

Bureau of Engraving and Printing - Currency Production Facility

Poultry Road and Powder Mill Road, Beltsville, Maryland

Approval of Comments on Concept Plans

United States Army Corps of Engineers, Department of the Treasury

Project Summary

Commission Meeting Date: April 1, 2021

NCPC Review Authority: 40 U.S.C. § 8722(b)(1)

Applicant Request: Approval of Comments on Concept Plans

Session: Staff Presentation

NCPC Review Officer: Carlton Hart

NCPC File Number: 8243

Project Summary:

The US Army Corps of Engineers acting on behalf of the Bureau of Engraving and Printing (BEP), proposes to construct and operate a new Currency Production Facility (CPF) at the Beltsville Agricultural Research Center to replace its existing production facility located in downtown Washington, DC. The Washington, DC production facility (DC facility), built in 1914, has been in operation for more than 100 years. This facility has previously undergone focused renovations to support new production technology. However, as BEP's currency production has modernized and added more complex processes and security features, the existing facilities are no longer able to support an efficient, secure, and innovative manufacturing process. The DC facility's fundamental physical characteristics--including its age and its multi-story, multi-wing layout--inhibit the secure, efficient, and flexible production of United States currency. The current layout of the DC facility requires currency paper to travel 1.06 miles over multiple stories from start to finish; in contrast, at the Texas production facility, currency travels .42 miles in a single story.

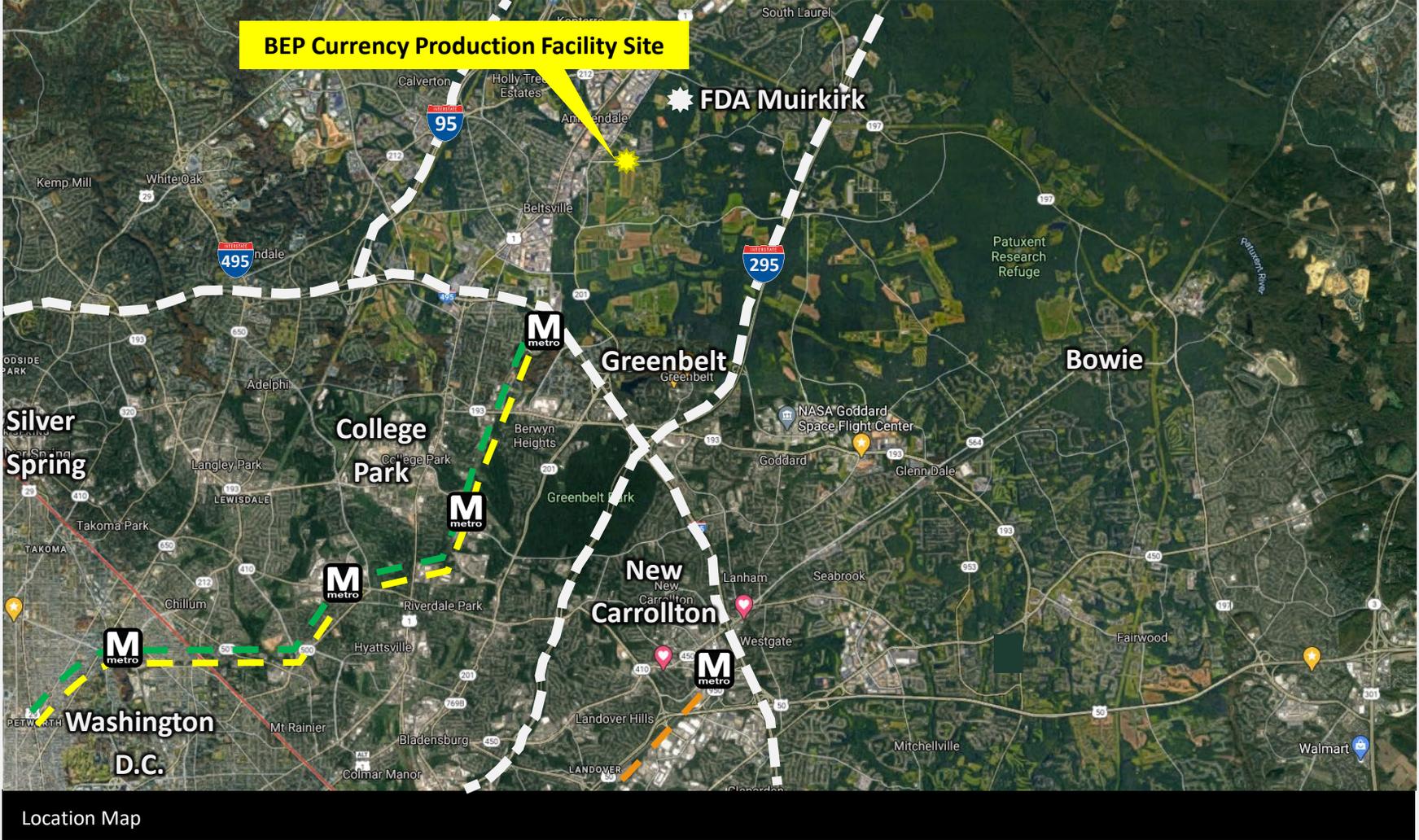
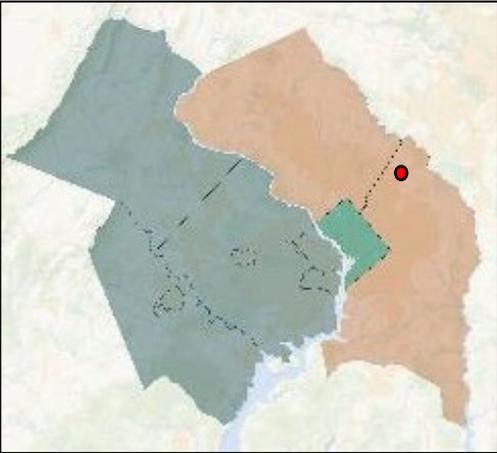
The new facility is the outcome of the BEP's more than 20-year planning process to address deficiencies at the DC facility and modernize its operations. The BEP considered several modernization options, including renovation of the DC facility and new construction within the National Capital Region. These studies concluded that new construction, as opposed to renovation of the DC facility, would be more cost-effective and would accommodate the necessary security procedures and setbacks. The BEP initially considered multiple sites within the NCR and evaluated them against prerequisite criteria for operating a CPF.

Project Summary

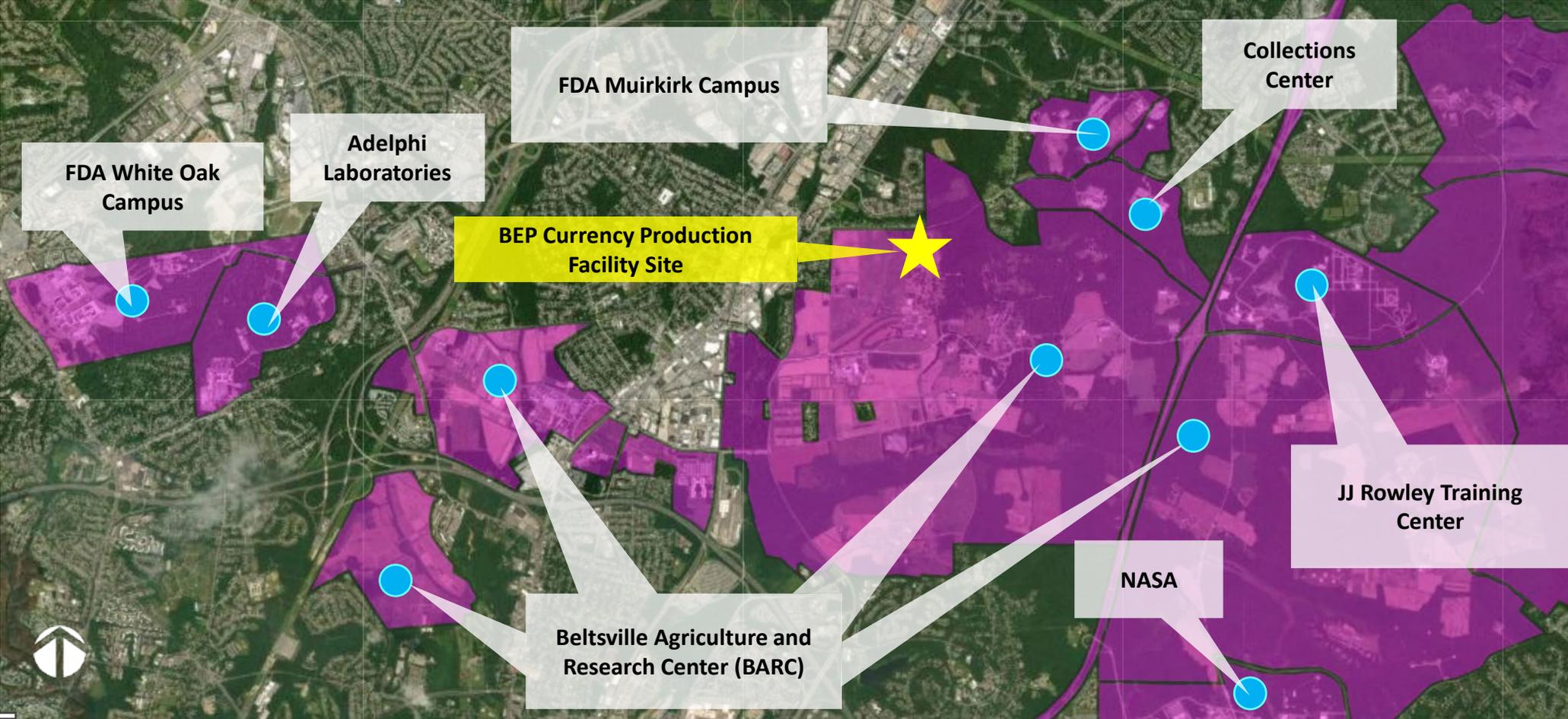
The final site screening criteria included:

- **Location:** The site must be within an approximately 30-mile radius of central Washington, DC (i.e., measured from the Washington Monument), allowing for proximity to BEP's uniquely skilled workforce.
- **Accessibility:** A major interstate must be accessible within 10 miles of the site to transport currency safely and efficiently. The site must also be reasonably near an international airport for currency transportation by air.
- **Availability:** The site must be available for Treasury's use within the required timeframe. The federal landowner must be willing to transfer the site to the Treasury or establish a land use agreement.
- **Parcel Size:** The site must include at least 100 acres of land of suitable configuration to construct the CPF and provide for its security/setback requirements.
- **Developability:** The site must not be unduly constrained to development due to terrain or other construction or use limitations.

Site Location



Surrounding Context - Federal Facilities



BEP DCF Main Building

An aerial, black and white photograph of an industrial complex in Washington, DC. The central focus is a large, multi-story building with a prominent facade of columns and a series of windows. To its left, a tall, dark smokestack rises into the air. The surrounding area is filled with various other industrial buildings, some with flat roofs and others with more complex structures. In the background, a river or canal is visible, along with more urban development and a bridge. The overall scene depicts a dense industrial and urban environment.

The Washington, DC production facility (DC facility), built in 1914, has been in operation for more than 100 years.

As BEP's currency production has modernized and added more complex processes and security features, the **existing facilities are no longer able to support an efficient, secure, and innovative manufacturing process.**

Approximately 300-400 personnel and a public tour will remain in a renovated Main Building.

Deficiencies of Existing Facility

An aerial photograph of an industrial facility, likely a printing plant, showing several large, multi-story buildings with numerous windows. A large parking lot is visible in the foreground, and a road or highway runs along the right side of the facility. The background shows a cityscape with other buildings and a river or canal.

Building Inefficiencies

- Incorrect type of space for emerging print equipment and security feature technologies
- 107 year old facility designed for antiquated production processes
- Equipment on multiple floors and in two separate buildings
- Remote material storage warehouse due to storage limitations
- Inefficient structural system for placement of larger production equipment

Health & Safety

- 70% of worker injuries attributed to materials handling

Security

- High Risk due to urban location
- Multiple vehicle and personnel entrances
- Limited setback distance from vehicle explosives
- Historic building status limits blast hardening/progressive collapse improvements

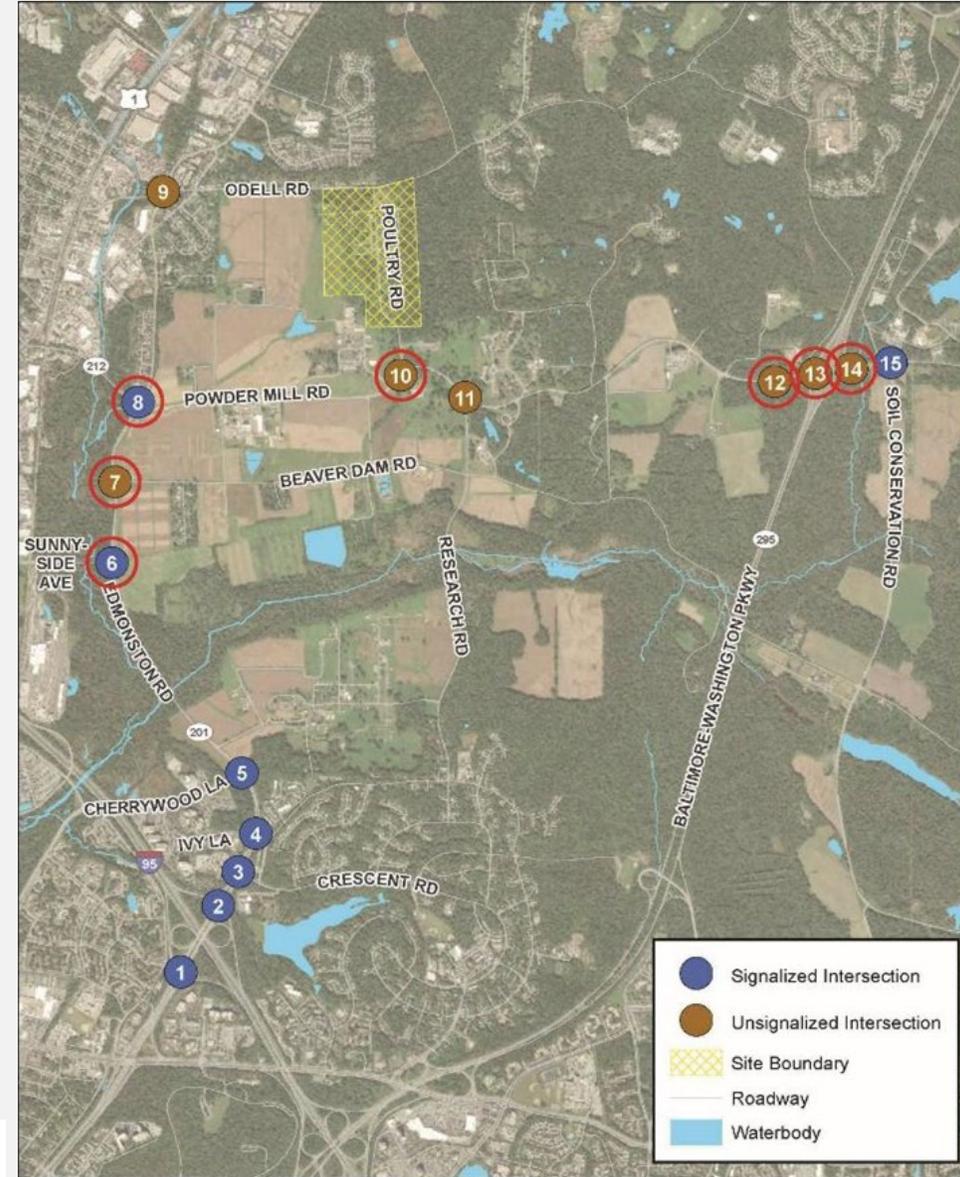
Transportation Context



Transportation Study

The Transportation Impact Study (TIS) was completed on 6/30/20

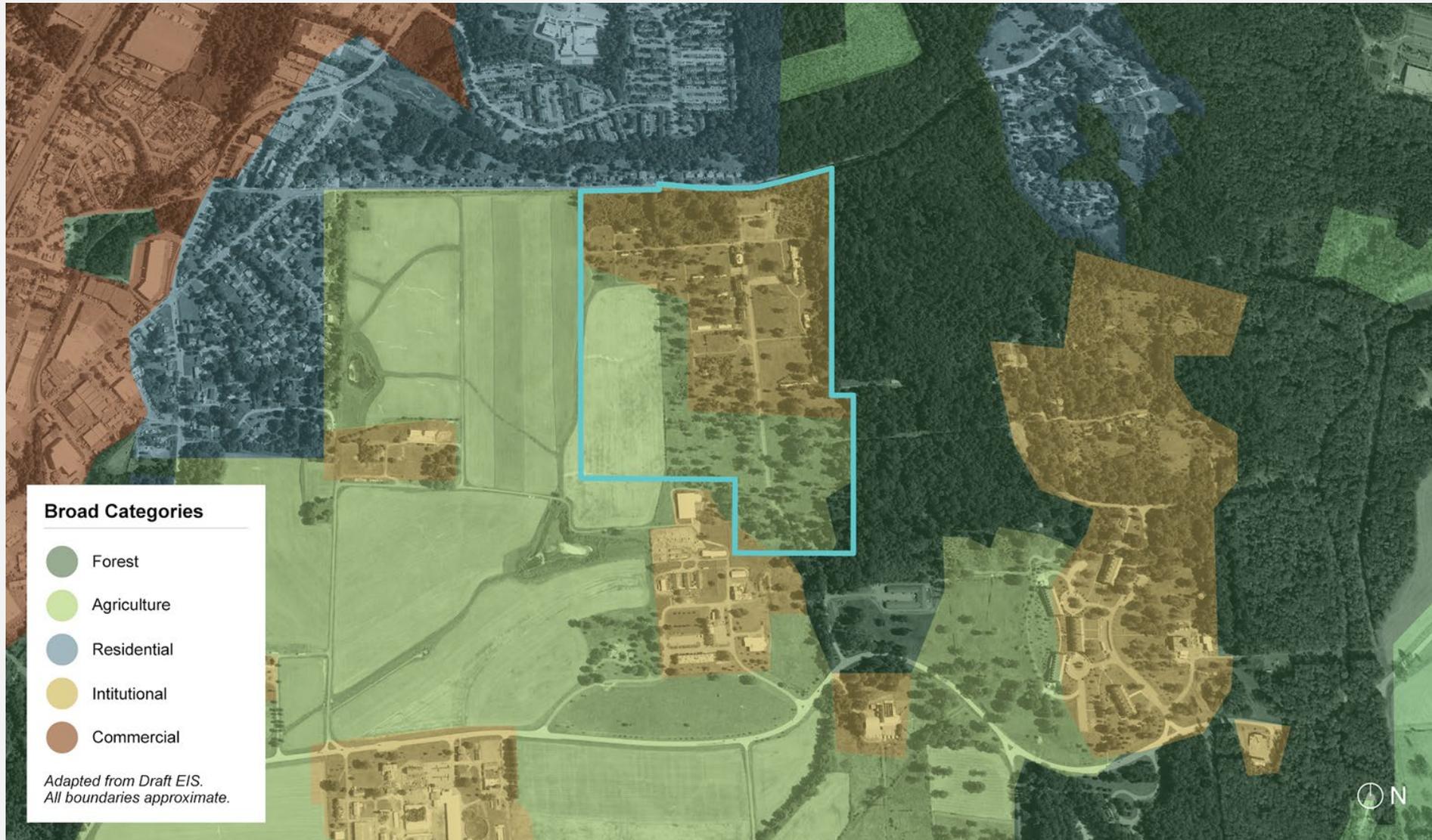
- 15 total intersections studied (approved by MNCPPC in Scoping Agreement)
- Study included BEP Employee Survey to identify possible future travel routes
- Impacted locations were identified for potential mitigation
- Project team will continue to assess and coordinate with local agencies in order to pursue mitigation strategies



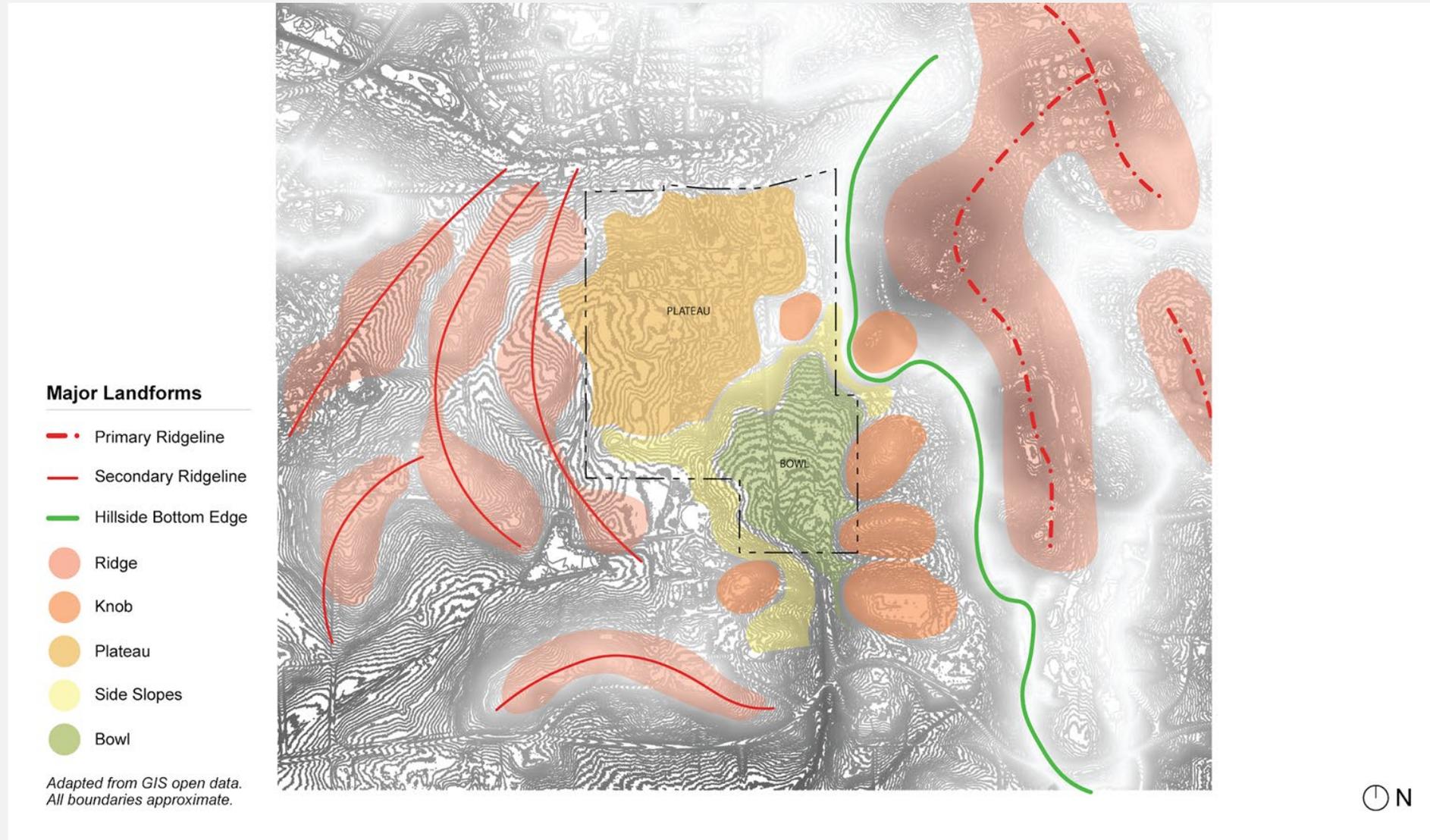
Location



Land Use



Landforms



Resources



Landscape Character



Cropland Looking Toward Forest
BARC Site, June 2020



Open Meadow with Tree Clusters
BARC Site, June 2020

Landscape Character



Wet Meadow
BARC Site, June 2020



Rolling Terrain / Copse of Trees
BARC Site, June 2020

Poultry Road Looking North



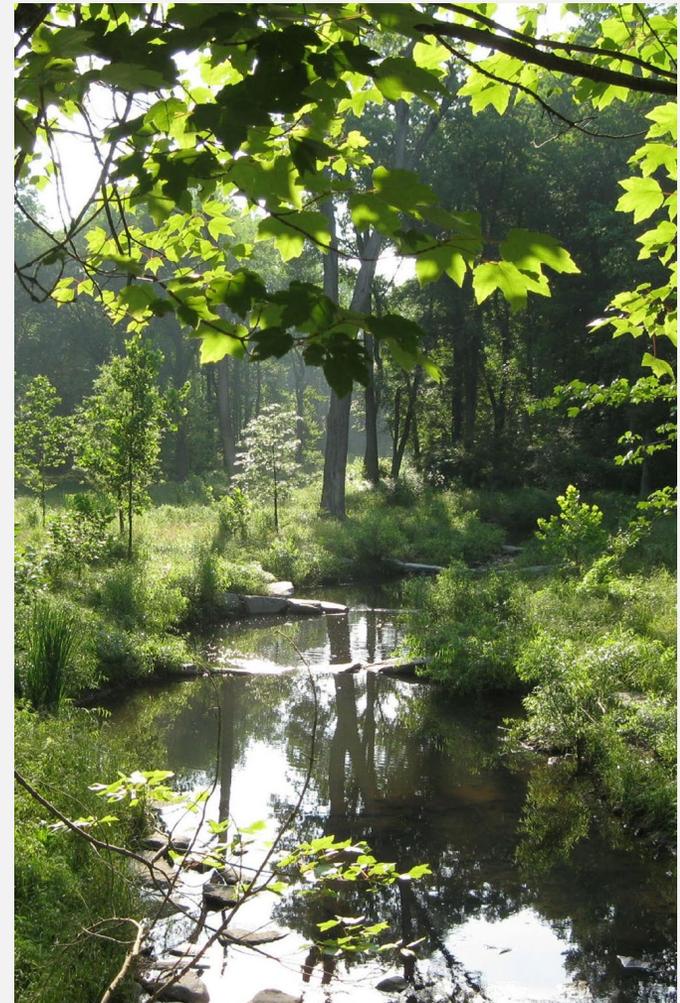
Site Amenity & Restoration Opportunities



Pedestrian Path, U.S. National Arboretum



Restored Wetland



Restored Stream



Existing Stream Culvert, BARC Site, June 2020

Guiding Principles

Balance: Security, Flexibility, and Efficiency

1. Security

Enhance the quality and effectiveness of security on campus and within the new facility. Design will provide best-in-class protection for manufacturing U.S. currency, its staff, and its visitors.

2. Future-proofing & Flexibility

Fabricate a state-of-the-art facility for the production of U.S. banknotes capable of accommodating rapid changes in printing technologies, processes, security threats, and shifts in future workplace.

3. Health, Wellness, & Safety

Design a new campus that meets production needs while enhancing workplace safety and quality of life for employees. Create a sense of community that embraces the 105-acre BARC site and attracts workforce talent for decades to come.

4. Institutional Identity

Build a discreet but distinctive facility that echoes the stature, security, and innovation of the U.S. bank note. Utilize the site to create a destination that invites visitors to learn about the production and history of US money. Design the building and site to blend in and communicate environmental sustainability to neighbors, visitors, and staff.

5. Operational Efficiency

Construct a high-performing and automated manufacturing facility that tracks the supply chain of materials and products, reduces Work In Progress (WIP), and utilizes building systems that are easily maintainable. Look globally at BEP's production and beyond to shape the most efficient and cost-effective currency manufacturer worldwide.

6. Technology & Process Innovation

Provide innovative solutions to accommodate evolving technology, reduce counterfeiting threats, and protect the environment.

7. Budget Compliance

Ensure lasting value of the project by tracking and calibrating design decisions through every phase.

8. Timeliness & Schedule

Establish rapid delivery of intelligent design that is on time in every phase through to construction.

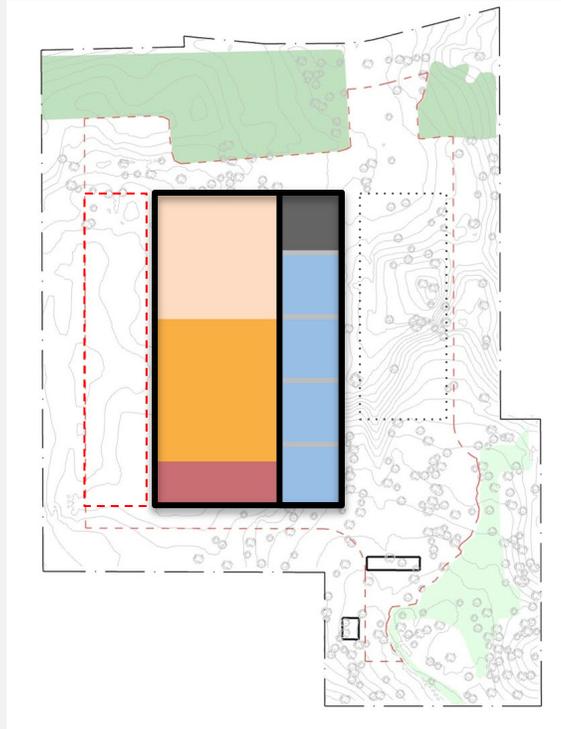
9. Sustainability & Environment

Respect the agricultural character of the site by minimizing site disturbances, reducing production waste streams, and maximizing green space. Generate sustainable campus-wide strategies to promote energy efficiency while balancing costs.

10. Workforce / Workplace

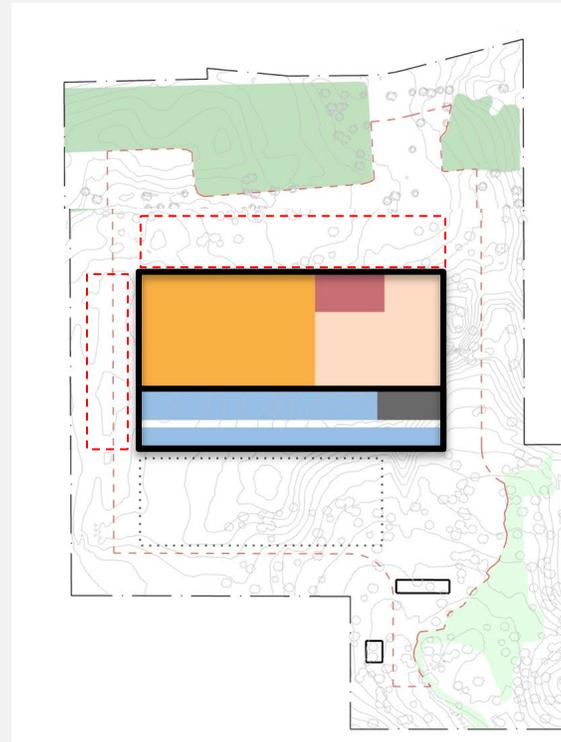
Promote BEP as a workplace of choice with shared core functions, collaboration spaces, and conferencing areas. Provide workplace and support spaces with daylight and access to nature to attract current and next generation workforce.

Initial Studies: Building Disposition



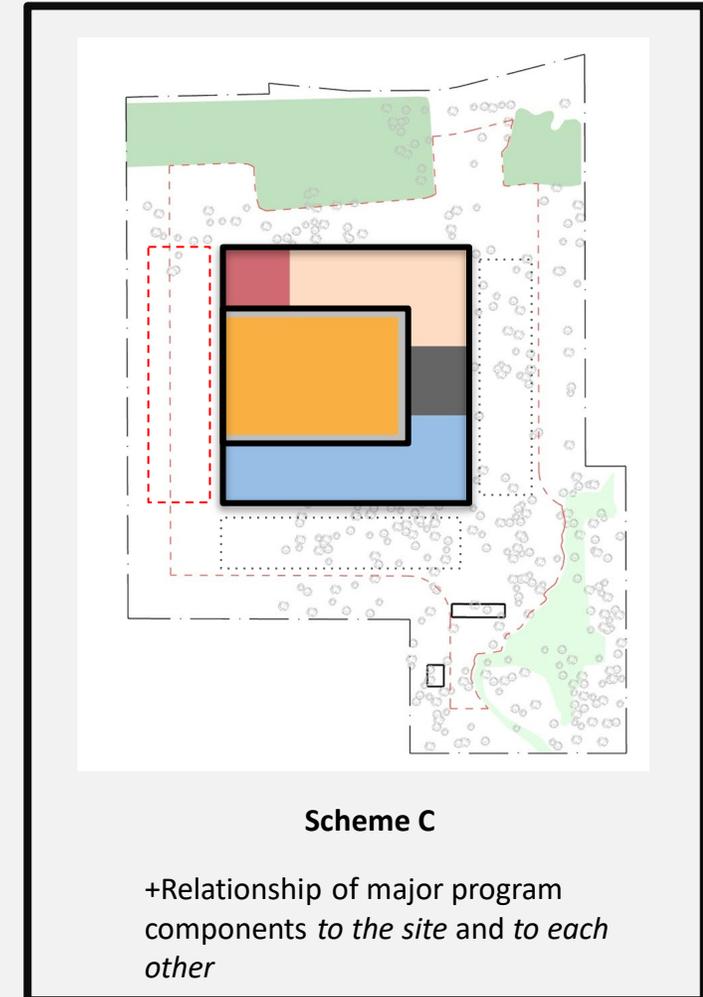
Scheme A

+Site as extension of eastern forest area



Scheme B

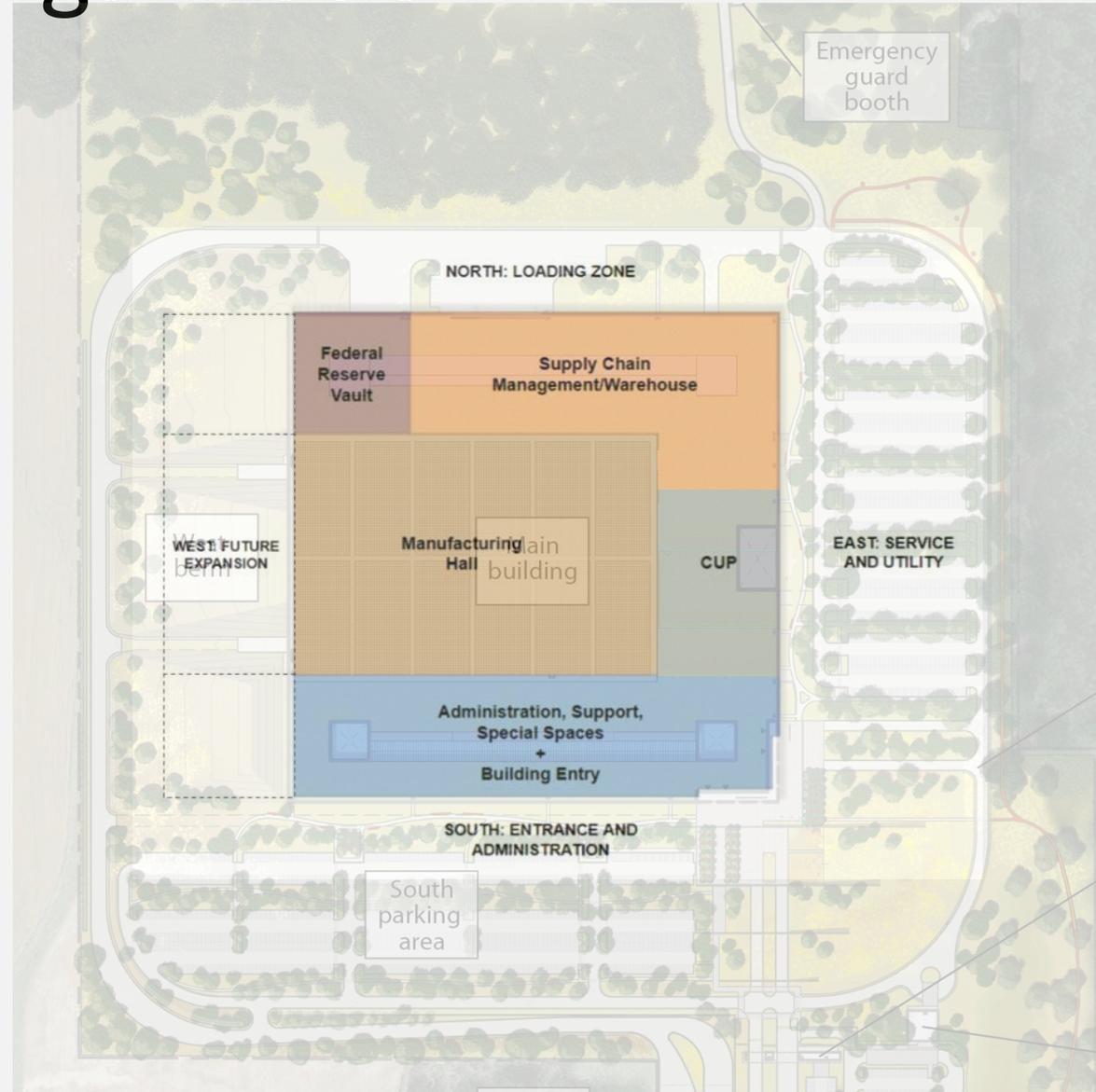
+ "Main Street" circulation as unifying feature of administrative wing



Scheme C

+Relationship of major program components *to the site and to each other*

Building Organization



Proposed Site Plan

Building

- Area - 921,600 square feet
- Height – varies, maximum is 40-50 feet

Site

- All parking spaces will utilize permeable pavement
- 50% of the main roof will be a green roof.
- Building placed to avoid wetlands (south) and forested areas (north and east)

Number of employees* 1,427

Parking Spaces 1,234

* total number of employees in 3 shifts.



Proposed Ratio

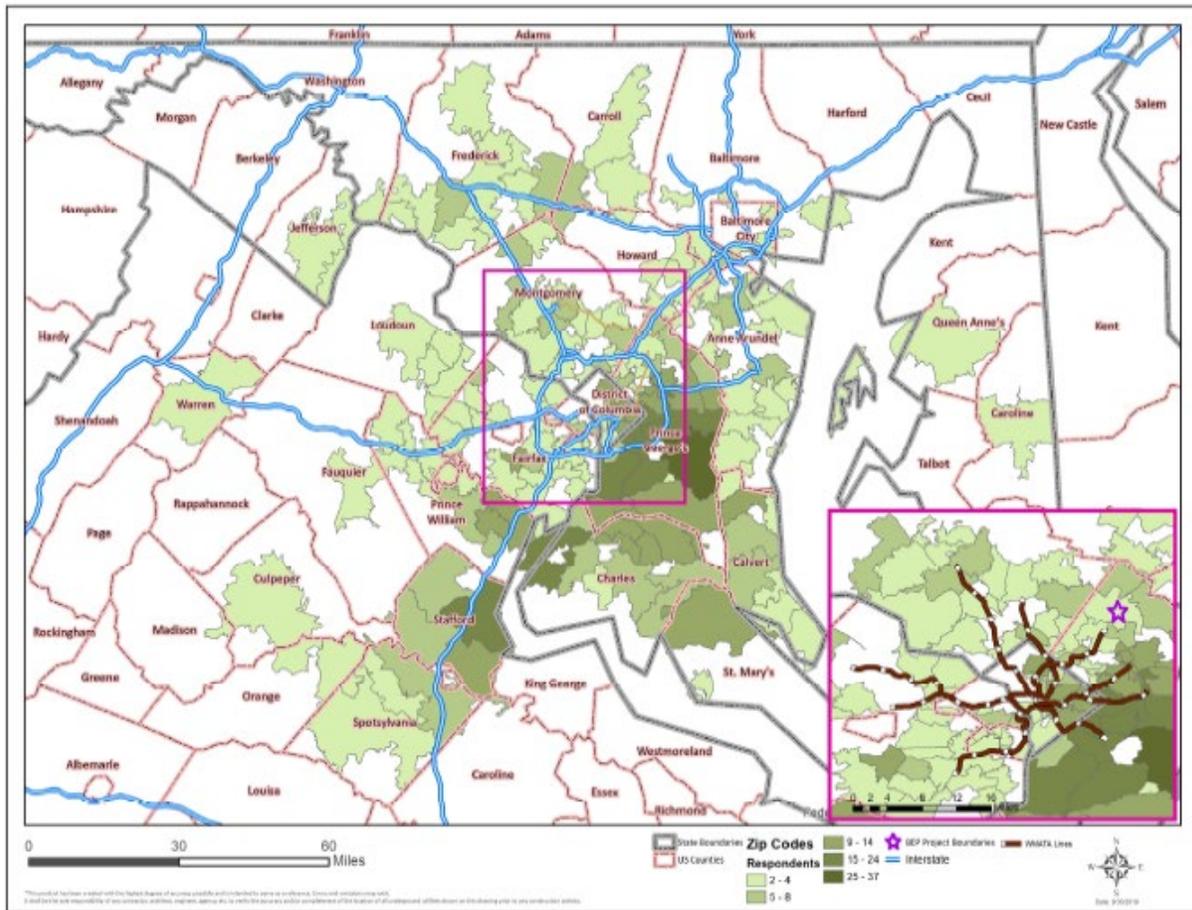
<u>Number of employees</u>	1,427
• Day shift (6:30a to 3pm)	1,138
• 884 production and 254 admin	
• Evening shift (2:30pm to 11pm)	168
• Midnight shift (10:30pm to 7:00am)	166

<u>Parking Spaces</u>	1,234
• 1,184 employee spaces	
• 30 visitors spaces	
• 20 VIP spaces	

Parking Ratio
1,184spaces/1,306 employees = 1.10 (parking ratio)



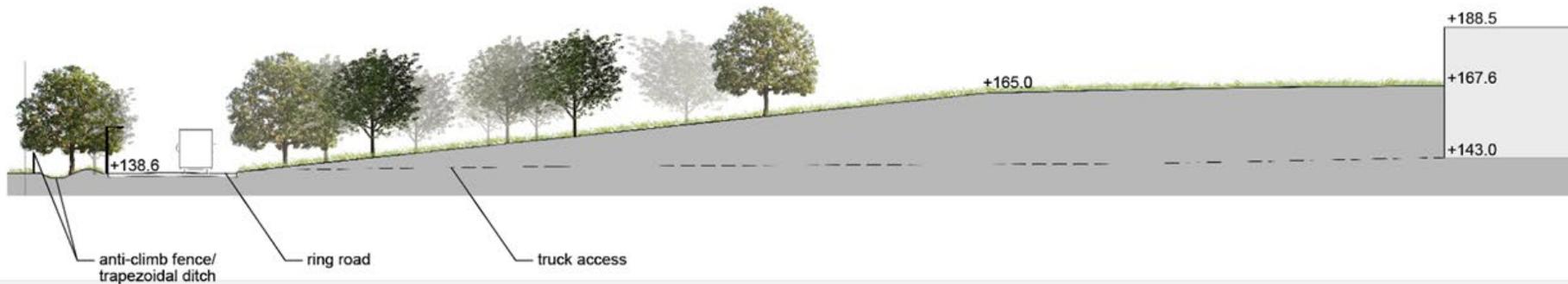
Parking Ratio Justification



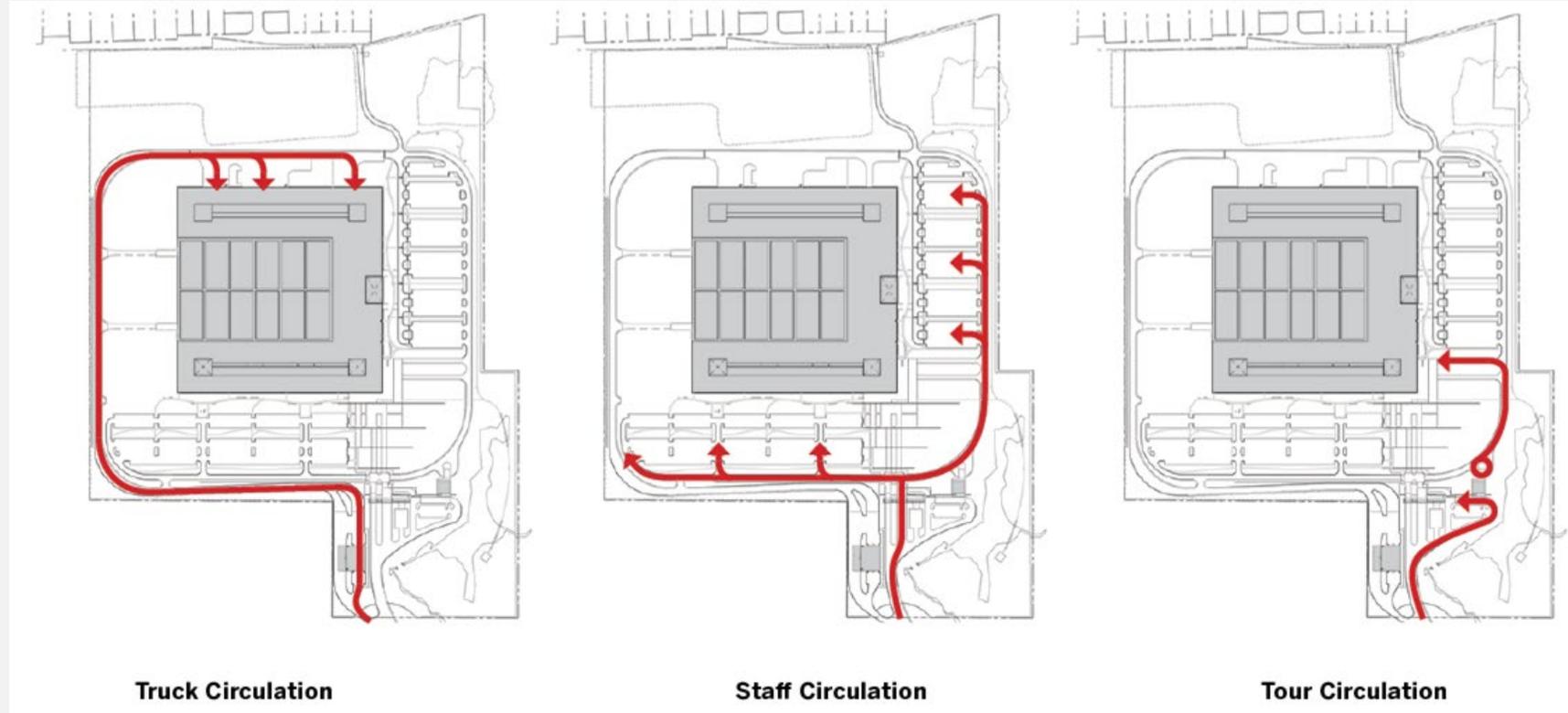
- Site is approximately 2 miles away from Metro station and there are no dedicated sidewalks or pathways connected to the site.
- Metro opens at 5:00am and the first shift (production/production support shift) need to be parked, changed into work clothes, receive any information from other shift and at their station by 6:30am.
- Employees will normally arrive at the site between 5:30am and 6am to give them time to get ready before their shift begins.
- These start times are set by the employee unions and would be difficult to change.
- BEP told us Metro is not really an option for this site because if production employees miss the first train (or if it is delayed) or the USDA bus connecting them to the site is delayed this would affect their production line.
- As indicated by this map, most of the staff is from southern Prince George's County and Charles County, MD and would need to ride the entire trip on Green Line then take a bus trip. And for the staff in Virginia, they would need to change trains and then take a bus which would add to the travel time and increase the possibility of being late.
- If the 1st shift employees are not ready to go when the midnight shift is finished, they will have to stop the presses, which causes production waste and increases production cost.

Preliminary Section

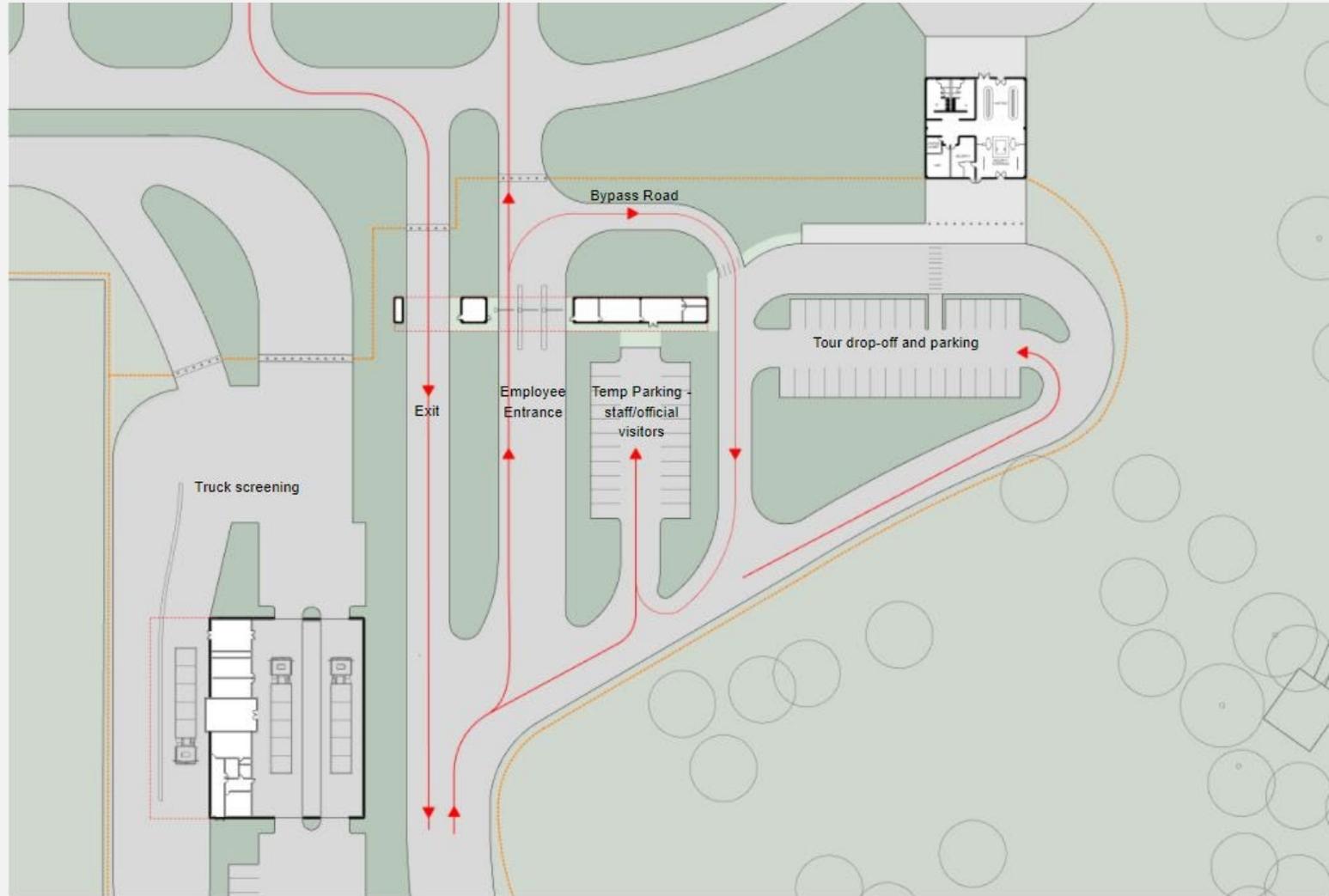
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Site Circulation



Entrance Circulation



Entrance Facilities



Entrance View



Interior Perspective



Building Approach and Parking



Aerial Looking West



Current View

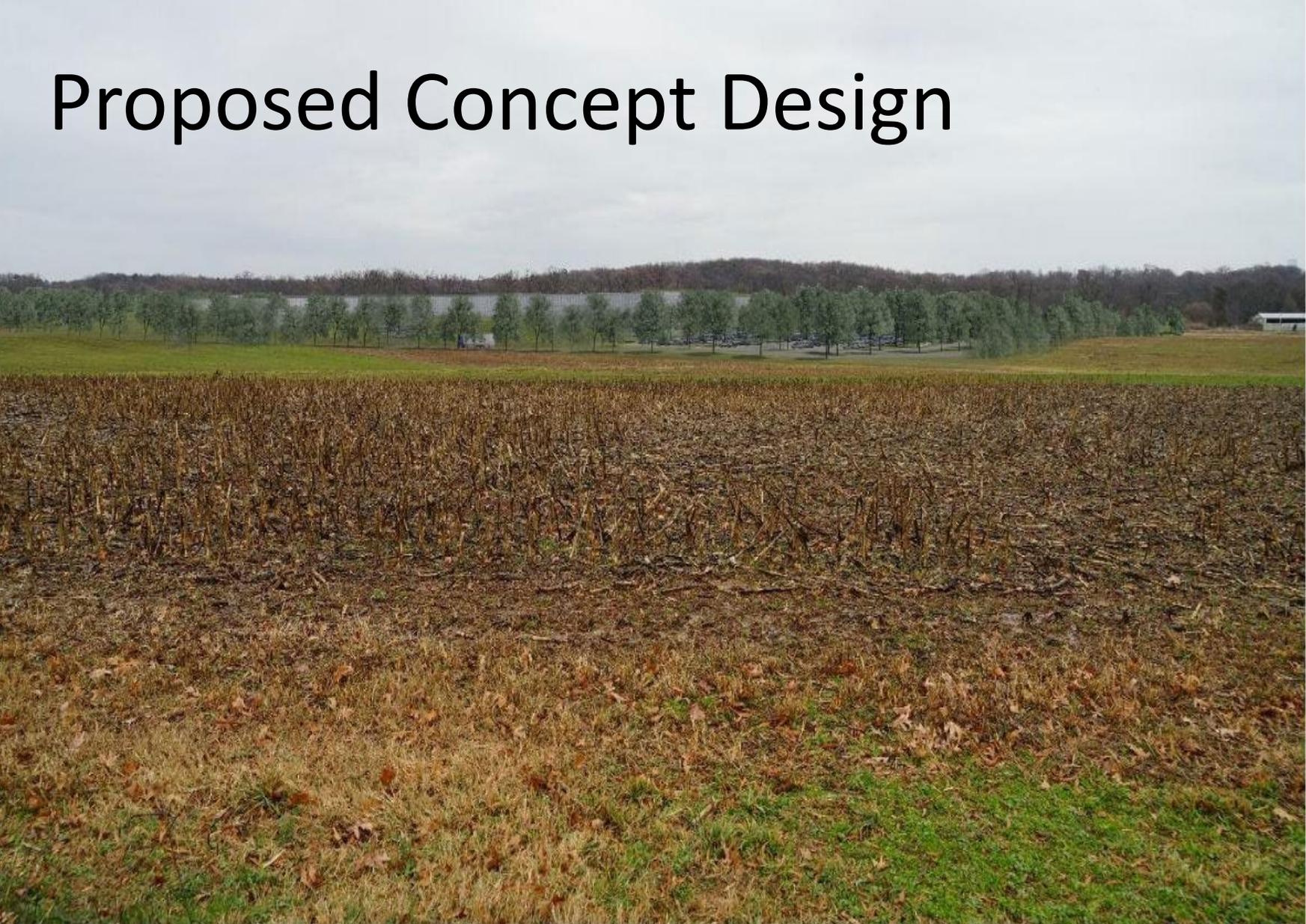


North Dairy Road facing Northeast



Key Plan

Proposed Concept Design



North Dairy Road facing Northeast



Key Plan

Stormwater Management

Design Requirements to be met:

- MDE Environmental Site Design (ESD)
- EISA Section 438

Design (BMP) Strategies:

- **Green Roof**
 - +/-50% of main building & out buildings
- **Rainwater Harvesting**
 - Cisterns - harvesting rooftop runoff
 - Reuse inside of building (cooling tower & gray water)
- **Permeable Pavements**
 - Permeable pavers - in parking stall areas
 - Reinforced Turf - in rarely used vehicular areas
- **Micro-bioretenion**
 - Interspersed throughout site
- **Bio/Grass Swales**
 - Along access roads
- **Submerged Gravel Wetlands**
 - Topographically low corners of site

