

Northern Bus Garage Replacement Project Quarterly Update

February 25, 2020





Welcome!

Opening Remarks



Councilmember Brandon Todd
Ward 4

Agenda

- I. Opening Remarks
- II. Site Investigations
 - A. Environmental Updates
 - B. National Environmental Policy Act (NEPA)
 - C. Geotechnical Update
- III. Design
 - A. Design Overview
 - B. Coordination with Historic Elements
 - C. Current Floor Plans
- IV. Electric Bus
- V. Construction
 - A. Building Demolition
 - B. Rock Excavation
 - C. Construction Monitoring/Preconstruction Survey
 - D. Traffic/Utilities
 - E. Permitting
- VI. Schedule
- VII. Questions and Answers

II. Site Investigations

Environmental Investigation

- Twenty Seven (27) Samples from soil borings
- Ten (10) temporary monitoring wells
- Report documenting the investigation recently received
- Findings are consistent with the age of the building and its past industrial use
- WMATA is assessing the report and will release information upon completing the review
- Coordination with DOEE continues

National Environmental Policy Act (or NEPA)

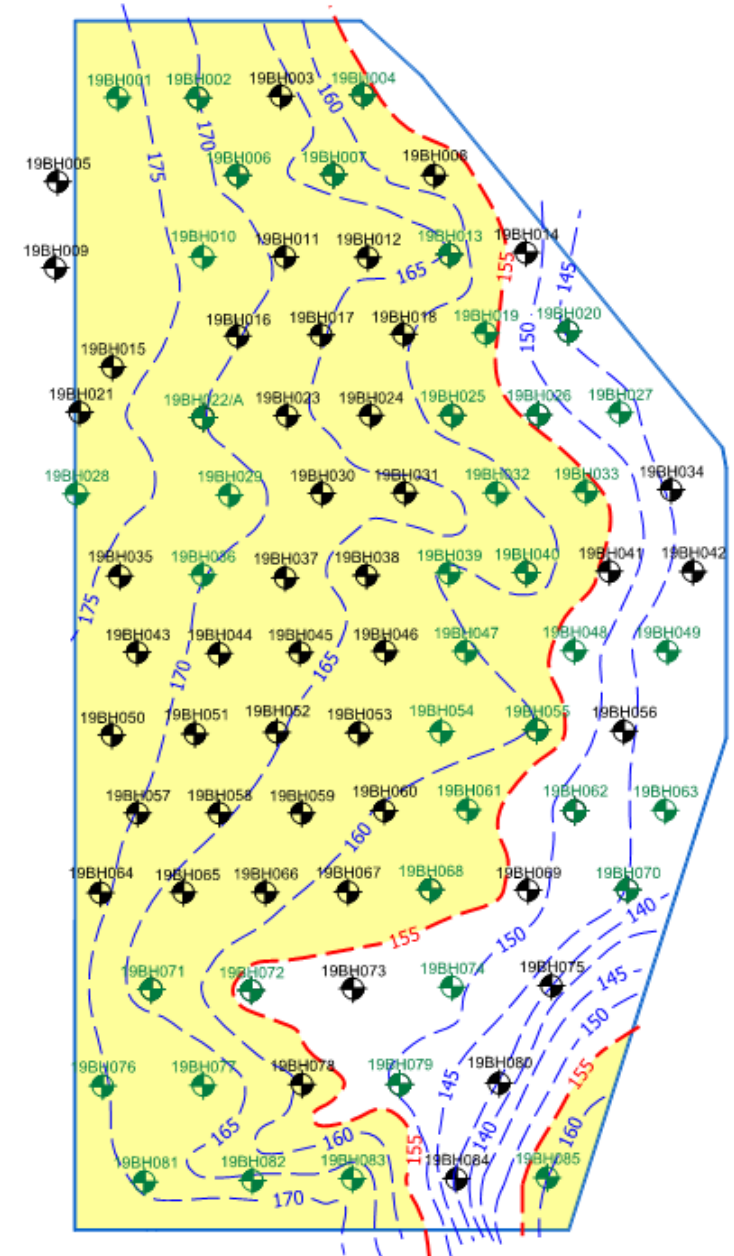
- Classes of Action
 - Categorical Exclusion
 - Environmental Assessment
 - Environmental Impact Statement
- Class of action determined by Federal Agency
- Topics evaluated under Categorical Exclusion or an Environmental Assessment are essentially the same

Topics

Categorical Exclusion	Environmental Assessment
Detailed Project Description	Introduction (including Purpose and Need) Description of Alternative
Metropolitan Planning and Air Quality Conformity	Metropolitan Planning and Air Quality Conformity
CO Hot Spots	CO Hot Spots
Zoning	Land Use and Zoning Consistency with Local Plans
Traffic Impacts	Traffic Impacts
Cultural Resources	Cultural Resources
Noise and Vibration	Noise and Vibration
Hazardous Materials	Hazardous Materials
Acquisitions and Relocations	Acquisitions and Relocations
Community Disruption and Environmental Justice	Community Disruption and Environmental Justice
Public Parkland and Recreation Areas	Public Parkland and Recreation Areas
Ecologically Sensitive Areas/Endangered Species	Ecologically Sensitive Areas/Endangered Species
Impacts on Wetlands, Floodplain Impacts Water Quality, Navigable Waterways & Coastal Zones	Wetlands, Floodplain Impacts, Wild and Scenic Rivers, Water Quality, Navigable Waterways & Coastal Zones
Safety and Security	Safety and Security
Construction Impacts	Construction Impacts
	Utilities
	Soils and Geologic Conditions

Geotechnical Investigation

- Geotechnical Borings have identified a large ledge of bedrock on site
- Laboratory testing has determined the rock has an average strength of over 12,000 PSI which limits the removal options
- Team has explored methods on how to best remove the 50,000 CY from the site
- Removal of rock discussed in detail later in the presentation.



III. Design

Design Progress Update

- Currently at 40% design documents for new facility
- Preservation of Historic Façade and Structures
 - On-going coordination with SHPO
 - Design of Temporary Supports in Progress
- LEED Certification – working with U.S. Green Building Council
 - Scorecard is being tabulated – Pursuing Platinum
- Civil Utilities – Surveyors have finished and designs are in progress
- Equipment – Shop Layouts are being refined
- Retail Space – Working with Street Sense to deliver retail to the community
- Refining Floor Plans and bus circulation

Northern Bus Garage – Historic Preservation Update

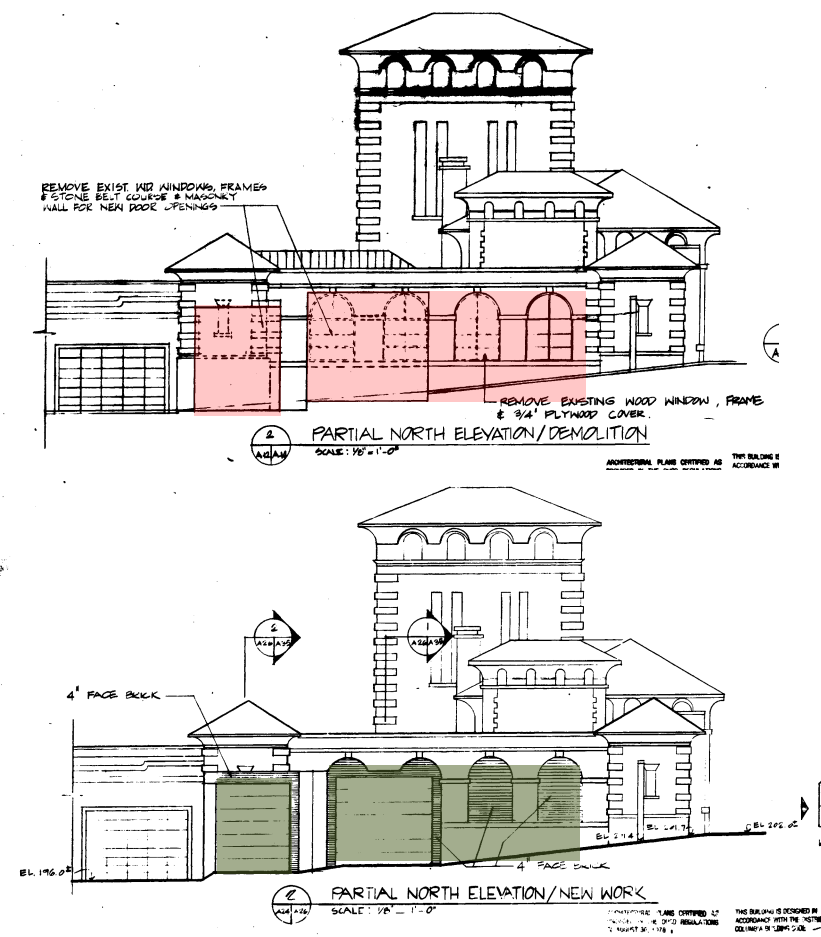
- Additional Archival Research
- Site Survey and Documentation
- SHPO Meeting - Review of Historic Building
- Section 106 Progress
- Laser Scanning and 3D Modelling



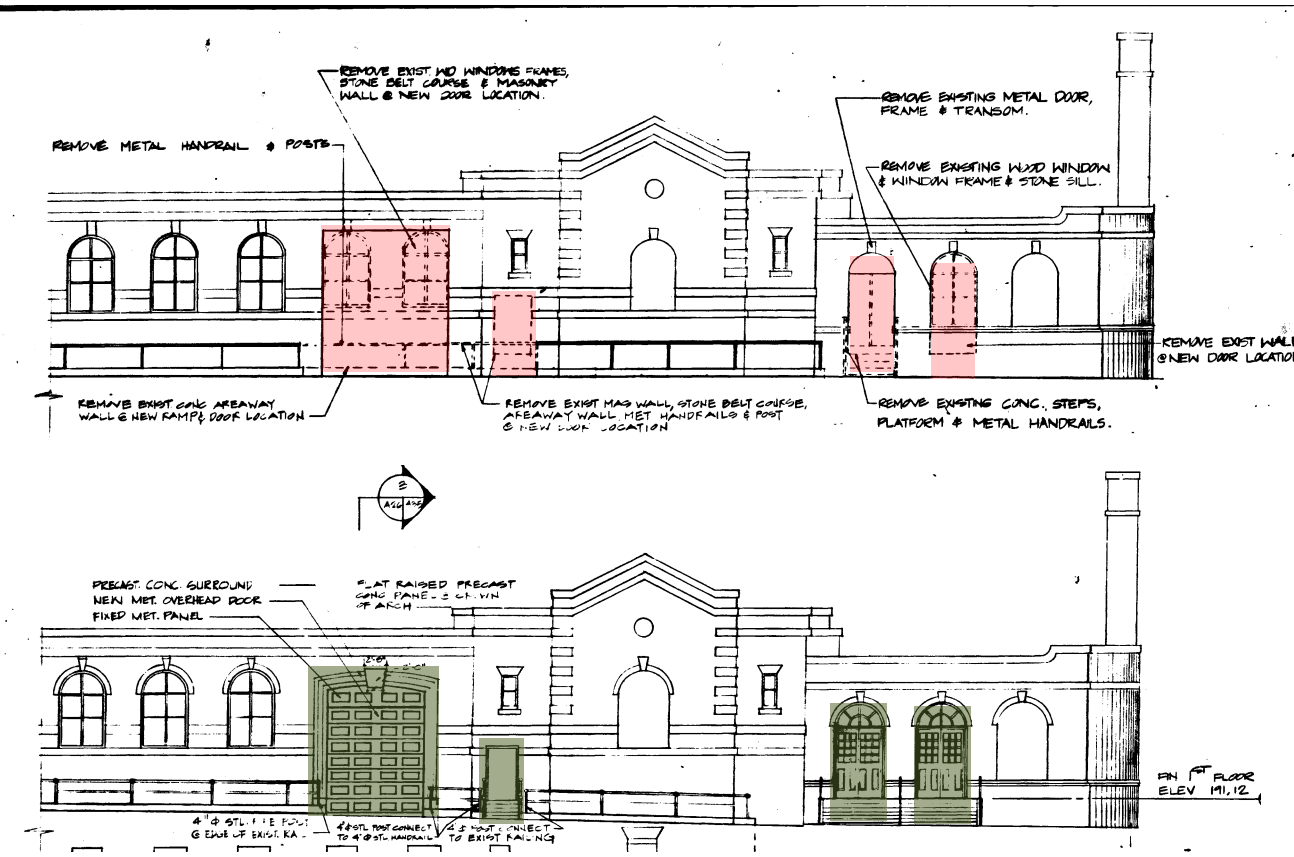
Historic Preservation Update – 1974,1987-92



Historic Fabric – Exterior Alterations

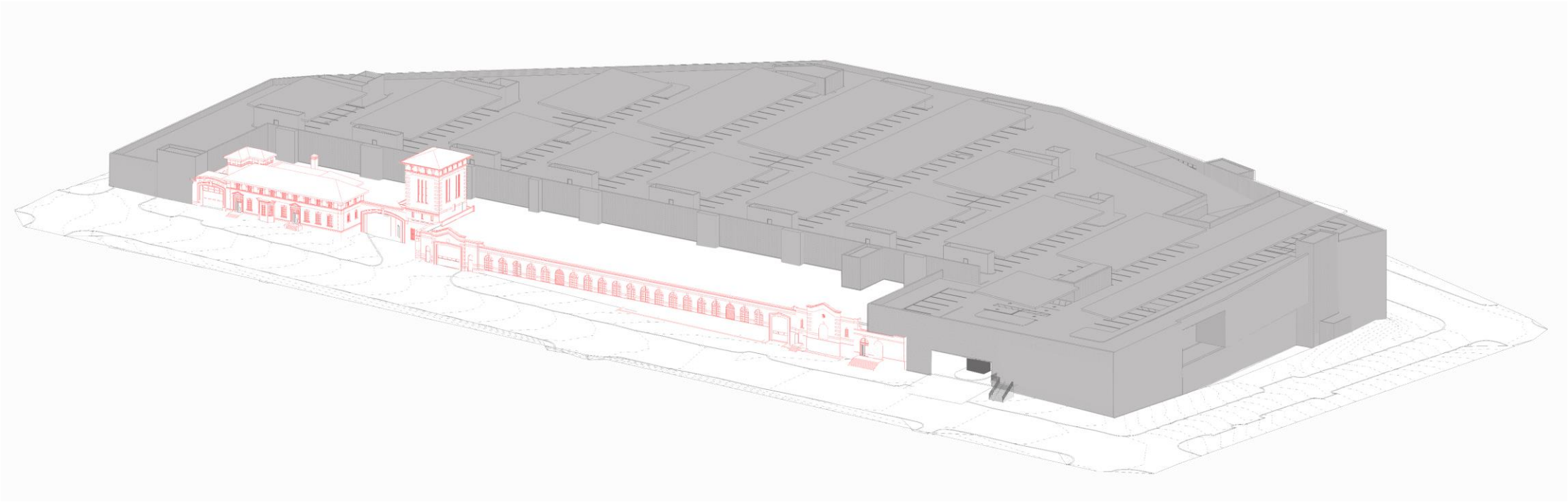


1987 Demolition Drawing
Areas Removed =



1987 Proposed Work Drawing
New Work =

Treatment of Historic Fabric



Façade Design Overview

- Be respectful of the historic architecture while using design to engage the community. The design team has been working very closely with the Historic Preservation Office to achieve this goal, especially on 14th Street facade.
- Anchor the corners and open up the façade as the building transitions away from historic fabric. The building design highlights entrances and reflects movement of the buses inside the building.
- Incorporate pedestrian friendly details and green elements.
- Look at the changing nature of the 14th Street Corridor and how this project responds to that.

Façade Design - 14th Street

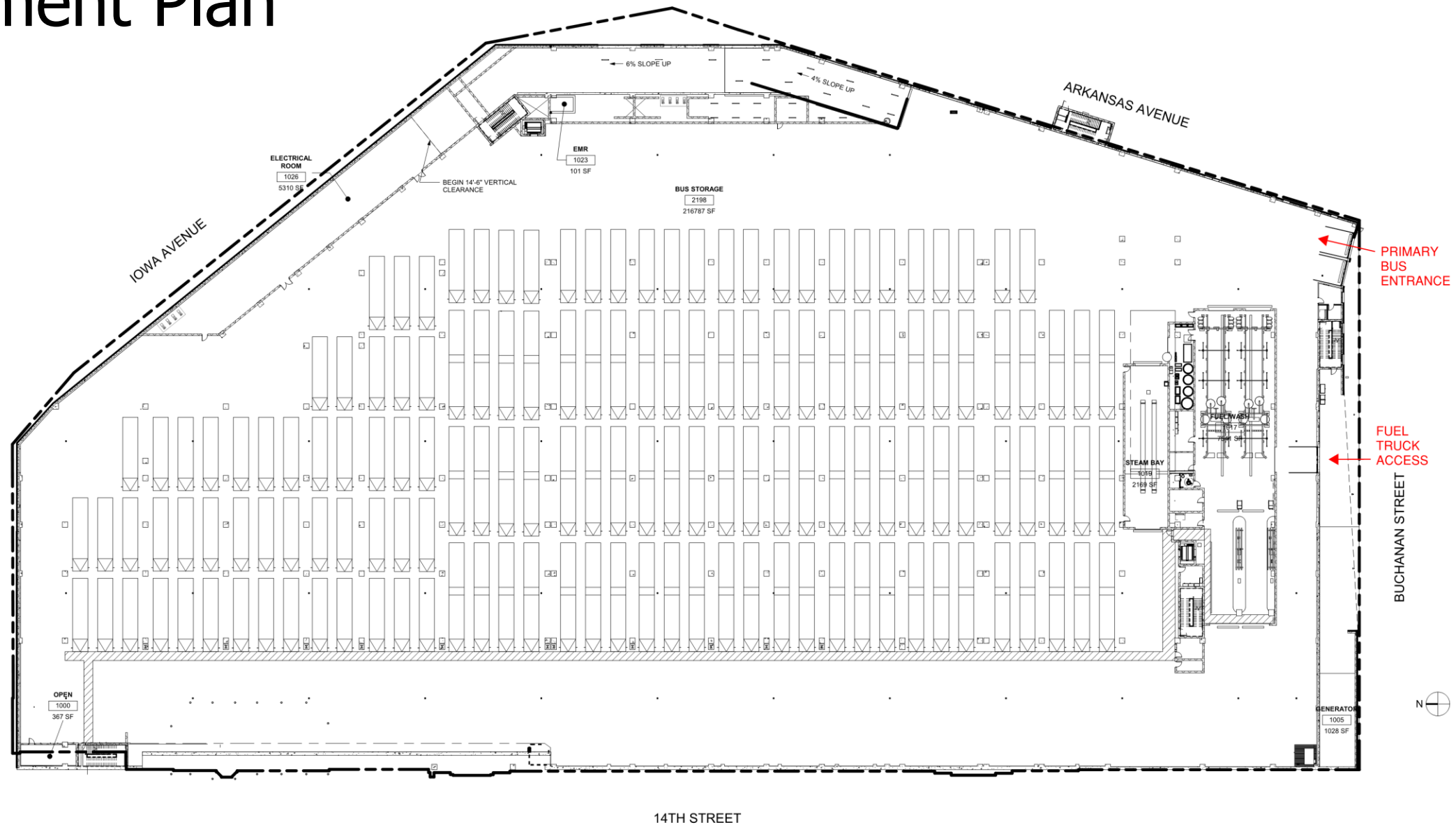


Façade Design

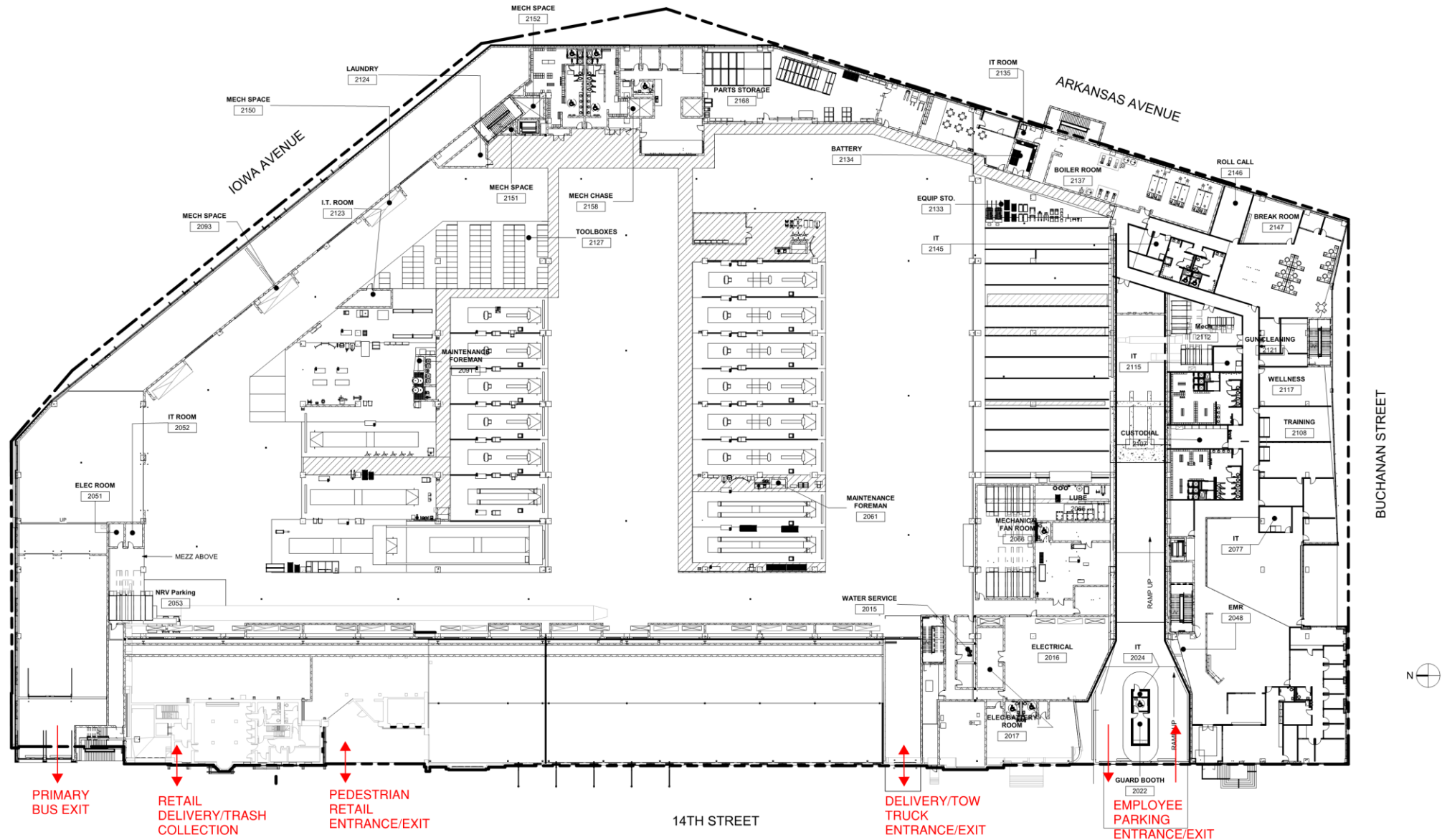
We want your feedback. Please discuss your thoughts with us at the end of the meeting!



Basement Plan

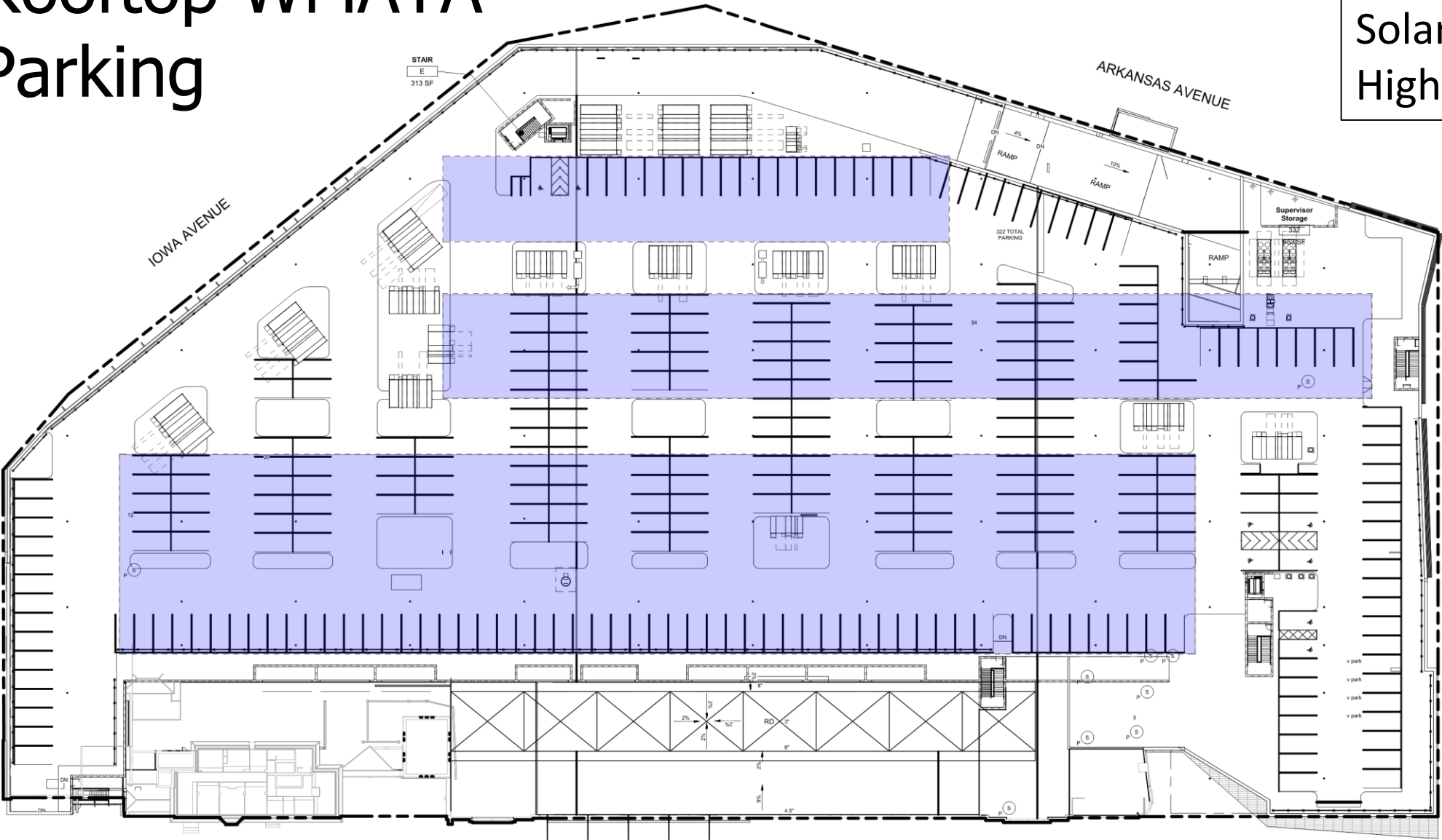


Operations and Maintenance Plan



Rooftop WMATA Parking

Solar Panels are
Highlighted



IV. Electric Bus

Overview of Electric Bus Program

This analysis will serve as a “road map” to determine the viability and plan to move towards a Zero Emissions Bus (ZEB) fleet. This analysis will be comprehensive and determine planning, maintenance, training, financial, infrastructure, environmental considerations as well as the future fleet make up. This analysis is intended to address this issues in relation to the WMATA service area. Based on recommendations from this analysis a test and evaluation fleet will be procured. Based on the success of this pilot, WMATA will determine an implementation strategy. This program consists of two phases.

- Phase 1. Electric Bus Alternative Analysis (ninemonths)
 - Phase 1 will cover Infrastructure, planning, electric bus fleet, and financial costs and requirements
 - The task order statement of work for Phase 1 was issued to AECOM and kicked off March 15, 2019
 - Phase 1 **was completed** December 30, 2019
- Phase 2. Electric Bus Evaluation Fleet (3 years) – **Starts March 1, 2020**
 - Procurement process estimated to take six months
 - Process to build the buses and infrastructure is estimated to take 16 months
 - Pilot fleet will run in service for approximately one year
 - Based on the pilot results future rollout will be determined

Electric Bus Timeline

Phase 1 - **COMPLETE**

Start: March 15, 2019

Finish^h: December 30, 2019

Phase 2:

- Solicitation process: **March 1, 2020** - July 2020
- Build Electric buses and complete Infrastructure upgrades: July 2020 – December 2021
- Run Pilot: December 2021 – December 31, 2022

Future Phase 3

- Based on the results of the pilot and Analysis a roll out plan will be determined

Moving Forward to a Zero Emission Bus Fleet

Building upon the efforts of Metro's first-ever Energy Action Plan, released in 2019, and the Washington Area Bus Transformation Project, Metro is engaging in zero-emission fleet planning to enable a clean and sustainable region, control operating costs and improve the customer experience.

Moving Forward to a Zero Emission Bus Fleet

Metro cannot achieve the transition to a zero-emission bus fleet alone. Required actions for the region include:

- 1. Energy Infrastructure Investments –** Identify, fund and build utility infrastructure required to operate service
- 2. Policies & Rate Structures –** Establish regional policies and energy rate structures
- 3. Funding for Zero-Emission Buses & Facility Conversion –** Increase funding to replace the existing fleet with cleaner buses

Moving Forward to a Zero Emission Bus Fleet

- Metrobus garages range in size from 100 to 250 buses. The introduction of a zero- emission bus fleet will require the installation of sizable energy infrastructure capable of carrying 9MW of power – the amount demanded by 150 buses or 6,000 homes. 9MW far exceeds the capacity of existing localized grid connections.
- At this time, the scale, timing, location and cost of the required regional energy infrastructure investments have not been identified. Before a full rollout of zero-emission buses, the region must prioritize the investments needed and identify funding to pay for them.
- To address these considerations, Metro is working with regional partners to identify the needs, costs and funding sources required to move fleet electrification beyond pilots to scalable solutions.

Moving Forward to a Zero Emission Bus Fleet

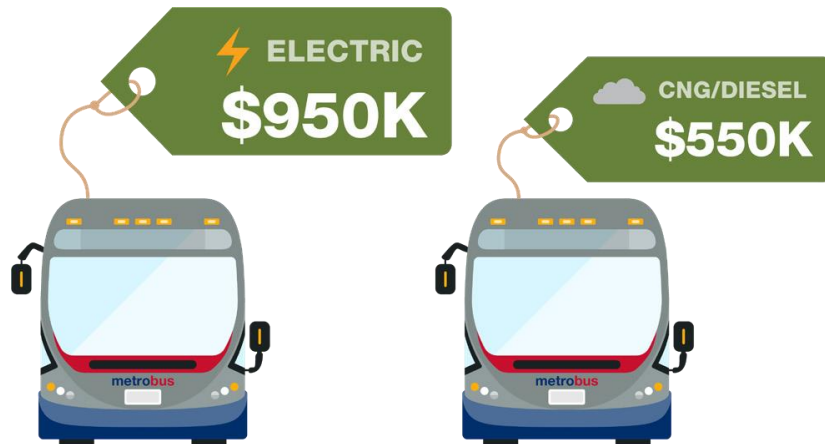
Zero-emission technologies, including battery electric buses, have a significantly higher upfront capital cost than traditional compressed natural gas (CNG) or diesel buses. Increased jurisdictional investment will be vital to transitioning Metro's fleet to one that is zero-emission.

A Clean Transportation Future

Zero-emission buses have the potential to provide higher-quality service and significant benefits for the region, but the transition to zero-emission bus service will require significant regional investment and coordination.

Metro is committed to working with our regional partners to address these challenges and provide an even more sustainable transportation future.

Approximate Vehicle Costs



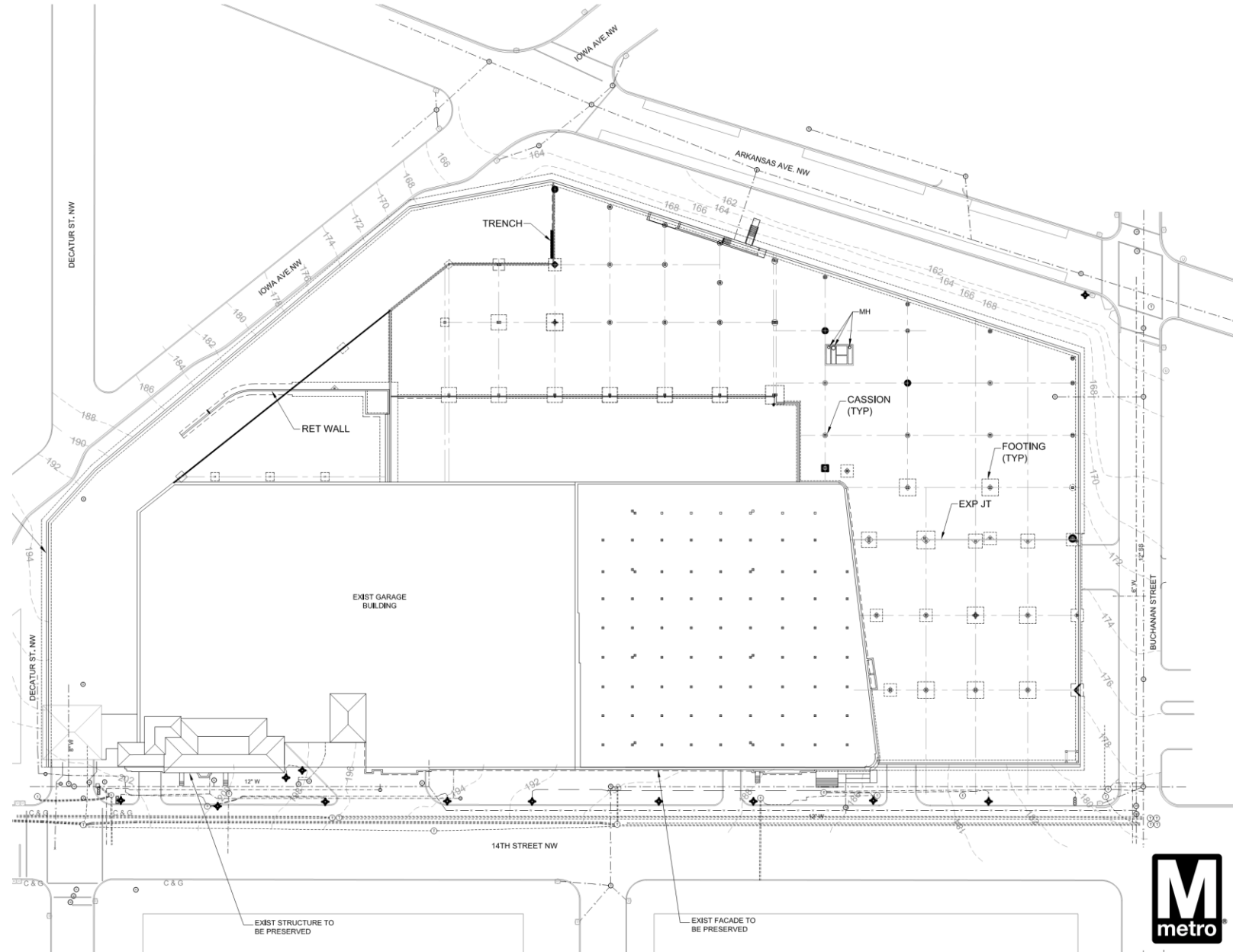
Coordination with PEPCO

- Clark team has advanced calculations to determine future electrical demand for fleet of 150 electric buses
 - WMATA coordinating with PEPCO on infrastructure needed to support this demand
- Advancing design of new facility to accommodate two charging technologies (pantograph and induction) for flexibility in changing market
 - Programming dedicated space for future BEB electrical infrastructure

V. Construction

Demolition

- Abatement First
- Permit coordination with District Agencies
- Dust and Noise Control
 - South and East walls to be maintained as long as possible.
 - Provides noise reduction and limits visibility.



Rock and Rock Excavation

- The proposed method uses a product called NX Burst, in lieu of controlled blasting, to break the in-situ rock and produces less ground vibrations.
- The NX Burst reacts very quickly when initiated to rapidly produce high volumes of gas to fracture the rock. The grains inside the cartridge emit a non-toxic gas which will push a reactive multi-directional (bursting) force that causes the rock to break.
- This is similar to how water breaks rock when it freezes and expands.
- The byproduct of the reaction is CO₂ and water vapors.

Rock and Rock Excavation

- There will be onsite processing of some of the rock
- It will be reused as backfill which will reduce number of trucks entering and leaving the jobsite.
- All contaminated soil materials will be removed from the site
- No testing to date has revealed any contamination in the rock



Construction Monitoring

- Various instruments installed to monitor for movements as coordinated and permitted with District Agencies
 - In ground to measure movement and groundwater
 - On Adjacent Structures (with owner permission)
 - On Ground surface
 - On Utilities
- Automatic monitoring 24/7 with auto alerts
- Vibration monitoring at project perimeter

Preconstruction Surveys

- Survey offered for all adjacent buildings to document existing conditions
- Taken prior to start of demolition
- Post construction surveys completed after completion
- Performed by independent 3rd party engineering firm
- Secure storage of all information

Traffic Coordination

- Maintaining travel lanes on surrounding roadways (only temporary lane closures for site access or utility/roadway improvements)
- Potential sidewalk closures/shifts
- Maintain protected pedestrian pathways around site during construction
- All temporary maintenance of traffic will be coordinated with DDOT and other District Agencies

Utility Coordination

- Cut & cap existing Northern Bus Garage services prior to start of demolition
- New temporary and permanent utility services (mostly along 14th Street & Arkansas Avenue)
- Gas line relocation from Decatur Street prior to construction by Washington Gas
- Relocation of remaining utilities in Decatur ahead of new construction

Permitting and District Approvals

- Continued Coordination with District and Federal Agencies
 - Large Tract Review process underway
 - DDOT Public Space Changes
 - DCRA Building Permits
 - DOEE Environmental Approvals and Inspections
 - DCSHPO Coordination
 - Historic Preservation Review Board (HPRB) hearing March 26, 2020
 - Section 106 process ongoing with FTA

VI. Schedule

Overall Schedule

Milestone	Date
Finalize Scope of Work for Demolition & Construction	Q2 2020*
Complete Contract Negotiations for Demolition and Construction	Q2 2020*
Retail Meeting 3	March 10 th 2020
ANC Meeting	March 11 th 2020*
Retail Meeting 4	March 24 th 2020
HPRB Meeting	March 26 th 2020
Next Quarterly Update	May 2020
Demolition Start	Q3 2020*
Construction Start	Q3 2021*
Project Completion	Q4 2024*

* Dates and time frames are anticipated and subject to change.

VII. Questions and Answers

Community Notification Tools

- Project Website Has Launched: <https://northernbusgarage.com/>
 - Project Updates
 - Meeting Notices
 - Reports and Studies
 - Team Contact Information
 - Monthly Progress Photos

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Questions and Answers

