

National Capital Planning Commission

Preliminary Project Report

for

P250 Biomolecular Science and Synthetic Biology Laboratory

Naval Research Laboratory, DC

This report has been prepared regarding the P250 Biomolecular Science and Synthetic Biology Laboratory project at the Naval Research Laboratory in Washington, D.C. for the submission of this project to the National Capital Planning Commission (NCPC) for Preliminary review.

PROJECT OVERVIEW

Project Contacts

Mr. Richard Brown, CNIC NDW Liaison to NCPC

Project Description

P250 constructs an approximately 89,000 square foot (SF) Biomolecular Science & Synthetic Biology Laboratory within the U.S. Naval Research Laboratory (NRL) installation fence line. The building will include laboratories, equipment spaces, offices and support spaces, storage spaces, receiving areas, and mechanical equipment penthouse. Two 144 SF existing storage buildings (205 & 206) will be demolished and replaced in-kind nearby. The project also includes demolition of an existing building (34) to slab-on-grade, with infill construction of the adjacent building (53) at the locations where the two buildings were connected. Demolition of building 34 will be completed to partially offset the footprint of the new building. The project does not include the acquisition of additional land or new site. Coordination with Federal, State, and local jurisdictions for the planning and execution is ongoing.

Agency Description

The NRL is a scientific and engineering command dedicated to research that drives innovative advances for the U.S. Navy and the U.S. Marine Corps. NRL is the Department of the Navy's corporate laboratory and reports to the Chief of Naval Research. As the Navy's corporate laboratory, NRL is the principal in-house component in the Office of Naval Research's (ONR) effort to meet its science and technology responsibilities, including in the Bio/Molecular Science and Engineering field. Aside from the United States Department of Navy (DON), NRL conducts research in connection with other Federal agencies and military organizations. NRL requires modern, efficiently configured, and adequately sized laboratories to meet its mission.

NCPC Plan Compliance Summary

In general, the project is consistent with the National Capital Planning Commission (NCPC) Comprehensive Plan and submission requirements. The selected project location aligns with the agency's planning principles as it supports a continuing federal mission in a previously developed parking area within an established Federal installation rather than requiring land acquisition or expansion of the campus footprint. The project site was selected through evaluation of alternatives that considered flood risk, operational compatibility, security setbacks, and effects on historic and landscape resources. The project also incorporates measures intended to align with NCPC planning objectives related to environmental stewardship and context-sensitive development, including stormwater management, tree replacement and native planting, flood-resilient design, coordination with DC SHPO through the Section 106 process, and continued review with NCPC and CFA. Overall, the project represents a balance between modern design practices and current directives while preserving the existing installation identity and minimizing adverse effects on the surrounding campus, historic setting, public views, and natural resources.

Project Area, Existing Conditions and Sensitive Environmental Resources

The newly constructed building will be located on the western side of the installation with a roadway, parking area and green space separating the building from the Potomac River. The entirety of the laboratory building will be constructed in an existing parking lot area. The site location will require the recompense of several trees; those trees that cannot fit within the developed area are to be located elsewhere on the installation as directed by base management. The building will also be designed such that the Finish Floor Elevation is above the DoD Regional Sea Level (DRSL) Design Flood Elevation (DFE). The project will meet requirements of UFC 3-210-10 for stormwater management and will comply with Department of Energy and Environment (DOEE) minimum stormwater control and erosion and sediment control requirements.

Proposed Project Site

The proposed project will disturb approximately 200,000 (SF) of land.

NRL faces significant constraints when identifying locations for new construction at its main site in Washington, D.C. Due to the highly specialized nature of the laboratories at NRL, renovating or replacing operational buildings is not a viable option, as it would require a complete halt to mission critical research for multiple years. Furthermore, NRL strives to preserve its large green spaces, historic structures, and other cultural and archaeological resources. Consequently, the most feasible areas for development are the existing parking lots, but only a few of these are large enough to accommodate the footprint of a new facility like P250 while maintaining necessary clearances from other buildings.

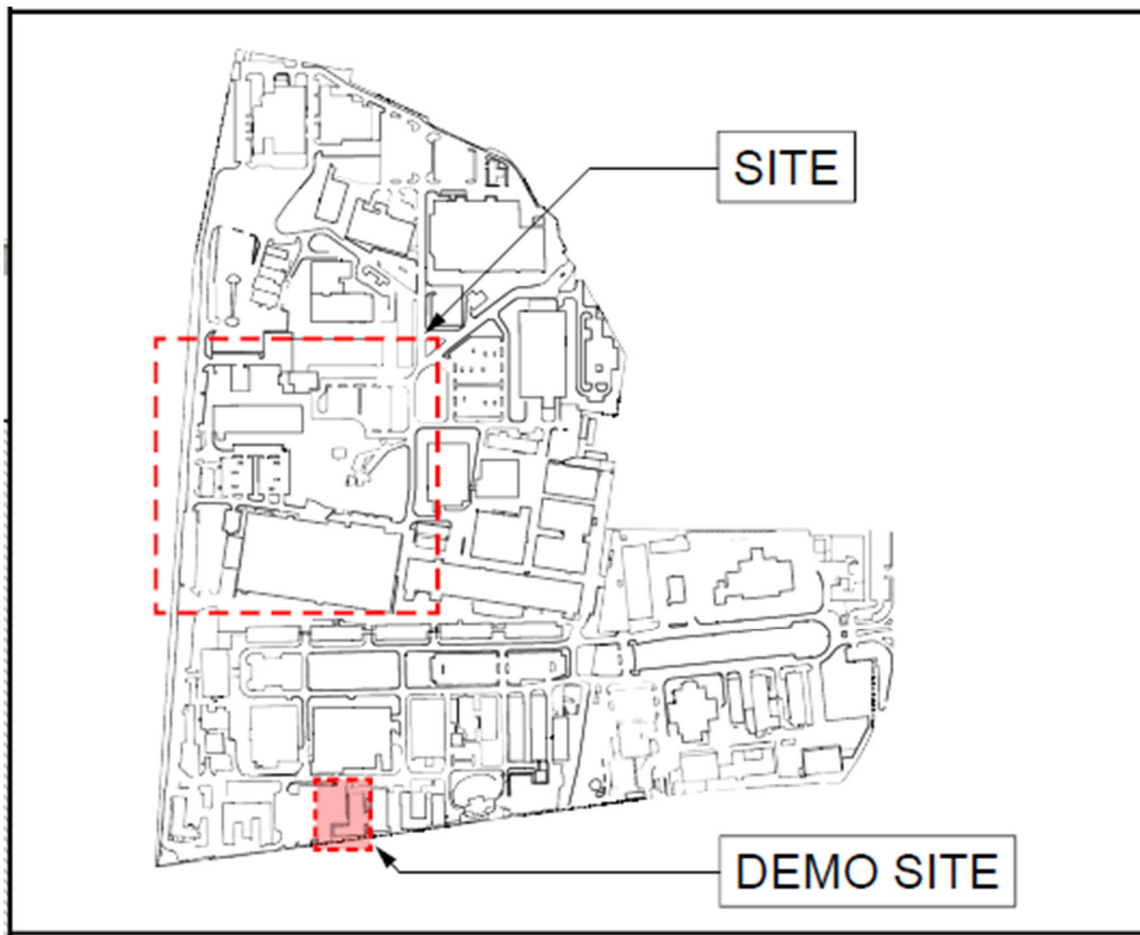


Figure 1: NRL Campus Location Map with New Building Project Site & Partial Building Demo Site

Several potential sites were evaluated and ultimately rejected for the following reasons:

- **Alternative A**, while initially considered due to its underutilized and poorly configured space, is situated within the FEMA 1% annual chance floodplain (the 100-year flood zone). Its development would have necessitated the demolition of one or more historic structures and would not have allowed for the co-location of related scientific disciplines, potentially hindering collaboration.
- **Alternative C** failed to meet the required standoff distances and posed a risk of interference with nearby research equipment.
- **Alternative D** was deemed a critical space to reserve for future projects with very specific needs, such as those that require a large first-floor footprint for vibration control and heavy equipment.
- **Alternative E** was not large enough, was too close to the installation's fence line, and is in an area planned as a future industrial and base support hub.
- Finally, **Alternative F** was dismissed due to its proximity to the fence line, potential adverse effects to research from vibrations associated with Interstate 295, and because the site is encumbered by future Entry Control Point improvements.

At the conclusion of the thorough analysis, **Alternative B** was selected as the optimal site for P250. This location meets all essential criteria: it provides the necessary space, is located outside of the FEMA 1% annual chance floodplain and maintains the appropriate standoff distances from the perimeter fence line. In planning the development of Alternative B, six different building layouts were considered. While most of these options were designed to minimize the impact on parking, they partially encroached upon the green space associated with the historic Quarters. Ultimately, the selected building location and orientation prioritized the preservation of this valuable green space, even at the expense of some parking.

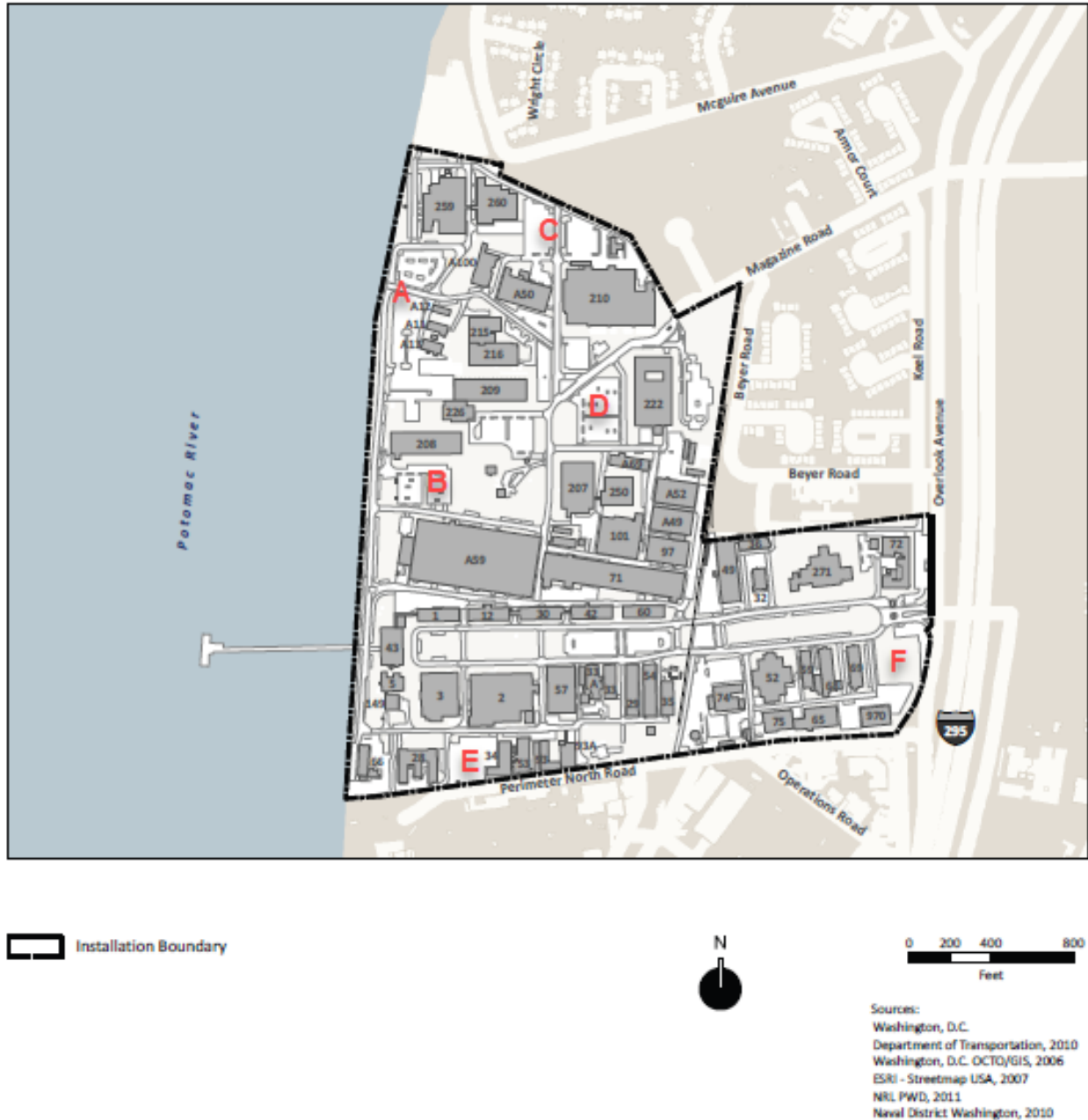


Figure 2: Site Alternates Studied on Existing Facility Assets Map from the 2014 NRL Master Plan

Master Plan Alignment

Long term strategic infrastructure plans that include NRL have documented the need for P250 as far back as Sept 2011. While the 2014 NRL Master Plan inadvertently left out P250, it did identify the need to either renovate an existing building or construct a new facility to meet the mission and space requirements of the Bio/Molecular Science and Engineering Division. The 2014 Plan also identified the P250 site as a potential future development parcel. Existing facilities at NRL are World War II era, undersized to meet the mission requirement, and lack the floor-to-floor clearance and column-to-column spacing required by a modern laboratory and therefore cannot be renovated, modernized, or converted to meet the Biomolecular Science and Synthetic Biology Laboratory requirement. A new NRL Master Plan, which includes the P250 project at this site, is in progress.

Employment

The building will support 98 employees when completed with no plan for significant personnel growth over the next 20 years. Occupants will be NRL employees who will be relocated from existing buildings into the new facility.

Schedule

The Proposed Construction duration is approximately 24 months. Construction is anticipated to start October/November 2027 and end November 2029.

Cost

The current cost estimate is \$157M funded as a military construction (MILCON) project. Design executed with budget year FY25 funds and Construction execution planned for FY27 funds.

OUTREACH AND COORDINATION

Public Engagement

NRL is bordered by the Potomac River to the west, Joint Base Anacostia Bolling (JBAB) to the north, Interstate 295 to the east, and DC Water's Blue Plains Advanced Wastewater Treatment Plant to the south. Due to the project's internal location within the restricted fence line, no public engagement is planned for this project.

Coordination with Federal, State, and Local Jurisdictions

Coordination with NCPC, CFA, and the DC SHPO is ongoing. Additional information can be found in the Environmental and Historical Considerations sections of this report.

PROJECT INFORMATION AND DRAWINGS

Building Description

The architectural landscape of the NRL campus serves as a physical chronicle of its history, defined by two significant eras: the utilitarian, traditional laboratory buildings of World War II and the monumental Brutalist architecture of the Cold War.

The building under review draws its architectural language from this evolving legacy. At the heart of the NRL campus master plan is a central common mall, framed by rows of traditional industrial buildings that establish a cohesive campus building fabric and a distinct regional architectural identity. This project references this established language through its proportions, color palette, materials, and architectural character, creating a clear connection to the historic campus while establishing its own contemporary expression.

These characteristics are thoughtfully refined to enhance the building's durability, performance, and aesthetic quality. In doing so, the project becomes more than an individual addition to campus—it establishes an architectural framework that can influence and inform future development immediately surrounding the campus mall.

The design approach reinforces the integrity and identity of the NRL traditional, industrial and utilitarian heritage while creating a respectful dialogue between past and present. By translating established campus principles into a contemporary architectural expression, the project sets a precedent for future buildings and strengthens the continuity, character, and identity of the campus as it evolves.



Figure 3. Main Entrance

Site Description

While utility plans are not available for public distribution, general site and landscape information has been included here and in the attached plans.

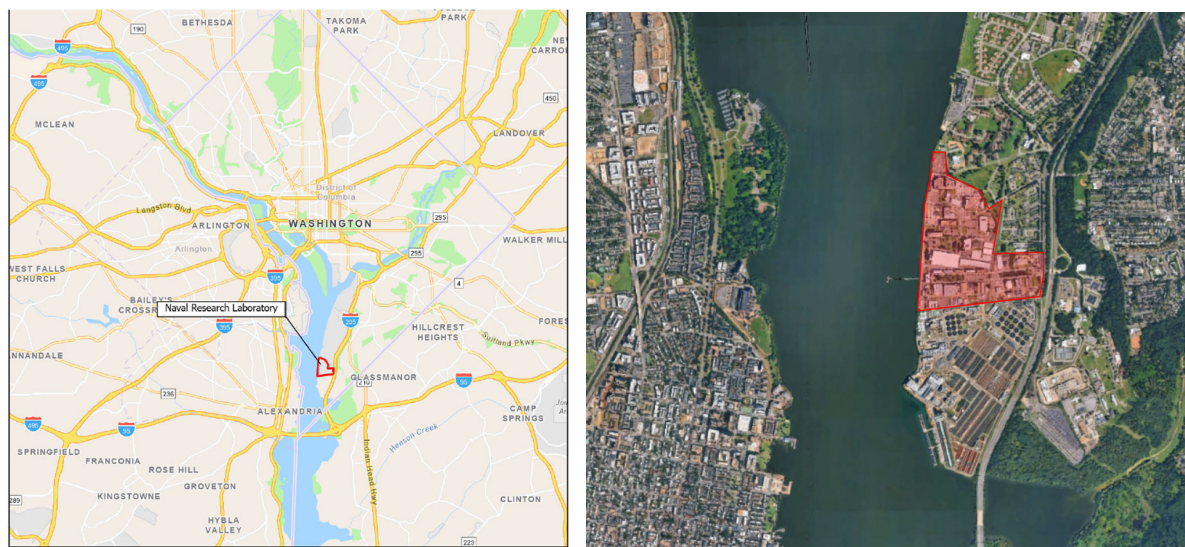


Figure 4. Vicinity Maps

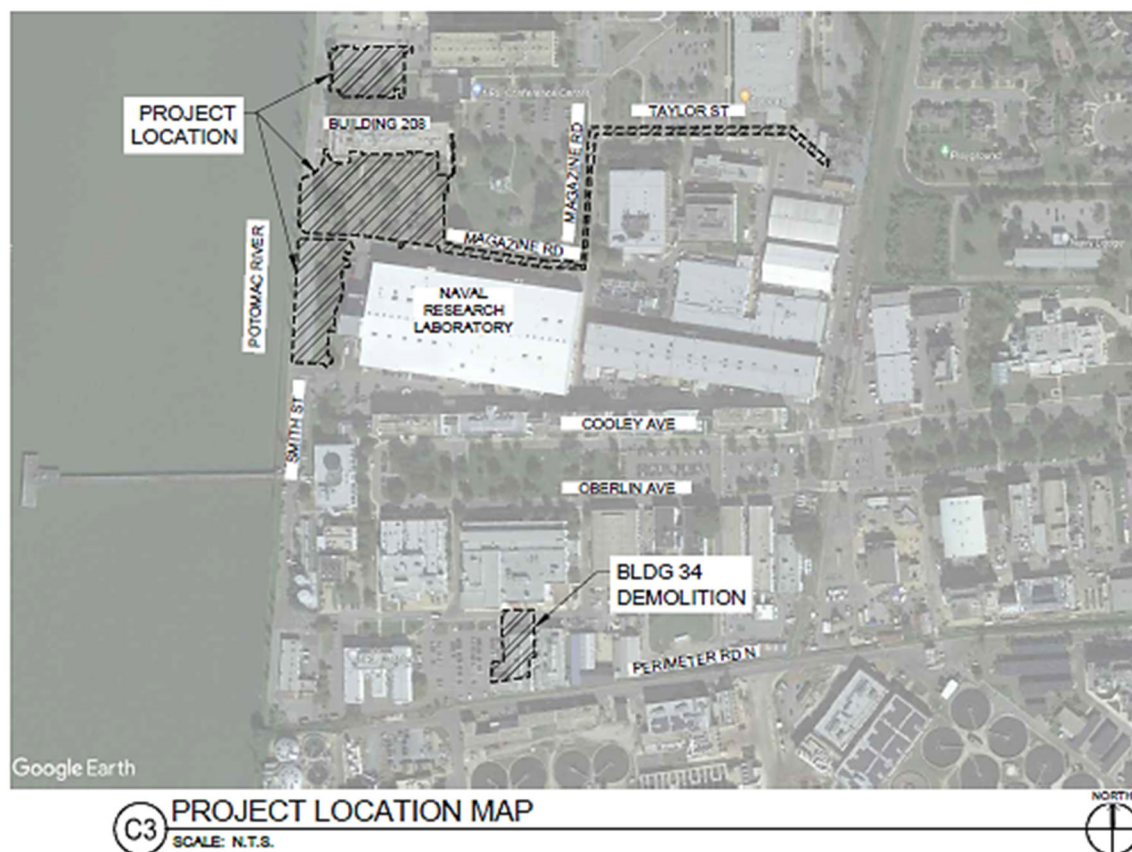


Figure 5. General Limit of Disturbance Map

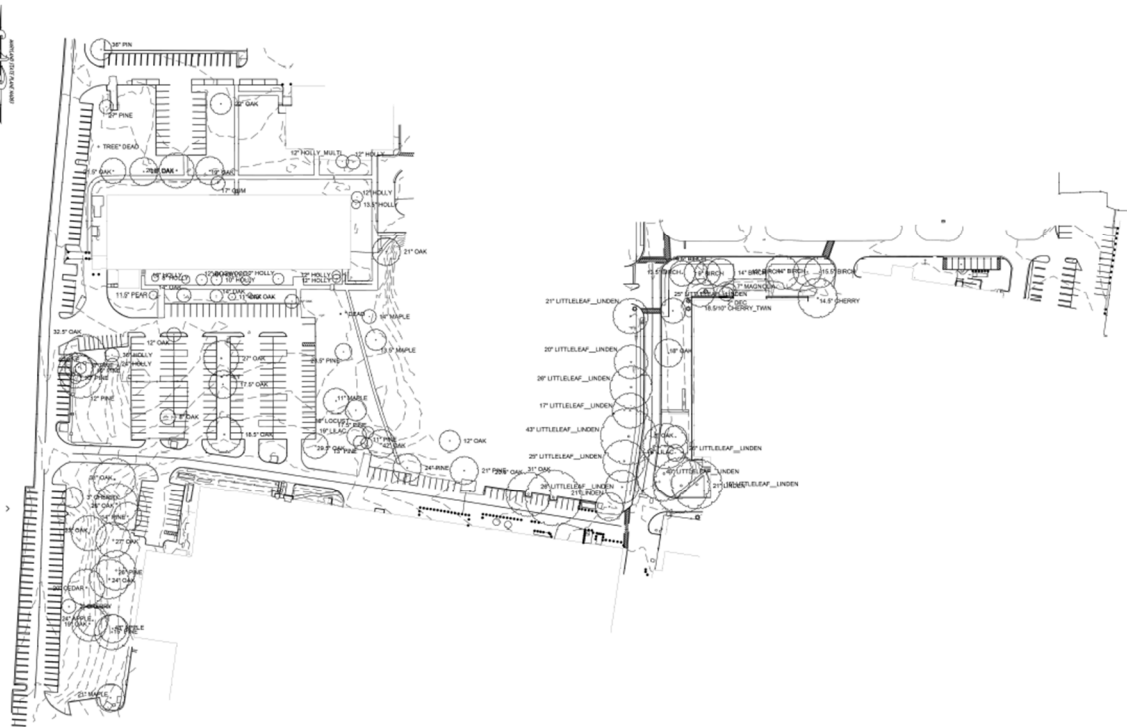


Figure 6. Limited Topographic Map

Architectural and Design Program

The new building's structure will be a four story (18'-0" floor to floor height, approximately 92.8 feet tall) reinforced concrete structure with a steel framed mechanical penthouse. The reinforced concrete structure will be supported by concrete pile caps on top of auger cast pile deep foundations. The building envelope includes a modified bitumen roofing system on a sloped concrete slab, concrete slab on grade, and exterior walls are a light precast concrete panel system with curtain wall and storefront glazing systems and a dark matte metal panel screening system. The facility will be designed to optimize the building envelope and window requirements prescribed within the energy compliance paths laid out in ASHRAE 90.1-2019 (The American Society of Heating, Refrigerating and Air-Conditioning Engineers).

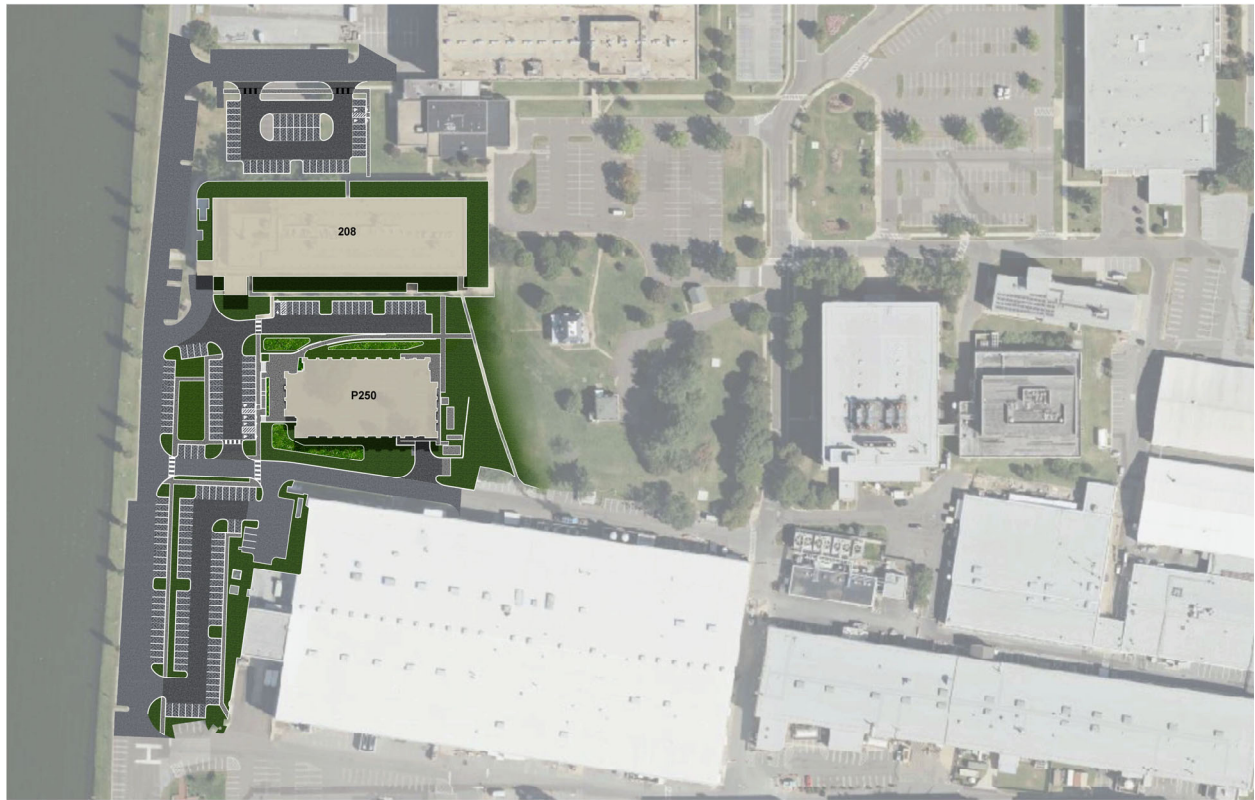


Figure 7. Aerial Site Images



Figure 8. Northwest Perspective



Figure 9. Southwest Perspective



Figure 10. Southern Perspective



Figure 11. Eastern Perspective



Figure 12. Entry Perspective



Figure 13. Northwestern Perspective

The accessory buildings, 205 and 206, will be constructed of a standing seam metal hipped roofing system over metal roof deck supported by cold formed steel framing bearing on load bearing honed, split-faced CMU walls.



Figure 14. Buildings 205 and 206

Landscape and Streetscape Plan

The site for P250 is an existing parking lot bordered by Magazine Rd SW to the south, Smith St SW to the west, Building 208 to the north and Building A59 to the south. Existing landscape and trees impacted by development will be replaced and mitigated. New lighting will be provided on the exterior of the building, as well as in the new parking areas. Perimeter security fences will not be necessary as the building is within the NRL fence line. Signage will be added to the exterior of the building to designate the building number. The project will evaluate existing trees for removal (36 trees to be removed based on current site plan) and replacement to meet NCPC policy and applicable UFCs. Tree replacement will likely occur in other approved areas throughout NRL. Initial calculations for tree replacement estimate 124 replacement trees.

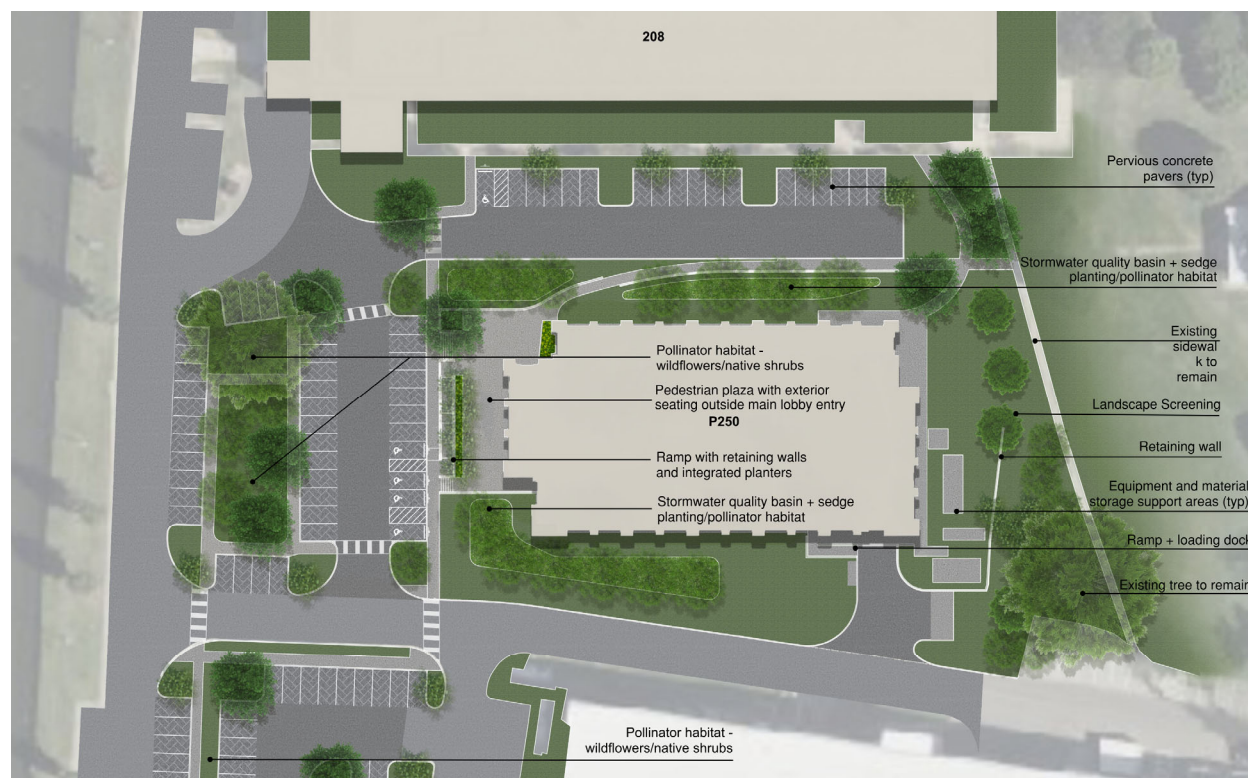


Figure 15. Landscape Plan

Tree replacement uses a diameter-based calculation based on the NCPC Resource Guide 1:1 for trees under 10 inches, and a multiplied calculation (diameter x species rating x condition rating) for trees 10 inches and larger. A total of 124 replacement trees are required. 97 trees (3" caliper) planted within the P250 project site, and the remaining 27 trees planted across NRL in coordination with site manager.

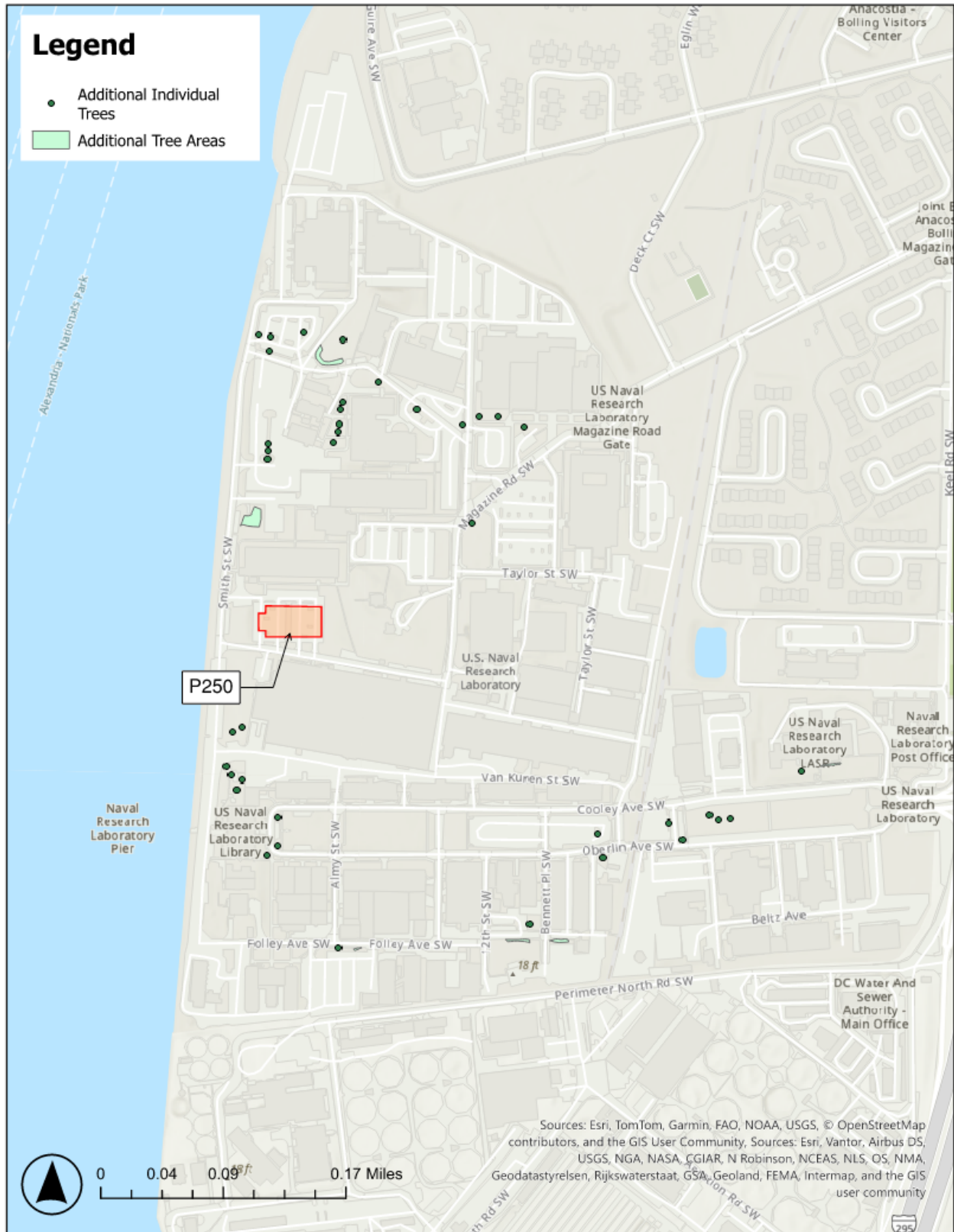


Figure 16. Recompense Tree Planting locations outside P250 development area as recommended by NRL resource manager

Proposed Landscape Palette

Tree planting across the project site will include a range of native species, in accordance with the NCPC Pollinators Best Practices Resource Guide where applicable, including but not limited to the plants shown in Figure 17. Required tree loss mitigation will be accomplished through replacement plantings throughout the NRL site utilizing existing tree survey data. Final locations will be determined in conjunction with site managers, but initial locations as currently coordinated with the site are indicated in the plan.

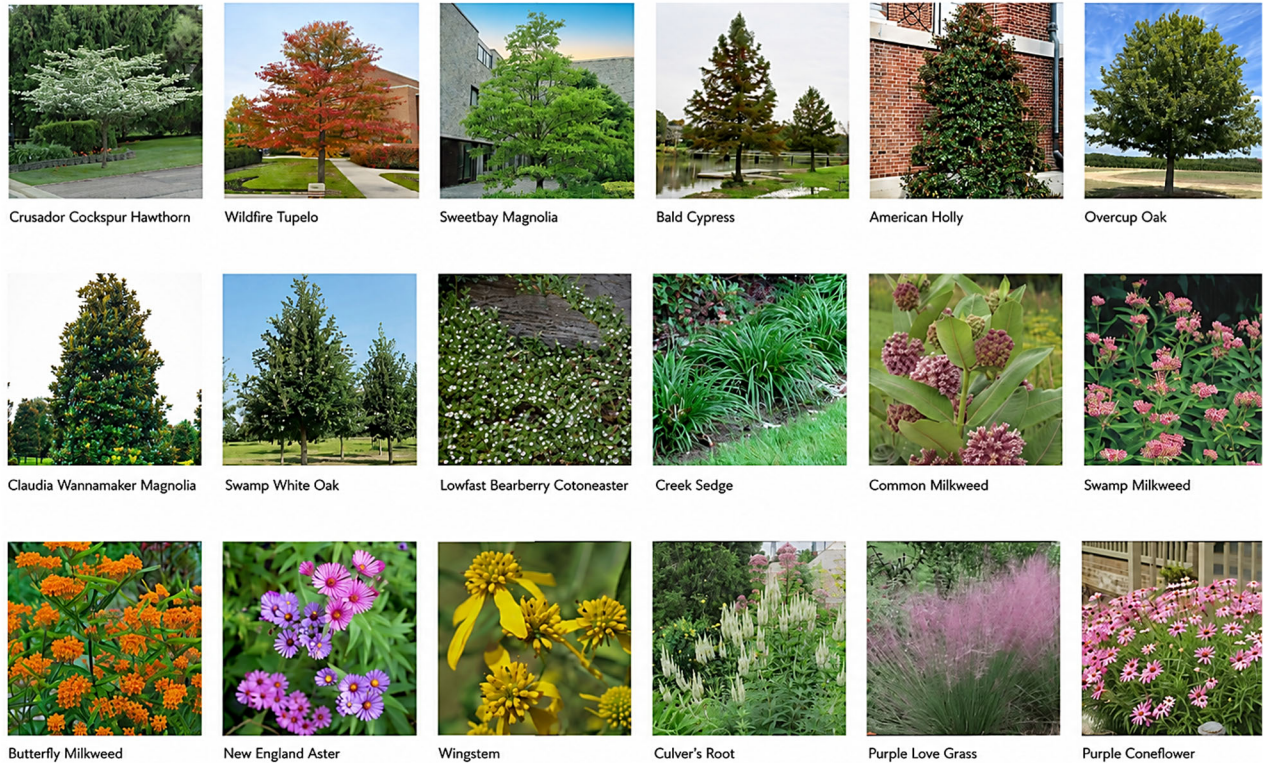


Figure 17. Landscape Palette

Transportation and Circulation

This project falls within the NRL base fence line, where access is controlled by the security office and gate control and the project will not increase the number of employees commuting to the site, so it will not affect the transportation plan for NRL.

The project will replace impacted parking spaces to the greatest extent possible, but there will be a net loss of 11 parking spaces overall as currently designed to prioritize the preservation of valuable green space, minimize impacts to historic features on campus, create intentional connections to other nearby areas and ensure functional approach and use of the building.

NRL campus access is via controlled gate entry from Overlook Avenue SW. The P250 site sits along the southwestern edge of the northern campus loop, bordered by Smith Street and Magazine Road SW.

- Primary vehicle and pedestrian access from the controlled gate is through the southern central mall loop via Cooley Avenue. Secondary roads between and behind buildings, along the central mall, allow access to Van Kuren Avenue and Magazine Road SW that provide access to Smith Street and the proposed P250 parking lot.
- Primary vehicle and pedestrian access from the north campus loop is expected via Smith Street and Magazine Road SW.

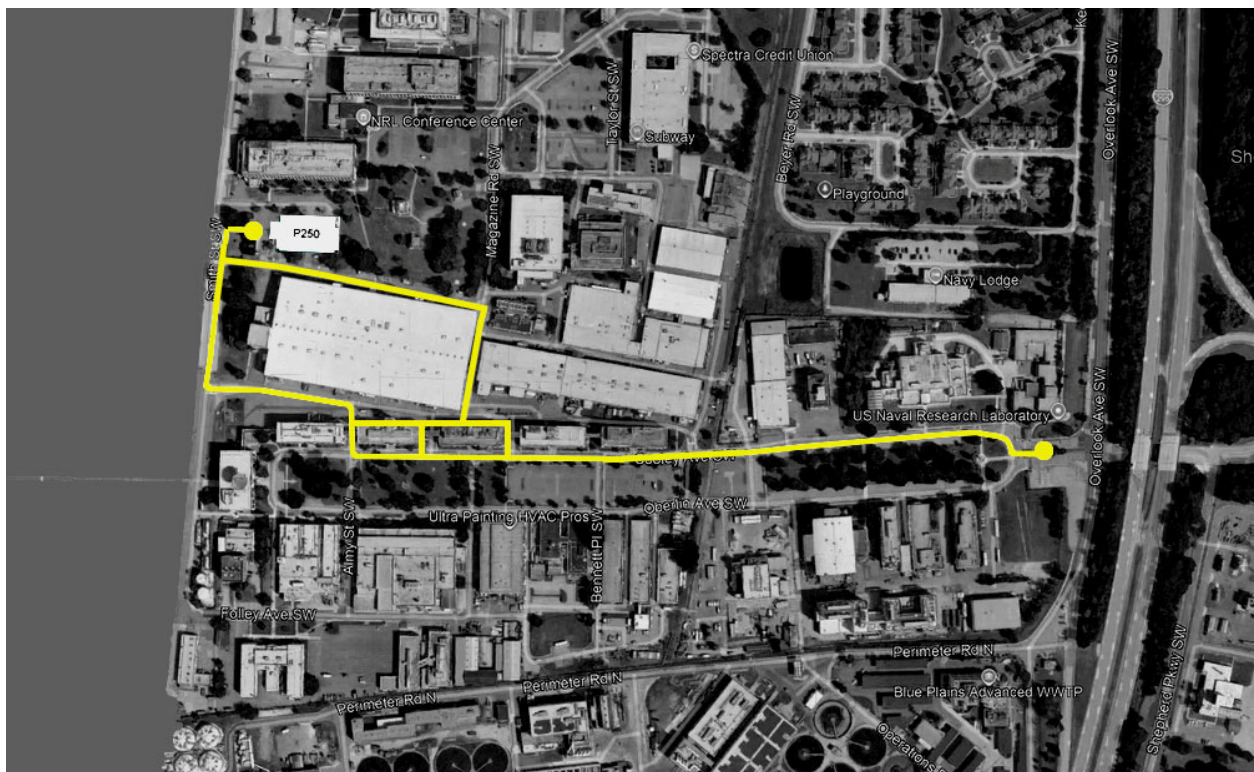


Figure 18. Planned Circulation and Access Routes to P250

Perimeter Security

There will be no change to the perimeter security. As previously mentioned, the building will be within the base fence line, and access will be controlled by the main access security gate.

Photographs

Photography on this base is strictly controlled. Aerial imagery provided above in the site plan section is publicly available from Google Earth.

ENVIRONMENTAL AND HISTORICAL CONSIDERATIONS

Historic Preservation Documentation

The Navy is consulting with the DC State Historic Preservation Office (SHPO) under Section 106 of the National Historic Preservation Act. The Navy found that that the project would have no adverse effect on historic properties. The SHPO responded as follows: 1) they appreciated partial preservation of the view shed from the historic quarters toward the River; 2) they questioned the use of dark materials on the new building but did not think it constituted an adverse effect (the materials have since been revised); 3) they requested more information about the demolition of Building 34 as part of the project; and 4) they requested more information about depth of fill and potential for deeply buried archaeological resources. The Navy provided the DC SHPO with updated design information, additional information regarding Building 34, and a geotechnical survey. The SHPO has concurred with the Navy's determination of no adverse effect to the historic built environment but has requested further information to assess potential effects to deeply buried archaeological resources. The consultation is ongoing.

Natural Resources

There will be no natural resource impacts other than the removal of trees which was addressed earlier in this narrative.

The proposed landscape design incorporates native plant species selected in alignment with NCPC's Pollinator Best Practices guidelines and the applicable resource guide (https://www.ncpc.gov/docs/publications/Pollinator_Resource_Guide_2024.pdf). In areas associated with the proposed stormwater best management practices (BMPs) within the Antiterrorism/Force Protection (ATFP) setback, the planting design utilizes native Creek Sedge (*Carex amphibola*.) as the primary plant material within stormwater features. Creek Sedge is a native species common to wetland and moist soil environments and is specifically recognized in NCPC's best practices guidance. Sedges provide ground-level cover for pollinators and wildlife, offer visual contrast to the surrounding maintained turf areas required to match existing site conditions, and reduce the risk of invasive species encroachment by establishing a dense, identifiable native plant community within the stormwater features.

This approach balances pollinator habitat goals with practical site management considerations, including compliance with ATFP UFC requirements that limit the use of taller woody shrubs and perennial plantings in certain areas. The design prioritizes a maintainable, ecologically functional landscape that site managers can effectively monitor and sustain over time. However, outside the ATFP setbacks, additional areas with the current layout have been identified for traditional pollinator plantings as indicated in the plant palette, primarily the landscape island facing P250, and the linear median leading south from the P250 site, totaling about 6,000 SF for pollinator

habitat. Final planting locations for these shrubs and perennials are to be indicated on the pre-final drawings.

Existing Tree Survey

TREE PRESERVATION					
TREE #	NORTHING	EASTING	TREES TO BE PRESERVED	DBH (INCHES)	CRITICAL ROOT ZONE (FEET)
252	421377	1305359	OAK	31	31
182	421396	1305562	LITTLE LEAF LINDEN	15	15
181	421395	1305540	LINDEN	21	21
180	421412	1305516	LITTLE LEAF LINDEN	43	43
178	421441	1305532	LILAC	6	6
-	421463	1305532	OAK	8	8
179	421450	1305518	LITTLE LEAF LINDEN	26	26
161	421696	1305736	BIRCH	15.5	15.5
162	421696	1305718	BIRCH	14	14
163	421695	1305682	BIRCH	13	13
160	421699	1305733	CHERRY	14.5	14.5
168	421669	1305608	MAGNOLIA	7	7
-	421665	1305603	DEC	2	2
170	421667	1305567	CHERRY	18.5/10	18.5/11
164	421695	1305596	BIRCH	14	14
165	421695	1305577	BIRCH	10.5	10.5
166	421695	1305561	BIRCH	9	9
-	421694	1305541	BIRCH	13.5	13.5
172	421641	1305528	LITTLE LEAF LINDEN	25	25
292	421688	1304797	HOLLY	8	8
286	421692	1305053	HOLLY	12	12
-	421687	1305053	HOLLY	12	12
189	421364	1305438	LINDEN	21	21
-	421852	1305077	HOLLY	12	12
333	421853	1305061	HOLLY	12	12
174	421582	1305522	OAK	18	18
-	421458	1305213	OAK	12	12
254	421416	1305233	PINE	21	21
260	421454	1305116	OAK	42	42
261	421455	1305096	PINE	11	11
262	421455	1305087	PINE	13	13
-	421465	1305082	LILAC	19	19
267	421501	1305080	LOCUST	16	16
270	421633	1305099	MAPLE	14	13.5
269	421600	1305109	MAPLE	13.5	24
259	421420	1305153	PINE	24	17.5
263	421470	1305098	PINE	17.5	10
287	421686	1304971	HOLLY	10	10
288	421684	1304925	HOLLY	10	12
289	421685	1304884	HOLLY	10	12
290	421685	1304863	DOGWOOD	12	11
291	421685	1304840	HOLLY	10	21
276	421725	1305123	OAK	21	12
339	421803	1305082	HOLLY	12	13.5
-	421792	1305081	HOLLY	13.5	17
323	421822	1304886	GUM	17	36
316	422012	1304721	PIN	36	21.5
319	421840	1304738	OAK	21.5	27
317	421931	1304728	PINE	27	11.5
293	421663	1304794	PEAR	11.5	11.5
314	421578	1304698	OAK	32.5	32

TREE REMOVAL (TREES LESS THAN 10 IN. IN DIAMETER)				
TREE #	NORTHING	EASTING	TREES TO BE REMOVED	TREE REPLACEMENT (ONE TREE FOR EVERY ONE TREE REMOVED (1:1))
560	421377	1304680.25	CHERRY	3
567	421224	1304675.03	CHERRY	2
999	421560	1304791.74	PINE	9
1000	421547	1304684.46	PINE	10
TOTAL REPLACEMENT TREES REQUIRED:				4

TREE REMOVAL (TREES MORE THAN 10 IN. IN DIAMETER)							
TREE #	NORTHING	EASTING	TREES TO BE REMOVED	DIAMETER (INCHES)	SPECIES RATING	CONDITION RATING	TREE REPLACEMENT QTY.
190	421393	1305456	LITTLE LEAF LINDEN	26	85%	80%	17.7
191	421429	1305459	LITTLE LEAF LINDEN	25	85%	75%	15.9
192	421464	1305466	LITTLE LEAF LINDEN	43	85%	80%	29.2
193	421500	1305468	LITTLE LEAF LINDEN	17	85%	85%	12.3
194	421534	1305469	LITTLE LEAF LINDEN	26	85%	75%	16.6
195	421569	1305469	LITTLE LEAF LINDEN	20	85%	80%	13.6
197	421634	1305468	LITTLE LEAF LINDEN	21	85%	85%	15.2
-	421579	1304736	HOLLY	36	85%	70%	21.4
-	421567	1304737	HOLLY	24	85%	70%	14.3
571	421192	1304737	APPLE	48	85%	75%	30.6
568	421204	1304709	APPLE	24	85%	55%	11.2
563	421317	1304738	OAK	27	90%	85%	20.7
303	421467	1304894	OAK	18.5	90%	80%	13.3
N/A	421451	1305023	OAK	29.5	90%	70%	18.6
266	421514	1305052	MAPLE	11	85%	60%	5.6
327	421936	1304890	OAK	22	90%	85%	N/A
321	421840	1304817	OAK	26	90%	80%	18.7
324	421840	1304874	OAK	19	90%	80%	13.7
320	421839	1304781	OAK	26.5	90%	85%	20.3
304	421537	1304893	OAK	17.5	90%	80%	12.6
305	421574	1304890	OAK	27	90%	85%	20.7
307	421608	1304823	OAK	12	90%	80%	8.6
294	421663	1304838	OAK	14	90%	80%	10.1
295	421662	1304883	OAK	14	90%	80%	10.1
296	421661	1304905	OAK	11	90%	80%	7.9
297	421664	1304931	OAK	12	90%	55%	5.9
557	421350	1304758	PINE	14	80%	80%	9.0
558	421368	1304742	OAK	26	90%	85%	19.9
556	421403	1304739	OAK	31	90%	80%	22.3
562	421326	1304703	OAK	23	90%	85%	17.6
565	421262	1304732	OAK	24	90%	85%	18.4
564	421274	1304742	PINE	26	80%	85%	17.7
566	421250	1304700	CEDAR	20	80%	85%	13.6
570	421187	1304736	PINE	15	80%	80%	9.6
572	421095	1304734	MAPLE	21	85%	75%	13.4
569	421199	1304704	OAK	19	90%	85%	14.5
268	421583	1305063	PINE	23.5	80%	70%	13.2
-	421791	1305468	LITTLE LEAF LINDEN	21	85%	80%	14.3
253	421382	1305524	OAK	20.5	90%	80%	14.8
TOTAL REPLACEMENT TREES REQUIRED:							124

REPLACE TREES ACCORDING TO THE FOLLOWING PROCEDURES (PER NCPD RESOURCE GUIDE)		
1.	TREE(S) LESS THAN 10-INCHES IN DIAMETER: REPLACE ONE TREE FOR EVERY ONE TREE REMOVED (1:1)	
2.	TREE(S) MORE THAN 10-INCHES IN DIAMETER: TREE DIAMETER (IN INCHES) X SPECIES RATING (AS PERCENTAGE) X CONDITION RATING (AS PERCENTAGE) = SCORE	
2.a.	REFER TO MID-ATLANTIC CHAPTER FOR INTERNATIONAL SOCIETY OF ARBORICULTURE SPECIES RATING	

TREES MORE THAN 10 IN. IN DIAMETER ARE REPLACED AT THE FOLLOWING RATES, BASED UP TO ONE TREE REPLACEMENT SCORE		
TREE REPLACEMENT SCORE	TREE REPLACEMENT QTY.	
1 - 4.9	1 TREE	
5 - 9.9	2 TREES	
10 - 14.9	3 TREES	
15 - 19.9	4 TREES	
20 - 24.5	5 TREES	
25 +	6 TREES	

NOTE:
EXISTING TREES HAVE NOT BEEN EVALUATED BY A CERTIFIED ARBORIST FOR SPECIES AND CONDITION RATINGS. HIGHER FIGURES HAVE BEEN ASSUMED IN ORDER TO DEVELOP A SCORE RATING TO MEET NATIONAL CAPITAL PLANNING COMMISSION (NCPD) TREE REPLACEMENT REQUIREMENTS. TO DETERMINE IF EXISTING TREES ARE OF A LOWER RATING OR ARE DISEASED, DYING OR HAZARDOUS A CERTIFIED ARBORIST SHOULD BE CONSULTED PRIOR TO DETERMINING FINALIZED TREE REPLACEMENT COUNTS.

Figure 18. Tree Inventory

Energy and Sustainability

Energy modeling was conducted by the mechanical designer of record, and the design meets the requirements of ASHRAE 62.1, ASHRAE 90.1-2019, ASHRAE 55. This project will meet the sustainability requirements as outlined in the UFC 1-200-02: High Performance and Sustainable Building Requirements (01 Dec 2020), w/ Change 02.

Public Realm and Viewsheds

NRL has assessed the potential impact of the proposed P250 project on the historic district viewshed. While NRL acknowledges the viewshed from Quarters A and B (Buildings A21 and A20, respectively), analysis concludes, and SHPO concurs, that the project will not adversely affect the overall integrity of the historic district at this proposed location.

The primary mission of the NRL—to conduct advanced scientific research—necessitates the continuous modernization of the facilities. To remain a viable and functioning research institution, NRL must adapt existing structures when feasible and undertake new construction. NRL is committed to balancing these mission-essential requirements with stewardship responsibilities for the historic properties under NRL’s care.

In NRL’s evaluation, the viewsheds of Buildings A20 and A21 are not considered defining features that contribute to the historic district's significance. The proposed P250 project, while representing a substantial addition, has been strategically designed and positioned to minimize its impact on both above-ground and potential below-ground cultural resources.

NRL intends to protect the main Cooley Ave loop and the waterfront to the maximum extent possible while balancing mission needs. This approach allows the Naval Research Laboratory to integrate modern facilities in a manner that respects the character of the historic district while ensuring the continuity of its vital national security mission. The building will reflect the passage of time and advancements in research with a well-balanced mix.

Flooding

The UFC states that projects in the DC area must follow the direction of the agency with the strictest requirements between FEMA or DRSL. In this case, the project must meet the requirements of DRSL. As discussed in the *Proposed Project Site* section above, alternate sites were studied and the selected location was the best course of action. Efforts will be made to mitigate the flood risk. The laboratory building and associated exterior equipment will be designed and constructed with a Finish Floor Elevation (FFE) that is above the DRSL Design Flood Elevation set by the Flood Design Class assigned. The Design Flood Elevation for the P250 project is 18.27 feet with the P250 Building FFE set to 18.5 feet.

Stormwater Management

The project’s grading and drainage is designed to mimic the existing drainage patterns to the maximum extent possible, while still meeting the requirements of the project. No special considerations for site grading, soil conditioning, removal of bad soils, or remediation activities are anticipated for this site. Per the geotechnical report, an undercut of 2 feet will be provided within the footprint of the building and up to 10-ft from the edge of the building. Water from building roofs will be piped to the existing stormwater collection system. Grading next to buildings will be a minimum of 6 inches below finished floor except at door openings, which will be a maximum of 0.5-inch below finished floor.

The project is required to follow the most stringent of EISA Section 438 and DOEE stormwater management performance requirements. DOEE stormwater requirements are the most stringent and include the following:

- Stormwater Retention Volume (SWRv) – The volume of stormwater runoff that is required to be retained.

- 2-Year Storm Control (Qp2) - Detention must be provided on site to ensure the post-project peak discharge rate from the 2-year, 24-hour storm event is reduced to pre-development peak discharge rate for the whole site. If runoff from the site flows directly or through the MS4 to the main stem of the tidal Potomac or Anacostia Rivers, then Qp2 is not required.
- 15-Year Storm Control (Qp15) - Detention must be provided on site to ensure the post-project peak discharge rate from the 15-year, 24-hour storm event is reduced to pre-development peak discharge rate for the whole site excluding public right-of-way areas.
- The project is not located within the Anacostia Waterfront Development Zone (AWDZ). Therefore, the Water Quality Treatment Volume (WQTV) criterion does not apply to this project.
- The project will not increase the size of a Special Flood Hazard Area; will discharge to a MS4 storm sewer; and the stormwater collection and management facilities will be designed such that the 100-year frequency storm will not cause flooding to a building. Therefore, the Extreme Flood Requirements (Qf) will not be required for this project.

BMPs planned for the project include bioretention facilities and pervious pavers.