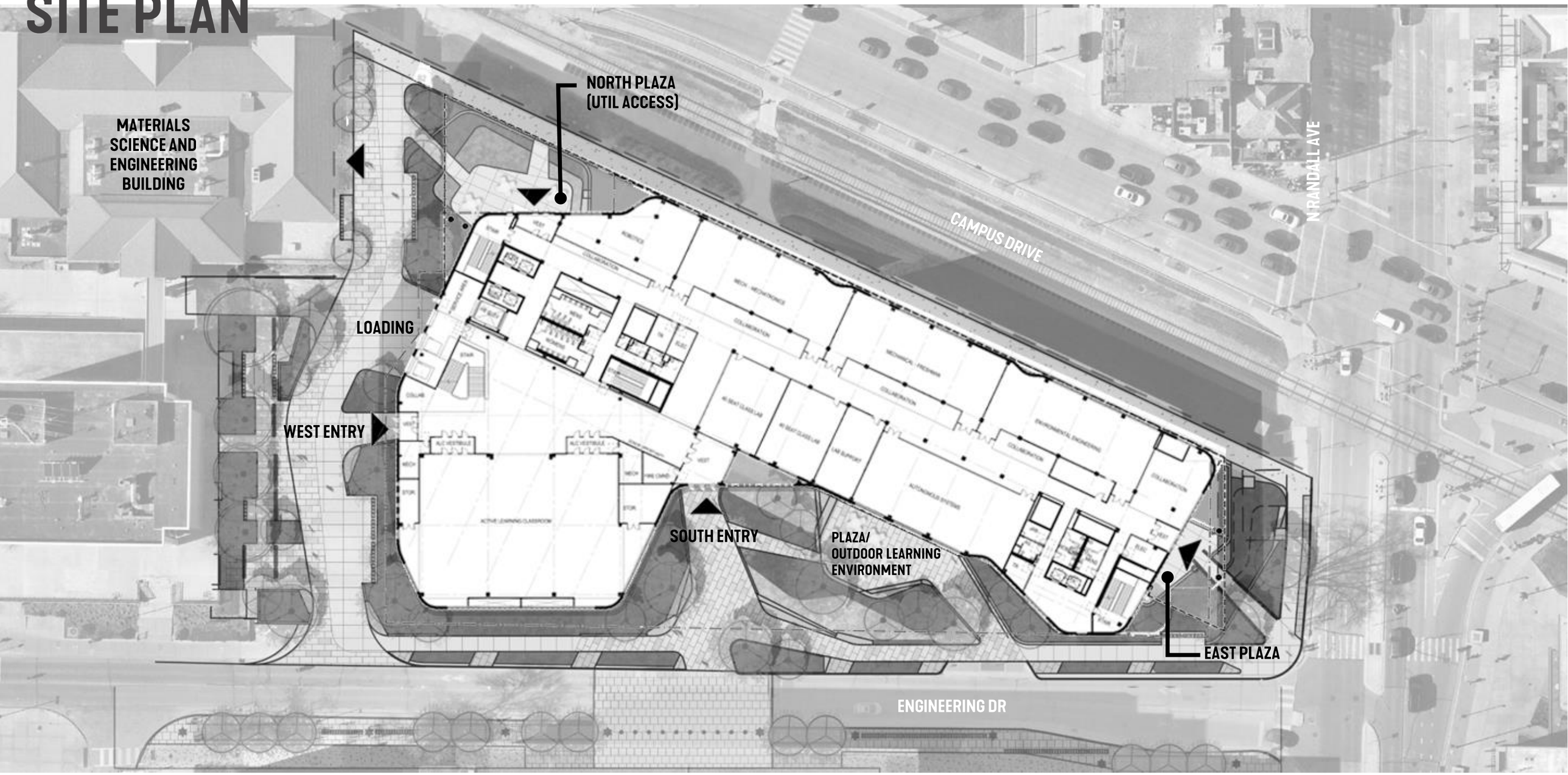
SOUTH PLAZA

CONCEPT

SOUTH PLAZA

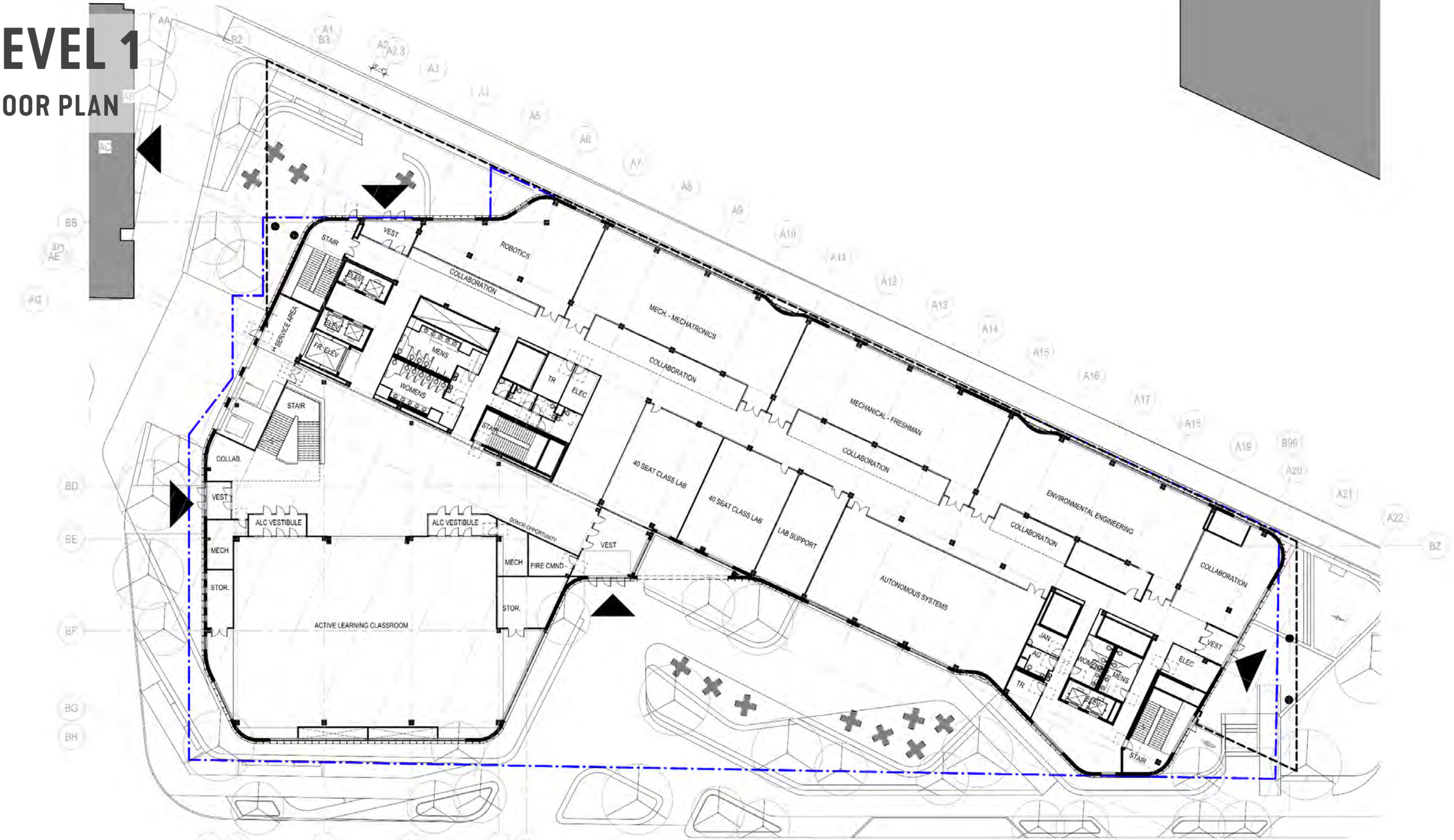
CONCEPT

SITE PLAN


NORTH PLAZA
(UTIL ACCESS)
MATERIALS
SCIENCE AND
ENGINEERING
BUILDING
CAMPUS DRIVE
N RANDALL AVE
LOADING
WEST ENTRY
SOUTH ENTRY
PLAZA/
OUTDOOR LEARNING
ENVIRONMENT
EAST PLAZA
ENGINEERING DR

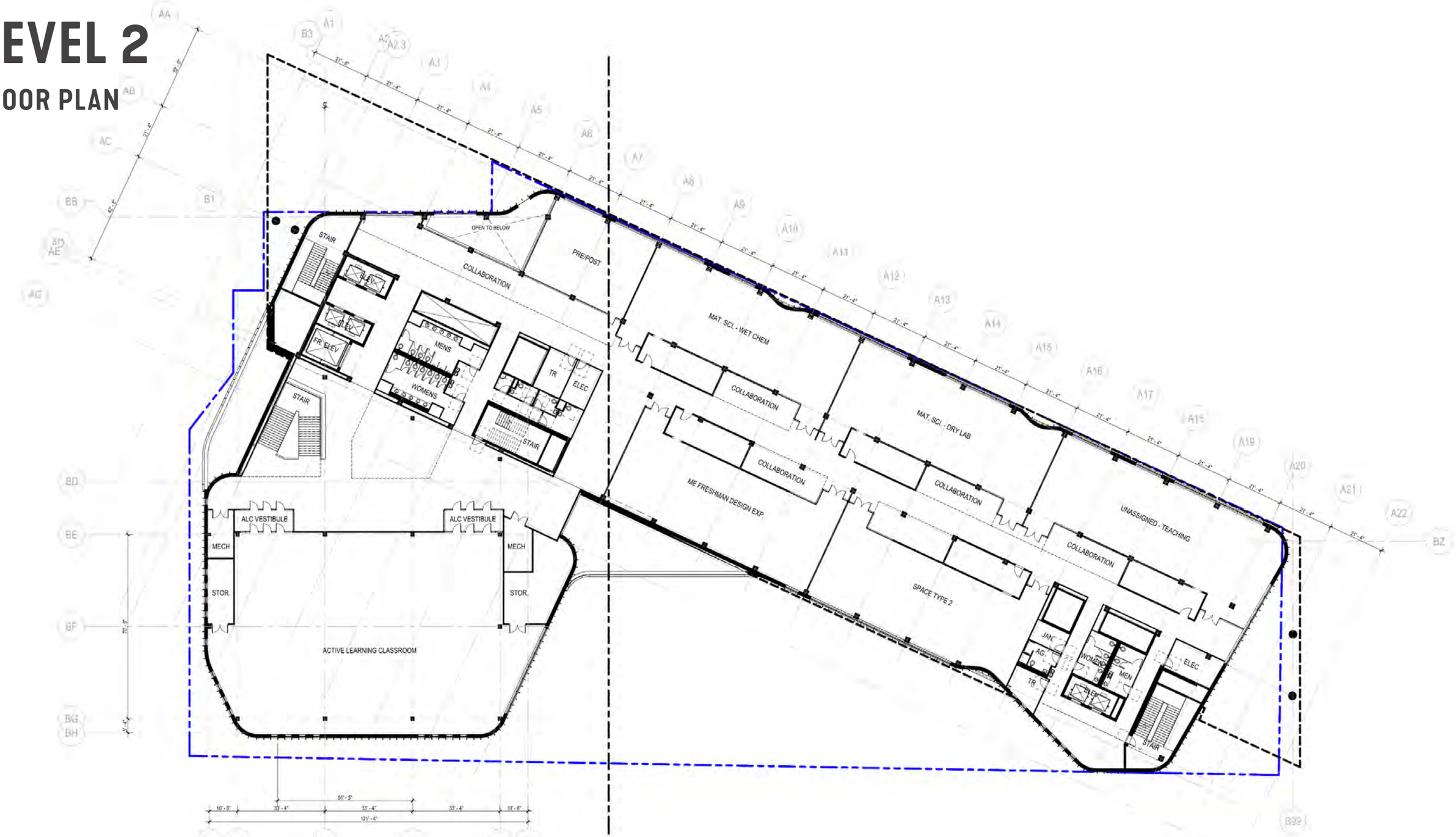
LEVEL 1

FLOOR PLAN



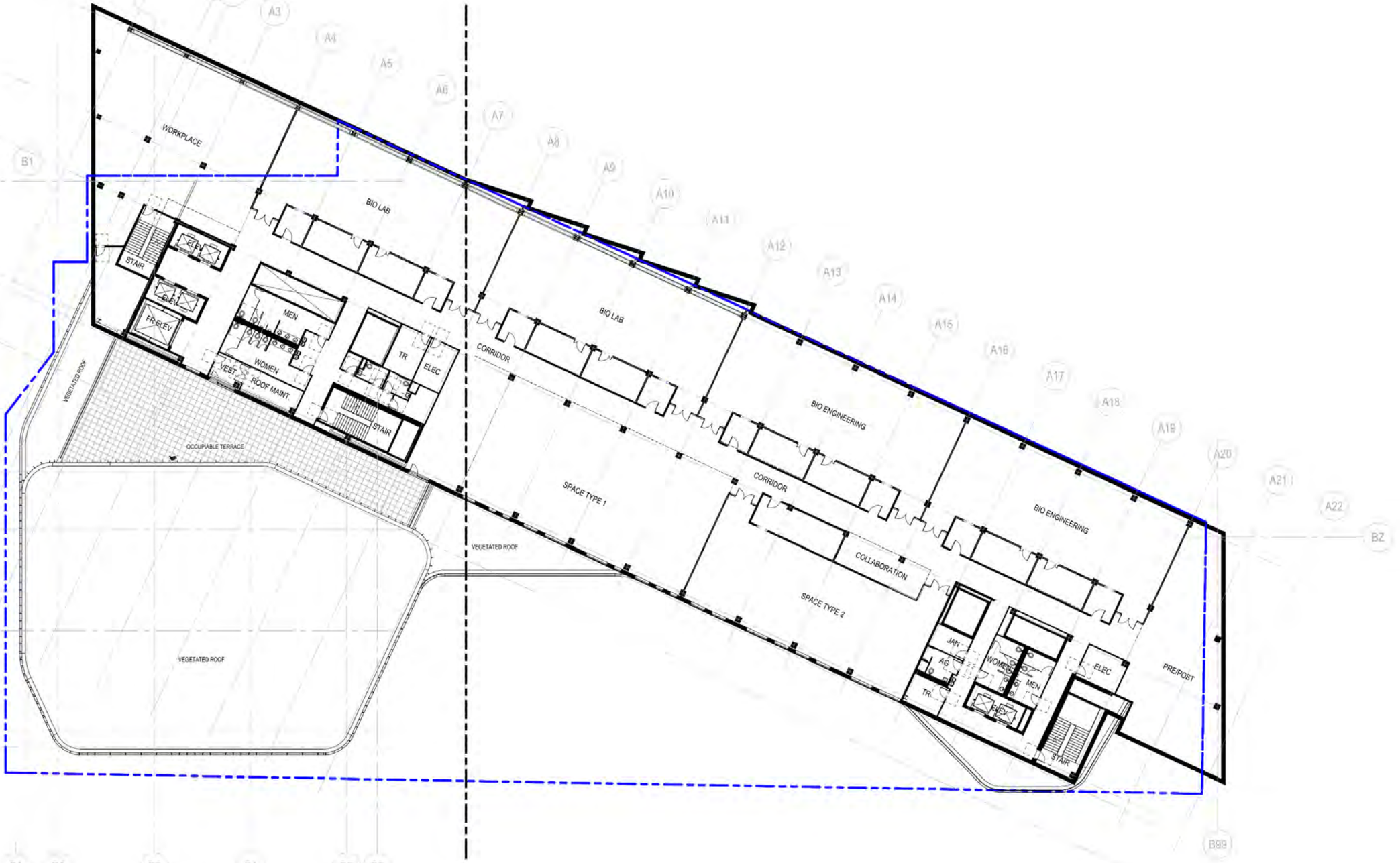
LEVEL 2

FLOOR PLAN



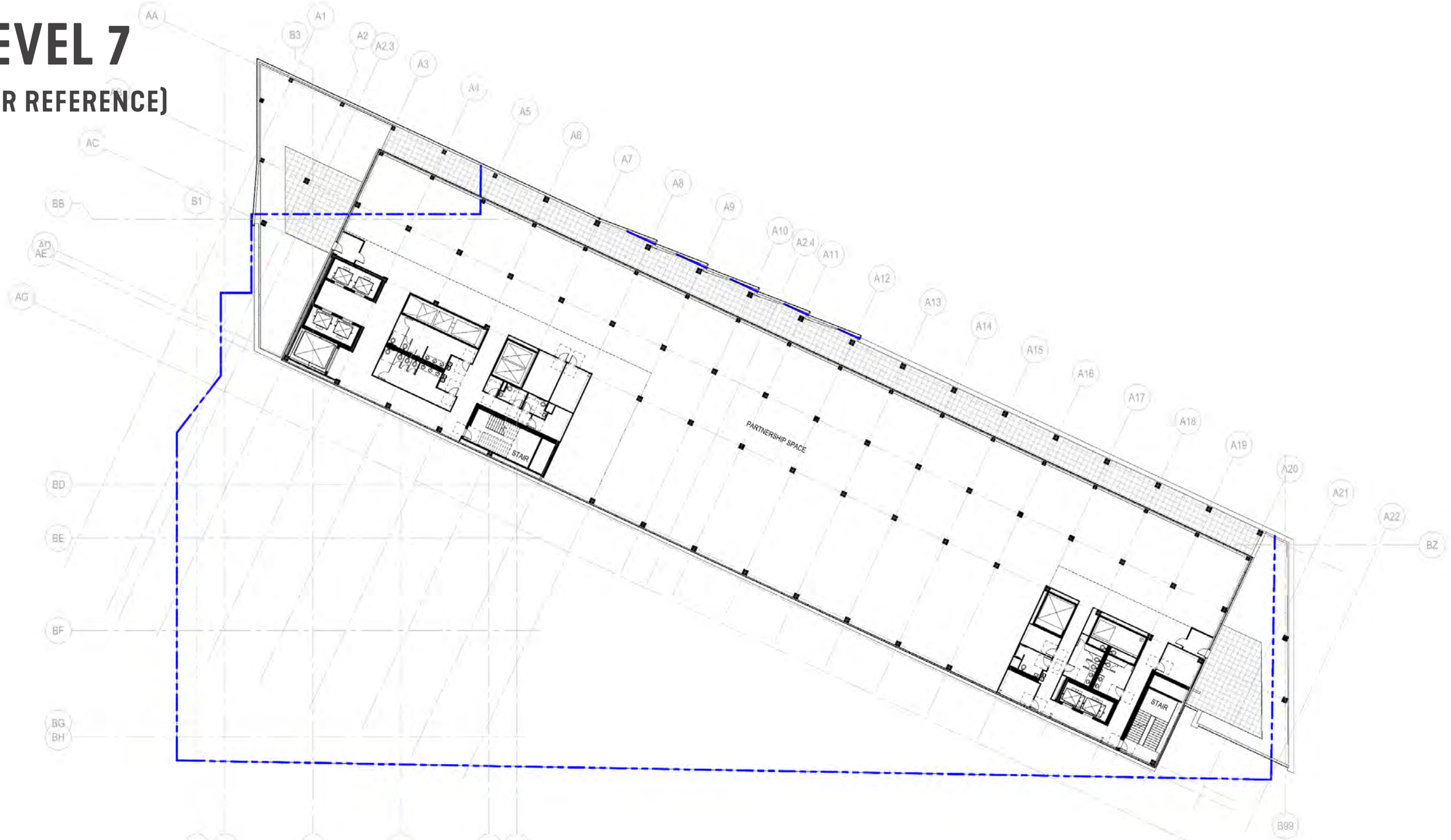
LEVEL 3

FLOOR PLAN



LEVEL 7

(FOR REFERENCE)

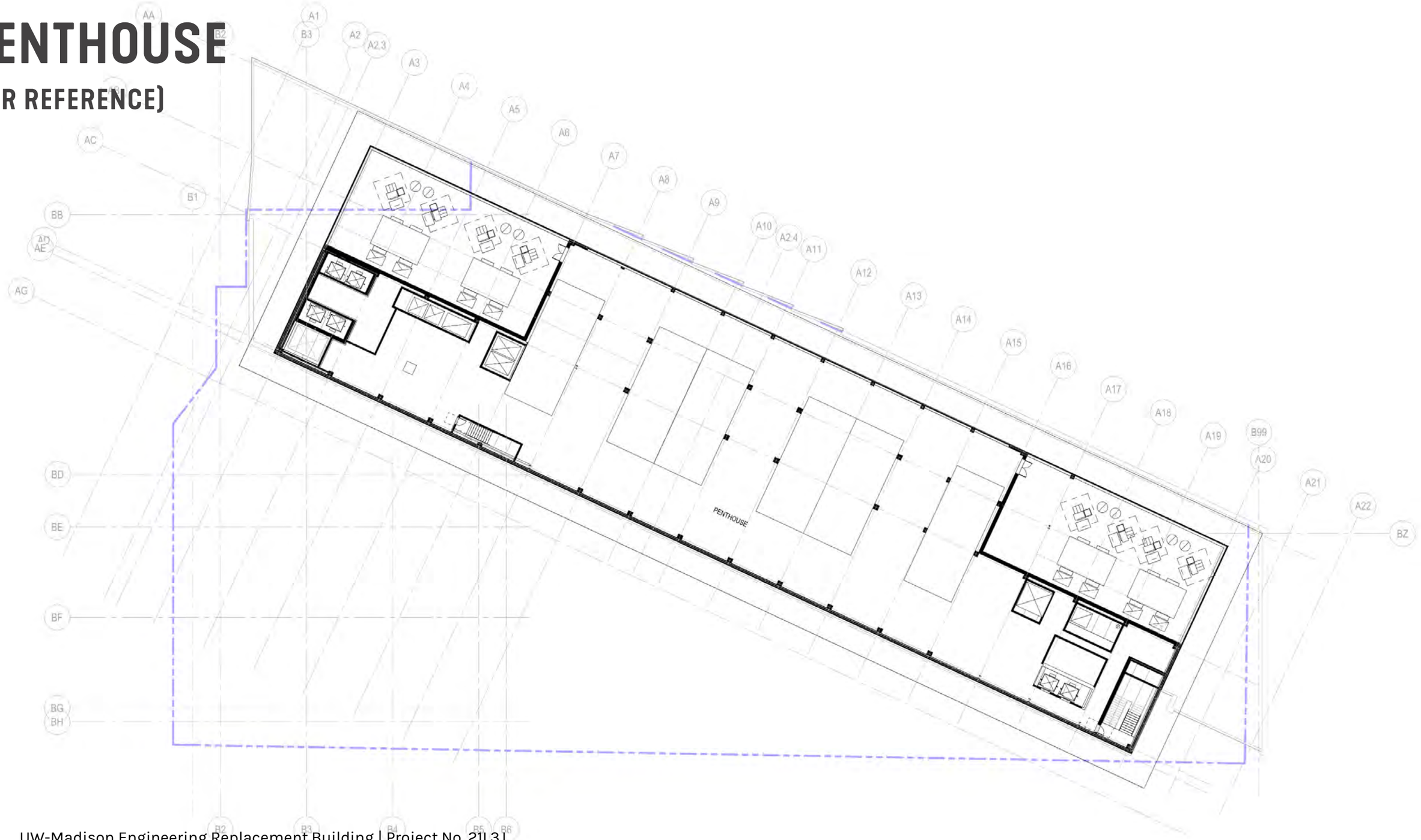


LEVEL 4-6

(FOR REFERENCE)

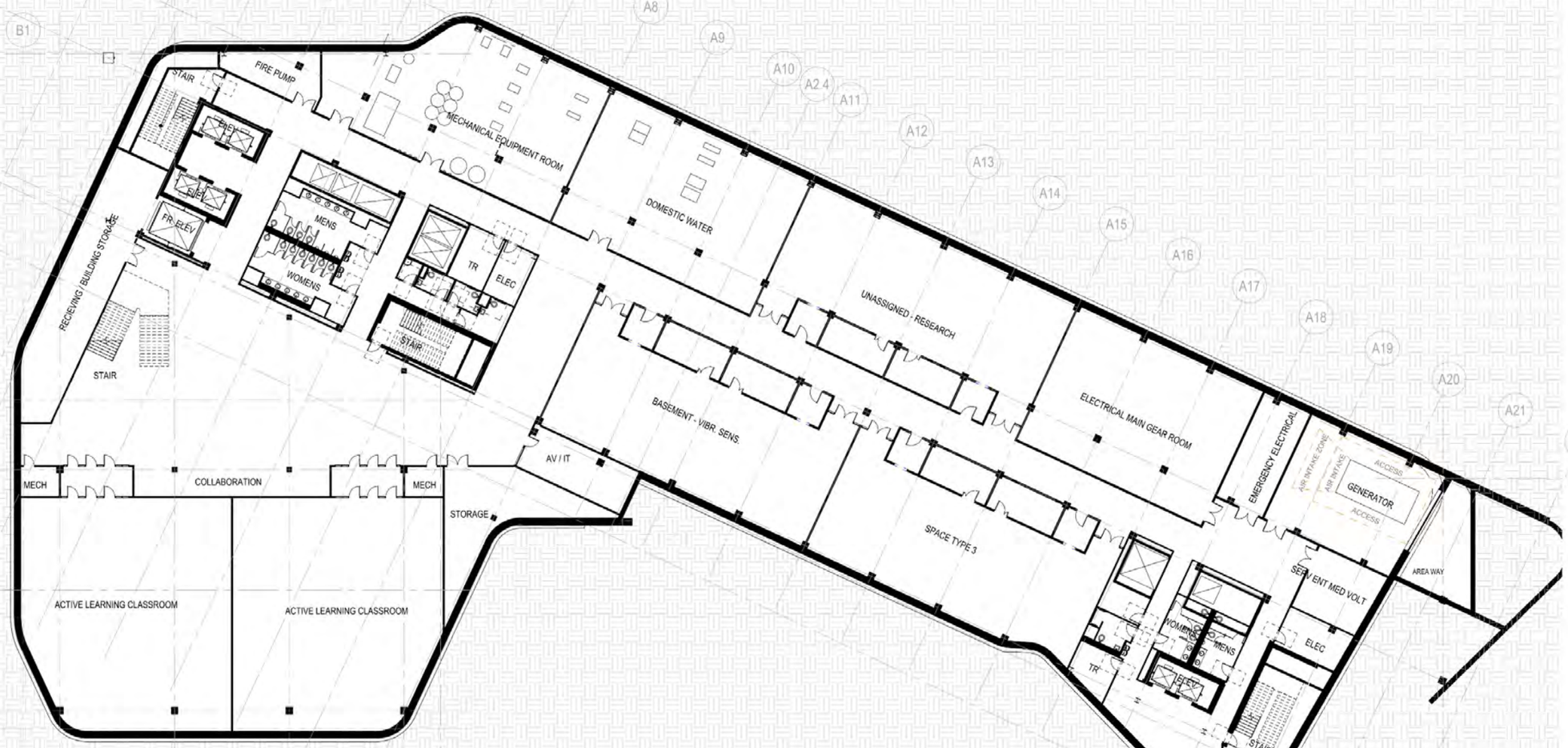
PENTHOUSE

(FOR REFERENCE)

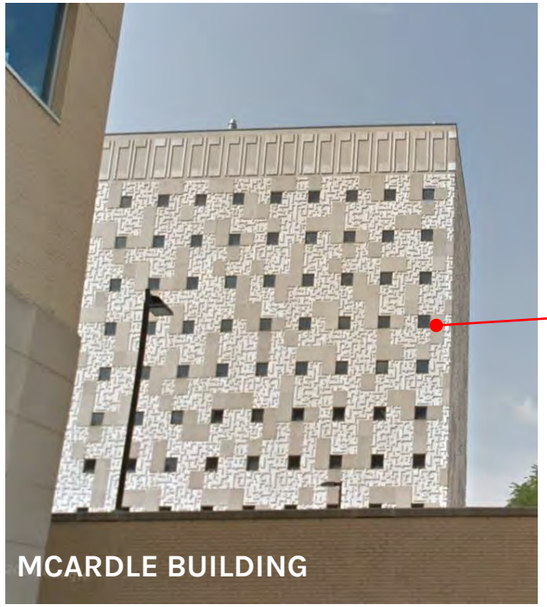


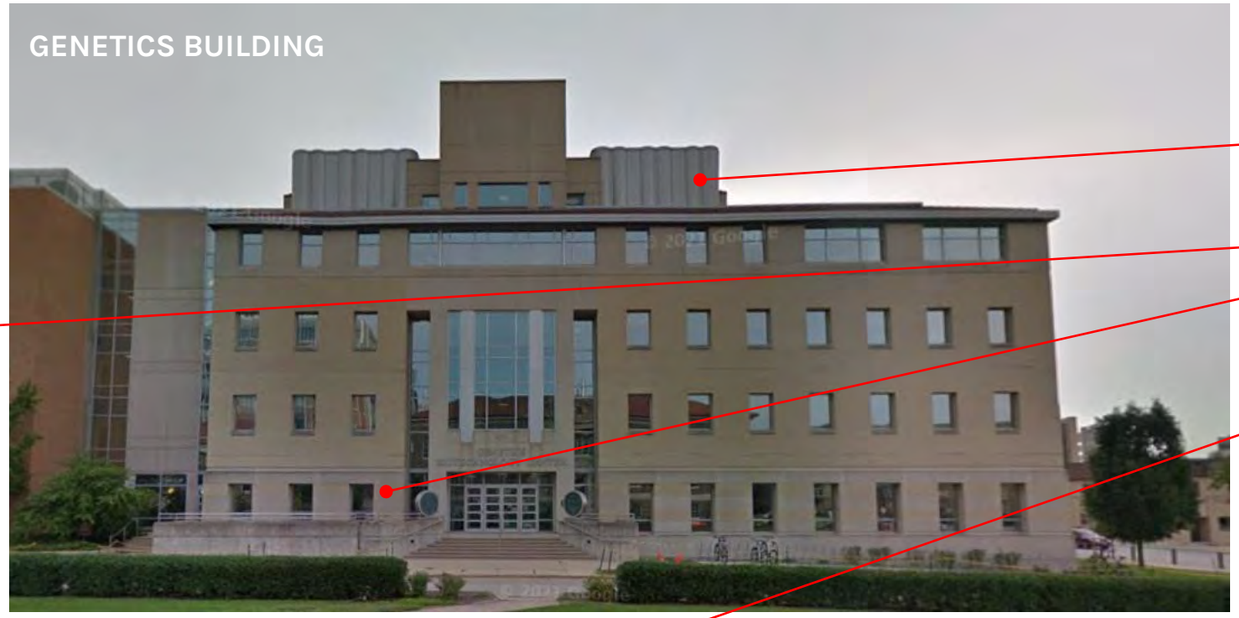
LEVEL 0

FLOOR PLAN



BUILDINGS IN CLOSE PROXIMITY



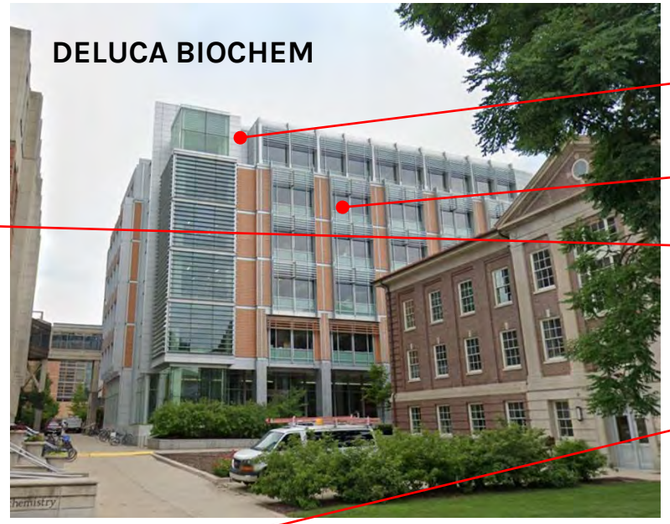


LIGHT GREY METAL PANELS

LIGHT BUFF COLORED STONE

LIGHT TERRACOTTA

BUILDINGS IN CLOSE PROXIMITY

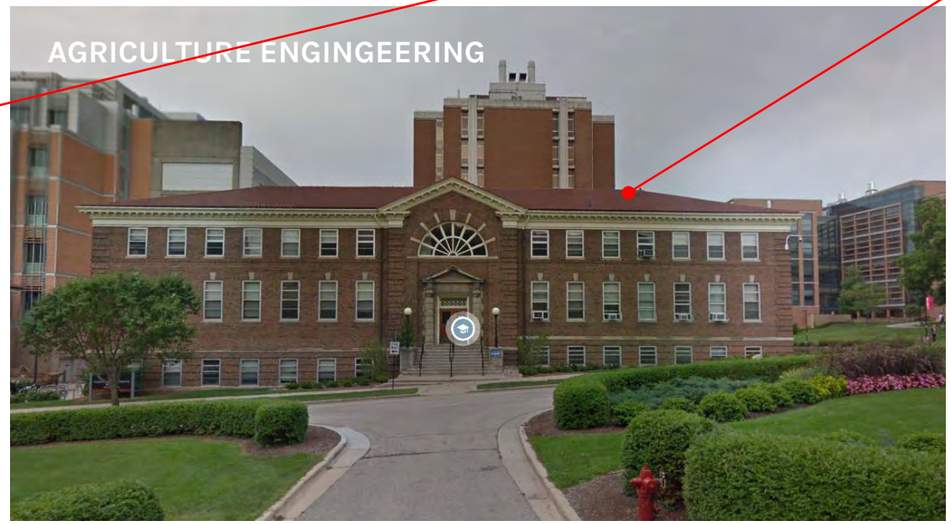


LIGHT GREY METAL PANELS

CURTAIN WALL

LIGHT STONE

RED TERRACOTTA ROOF TILES



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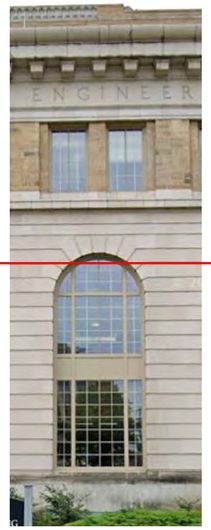
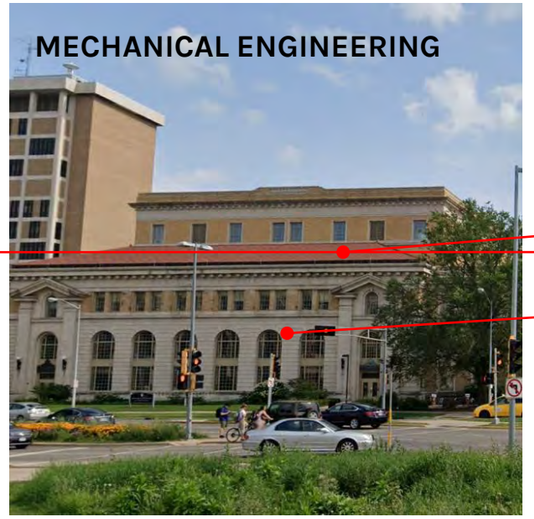
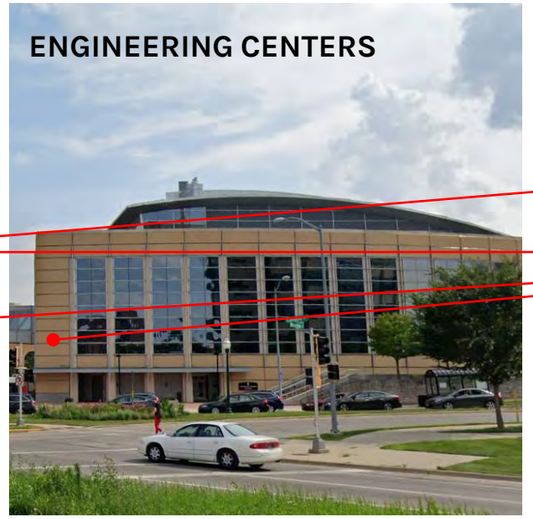
ENGINEERING CAMPUS BUILDINGS







LIGHT GREY METAL PANELS

RED TERRACOTTA ROOF TILES

LIGHT STONE / TERRACOTTA

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EXTERIOR MATERIAL CONCEPT

CONTEXT

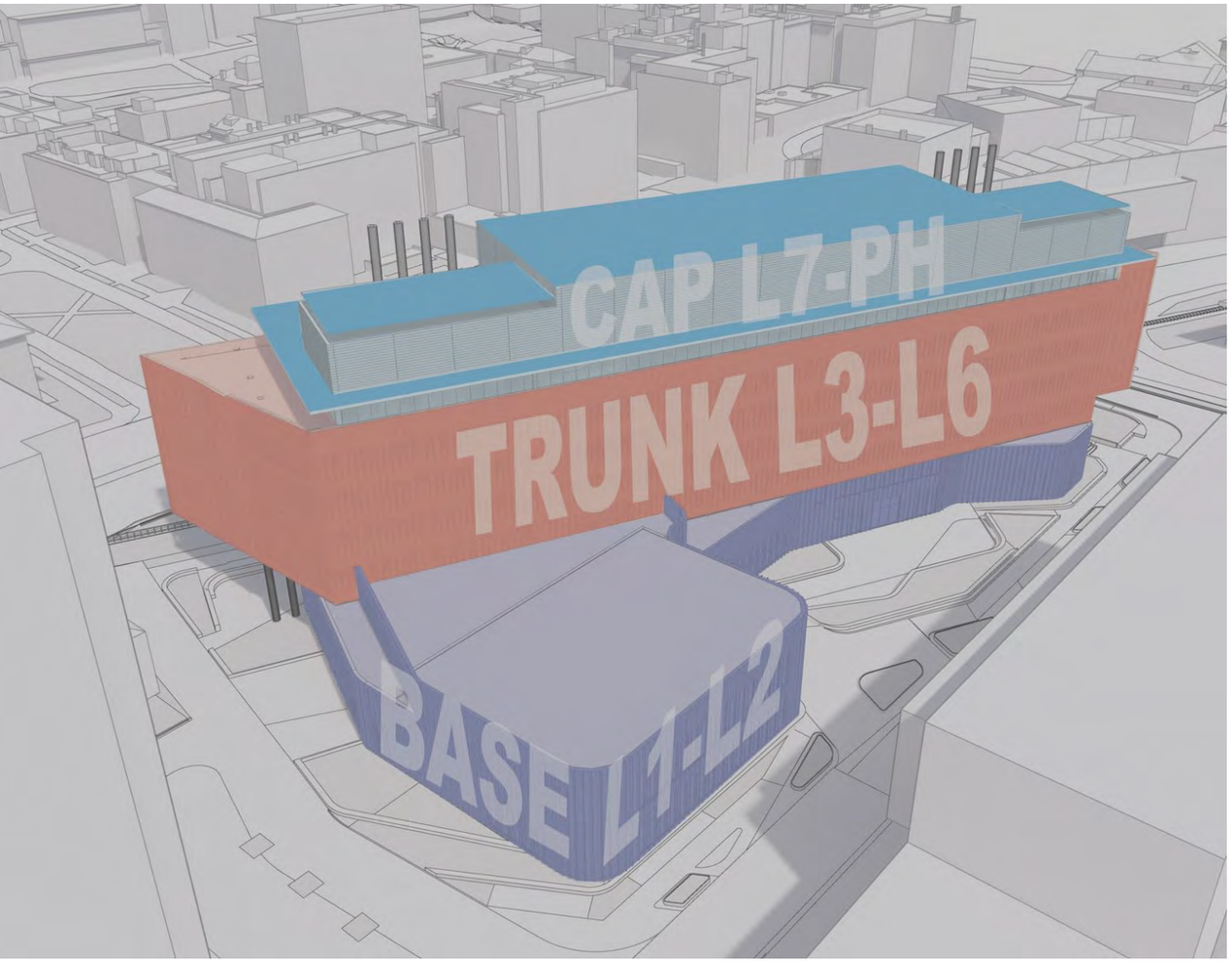
WISCONSIN INSTITUTE FOR DISCOVERY - WID

FUTURE SCHOOL OF COMPUTER, DATA AND INFORMATION SCIENCE

UNION

CHAZEN ART GALLERY

FAÇADE PARTI



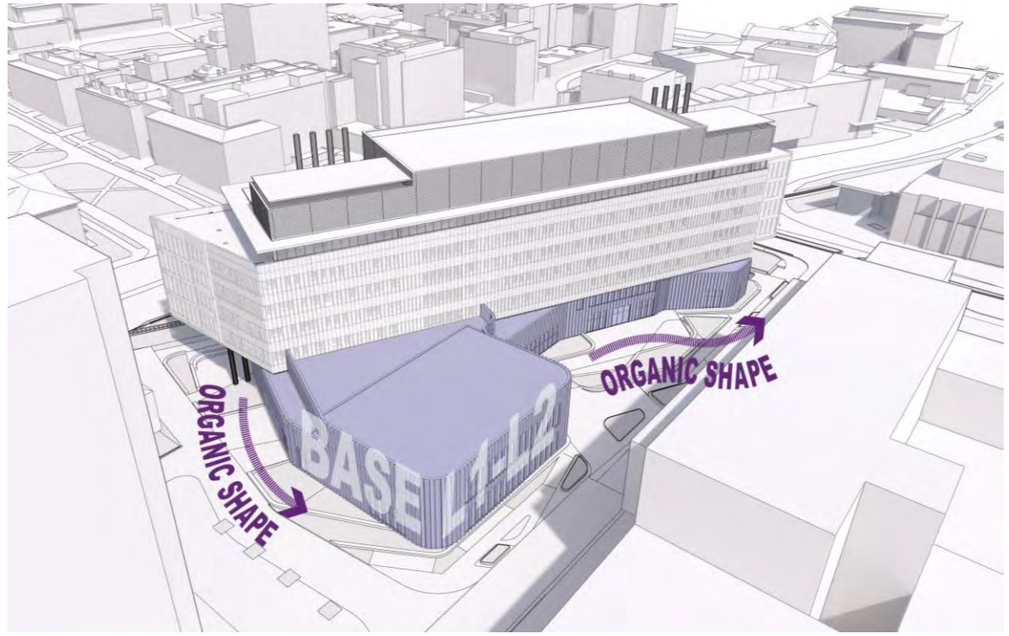
SOUTHWEST VIEW

NORTHEAST VIEW

BASE

LEVELS 1 & 2

- SHAPED BY SITE CONTEXT AND CIRCULATION
- PROMOTES FLOW AROUND THE SITE
- READS AS ONE ELEMENT
- TRANSPARENT TO ACTIVITY WITHIN THE BUILDING
- ORGANIC GEOMETRY – CONTRAST WITH “TRUNK”
- TOP OF BASE TO SUPPORT GREEN ROOF
- OCCUPIABLE ROOF TERRACE FOR STUDENTS / FACULTY



TRUNK

LEVELS 3-6

- CLEAN FORM – “MACHINE PRECISION” DETAILING
- CONTINUOUS MATERIAL LANGUAGE AROUND PERIMETER
- VISIBLE TRUSS
- GLAZING TO RELATE TO FUNCTION OF SPACE BEHIND
- GLAZING SHAPED BY BUILDING ENERGY MODELLING

CAP

LEVEL 7 AND 8 (PENTHOUSE)

- REDUCE VISUAL HEIGHT OF PENTHOUSE
- MATERIALITY RELATES TO HENRY MALL HISTORIC STRUCTURES
- ACCESS TO ROOF TERRACES – EAST AND WEST END
- SUPPORT PV PANEL ARRAY ON ROOF OF PENTHOUSE

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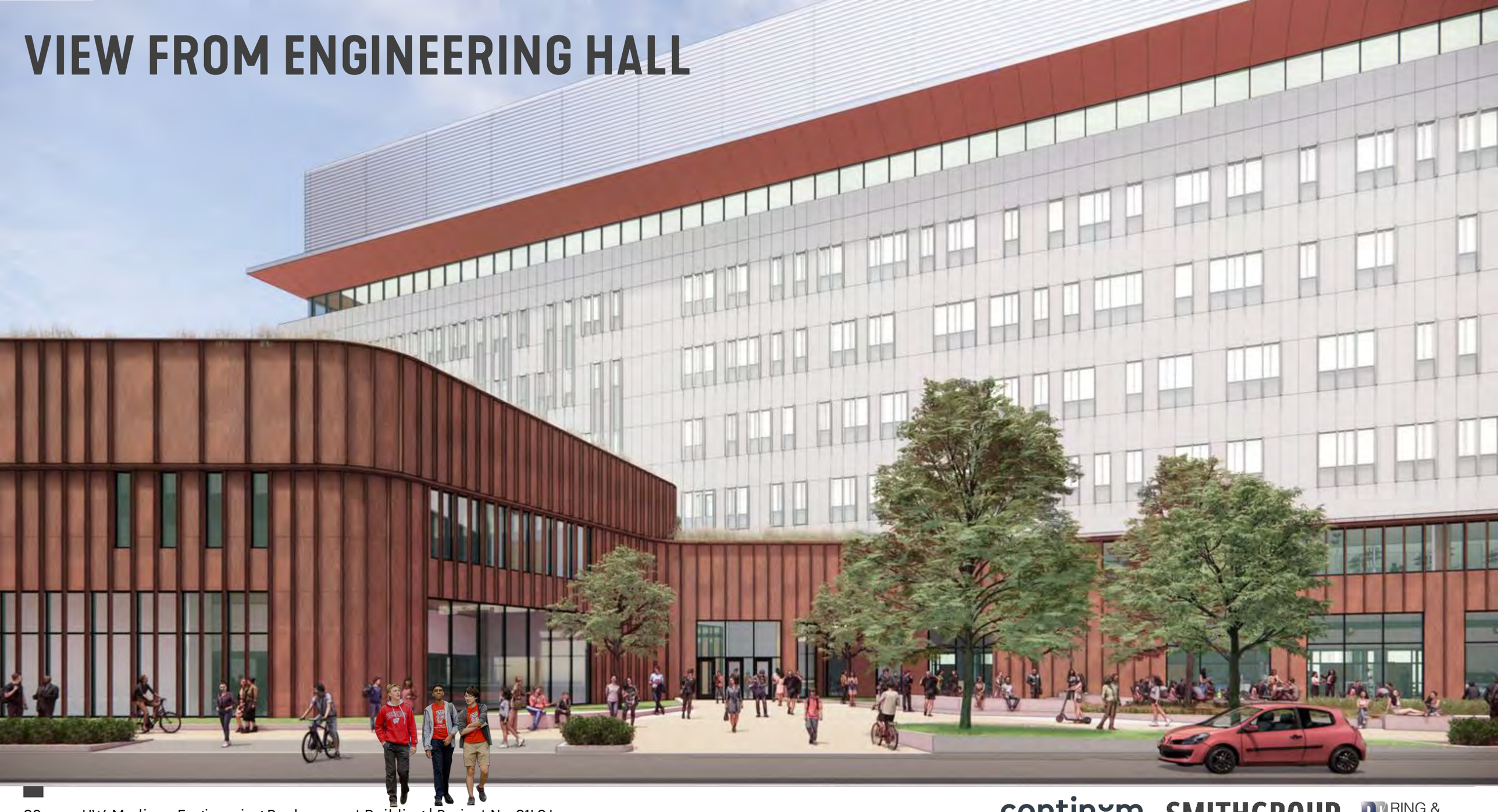
VIEW FROM ENGINEERING HALL



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SOUTH ENTRANCE

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ENGINEERING DRIVE

CAMPUS DRIVE

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CAMPUS DRIVE

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GATEWAY

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SOUTH WING

SOUTH ELEVATION
(FOR REFERENCE)

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EAST ELEVATION
(FOR REFERENCE)

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NORTH ELEVATION
(FOR REFERENCE)

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WEST ELEVATION
(FOR REFERENCE)

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