



Executive Director's Recommendation

Commission Meeting: June 6, 2019

PROJECT Naval Support Activity Bethesda, Uniformed Services University of the Health Sciences Education and Research Building Naval Support Activity, Bethesda 8901 Rockville Pike Bethesda, Maryland	NCPC FILE NUMBER 7987 NCPC MAP FILE NUMBER 3101.30(38.00)44934 APPLICANT'S REQUEST Approval of revised preliminary site and building plans
SUBMITTED BY United States Department of Defense Department of the Navy	PROPOSED ACTION Approve revised preliminary site and building plans
REVIEW AUTHORITY Federal Projects in the Environs per 40 U.S.C. § 8722(b)(1)	ACTION ITEM TYPE Open Session

PROJECT SUMMARY

The U.S. Department of the Navy has submitted for Commission review revised preliminary site and building plans for the Uniformed Services University of the Health Sciences (USUHS) Education and Research Building at the Naval Support Activity (NSA) Bethesda in Bethesda, MD. This is the third time that NCPC has reviewed the Education and Research Building. The Commission provided comments on the concept design in June 2018, and approved the preliminary site and building plans in September 2018. The applicant is submitting a revised preliminary design that reflects two changes to the elevated walkways, and other revisions resulting from further project development. Detailed responses were also submitted in response to comments raised by the Commission at the last review. Overall, the responses have clarified the applicant's operational needs and site constraints. The applicant will submit for final review upon completion of environmental and historic preservation compliance.

The project includes the construction of a 477,966 square-foot, multi-story education and research laboratory addition to the USUHS campus. It will serve as a connector between the Armed Forces Radiobiology Research Institute to the west and the USUHS campus to the east through pedestrian bridges, and will include a multi-level underground parking facility that will accommodate 250 parking spaces. The applicant has indicated that the height of the building will be in proportion to its neighbors, and that the building exterior will be compatible with the current campus and installation architectural compatibility guidance.

Two non-historic buildings will be demolished as part of the project, as will an existing surface parking lot. Because of the larger footprint of the proposed development, there will be a net increase of 50,878 square feet of impervious surface, though stormwater impacts would be managed through site design and the implementation of low impact development features, such as bioretention, micro-bioretention, rain gardens, and rooftop disconnection. Any trees that are

removed as part of the project will be replaced at a 1:1 basis, with a majority of the replacement occurring at off-site locations that will be coordinated with NSA Bethesda. The plaza design is also included that will feature benches, planters/stormwater management, green screen walls, and vegetative plantings, which have been expanded since review of the concept design.

This project, including both the building and associated parking facility, was identified as a short-term planned project in the NSA Bethesda master plan, which was approved by NCPC in November 2013 (NCPC File # MP059).

KEY INFORMATION

- The USUHS project includes the construction of a 477,966 square-foot, multi-story education and research laboratory addition to its campus at NSA Bethesda. The project also includes a large plaza that will form a quadrangle with USUHS buildings to the east.
- The building is oriented to address the USUHS campus to the east, both programmatically and through design. Office and work areas are provided along the east side, which is designed with a brick composition consistent with the adjacent campus buildings. The west façade houses labs and research space, and provides additional daylighting, consistent with the goals identified by USUHS staff.
- The quadrangle is the primary pedestrian entrance to the facility, as most users will be coming from the adjacent portions of the USUHS campus to the east. Off-campus pedestrians will primarily approach and access the complex along South Palmer Road, and onto the main plaza.
- The revised plans remove the three-story bridge connector from the plaza, which allows the space to be more open.
- The facility will include a multi-level underground parking facility that will accommodate 250 parking spaces, which falls within the 1:3 parking ratio approved for the facility.
- Two non-historic buildings and a surface parking lot will be demolished as part of the project, with a net increase of 50,878 square feet of impervious surface. Stormwater impacts will be managed through site design and low impact development features.
- The height of the building would be proportionate to its neighbors, and would follow all established architectural design standards for the facility.
- The proposed plaza will include landscaped zones and green spaces, which have been generally expanded since previous reviews. Planting areas for larger shade trees are a challenge because of a radiobiology lab that is planned immediately below the plaza level.

RECOMMENDATION

The Commission:

Approves the revised preliminary site and building plans for the Uniformed Services University of the Health Sciences Education and Research Building at the Naval Support Activity Bethesda.

Notes the applicant has modified the bridge connections with the adjacent buildings: the western bridge connection now occurs on two levels to separately accommodate the safe and efficient transport of both materials and pedestrians; the eastern connection to Buildings 70 and 71 has been eliminated because it is no longer needed.

Notes the applicant has provided detailed responses to the Commission's previous comments regarding a number of issues related to landscaping and building design, which are outlined as follows:

Landscaping

Notes that development constraints on the eastern plaza, including a subsurface radiobiology lab and emergency vehicle access route, limit the amount of additional landscape that can be provided at this location, but that tree planters are proposed in lieu of planting beds.

Finds that the proposed trees on the eastern plaza would not provide adequate shade relief.

Requests that the applicant consider the use of tables, chairs, and either built-in or non-permanent shade structures to provide further seating and shade relief on the eastern plaza.

Building Design

Notes that the applicant has evaluated the building's energy performance extensively and has determined that it exceeds solar heat gain performance criteria. The details of the study are included in the submission. The applicant has indicated that programming objectives require the current building orientation, which optimizes natural daylight for the lab spaces.

Notes that, in addition to the need for natural daylight in the labs, the placement of the offices and lab spaces are dictated by the building program, which requires that the lab spaces are directly accessible to the lab building to the west and that the offices are accessible to the USUHS campus to the east.

Notes that the applicant cannot provide additional access to the building at the bottom of the northwest staircase because this area is needed for mechanical systems servicing the lab space above, but that ground-level access is provided through an elevator in the adjacent parking garage. Pedestrians arriving from the loading dock and smaller parking area at this location can use either the stairs or elevator, but the majority of people using the building will enter via the main plaza.

Notes the applicant will submit the site and building plans for final review upon completion of environmental and historic preservation compliance.

PROJECT REVIEW TIMELINE

Previous actions	June 2018 – Approval of comments on concept design
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	September 2018 – Approval of preliminary site and building plans
Remaining actions (anticipated)	– Approval of final site and building plans

PROJECT ANALYSIS

Executive Summary

Staff has evaluated the revised preliminary site and building plans and finds that the submission largely addresses both official comments and points of conversation provided by the Commission on previous reviews, while continuing to provide enhanced laboratory and support space to help the Uniformed Services University of the Health Sciences (USUHS) effectively meet its mission. The most significant design changes include those to connector bridges, along with other more minor revisions resulting from further project refinement. In addition, the applicant has provided detailed responses to Commission comments, and has indicated that the proposed design changes reflect a better understanding of operational needs and site constraints. Staff acknowledges the challenges of the existing site, and the applicant's need to accommodate and integrate complex program elements into the existing campus. Accordingly, staff recommends that the Commission **approves the revised preliminary site and building plans for the USUHS Education and Research Building at the Naval Support Activity (NSA) Bethesda.**

Analysis

It is important to note that there have been a couple important changes that have influenced the building design in this submission. In previous submissions, a bridge connection was proposed to connect to the adjacent Armed Forces Radiobiology Research Institute (AFRRI) building to the west, which was only intended for the transportation of materials to laboratories—not pedestrians. This connection has been expanded to two levels to accommodate both materials and pedestrians, who will now be able to safely and efficiently access the USUHS building from the AFRRI campus. This modified submission also eliminates a three-story bridge connector that linked the proposed Education and Research Building with the existing USUHS campus at Buildings 70 and 71 to the east. The applicant has determined that a connection between these buildings is not needed programmatically. This revised design also serves to create a more open plaza space.

In its previous review, the Commission generally expressed support for the project design, but requested that the applicant continue to consider opportunities to provide more landscaping on the eastern plaza as site conditions permit. In its open session review, the Commission further noted concerns with solar exposure on the western façade, the building entry sequence from the northwest stairs, and ground level building access from the northwest. The applicant has responded to these concerns, which will be discussed in the analysis below.

Landscaping

In previous reviews, the Commission expressed concerns with the design of the plaza, including large amounts of hardscaping and the lack of vegetation and tree cover for shade. The applicant has indicated that the plaza sits on top of the proposed radiobiology facility, which restricts planter depth and tree heights, but revised its design to add several planter beds to accommodate new vegetation and trees. While the Commission responded favorably to the additional vegetation at preliminary review, it further requested that the applicant continue to consider opportunities to provide more landscape as site conditions permit. The applicant has modified its design in this revised preliminary submission to include five additional planters on the south side of the plaza, four additional planters on the western building terrace, and new trees along South Palmer and University Roads. Certain landscape elements, however, have been eliminated in this submission due to conflicts with underground utilities and biofiltration elements. The applicant has indicated that the current landscape plan reflects the extent of additional landscaping allowed while meeting emergency vehicle access and Anti-Terrorism Force Protection (ATFP) requirements.

While staff believes that the amount of landscaping provided on the eastern plaza is sufficient to break-up the hardscape, landscape interventions alone will not provide adequate shade or seating for an open plaza of this size, especially considering the limitations on planter depth and tree heights. To address outstanding concerns, staff recommends that the Commission **requests that the applicant consider the use of tables, chairs, and either built-in or non-permanent shade structures to provide further seating and shade relief on the eastern plaza.**

Building Design

The Commission expressed general support for the building design on previous reviews, but noted concerns related to solar exposure on the western façade, the building entry sequence from the northwest stairs, and ground level building access from the northwest. Further, the Commission requested that the applicant consider whether a building layout that placed the labs on the western side of the building was appropriate given the level of solar exposure. The applicant has provided a series of narrative explanations that respond to these concerns.

In preliminary review, the applicant clarified that the glazing system on the western façade includes both transparent glazing and spandrel panels to reduce the infiltration of direct sunlight, creating a window-to-wall ratio of 50%. The Commission continued to question whether the system was adequate to manage solar exposure, and further considered whether the eastern and western façades should be reversed—with the brick façade and smaller office windows on the west and the brighter laboratories spaces to the east. The applicant has noted in this submission that the placement of these functions is a requirement of the existing campus layout, specifically stating that the labs on the western side connect to complementary uses at the AFRRRI to the west, and the offices on the eastern side connect to complementary uses at the Uniformed Services University to the east. Further, they have indicated that continued concerns related to solar heat gain on the western façade should be adequately addressed by the glazing system, which has been extensively evaluated for energy performance and exceeds solar heat gain performance criteria. Staff believes that the applicant has provided sufficient information to support the current orientation of the

building faces, as well as the continued use of glass on the western façade. The applicant has indicated that programming objectives require natural daylight for the lab spaces.

While the Commission noted that the building access at the northwest stairs has improved from concept to preliminary reviews, concerns were raised regarding the overall “back-of-house” feel and number of stairs, specifically asking whether ground-level building access could be provided at this location. The applicant has indicated that the multi-story stair functions mostly as an egress stair, and that building access from the northwest will be minimal because of the existing pedestrian network, though some will likely access the building from the relatively few on-street parking spaces along Stone Lake Road. They further indicated that direct ground-level access cannot be provided at this location because it contains mechanical equipment that serves the laboratory spaces, though pedestrians can access the building at the ground-level through an elevator in the adjacent parking garage.

CONFORMANCE TO EXISTING PLANS, POLICIES AND RELATED GUIDANCE

Comprehensive Plan for the National Capital

NCPC staff has reviewed this proposal for compliance with relevant guidance and has determined that it is not inconsistent with the policies established in the Federal Elements of the *Comprehensive Plan for the National Capital*. In particular, the project is supported by policies in the Federal Workplace, Federal Environment, and Urban Design Elements.

National Historic Preservation Act

While there are a few archeological sites at NSA Bethesda, none of them are within the boundaries of the proposed project. The adjacent AFRRI is eligible for listing on the National Register of Historic Places. The applicant has indicated that consultation has been initiated with the Maryland Historical Trust (SHPO) under Section 106 of the National Historic Preservation Act (NHPA) to determine any potential effects on AFRRI or any other historic properties, and that a finding of no adverse effect is anticipated. A copy of the SHPO concurrence will be attached to the final submission. Because it is advisory in review of projects in the environs, NCPC does not have an independent responsibility to comply with NHPA.

National Environmental Policy Act

The proposed project was analyzed in the environmental impact statement that was prepared for the facility master plan in July 2013, and no adverse conditions were identified as a result of the project. Changes to the project scope have necessitate supplemental National Environmental Policy Act (NEPA) compliance, which will be completed through an environmental assessment (EA) that is currently underway. The Finding of No Significant Impact will be provided with the final submission. Because it is advisory in review of projects in the environs, NCPC does not have an independent responsibility to comply with NEPA.

ONLINE REFERENCE

The following supporting documents for this project are available online at www.ncpc.gov:

- Project Synopsis
- Submission Materials

Prepared by John Gerbich
05/30/2019

ATTACHMENTS

- PowerPoint
- Submission Narrative/Response to Comments

Naval Support Activity Bethesda Uniformed Services University of the Health Sciences Education and Research Building

8901 Rockville Pike
Bethesda, MD

Approval of Preliminary Site and Building Plans

United States Department of Defense

Project Summary

Commission Meeting Date: June 6, 2019

NCPC Review Authority: N/A

Applicant Request: Approval of Preliminary Site and Building Plans

Session: Consent Calendar

NCPC Review Officer: John Gerbich

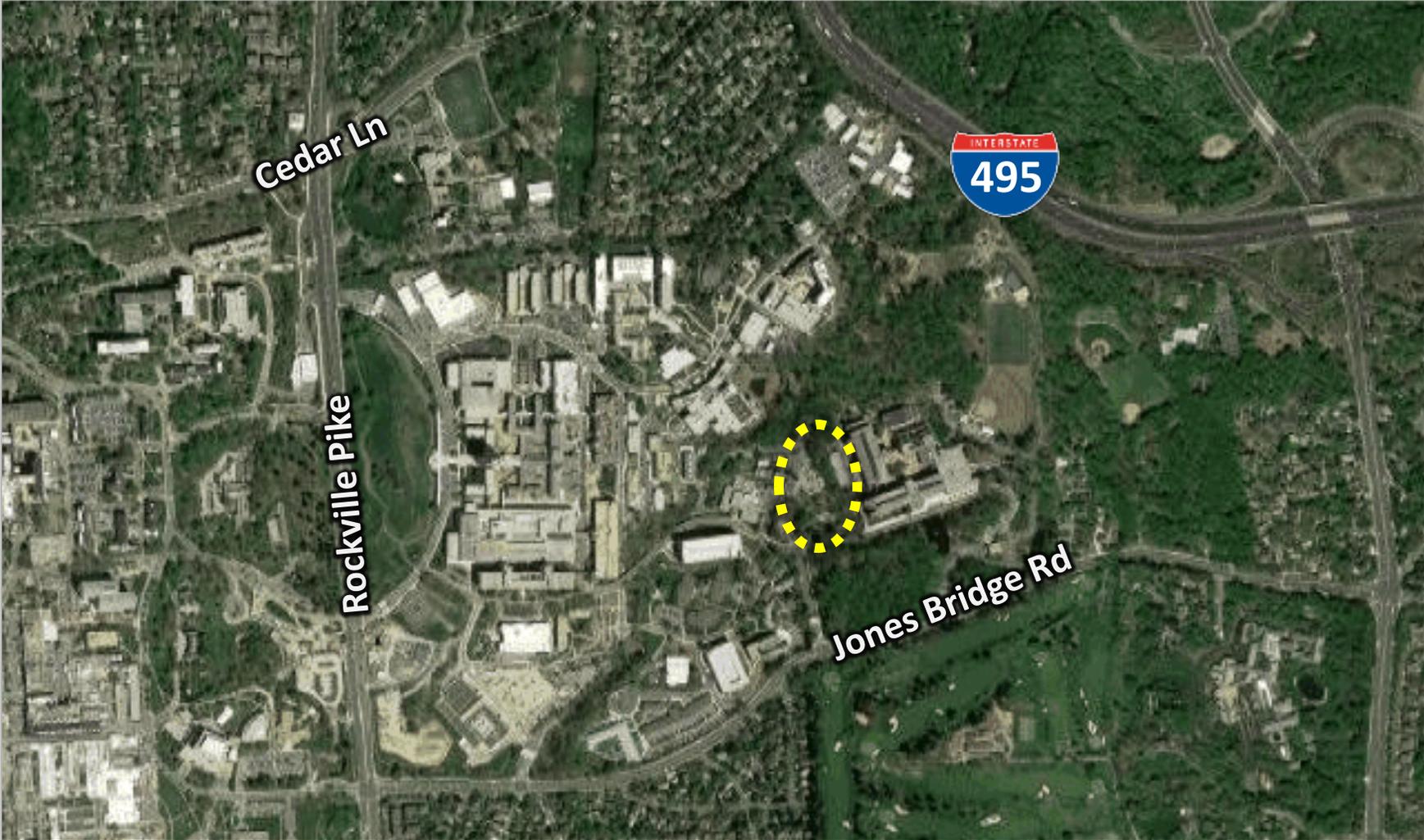
NCPC File Number: 7987

Project Summary:

The U.S. Department of the Navy has submitted for Commission review final site and building plans for the Uniformed Services University of the Health Sciences (USUHS) Education and Research Building at the Naval Support Activity (NSA) Bethesda in Bethesda, MD. The project was reviewed as a concept in June 2018 and received preliminary approval in September 2018, though the Commission indicated outstanding concerns with the design at that time. The applicant had developed this revised preliminary submission to respond to those concerns. Plans include the construction of a 477,966 square-foot, multi-story education and research laboratory addition to the USUHS campus. It will serve as a connector between the Armed Forces Radiobiology Research Institute to the west and the USUHS campus to the east through a pedestrian bridge. It will include a multi-level underground parking facility that will accommodate 250 parking spaces. The applicant has indicated that the height of the building will be in proportion to its neighbors, and that the building exterior will be compatible with the current campus and installation architectural compatibility guidance.

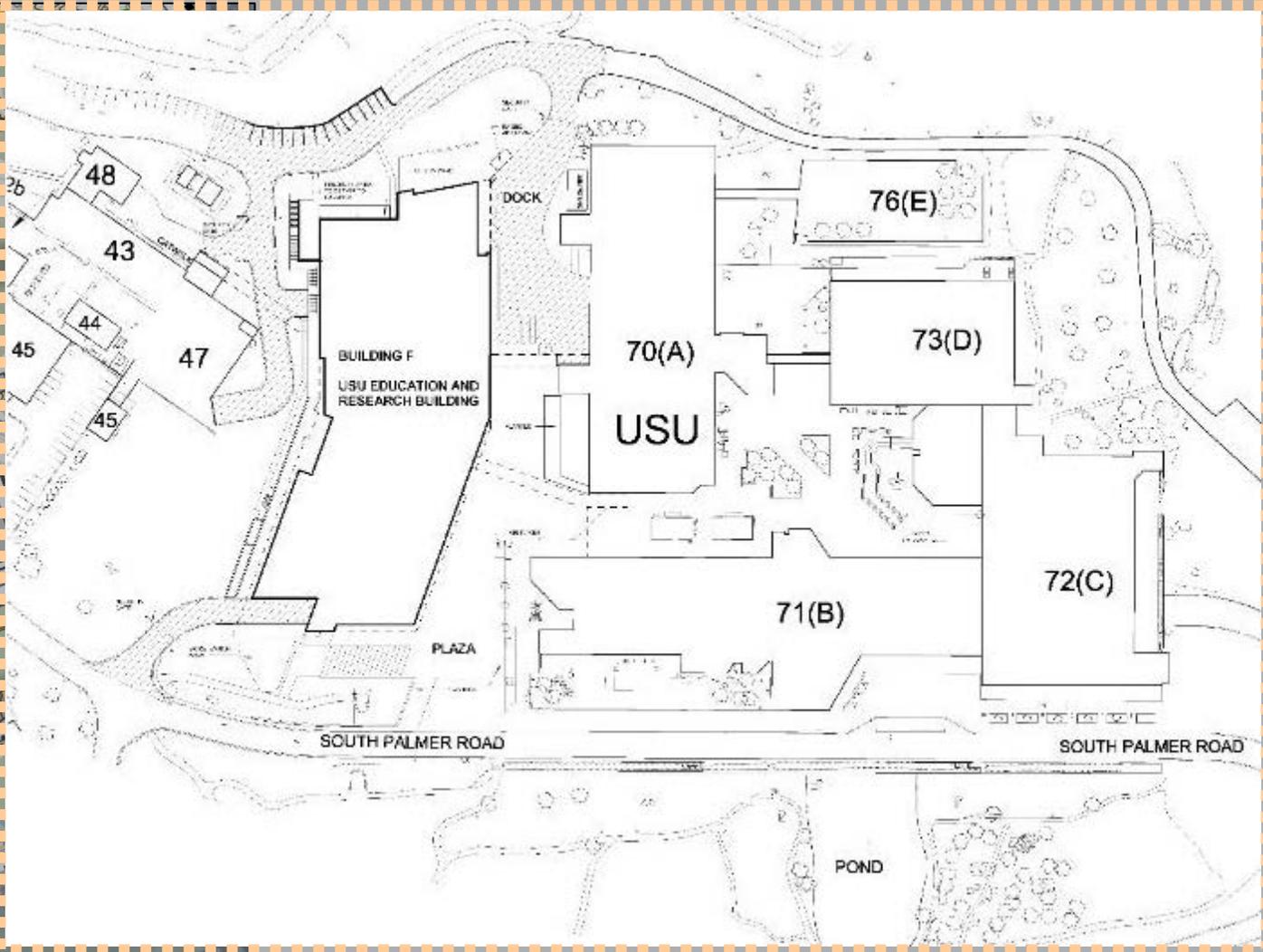
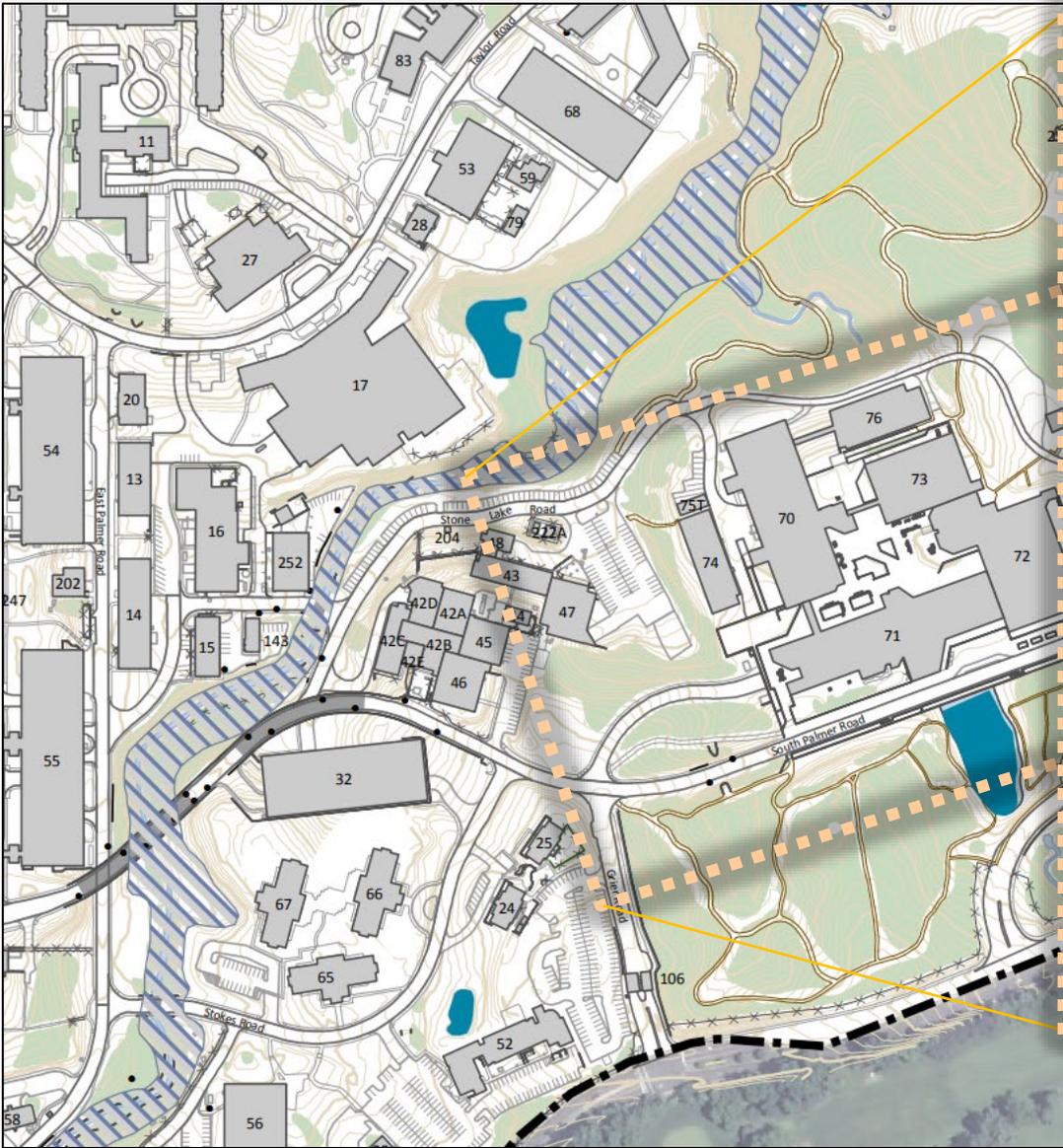
Two non-historic buildings will be demolished as part of the project, as will an existing surface parking lot. Because of the larger footprint of the proposed development, there will be a net increase of 50,878 square feet of impervious surface, though stormwater impacts would be managed through site design and the implementation of low impact development features. The plaza design is also included that will feature benches, planters/stormwater management, green screen walls, and vegetative plantings.

Site Location

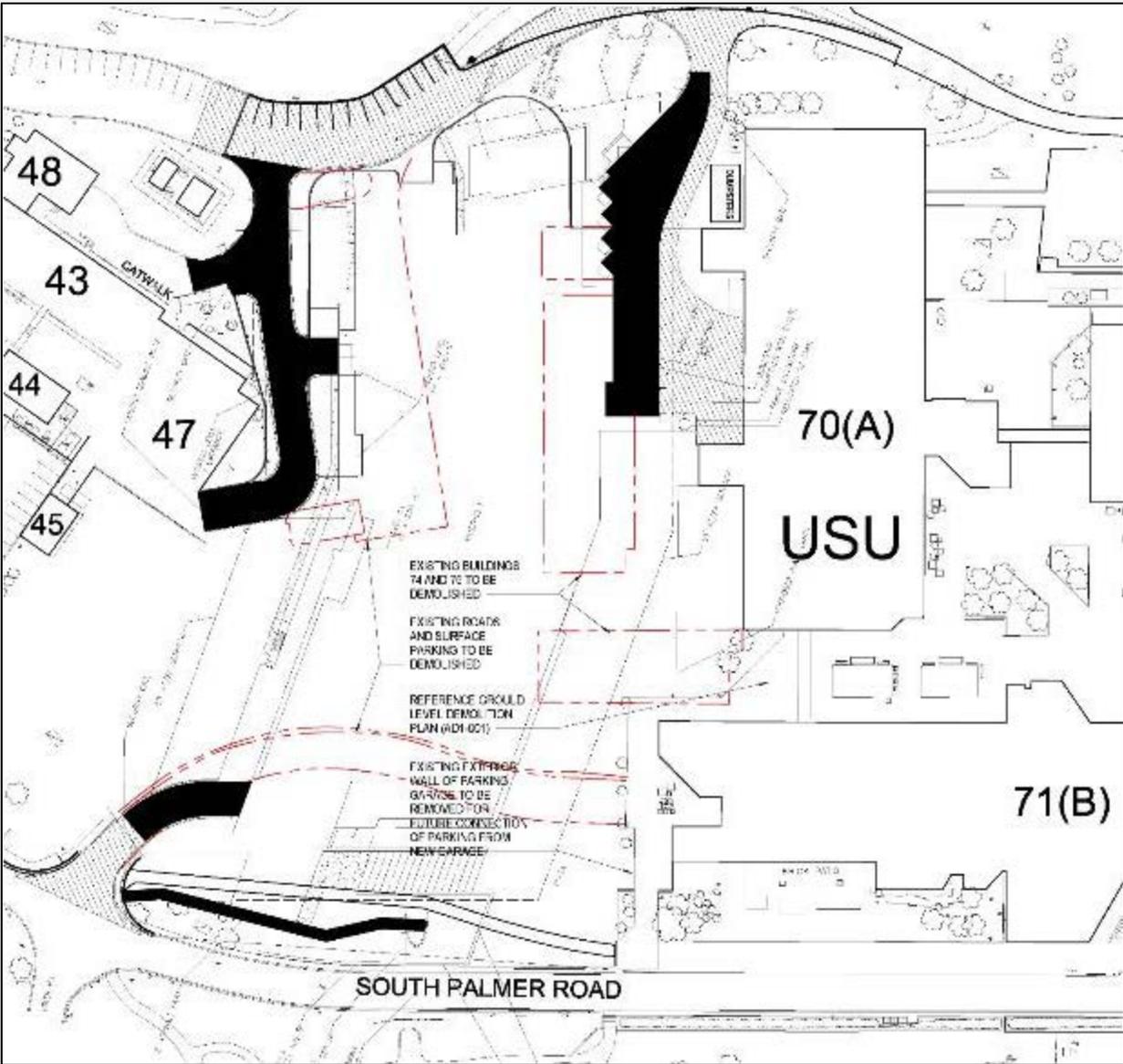


Location Map

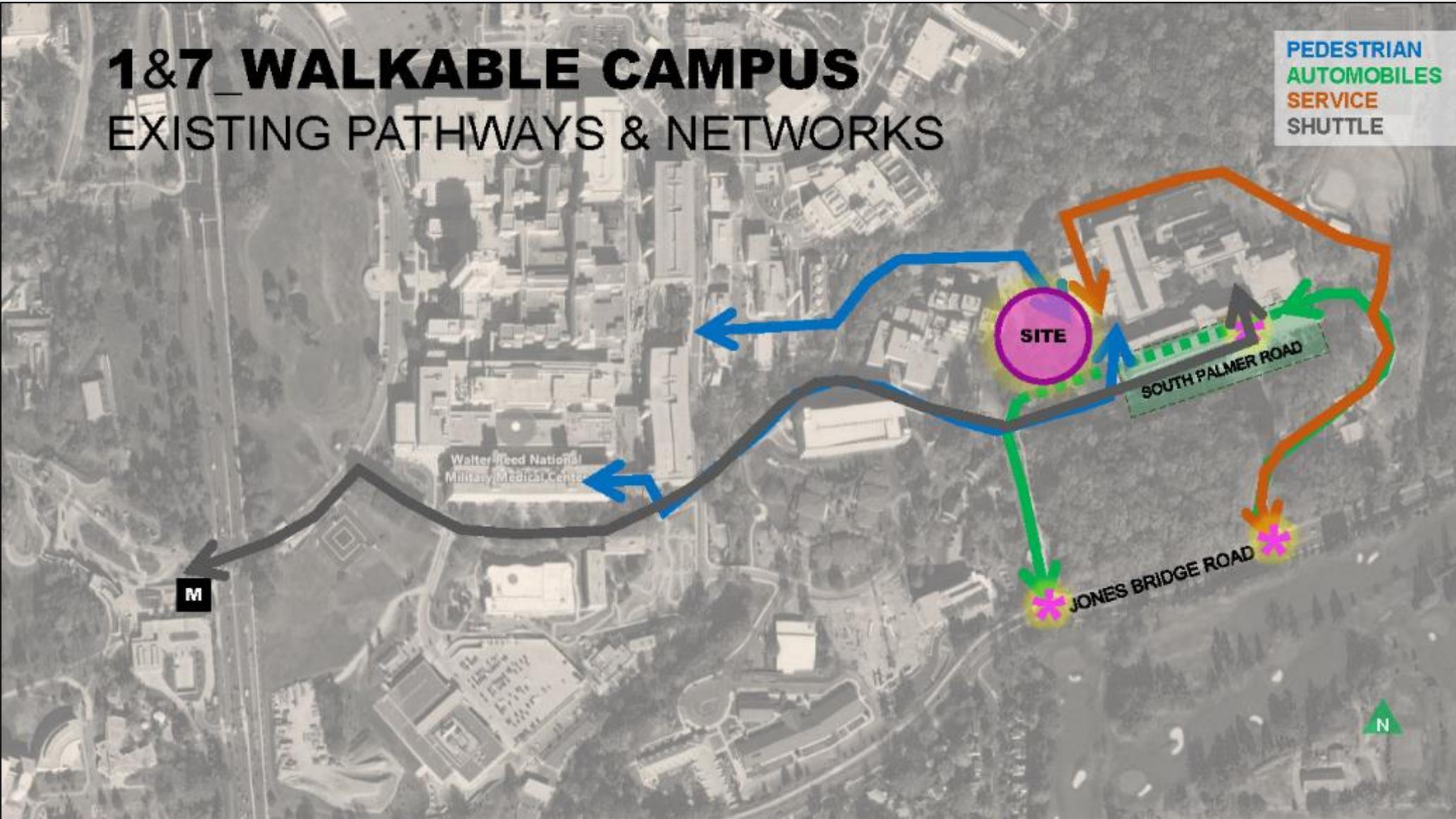
Existing Conditions and Site Plan



Demolition Plan



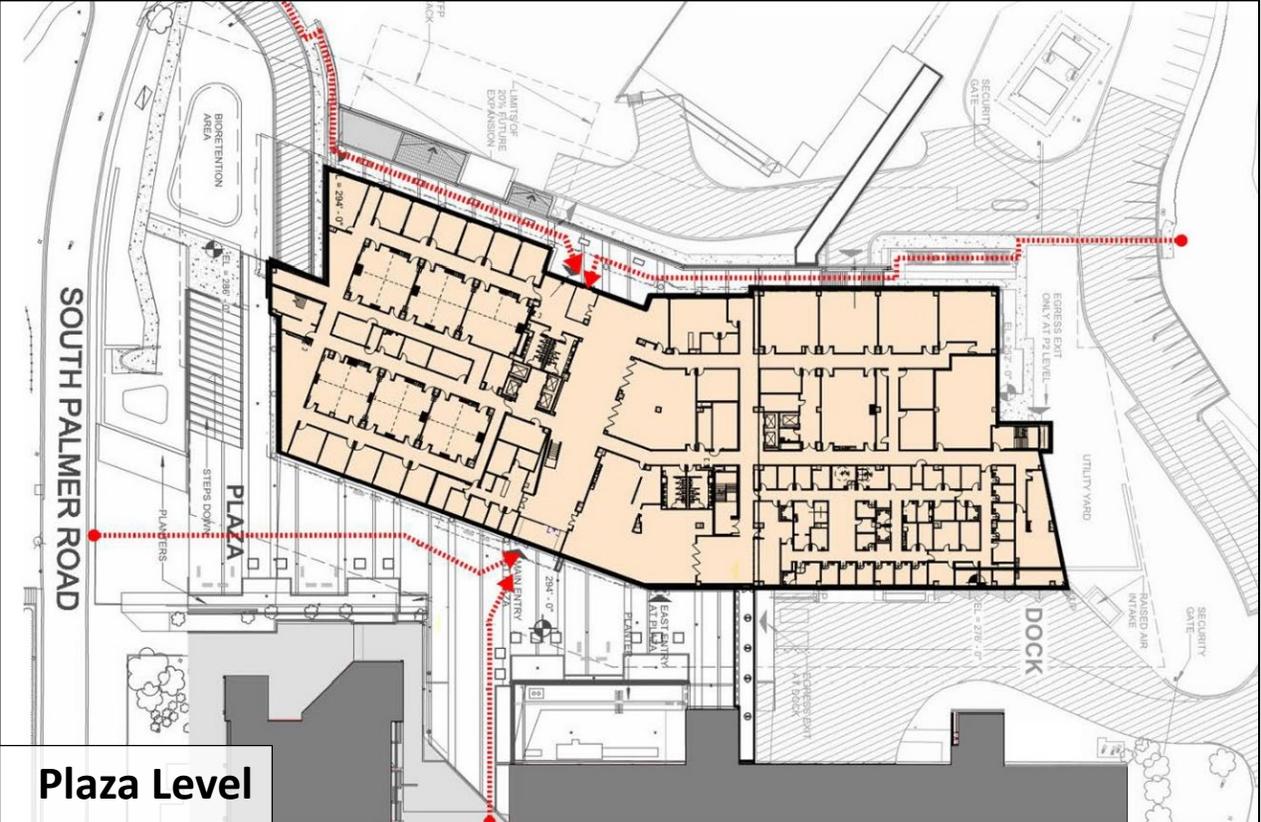
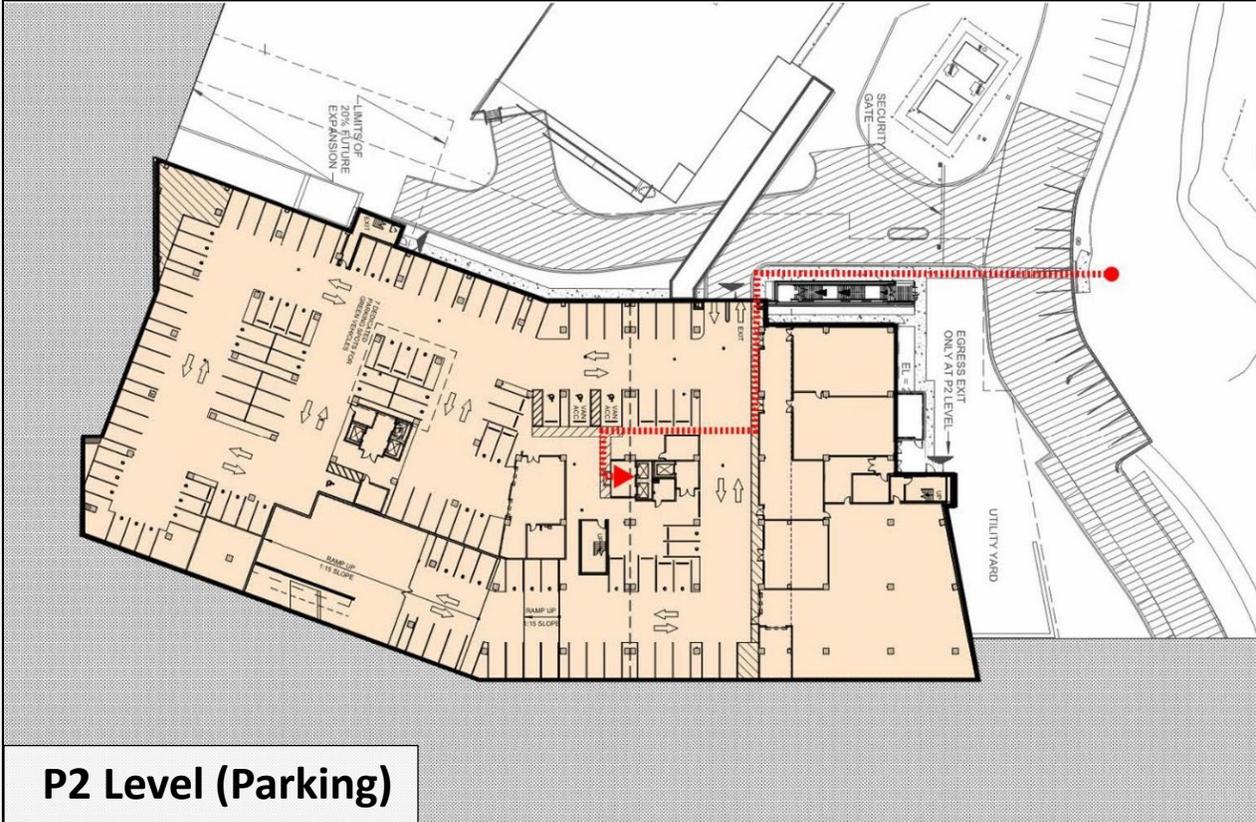
Pathways and Networks



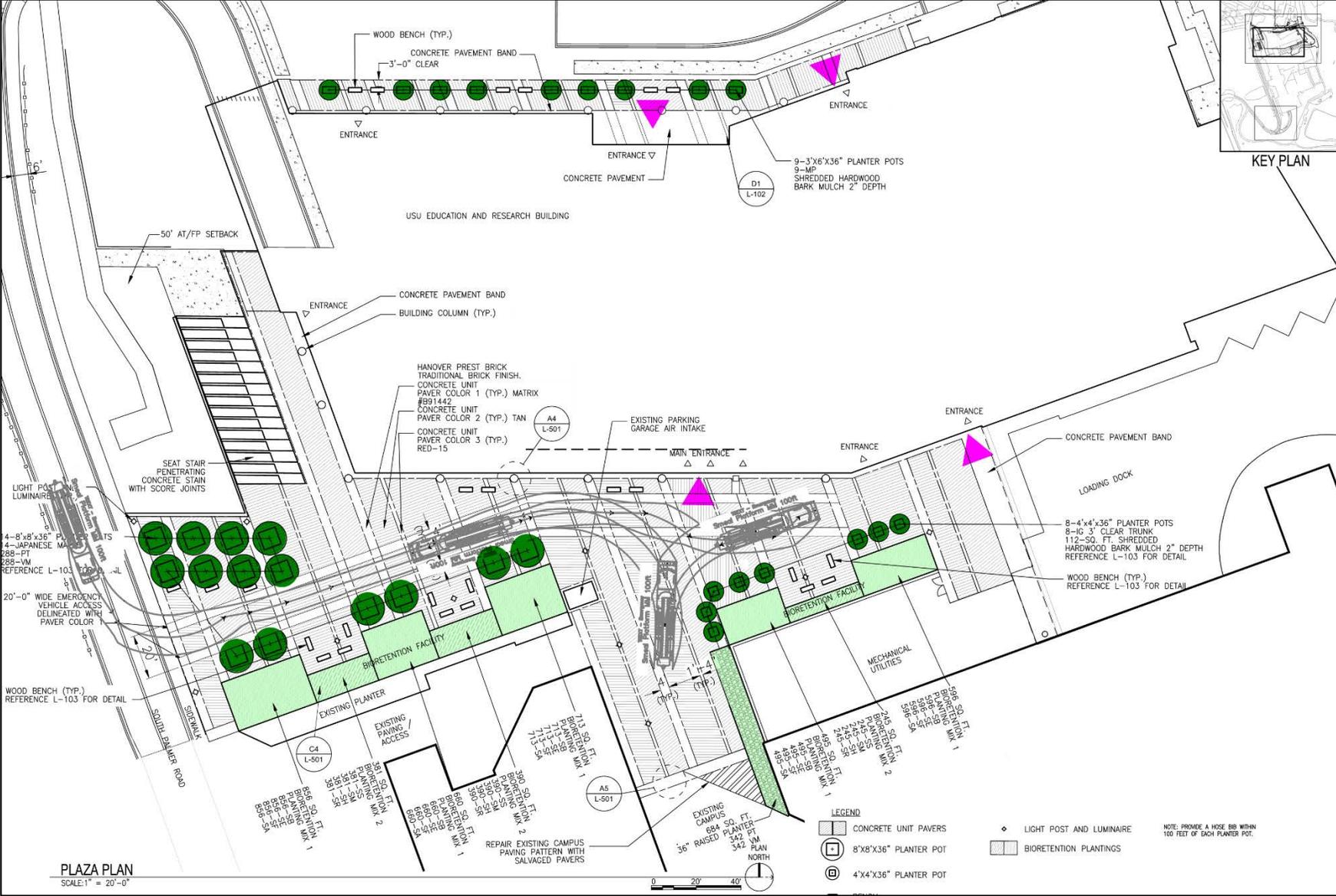
Pathways and Networks (Area)



Pedestrian Access



Landscape Plan



Landscape Plan – Rendering

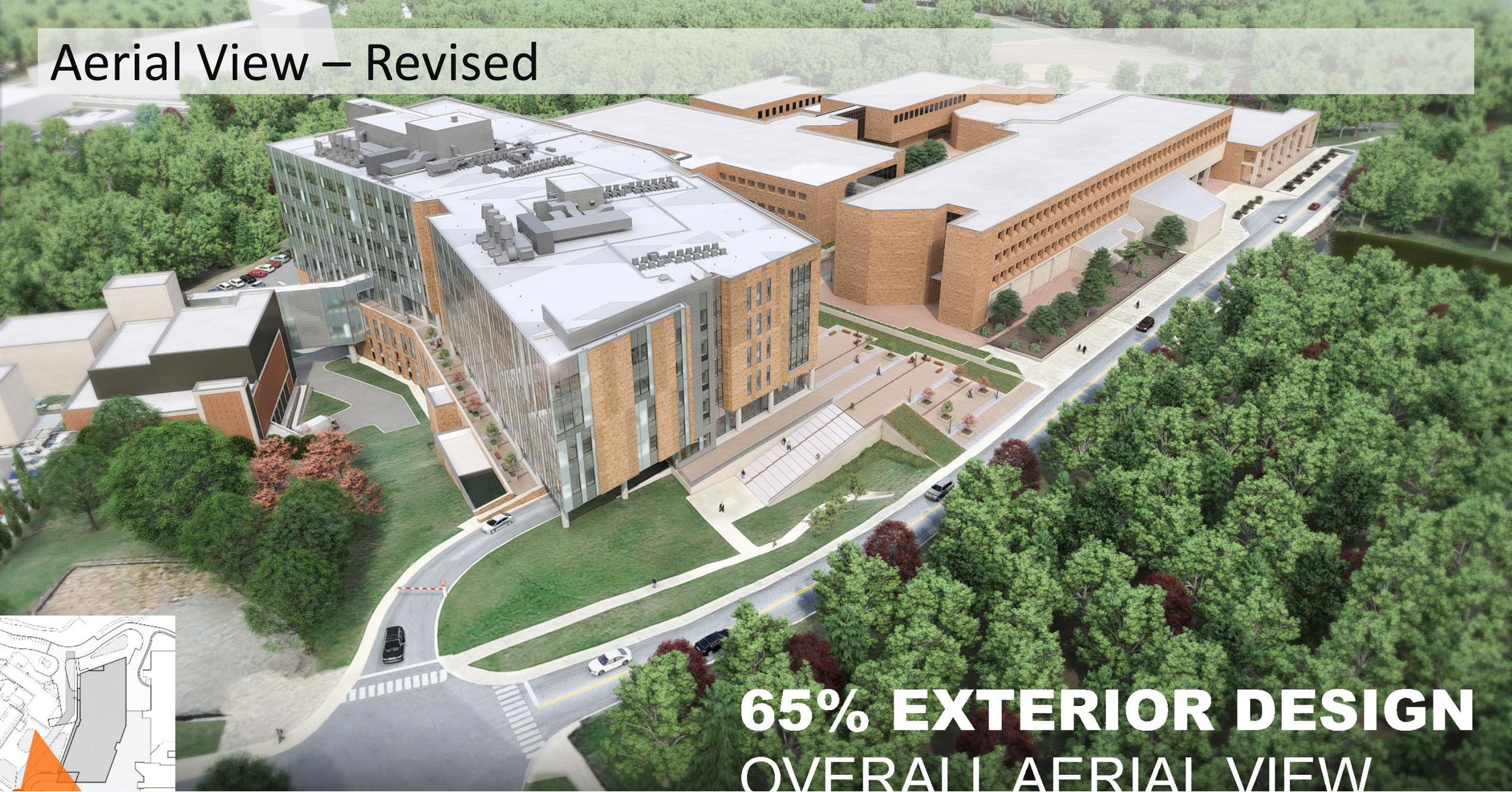


Aerial View – Preliminary



**35% EXTERIOR DESIGN
OVERALL AERIAL VIEW**

Aerial View – Revised



**65% EXTERIOR DESIGN
OVERALL AERIAL VIEW**

35% EXTERIOR DESIGN APPROACH ON S.PALMER

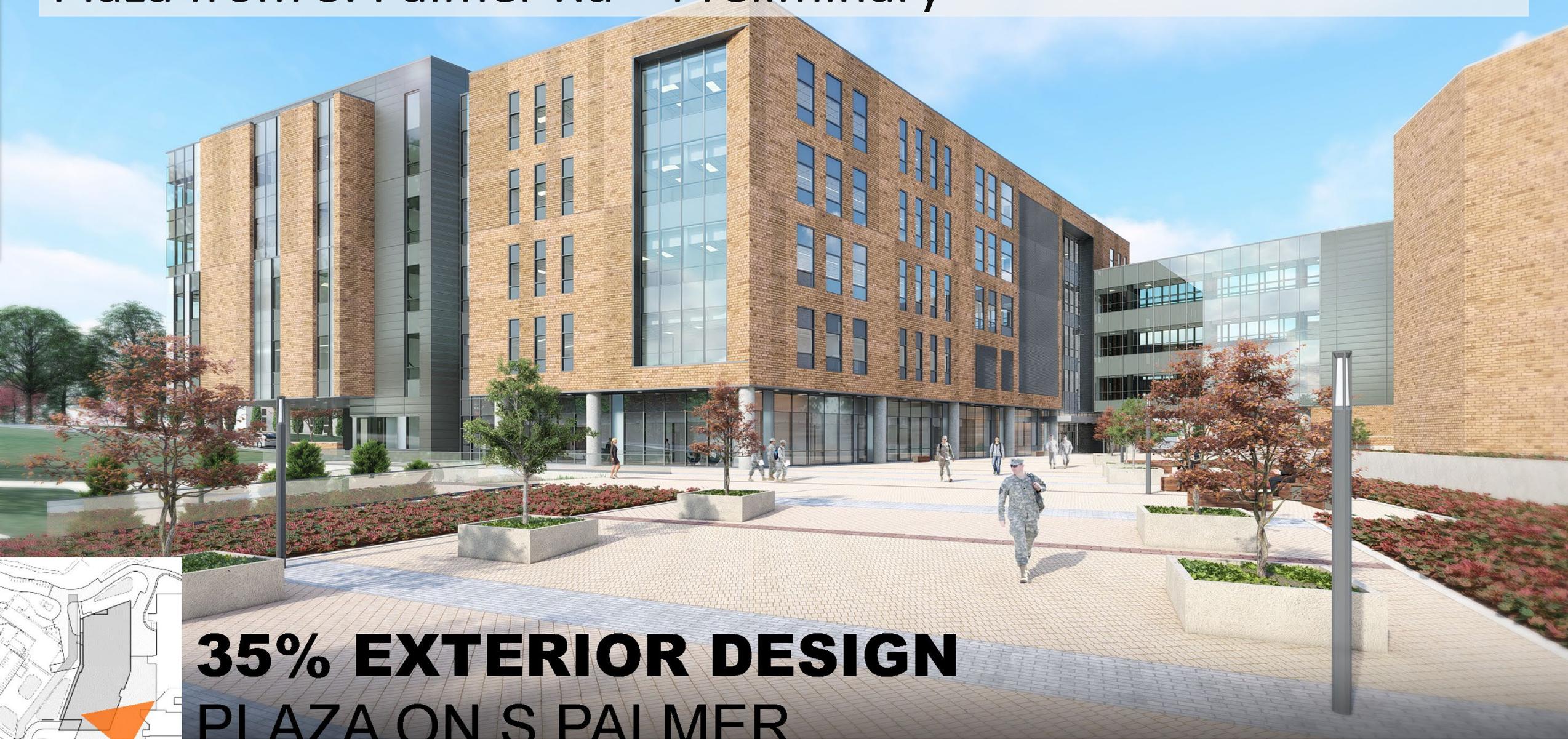


Approach from S. Palmer Rd - Preliminary



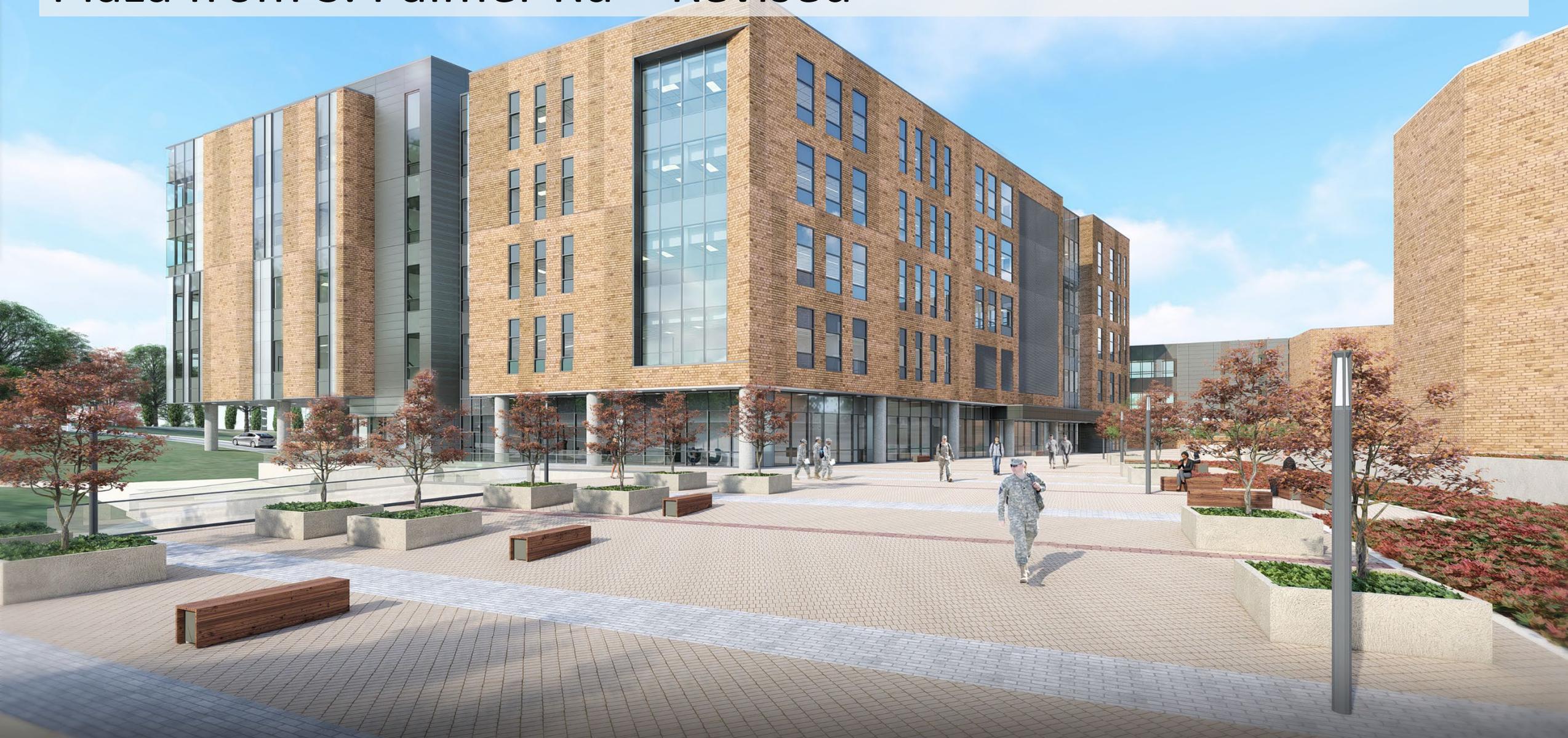
Approach from S. Palmer Rd – Revised

Plaza from S. Palmer Rd – Preliminary



35% EXTERIOR DESIGN
PLAZA ON S PALMER

Plaza from S. Palmer Rd – Revised

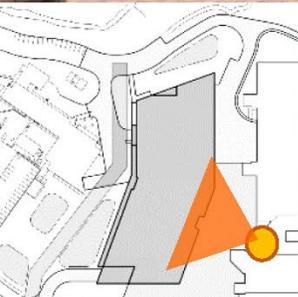


Entrance from USU Campus – Preliminary



35% EXTERIOR DESIGN
ENTRANCE FROM USU CAMPUS

Entrance from USU Campus – Revised



65% EXTERIOR DESIGN
ENTRANCE FROM USU CAMPUS

View on Stone Lake Rd – Preliminary



**35% EXTERIOR DESIGN
VIEW ON STONE LAKE RD**

View on Stone Lake Rd – Revised



**65% EXTERIOR DESIGN
VIEW ON STONE LAKE RD**

West Elevation



National Capital Planning Commission Project Narrative

Uniformed Services University of Health Sciences Research Building
NSA Bethesda, Maryland

This Project Report has been prepared regarding the Uniformed Services University of Health Sciences Research Building at NSA Bethesda in Bethesda, Maryland. This report has been prepared for the submission of this project to the National Capital Planning Commission (NCPC) for Preliminary review.

Points of Contact

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Nik Tompkins-Flagg, (202) 685-8437, nicole.tompkins-flagg@navy.mil, NAVFAC NCPC rep

Background

This project will construct a multi-story education and research laboratory addition to the Uniformed Services University of Health Sciences (USUHS) campus on the grounds of the Walter Reed National Military Medical Center, Naval Support Activity Bethesda, MD. The project will serve as a connector between the western and eastern portions of the campus. This project was previously reviewed by the Commission as Concept in June 2018, and for Preliminary in September 2018. This narrative will outline how the project has progressed since the previous submission, and address the Commission's previous comments.

Total Area of Site

The total area of the site is approximately 5.69 acres.

Area of Building(s) and Site Coverage

The Education & Research Laboratory Addition will be 477,966 GSF with an additional 125,660 GSF underground parking garage (250 spaces). The project also includes demolition of Buildings 74 and 75 (15,737 SF).

Schedule for Construction and Occupancy

The design portion of the project was initiated in September 2017. Construction was estimated to begin in 2020 with completion and occupancy in 2023. However, due to the amount of construction ongoing at NSA Bethesda as a result of the hospital renovation/expansion, construction of this building will be phased in order to better accommodate traffic impacts. Construction is still anticipated to begin in 2020 with completion and occupancy in 2025.

Employment

The current on-base staff of USUHS is 1,444. After completion of the new building, an additional 327 staff will be relocating from satellite facilities to the new building, bringing the staff to 1,771. In addition to the staff, there are 1,023 students already at the USUHS campus. There is only nominal projected growth of the student population.

Relationship to Master Plan

The Building F MILCON was listed as a Short-Term planned building project in the 2013 NSA Bethesda Master Plan, including the renovation of existing USU buildings, and new construction of Building F and the parking structure. In the master plan the planned parking structure was 400 spaces. Since that time, the determination was made to take 150 spaces away from this structure

and use the spaces in the newly constructed medical center parking garage. Therefore, the total spaces for those two parking structures remains the same as outlined in the master plan, but the medical center garage now has 650 spaces, and the Building F structure would have 250. Therefore, the net change to the number of spaces installation-wide remains the same as outlined in the Master Plan.

Transportation Management Program

There are currently 1,028 parking spaces for the entire USUHS campus. The site on which Building F will be constructed contains 44 surface parking spots which will be demolished for construction of the building. As noted above, the new parking structure beneath Building F will contain 250 spaces. Therefore, the net increase to the USUHS campus is 206 spaces. A traffic study will be conducted along with the EA for this project. Copies of the traffic study will be included with subsequent submissions of this project.

Responses to Previous Commission Comments

Unofficial Comments

- 1. NCPC staff is generally on board with the design and recognized that we have made an attempt to incorporate their previous comments. The staff requests that we continue to consider opportunities to provide more landscaping on the plaza as site conditions permit in order to make it more of a gathering place rather than just a pass-through.*

This plaza is an extension of the existing plaza and has been designed in that context with similar seating and landscape for an integrated campus design. Gathering space has been designed to be open, so that flexibility is provided to the end users for differing and varied events. Also, due to ATRP restrictions along with the ability to provide fire and emergency vehicular access, the plaza has been designed with a strategic amount of seating and planters on the East side of the new building. Seating and planters have been added along the West side of the new building to encourage greater use of that space. The original design had a bridge connector close to the East Entry that was to connect to Buildings 70(A) and 71(B). This connector bridge was removed at the request of USU to allow the more open plaza concept between buildings. The size of the three-story connector took away from the openness of the plaza and blocked the view of the new building from the rest of the USU existing campus.

- 2. The Commission has expressed concern with the design of the building, specifically, in regard to the amount of glass and solar heat gain on the western façade. There was a suggestion to switch the eastern and western façades.*

The placement of the offices and work areas on the east façade and the labs on the west façade meet the functional requirement of the university, while maintaining critical horizontal connections to the existing USU campus on the East, and the existing research and AFRRI buildings to the west. One of the primary goals of the USU staff, from the beginning of the design process, was to increase daylighting for the occupants of all research labs.

Extensive energy and daylighting modeling performed by the design team provided design guidance which supports user comfort while meeting accepted energy goals. All of the glazing

on the project has been evaluated for energy performance and exceeds baseline solar heat gain performance criteria.

The labs on the west are clad with a combination of vision, translucent and spandrel glass which supports the user needs of maximizing natural daylight in the labs while minimizing glare and heat gain. The vision to spandrel glass percentage ratio is approximately 50/50.

3. *Why make the western elevation look like a façade when it is essentially “back of house;” where is the main entrance?*

There is no “back of house” in this design. The west façade was designed to read as a façade since it faces most of the Walter Reed campus, serves as the connection to the AFRRRI campus, and is the first view of USU upon approach from Grier and S. Palmer Roads. Therefore, the western elevation becomes the new face of the university campus. The design of the western elevation is informed by the user’s need for natural daylight in the labs, which is the primary function of the western half of the building. The “back of house” functions on the western elevation (such as mechanical equipment and loading dock) are at ground level only, and relate to the locations of the laboratories rather than to this elevation being a backside of the building.

The main pedestrian entrance is on the east elevation which forms the connection to the existing USU campus. The majority of pedestrian traffic coming into the building will be coming from the rest of USU campus rather than from other areas of the installation. Pedestrian traffic between USU and AFRRRI will use the two-story connector between the new building and Building 47 of the AFRRRI campus. The bridge connector to AFRRRI has been changed from one story to two stories. This will allow transportation of materials between the buildings on the lower level of the bridge and pedestrian traffic flow between buildings on the upper level.

4. *NCPC recognizes façade improvement at the NW stairs area and has no further comments regarding materials. However, NCPC staff feels the multi-story stairs giving access to the building from Stone Lake Road, the multi-story screen-wall adjacent to NW stairs seems at odd. What is the purpose of stairs at NW corner?*

The stairs primarily function as an egress, but also serve as access for the minimal pedestrian traffic from Stone Lake Road to the plaza level, by going through the public space of the new building on level 01. The multi-story screen wall at the stair is provided to allow for clearance off the exhaust louvers at the building in that location.

5. *NW corner of building lacks access to the building at ground level. Consider evaluating pedestrian path from roadway to building.*

The ground level is intentionally not for public access due to the location of the garage and mechanical equipment serving the laboratories. The majority of traffic from the north side of the building will be vehicular traffic with minimal anticipated pedestrian traffic coming from the parking spaces. These pedestrians can use the exterior stair or can enter the parking garage to use the elevator.

6. *Have the architect at the next meeting to justify the design comments noted above.*

Confirmed to have one representative from the JV team to attend meeting, explain design, and answer any board member questions.

Environmental Documentation

An Environmental Impact Statement (EIS) was conducted in July 2013. The proposed project was included in that EIS; no adverse conditions were identified as a result of this project. Changes to the project scope, in addition to an accelerated construction timeline, has warranted a separate NEPA analysis to address the proposed USUHS expansion. The EA effort is under way, and NCPC has been invited to submit comments on the Draft EA. The FONSI will be provided with the final submission for this project.

Historic Preservation Documentation

While there are a few archaeological sites at NSA Bethesda, none are within the boundaries of the proposed project. The USUHS campus is adjacent to the AFRRI complex, which is eligible for the National Register of Historic Places (NRHP) based on its contributions to medical research. The Section 106 process will be conducted through the NEPA initiative, and therefore will have a public participation component. Section 106 consultation has been initiated with the Maryland Historic Trust (SHPO). No Adverse Effect is anticipated. A copy of the SHPO concurrence will be attached to the final submission of this project.

Floodplain Management and Wetlands Protection

The project area is located outside of the 100-year floodplain; therefore, floodplain management is not required.

A wetland Jurisdictional Determination (JD) has already been completed and is current for the project area. Wetland impacts are not anticipated, but may occur due to the required outfall repairs. If it is determined that wetland impacts will occur, a “Joint Federal/State Application for the Alteration of any Floodplain, Waterway, Tidal or Non-tidal Wetland in Maryland” will be completed and submitted to Maryland Department of Environment (MDE) for approval, and a Letter of Authorization will be issued. Coordination will be required with Naval Support Activity Bethesda’s Installation Environmental Programs Division which is responsible for the base’s compliance with the National Pollutant Discharge Elimination System (NPDES) State and Federal Small Municipal Separate Storm Sewer System (MS4) Discharge Permit and provides environmental support to construction projects on base.

Wetlands will be protected from construction impacts using approved Erosion and Sediment Control techniques. An Erosion/Sediment Control and Stormwater Management Plan Approval is required from MDE. All erosion and sediment control principles, methods and practices will be designed in accordance with the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control, and the Sediment and Stormwater Procedures Manual for State and Federal Projects, and constructed according to the final plan approved by the Sediment and Stormwater Plan Review Division of MDE.

Executive Order 13514 and EISA, Section 438

Department of Defense (DoD) regulations specify that the project is to determine pre-development hydrology based on site-specific conditions and local meteorology by using the 95th percentile storm. The project must identify the pre-development condition of the site and quantify the post-development runoff volume and peak flow discharges that are equivalent to pre-development conditions. The post-construction rate, volume, duration and temperature of runoff must not exceed the pre-development rates.

Stormwater management will be implemented to replicate the pre-development hydrology through site design, Low Impact Development (LID) features and other appropriate practices to the maximum extent technically feasible. Due to the site constraints, additional structural practices will need to be implemented to capture the required volume not treated by LID features. Due to limited open space, structural practices that implement underground detention must be considered.

LID features include:

- Bioretention
- Micro-Bioretention
- Rooftop disconnect

Structural features include:

- Underground Sand Filter

More information on these measures will be available as the project design progresses.

ATTACHMENTS:

Attachment A: USUHS Building F 65% Drawings

Attachment B: Design Changes Presentation