

Transforming the Cyber Center of Excellence



AGENDA

Out of the Box Thinking and Mission Alignment

*Enhanced Communications +
Cost /Schedule Analysis*

Heard Understood Acknowledged!!!

SNEAK PEEK
Audience Participation



AERIAL

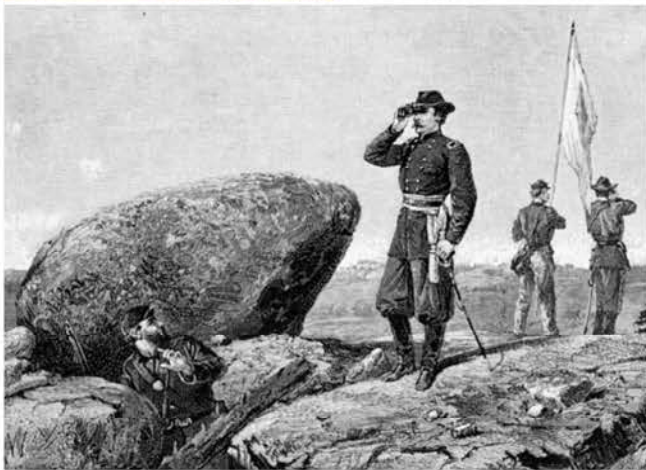
CYBER CENTER OF EXCELLENCE

OUT OF THE BOX THINKING & MISSION ALIGNMENT



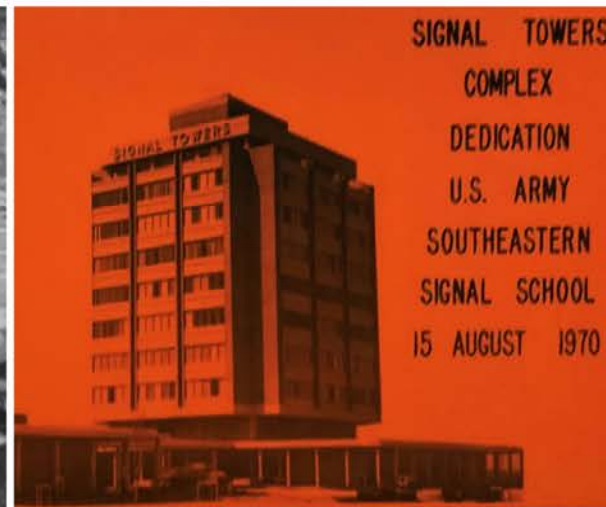
US ARMY SIGNAL CORPS

A Brief History



FORT EISENHOWER (FORMERLY FORT GORDON)

Home of USASC, ARCYBER, & CCoE

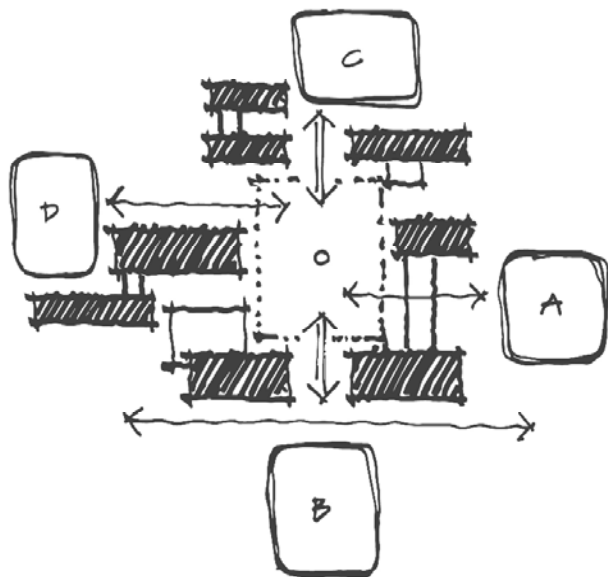


CYBER CENTER OF EXCELLENCE

Campus Plan

VISION

To transform a Vietnam-era installation into a 21st century, high-tech, academic training campus for the Directorate of Transformation, US Army Cyber Center of Excellence to attract and retain top talent in the defense of our nation in the theater of electronic warfare. Fort Eisenhower's Cyber Center of Excellence will be a showcase for the successful transformation of an aging campus; a precedent for the future recapitalization of hundreds of other DoD installations worldwide.



**INDIVIDUAL MILCON FUNDED
PROJECTS**

**DIFFERENT FUNDING YEARS
(20,22,24,25)**

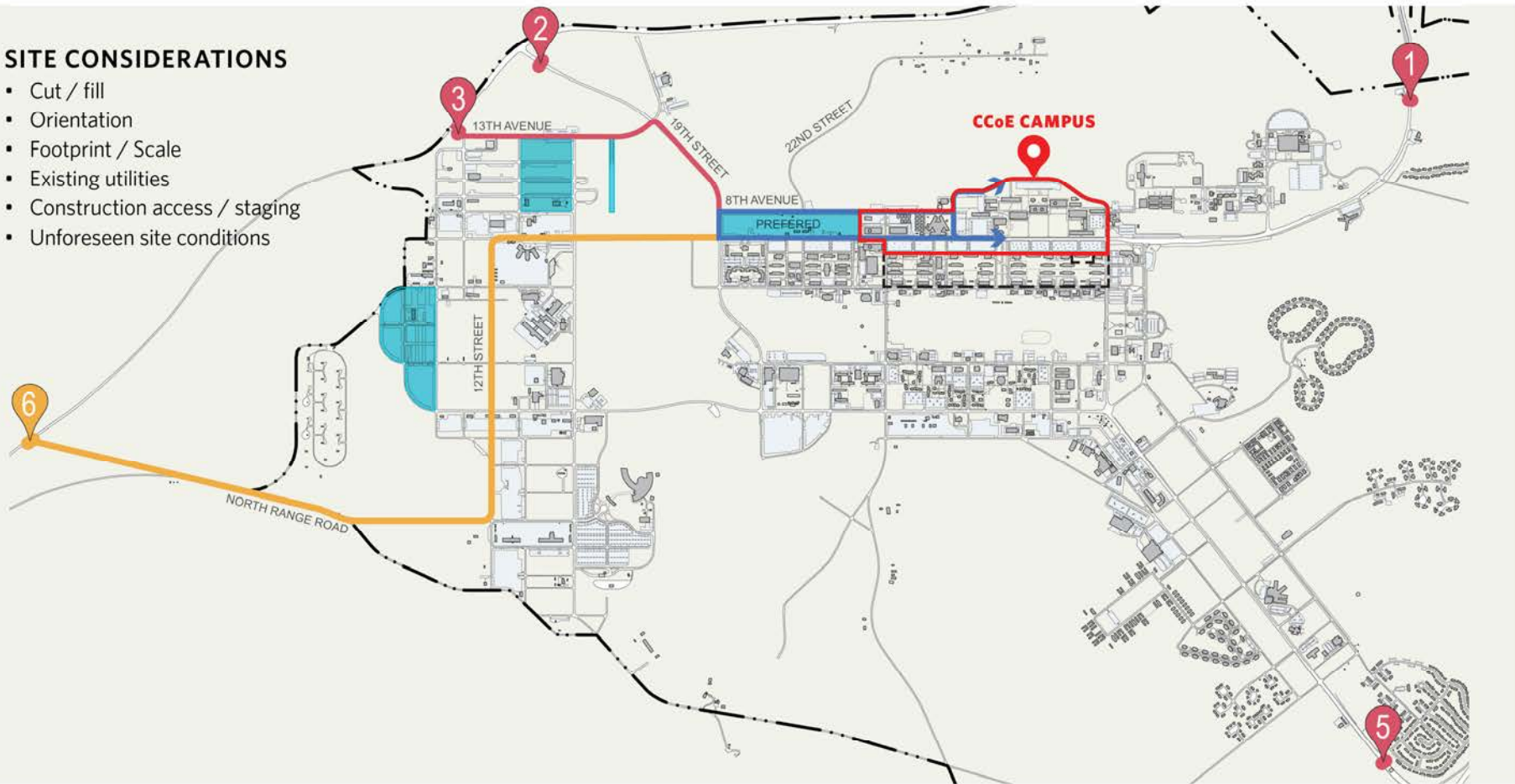
DESIGN TASK ORDERS

**CONSECUTIVE CONSTRUCTION
PROCUREMENTS**

[illegible]

- Cut / fill
- Orientation
- Footprint / Scale
- Existing utilities
- Construction access / staging
- Unforeseen site conditions

- Cut / fill
- Orientation
- Footprint / Scale
- Existing utilities
- Construction access / staging
- Unforeseen site conditions



EXISTING CONDITIONS - 2017



EXISTING CCoE CAMPUS



LOOKING EAST CCoE CAMPUS



LOOKING WEST CCoE CAMPUS

KEY PHYSICAL PLANNING CHALLENGES

Improving Upon Existing Conditions

SAFETY

Improve pedestrian safety by reducing or eliminating pedestrian and vehicular conflicts for the safe movement of thousands of students between barracks, dining, and academic buildings.

EFFICIENCY

Improve instructional efficiencies by providing state-of-the-art training facilities, key program adjacencies and a condensed campus to reduce daily walk times between facilities.

IMAGE & IDENTITY

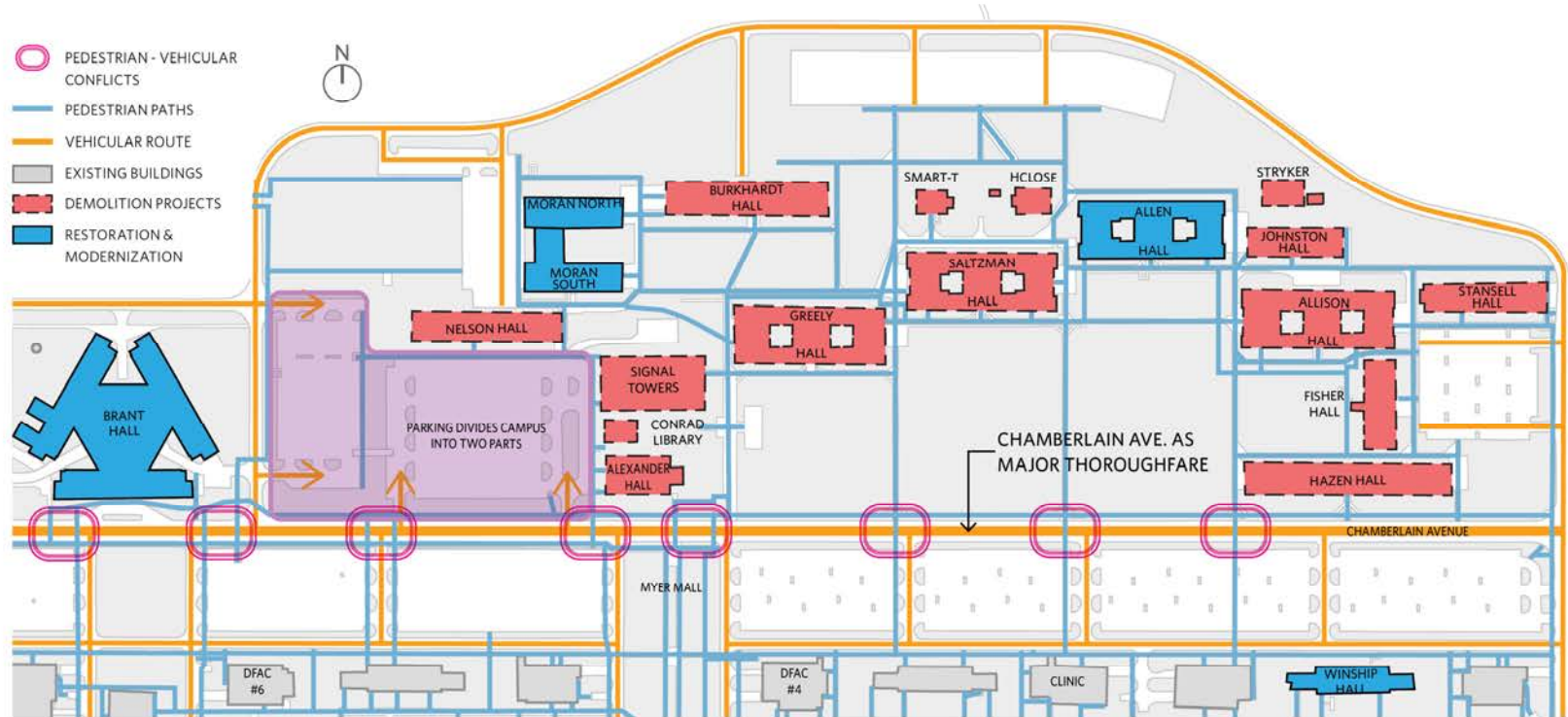
Improve the campus image by creating a new, forward-looking identity to reflect the mission of the Cyber Center of Excellence by integrating buildings and open space into a cohesive campus environment.

SUSTAINABILITY

Create a sustainable campus capable of withstanding the test of the Fort Gordon's climate and soldiers over time in the context of limited DoD sustainment funding.

PHASING

Phase multiple overlapping demolition and construction activities to continuously support the training mission during transformation within the annual MILCON funding requirements.



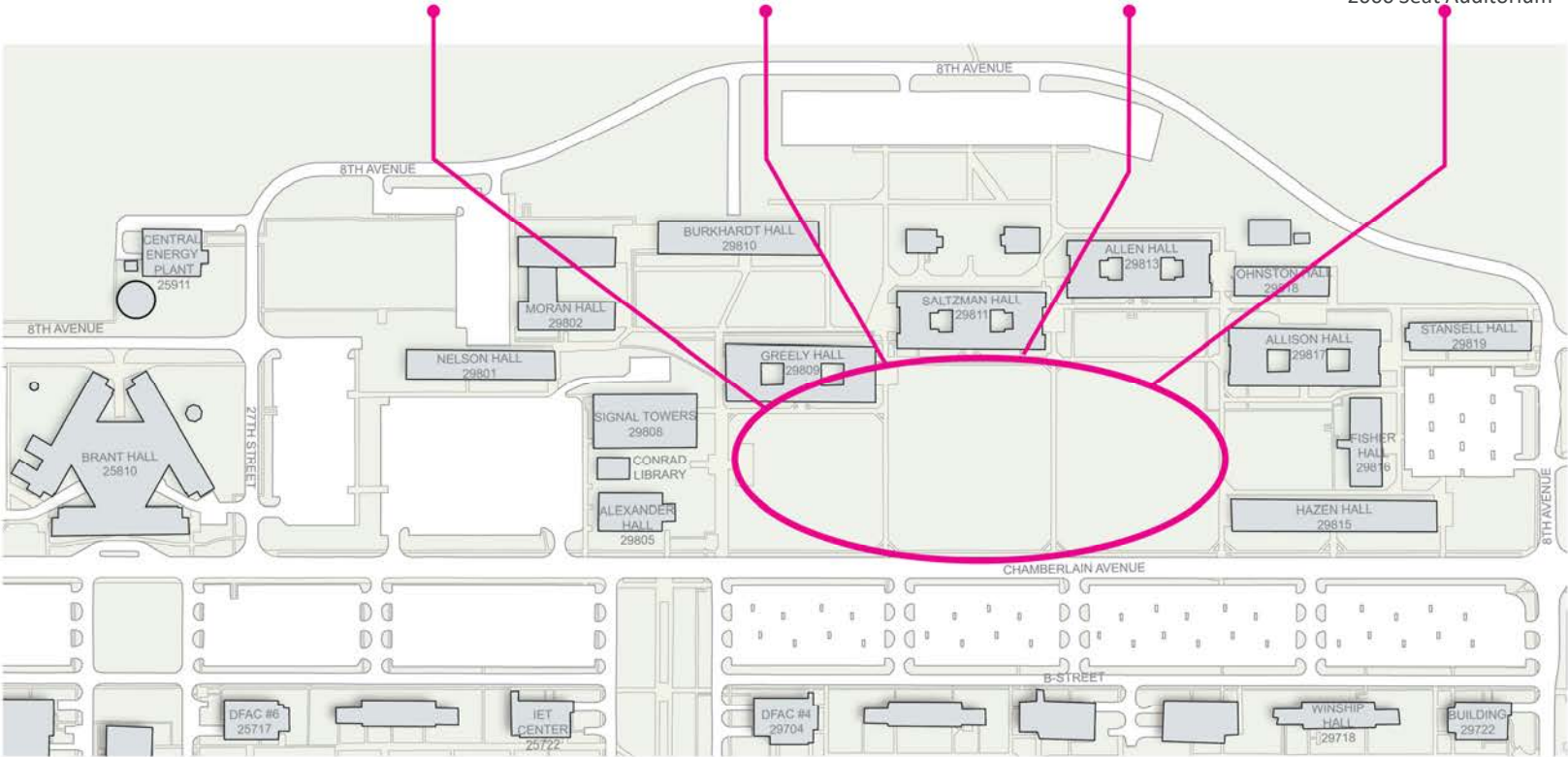
ORIGINAL SITING PLAN

MCA-1 Cyber School
140K GSF
1-Star Command
45 Learning Environments
800 Students

MCA-2 HQ & PME Facility
220K GSF
2-Star Command
68 Learning Environments
1600 Students

MCA-3 Signal School
240K GSF
1-Star Command
76 Learning Environments
1600 Students

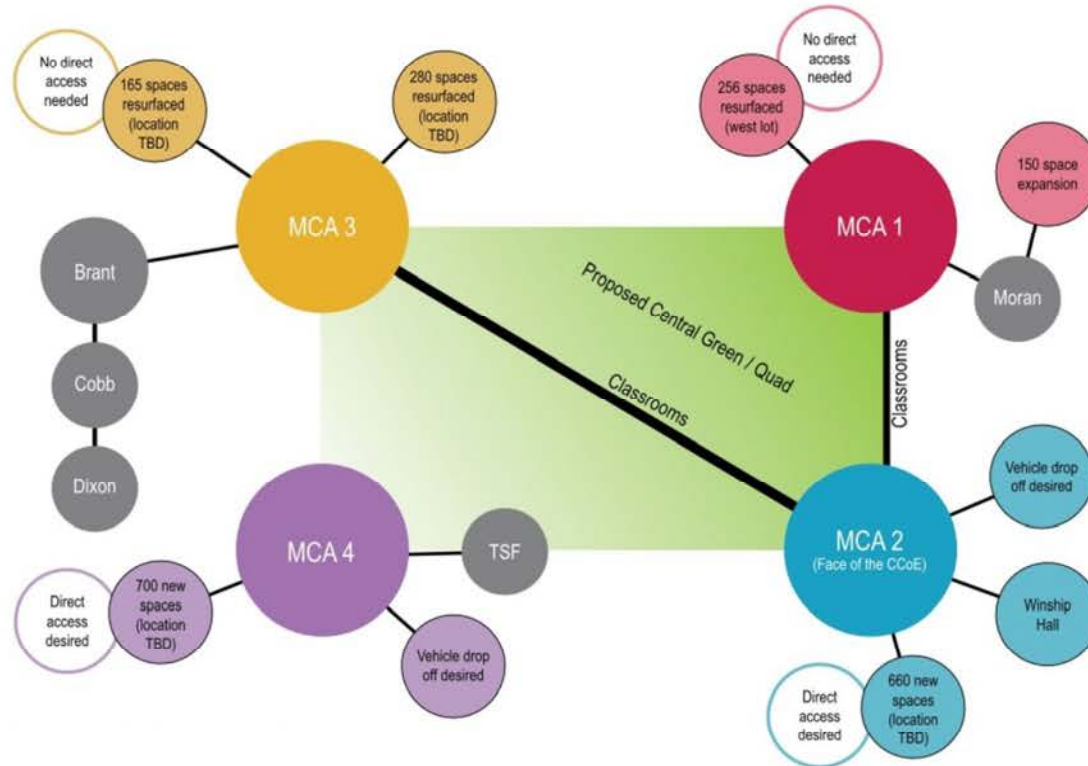
MCA-4 Auditorium & Administration
85K GSF
10 Learning Environments
200 Students
2000 Seat Auditorium



MISSION ALIGNMENT

ADJACENCIES GOALS

- Maximize number of training environments and bring online was top priority
- Program standardizations and efficient operational adjacencies

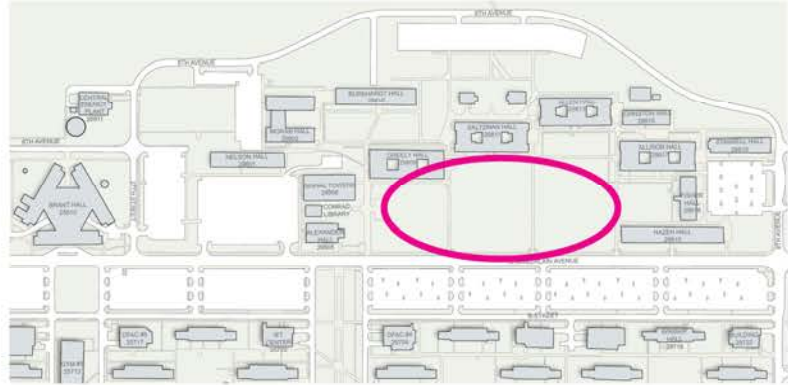


BIG IDEA - "SHIFT THE CENTER OF GRAVITY"

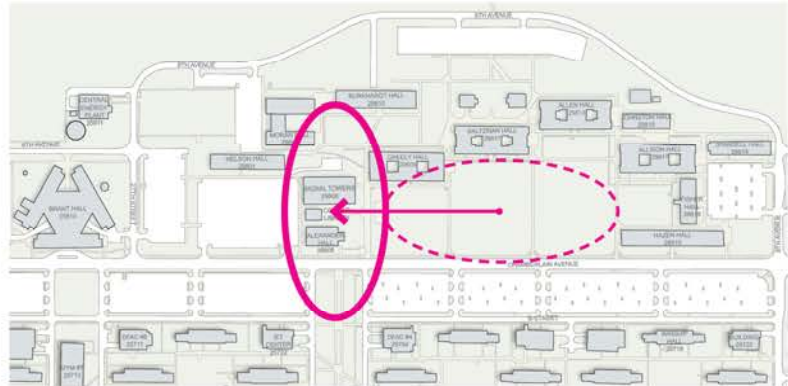
APPROVED CAMPUS PLAN

The Campus Plan represents the refinement of the preferred Course of Action. Key attributes of the End State Campus Plan include:

1. The new campus center of gravity shifts west to Myer Mall.
2. It condenses the campus and reduces walk times.
3. It creates significant open space for future development to the east.
4. It improves "campus cohesion" because of its new connection to Myer Mall, the iconic north-south open space; around which the campus is now organized.



COA-1 BASELINE: CENTER OF GRAVITY



COA-3: CENTER OF GRAVITY SHIFTED WEST

DESIGN GUIDING PRINCIPLES

1. INTERNAL FOCUS

The new MCA facilities should be clustered around a centralized core with all vehicular access and parking areas located at the campus perimeter.

2. ACCESS POINTS

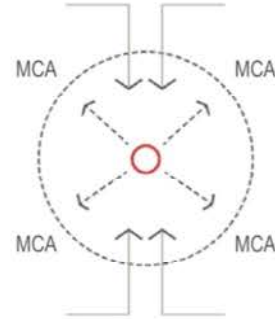
The primary pedestrian access point for each of the new MCA facilities should be oriented toward a shared, outdoor quadrangle located in the center of the campus.

3. DEFINED EDGES

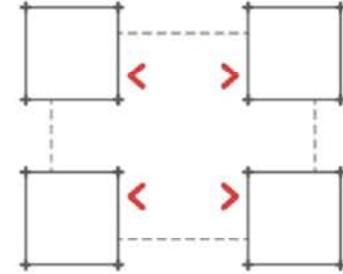
The boundaries of the open quadrangle should be defined by the façade alignment of the surrounding MCA facilities.

4. VISUAL CONNECTIONS

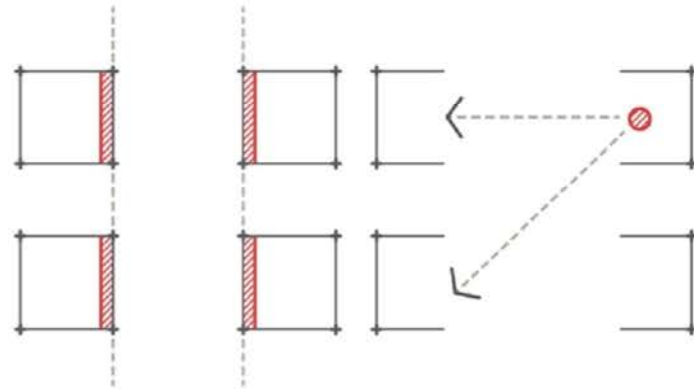
The architectural design should strive for visual continuity among each of the MCA facilities to promote a unified campus. Visibility between interior and exterior spaces should be optimized to allow views to and from the open quadrangle.



Guiding Principle #1: Internal Focus
Cluster the new MCA facilities around a centralized core.



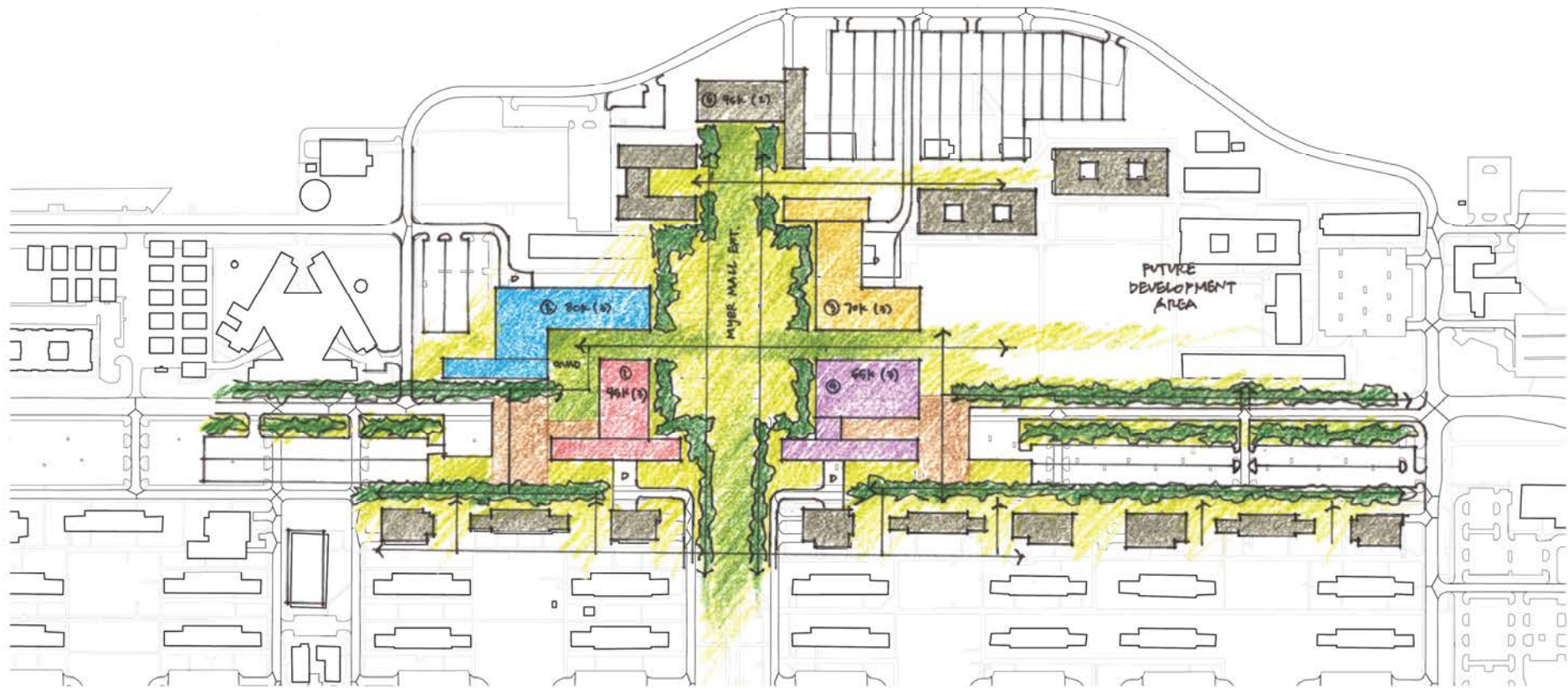
Guiding Principle #2: Access Points
Access primary pedestrian entrances from a shared open space.



Guiding Principle #3: Defined Edges
Align building facades to define open space.

Guiding Principle #4: Visual Connections
Promote visibility between interior and exterior environments.

SITE CONCEPT SKETCH
Command Briefing - Preferred Course of Action



CYBER CENTER OF EXCELLENCE

ENHANCED COMMUNICATIONS & COST/SCHEDULE ANALYSIS



STAKEHOLDERS



ARCYBER

U.S. Army Cyber Command



TRADOC

U.S. Army Training Doctrine
and Command



INSCOM

U.S. Intelligence and Security
Command



NETCOM

U.S. Army Network Enterprise
Technology Command



IMCOM

U.S. Army Installation
Management Command



NSA

Defense Information
Systems Agency



DISA

National Security Agency



US ARMY

U.S. Department of the Army



CCOE

U.S. Army Cyber Center
of Excellence

STAKEHOLDERS

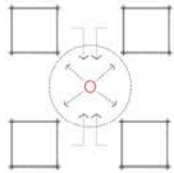
KEYS TO SUCCESS

- Active & engaged communications
- Tying stakeholders together
- Promoting consensus
- Guiding principles as backstop
- Establishing Tier I and executive briefs
- Working collaboratively

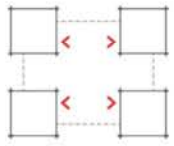


**USACE / HDR / CCOE
created a task to do this
(Task 3)**

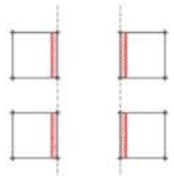
FUTURE OF CYBER AND SIGNAL EXCELLENCE



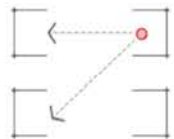
INTERNAL FOCUS



COMMON ACCESS



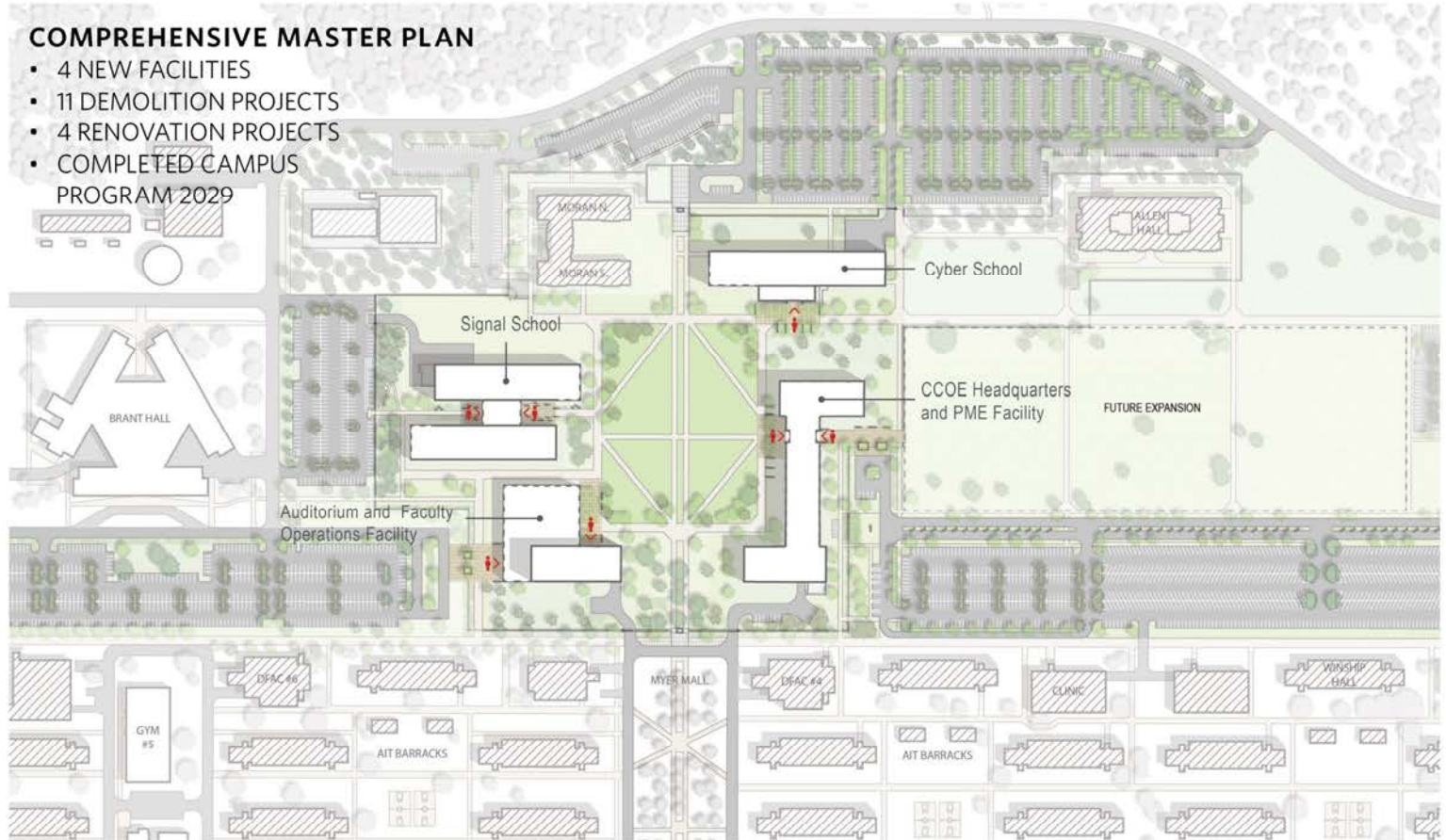
DEFINED EDGES



VISUAL CONNECTIONS

COMPREHENSIVE MASTER PLAN

- 4 NEW FACILITIES
- 11 DEMOLITION PROJECTS
- 4 RENOVATION PROJECTS
- COMPLETED CAMPUS PROGRAM 2029



PHASING IMPLEMENTATION PLAN

FOUR PRIMARY PHASES

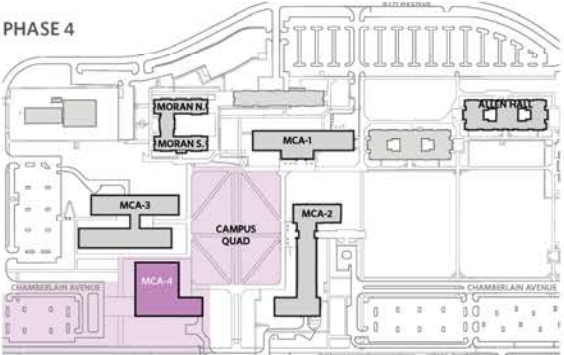
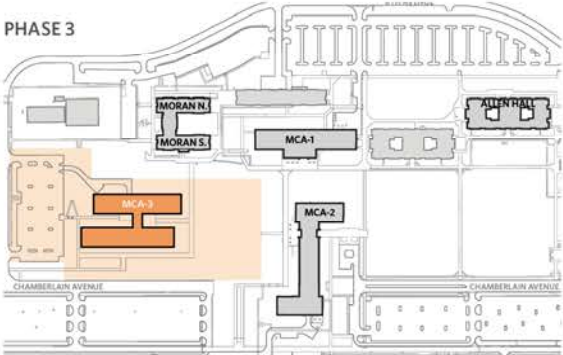
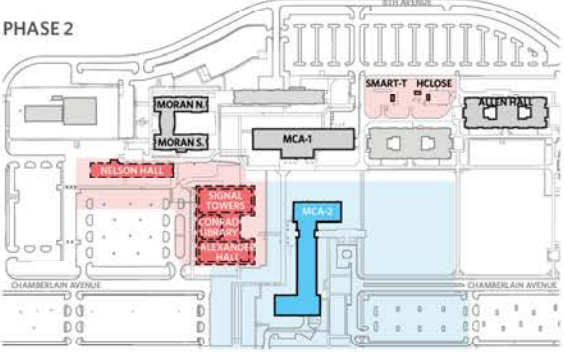
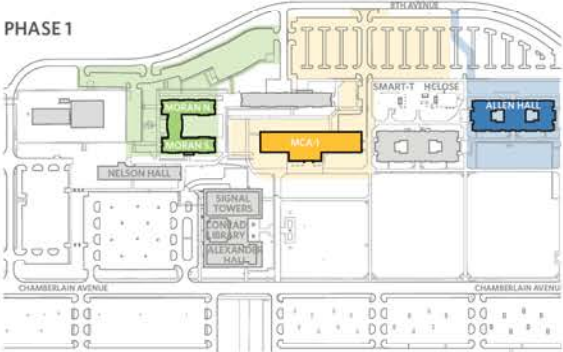
Four major phases represent the completion of MILCON-funded academic and administrative buildings, which are the primary catalysts for this 12-year modernization plan.

DETAILED SEQUENCING

Our work included careful sequencing of renovation, demolition and construction activities including upgrades to supporting infrastructure are outlined in the campus plan.

CONTINUOUS OPERATIONS

Successful phasing is a critical part of the campus transformation. Select pedestrian routes and site utilities will remain in service to keep the CCoE fully operational throughout the process.

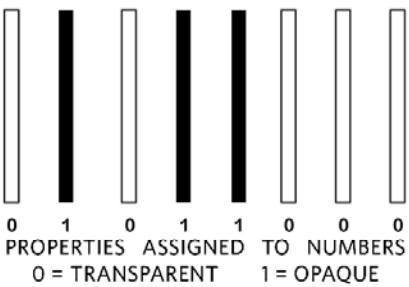
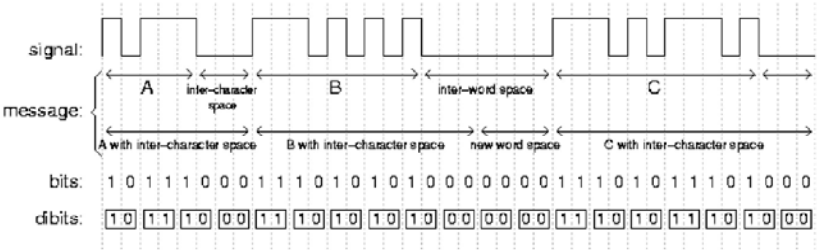
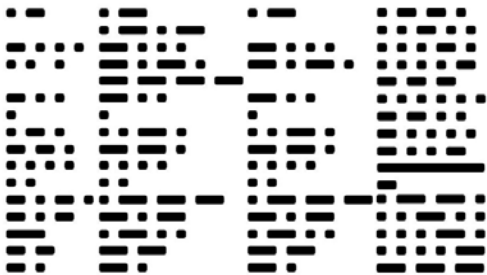


- EXISTING BUILDINGS
- CCoE BUILDINGS
- UNDER DEMOLITION
- CONSTRUCTION COMPLETE

DESIGN CONCEPT & MATERIAL CONSIDERATIONS

Signal History, Cyber Future

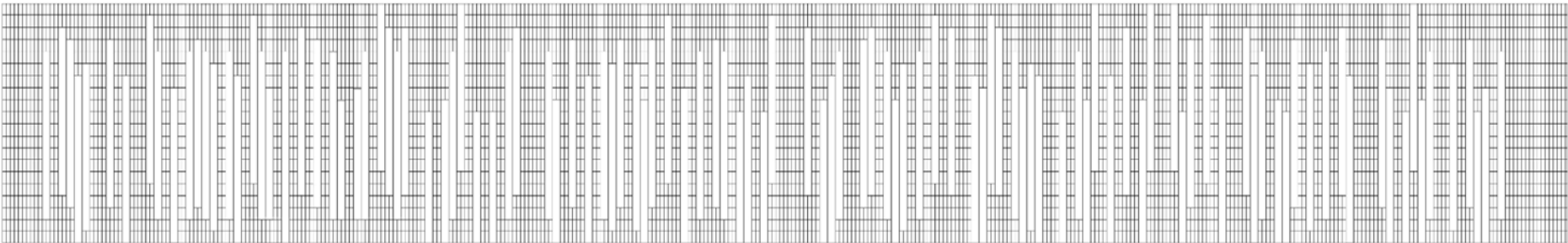
ANALOG

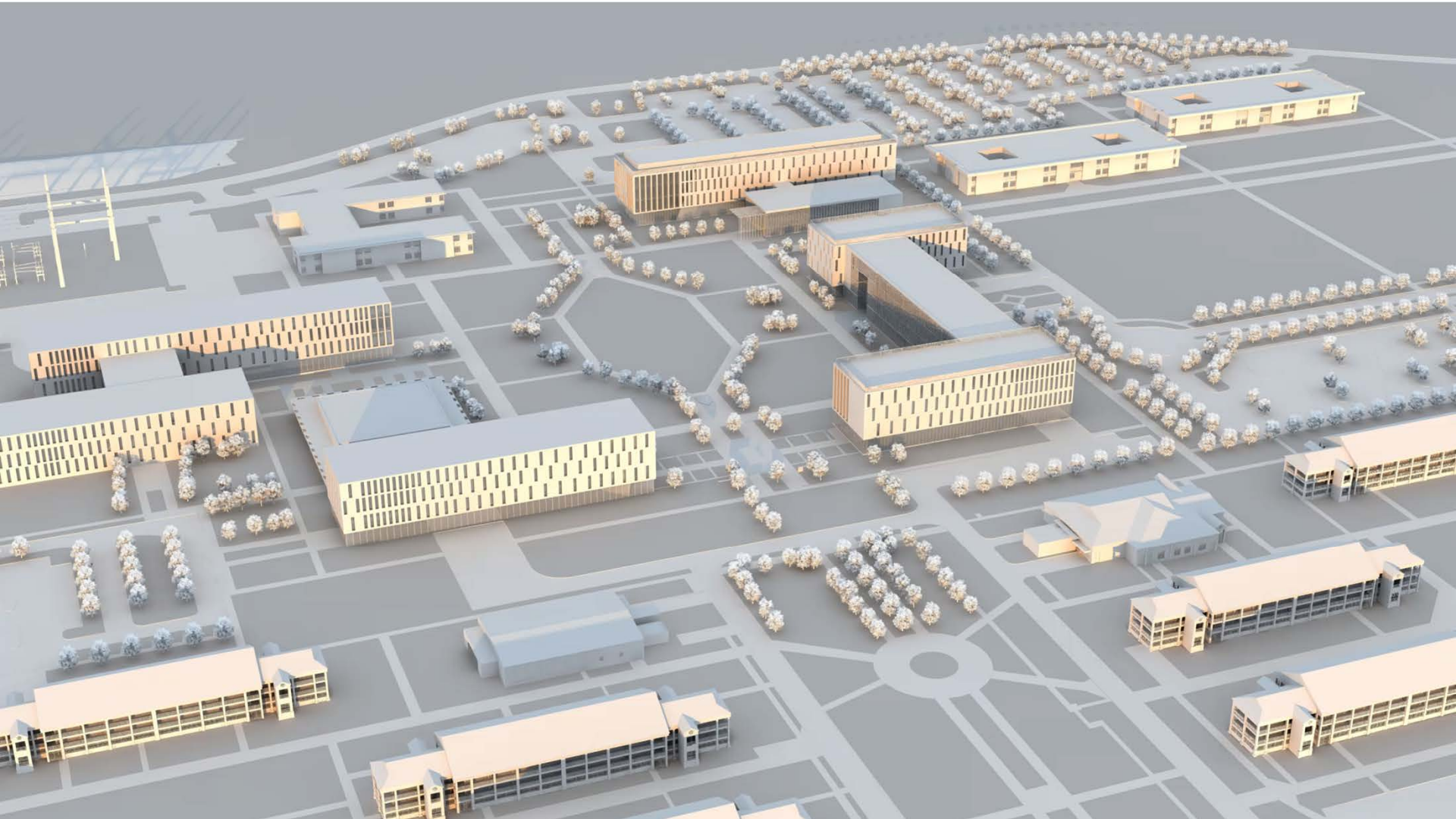


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ARCHITECTURAL APPLICATION





PHYSICAL MODEL



INTEGRATED COST ESTIMATING

STRATEGIES TO ACHIEVE BUDGET

- Planning - 90% design-to-target with 10% add alternates; Parametric Gauges
- Benchmarking - Local construction market survey, Cost & Schedule Risk Analysis
- Estimating - Cost quantity take-off linking to Building BIM model
- Cost Management - Constant cost monitoring with the design team; cost input on VE recommendation



ADDITIONAL INFLUENCES:

- Privatized utilities
- Volatile market conditions (wall, pandemic, supply chain)
- Unforeseen conditions

CYBER CENTER OF EXCELLENCE

HEARD UNDERSTOOD ACKNOWLEDGED



DESIGN



ILLUSTRATIVE PLAN

Campus Features

CAMPUS ORGANIZATION

Campus planning and design principles organize a strong and unified campus around a new academic quad.

IMPROVED EFFICIENCY

Situating new administrative and training buildings around this common core makes the training mission more effective and efficient.

MILCON PROGRAM

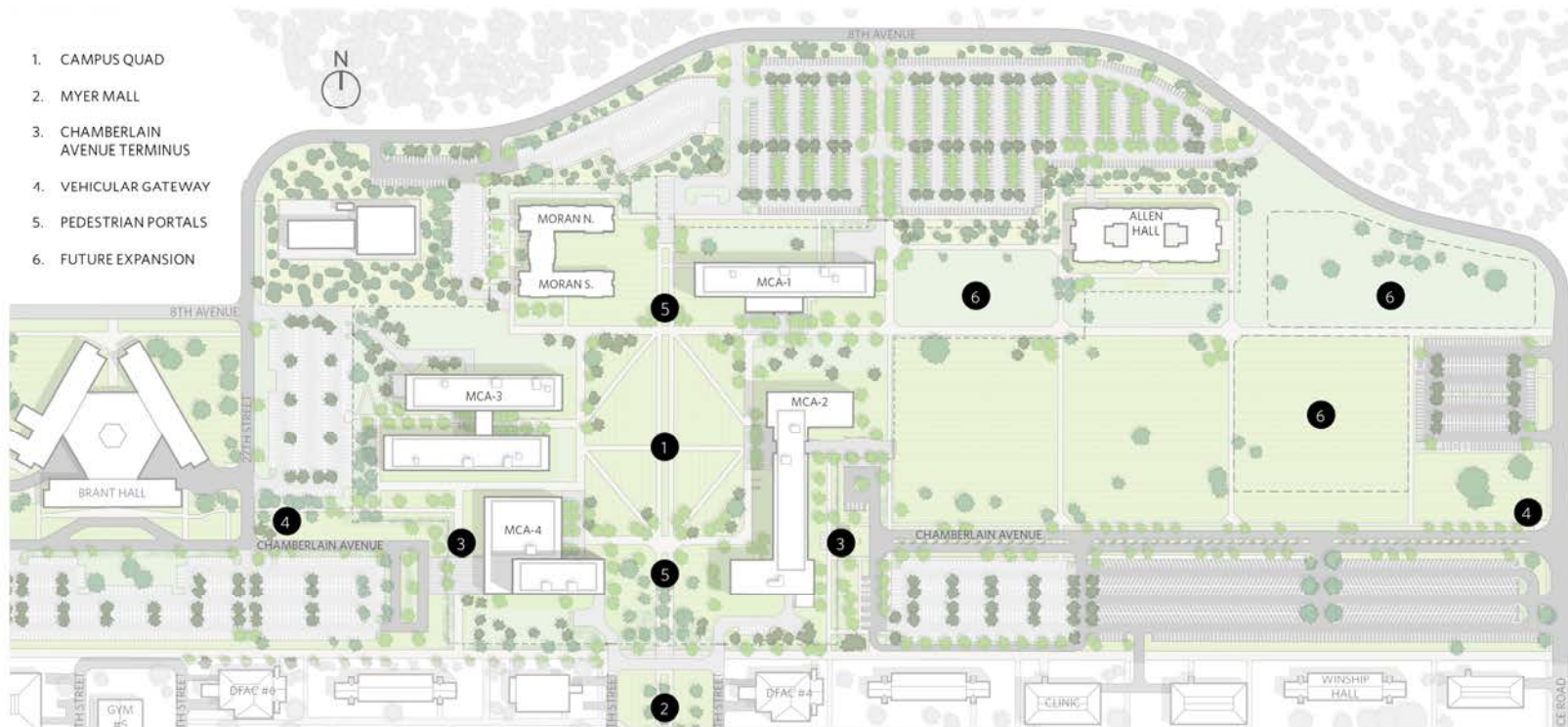
Four new administrative and training buildings, known as MCA-1 through MCA-4, represent the bulk of the CCofE Transformation program.

MCA-1: 140,000 SF Cyber School headquarters and information network training center

MCA-2: 235,000 SF Cyber Command headquarters and training center

MCA-3: 243,000 SF Signal School headquarters and information network training center

MCA-4: 82,000 SF auditorium and faculty operations facility



PROPOSED CIRCULATION PLAN

Pedestrian, Mission-Centric Campus

PEDESTRIAN-CENTRIC

Chamberlain Avenue is closed and parking is shifted to the campus perimeter to improve pedestrian safety.

SAFE ACCESS

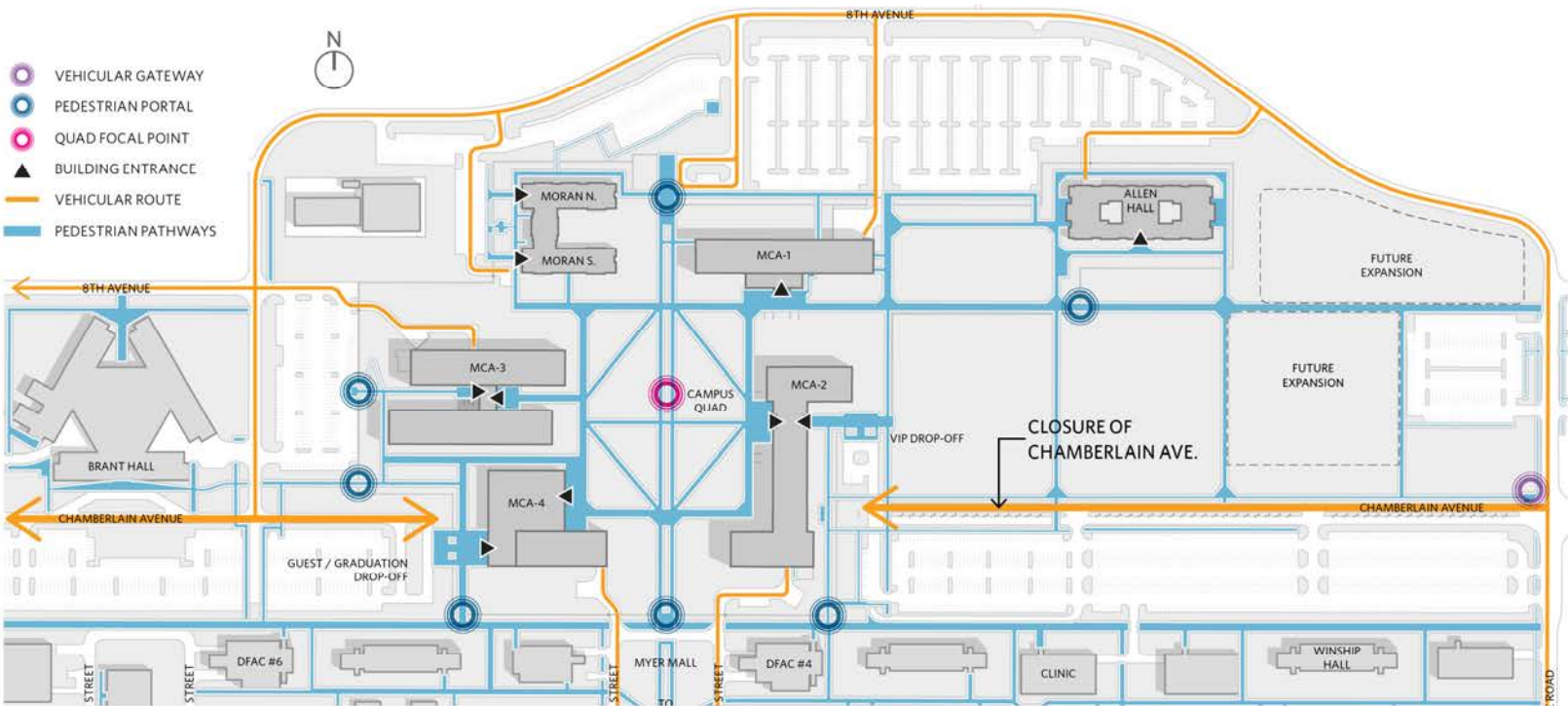
Myer Mall becomes a pedestrian conduit; students can safely walk from their barracks to dining facilities and CCoE academic buildings without crossing a roadway.

IMPROVED EFFICIENCY

Condensing the campus around the quad improves instructional efficiencies by reducing walk times between facilities.

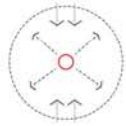
WAYFINDING & IDENTITY

New vehicular gateways and pedestrian portals improve safety and way finding while enhancing the global visibility and image of the Cyber Center of Excellence.



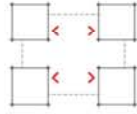
FUNCTION & CHARACTER OF THE NEW QUAD

Guiding Principles



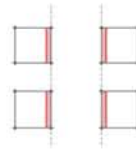
INTERNAL FOCUS

Cluster the MCA facilities around a centralized core.



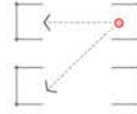
ACCESS POINTS

Access primary pedestrian entrances from a shared open space.



DEFINED EDGES

Align building facades to define open space.



VISUAL CONNECTIONS

Promote visibility between interior and exterior environments.



SUSTAINABILITY

1. SOLAR MANAGEMENT

East-west building orientations mitigate solar heat gain and glare for building occupants.

2. HEAT ISLAND MITIGATION

Tree cover and high albedo pavement together reduce the heat island effect in keeping with ASHRAE and LEED guidelines.

3. DURABLE MATERIALS

Durable terra-cotta building systems complement the existing masonry on-campus, creating a modern look that will stand the test of time.

4. LOW MAINTENANCE ZONES

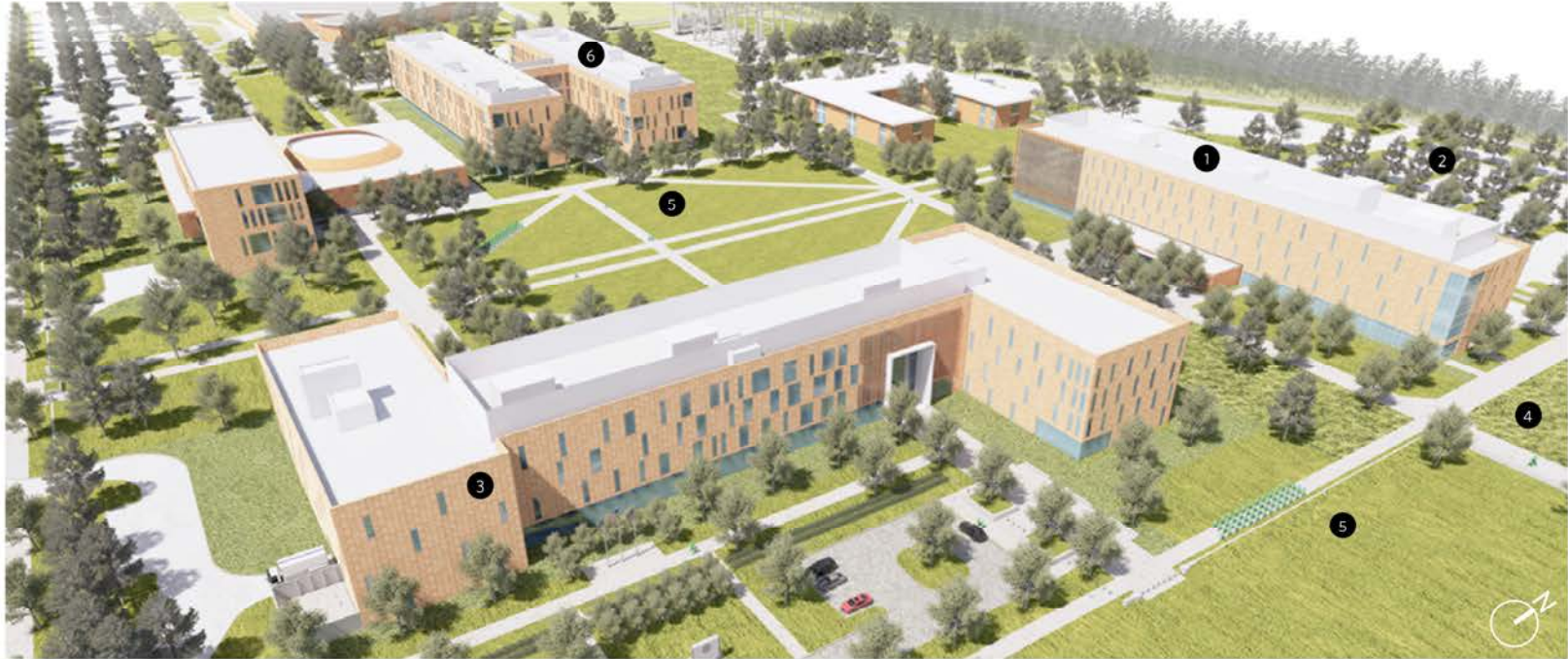
Low maintenance planting zones around the campus perimeter establish a natural character and reduce the overall maintenance regimen.

5. WATER RESOURCES

Stormwater best management practices include a reduction impervious surfacing and an upgrade to the storm detention and infiltration facilities.

6. COMPACT CAMPUS

Clustering multi-story buildings in the campus core reduces impervious cover, preserves open space and improves efficiency of the training mission.



BUILDING ORIENTATION

MASSING DEFINITION



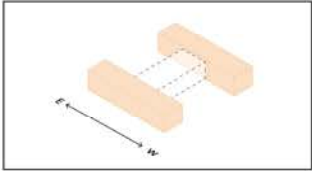
GLAZING SYSTEM



SHADING STRATEGIES

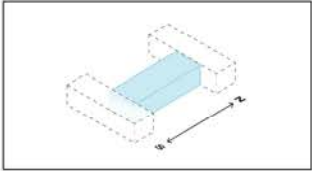
EAST-WEST ORIENTATION

SOLID

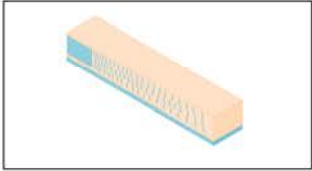


NORTH-SOUTH ORIENTATION

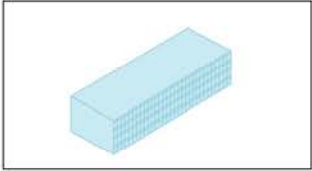
TRANSPARENT



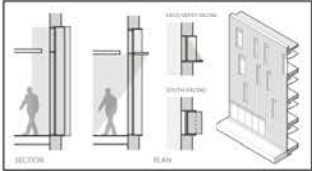
PUNCHED WINDOWS



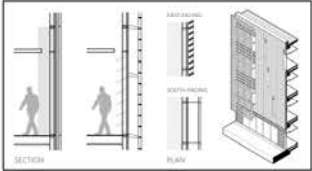
CURTAIN WALL



FIN EXTRUSIONS



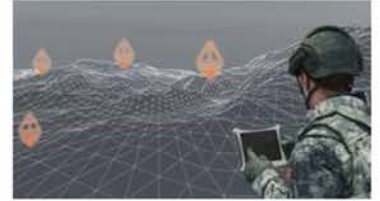
BAGUETTES



DESIGN INFLUENCES

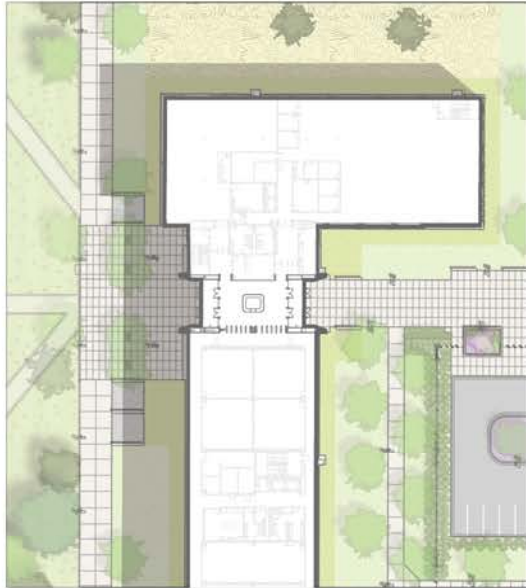
Signal History

PAST



FUTURE

VISUAL CUES

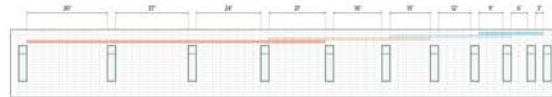


LIGHT AS COMMUNICATION

MODULAR WINDOW UNITS



GRADIENT PATTERNING

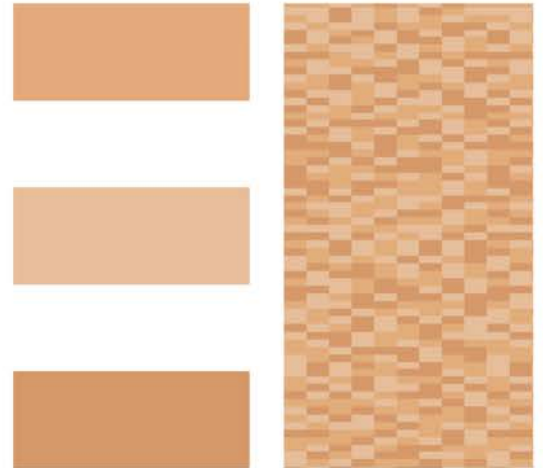


COMPOSITION



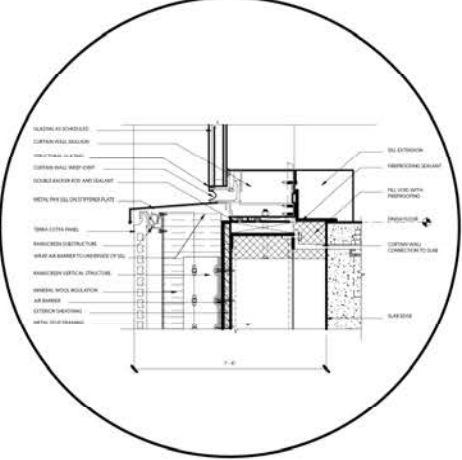
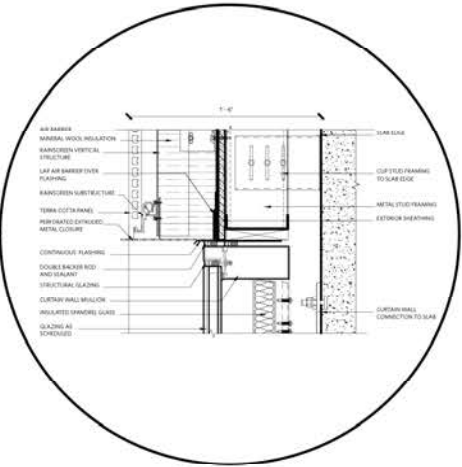
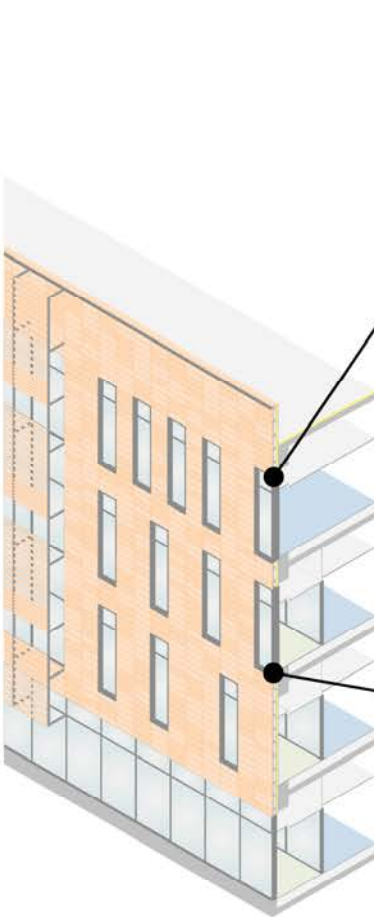
TONAL VARIATIONS

MODULAR TERRACOTTA PANELS



DESIGN CONCEPT & MATERIAL CONSIDERATIONS

Development within Cost Constraints



FOUR BUILDINGS



MCA 1 - CYBER SCHOOL

- 140K GSF
- 46 CLASSROOMS / LABS
- NETWORK OPS CENTER
- CLASS: TS
- 1 STAR COMMAND
- 250 STAFF / 1000 STUDENTS



MCA 2 - HQ & PME FACILITY

- 220K GSF
- 68 CLASSROOMS / LABS
- CLASS: S
- 2 STAR COMMAND (CG)
- 425 STAFF / 1500 STUDENTS



MCA 3 - SIGNAL SCHOOL

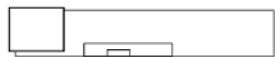
- 240K GSF
- 76 CLASSROOMS / LABS
- CLASS: UC + S
- 1 STAR COMMAND
- 500 STAFF / 1600 STUDENTS



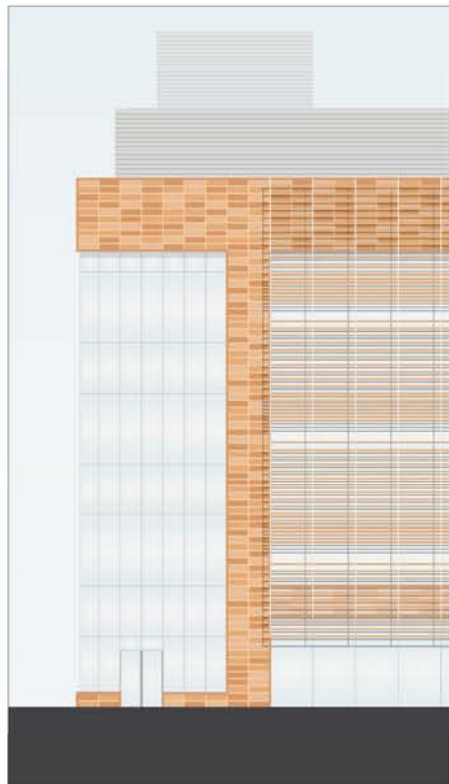
MCA 4 - AUDITORIUM

- 86K GSF
- 10 CLASSROOMS / LABS
- 2000 SEAT AUDITORIUM
- CLASS: UC
- 100 STAFF / 200 STUDENTS

FACADE VARIATIONS



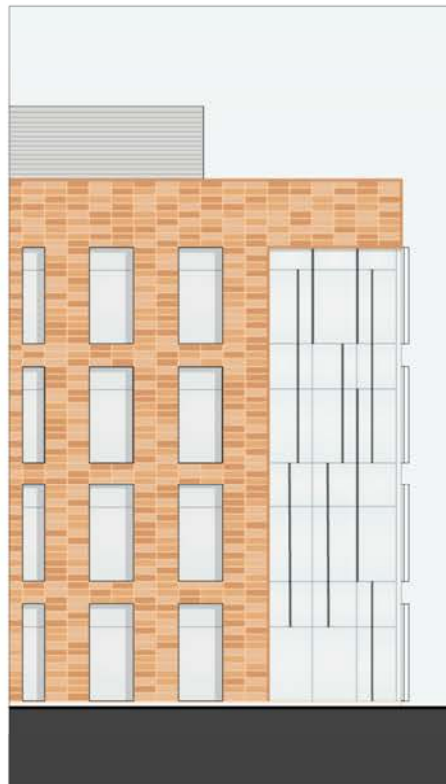
CYBER SCHOOL



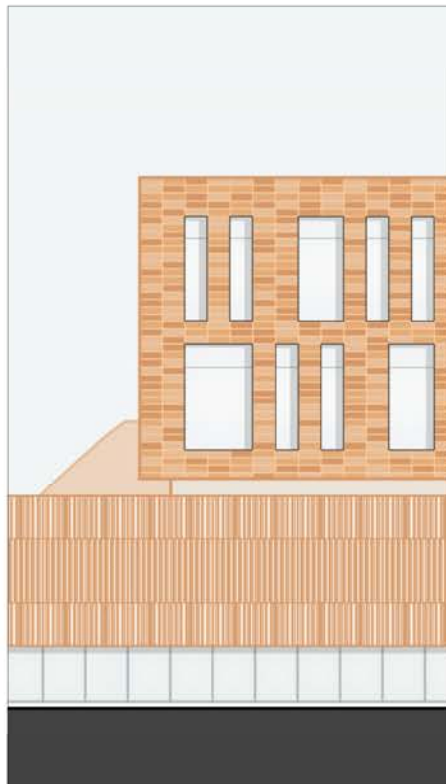
CCOE HEADQUARTERS AND PME
FACILITY



SIGNAL SCHOOL



AUDITORIUM AND FACULTY
OPERATIONS FACILITY



CAMPUS BUILDING CHARACTER

Inspired by Cyber Communication Principles

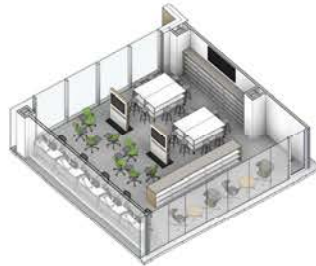
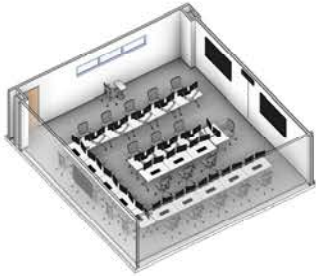
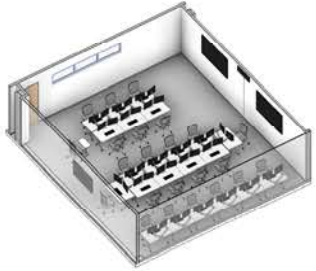


CAMPUS INTERIOR CHARACTER

Inspired by Cyber Communication Principles



LEARNING ENVIRONMENTS



NORTHWEST CAMPUS AERIAL VIEW



APPROACH TO MCA 1



MCA 1 LOBBY



APPROACH TO MCA 2



MCA 2 LOBBY



COMMAND SUITE



APPROACH TO MCA 3



MCA 3 LOBBY



NORTHEAST CAMPUS AERIAL VIEW



CAMPUS QUAD AERIAL VIEW



CAMPUS QUAD PLAZA VIEW



CAMPUS QUAD VIEW



MCA-1 CONSTRUCTION PROGRESS



MCA-1 CONSTRUCTION PROGRESS



MCA-1 CONSTRUCTION PROGRESS



MCA-1 CONSTRUCTION PROGRESS



MCA-1 CONSTRUCTION PROGRESS



MCA 1 & MCA 2 CONSTRUCTION PROGRESS



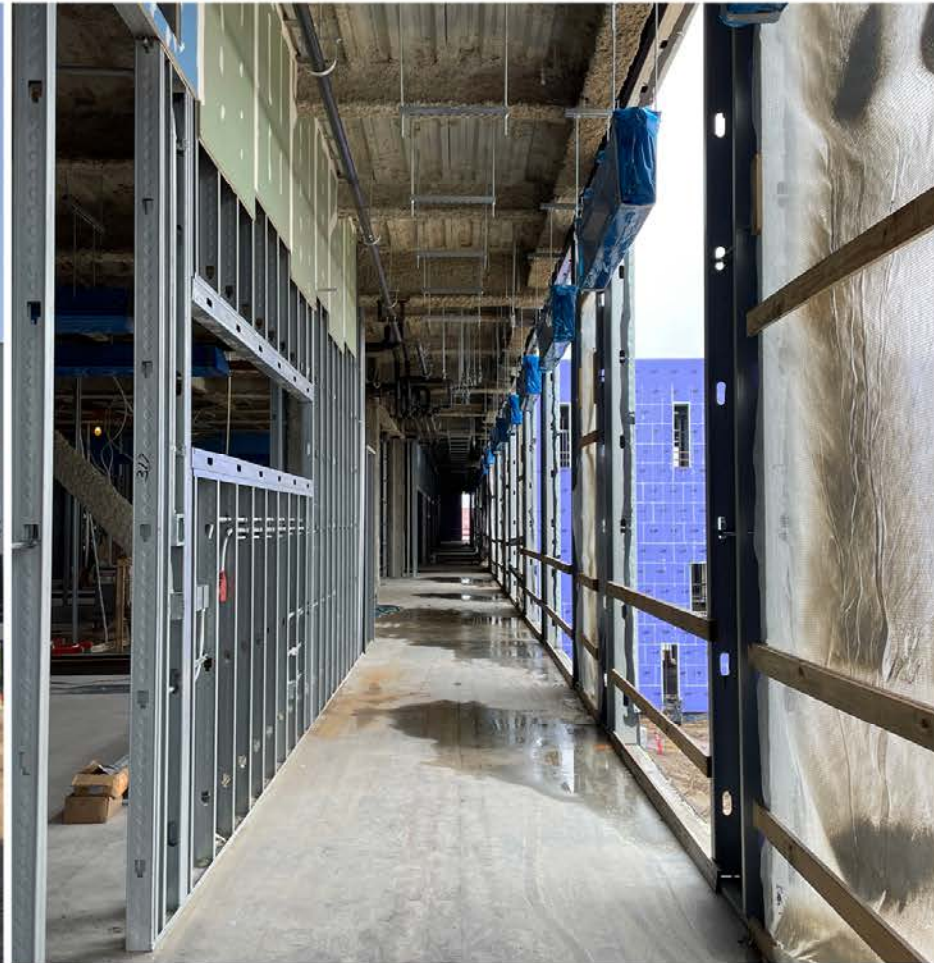
SIGNAL TOWERS DEMOLITION



MCA-2 CONSTRUCTION PROGRESS



MCA-2 CONSTRUCTION PROGRESS



MCA-2 CONSTRUCTION PROGRESS



MCA-2 CONSTRUCTION PROGRESS



MCA-2 CONSTRUCTION PROGRESS



CAMPUS QUAD CONSTRUCTION PROGRESS





TO BE CONTINUED...



Transforming the Cyber Center of Excellence

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