

DOWNTOWN REMOTE OPERATIONS FACILITY
RALEIGH, NORTH CAROLINA

OWNER
CITY OF RALEIGH

ARCHITECT
WILLIARD FERM ARCHITECTS, PA

CONSULTANTS
MAINTENANCE DESIGN GROUP
PROGRAMMING / MAINTENANCE EQUIPMENT CONSULTANT

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CIVIL ENGINEER / LANDSCAPE ARCHITECT

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RNL ARCHITECTURE
QUALITY ASSURANCE / ARCHITECTURAL SUPPORT

FUEL SOLUTIONS
FUEL SYSTEMS CONSULTANT

FROEHLING & ROBERTSON, INC.
GEOTECHNICAL / SURVEYING SERVICES

CALLIS CONTRACTORS, INC.
SCHEDULING / COST ESTIMATING

TALBOT & ASSOCIATES CONSULTING ENGINEERS, INC.
COMMISSIONING AUTHORITY

RALEIGH CITY COUNCIL PRESENTATION
JANUARY 9, 2013

PROJECT SUMMARY

In 2005, the City of Raleigh commissioned a study to evaluate the City's existing operations facilities, their projected growth, and the operational benefits of transitioning City services from their current centralized service locations to a citywide, distributed approach.

EXCERPT FROM 2005 PROPOSAL REQUEST

The City of Raleigh, North Carolina is a rapidly growing area, with an estimated population of 322,000 people. The population is projected to reach 542,000 by the year 2025. The City currently encompasses approximately 127 square miles and is expected to expand to 213 square miles by 2025. The City of Raleigh has outgrown its current operational facilities and all departments experience excessive drive times to work sites due to centralization of facilities.

The 2005 study recommended that a network of five decentralized remote operations facilities be established. These centers would include a Downtown Remote Operations, Wilder's Grove Remote Operations, Mount Herman Road Remote Operations, Northeast Remote Operations, and a Marsh Creek Remote Operations Facility.

DOWNTOWN REMOTE OPERATIONS FACILITY

Located behind the Parker-Lincoln Building (a former Westinghouse manufacturing plant), the project site is made up of two parcels bound by Raleigh Boulevard, Westinghouse Boulevard, and Appliance Court. Phase 1 of the new Downtown Remote Operations Facility (DROF) will include the following City of Raleigh operations: Vehicle Fleet Maintenance, Radio Shop, Street Maintenance, and Traffic Engineering. A planned future Phase 2 development will add Parks & Recreation to the site as well as an expansion of the existing Brentwood Road Facilities Maintenance & Operations Facility.

VEHICLE FLEET SERVICES

Vehicle Fleet Services (VFS) currently operates out of the Devereaux Meadows Facility, located at 1014 N. West Street. VFS is responsible for maintaining utility trucks, dump trucks, bucket trucks, flatbed trucks, pickup trucks, vans, buses, police vehicles and motorcycles and other general purpose sedans and SUVs, street sweepers, leaf equipment, and some of the Solid Waste Services vehicles. Though few of these vehicles are domiciled at the VFS location, the current site is very limited, therefore ample down line and ready line parking spaces will be required for incoming and outgoing equipment and vehicles. The current facilities are outdated and inadequately sized for the type and volume of work trying to be performed on a daily basis at these facilities. Specialty shop spaces do not exist in the current facility so work winds up being performed in walkways and shop aisles. All of VFS will be relocated to the new Downtown Remote Operations Facility in order to vacate the Devereaux Meadows Site for sale or redevelopment.

The new VFS Maintenance Building will create 68,978 square feet of vehicle service, repair, and preventative maintenance garage bays and associated support spaces including: parts department tire and alignment service bays, welding shop, vehicle chassis wash, a dedicated compressed natural gas (CNG) service bay, training room, administrative offices, and employee locker/break/support areas.

RADIO COMMUNICATIONS SHOP

The Radio Communications group currently operates out of the Traffic Engineering Field Office. The existing shop space is crowded and is inadequate for all the technicians. Storage space is limited and remote storage areas are required at other City facilities to accommodate radio and systems storage. The current Radio Install Bay is inadequate in size and many vehicles have to be worked on outside the bay during good weather only. The Radio Communications group works on over 500 vehicles per month from simple battery/small parts replacements to full communication system overhauls.

Within the new Downtown Remote Operations Facility, the Radio Communications group will require larger "clean" shop space and additional installation bays. Larger storage rooms with staging space will be provided with additional space for

RADIO COMMUNICATIONS SHOP (Continued)

Public Safety Storage and Staff members as well. Initially programmed as a possible standalone facility, the opportunity to integrate the Radio Shop with the VFS building was identified. This combined approach will allow for sharing of resources and similar program spaces.

STREET MAINTENANCE

The Street Maintenance Division currently operates from two parcels of property also located at the Devereaux Meadows Site that is to be vacated for private sale or redevelopment.

The Street Maintenance Division is responsible for routine maintenance and cleaning of the streets, storm water sewer system and leaf and snow removal. The Street Maintenance Division utilizes a wide variety of vehicles and equipment to perform daily duties. Streets plans to completely relocate off the current site, dividing its operations between the new Northeast Remote Operations Facility and the new Downtown Remote Operations Facility (40% - 60% split respectively).

The current Streets site does not allow for the storage of all vehicles and does not have space for an employee parking lot. The site also lacks adequate circulation space around vehicles and equipment storage areas, often leaving vehicles and crew deployments delayed due to waiting for vehicles being loaded in drive aisles. Current Administration and Support space is inadequate with no room to expand the facilities. Crew rooms are small and cramped with staff lockers located within them. A storage warehouse space was converted to a vehicle repair bay, however, it is still inadequate in size and quantity as the Street Maintenance Division continues to work on more and more of their own vehicles and equipment.

The new Downtown Remote Operations Street Maintenance Facility consists of three major components: the new Street Operations Building will serve as the main administration building for the Streets Division and will serve as its operational headquarters during emergencies and weather events. The building incorporates eight crew rooms for the Division's different street crews and inspectors. The 21,010 SF Street Ops Building also incorporates a training/meeting room, equipment/tool warehouse, and employee locker/support areas.

PROJECT SUMMARY

(CONTINUED)

STREET MAINTENANCE (continued)

Street Shop Building

The Street Shop Building is a 10,625 SF maintenance shop dedicated to servicing and repairing Street Maintenance equipment and vehicles. This building incorporates two vehicle/equipment service bays, a dedicated carpentry repair bay, battery storage, a rough vehicle wash, and staff office/support areas.

Street Support Buildings

A 6,823 SF Salt Barn and Brine Production facility will be built onsite to support winter operations. 19,522 SF of Covered Storage Structures will provide protected storage for vehicles, equipment, materials, and other supplies critical to the Street Maintenance Division's mission.

TRAFFIC ENGINEERING

The Traffic Engineering Division has a field office on South Wilmington Street. The Traffic Engineering Division is responsible for routine maintenance and repair of traffic signals and signs for the City of Raleigh. The existing Traffic Engineering sign and signal service shop is partnered with the Raleigh-Wake Emergency Communications Center Radio Communications Shop. These two functions are planned to be separated in the new DROF.

Currently, Traffic Sign and Signal groups operate out of undersized facilities with crowded shop spaces and office spaces within those shops. Interior storage space is limited and inefficient and overflows into shop spaces. Covered storage is extremely limited and is necessary to protect expensive signs and signals.

The new 20,360 SF Traffic Engineering Sign and Signal Shop Building includes:

- Sign & Signal Administrative Offices
- Sign Design & Fabrication Shop and Warehouse
- Signal Testing & Repair Shop and Warehouse
- Shared Conference Space
- Sign and Signal Crew Rooms
- Employee Locker and Support Areas

SHARED FACILITIES-FUEL AND WASH

The Downtown Remote Operations Facility Fuel and Wash Facility will be conveniently located off of Westinghouse Boulevard, providing good access from both Capital and Raleigh Boulevards. The Fuel and Wash Facility will not only support all of the City Departments that are part of the campus, but they will also serve as a fueling and vehicle washing resource for all City Departments. As such, it is expected that the Fuel and Wash Facility will be open 24 hours a day.

Phase 1 of the Fuel Facility will incorporate two fueling islands. A planned future expansion will double this service. In addition to traditional gasoline and diesel fuels, alternate fuels such as compressed natural gas (CNG), LPG, and urea will be provided. Vehicle charging stations will be provided at all of the major campus buildings.

The Wash Building incorporates two automated vehicle wash bays and two rough wash bays. Water reclamation systems will recycle and reuse water in the automated washes. The potential for using City of Raleigh reuse water in the rough vehicle wash bays is being studied.

STRUCTURES SUMMARY

VEHICLE FLEET SERVICES

<i>Vehicle Fleet Maintenance Shop</i>	68,798 SF
<i>Radio Shop</i>	15,761 SF

STREET OPERATIONS

<i>Operations Building</i>	21,010 SF
<i>Shop Building</i>	10,635 SF
<i>Salt Barn</i>	6,528 SF
<i>Covered Structures</i>	19,522 SF

TRAFFIC ENGINEERING

<i>Sign and Signal Shop</i>	20,360 SF
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Shared Facilities

<i>Fuel Facility</i>	5,271 SF
<i>Wash Building</i>	6,775 SF

Total 174,660 SF

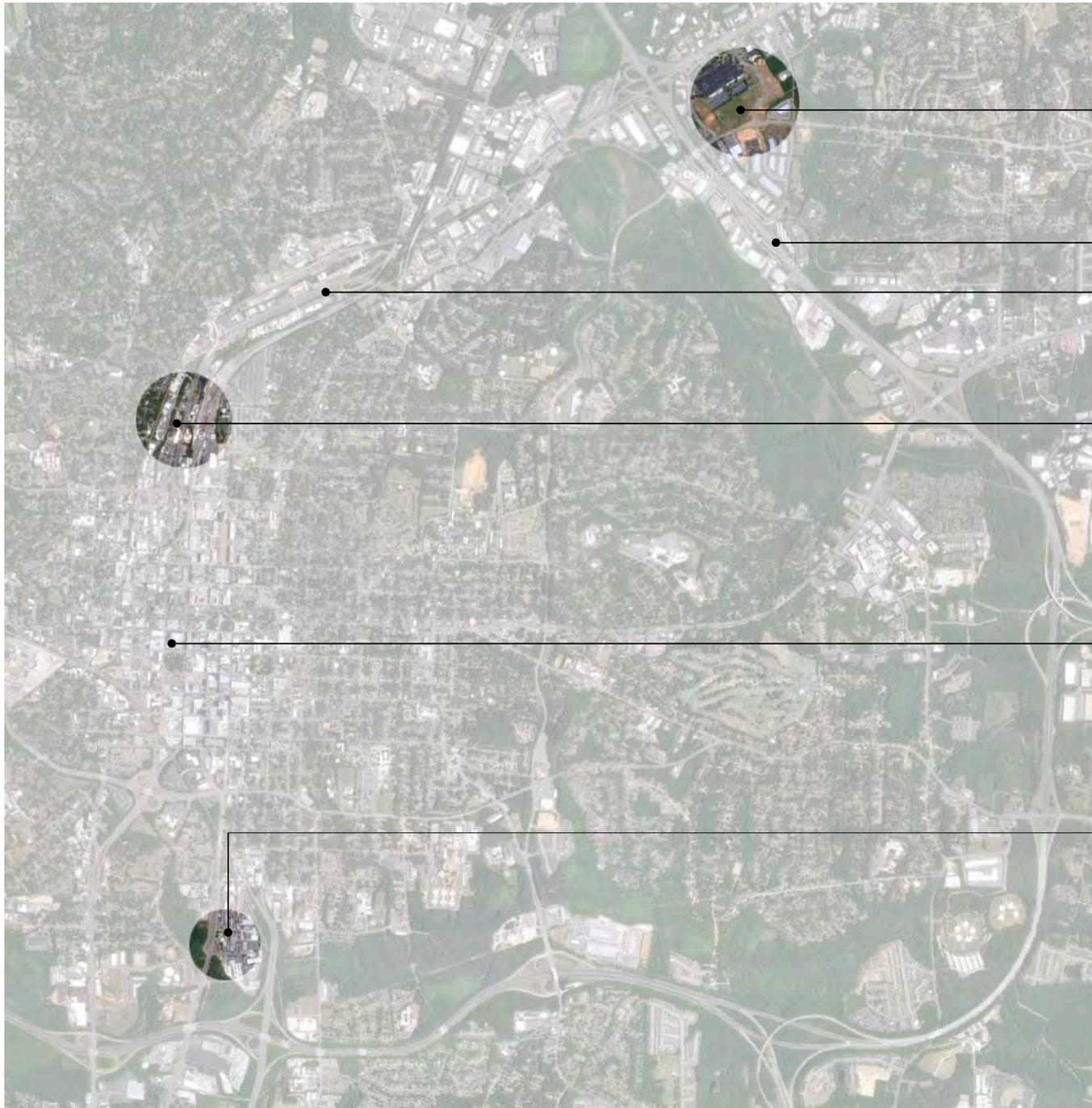
SITE SUMMARY

Total Site Development	35.35
Acres	
Vehicle/Equipment Parking Provided	346 Spaces
Staff Parking Provided	206
Spaces	
Public Green Space Development	4.8
Acres	

SUSTAINABILITY

The new Downtown Remote Operations Facility will be designed to achieve a minimum US Green Building Council LEED Rating of Silver. The following strategies will be incorporated in buildings throughout the campus:

- Daylighting (Clerestories and Skylights)
- Solar Hot Water
- Radiant Floor Heating in Vehicle Service Bays
- High Efficiency Mechanical Systems
- Regional and Recycled Materials
- Low VOC Materials
- Vehicle Charging Stations
- Reclaimed/Reuse Water
- Bioretention Ponds and Cisterns



PROJECT SITE

WESTINGHOUSE BLVD & RALEIGH BLVD

I-440/BELTLINE

CAPITOL BOULEVARD

**EXISTING STREET OPERATIONS
& VEHICLE FLEET SERVICES**

N WEST STREET

MUNICIPAL BUILDING

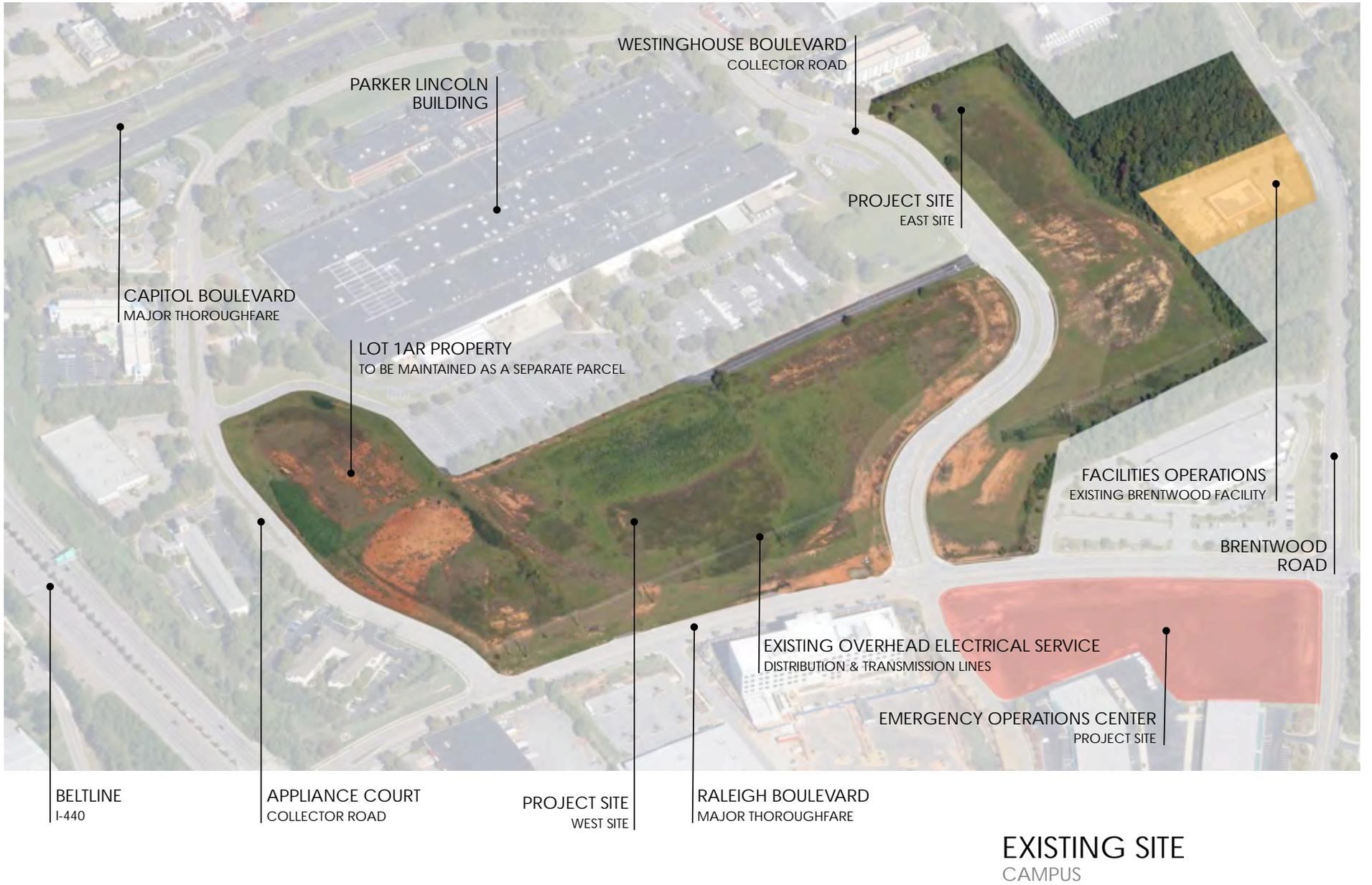
**EXISTING TRAFFIC
ENGINEERING & RADIO SHOP**

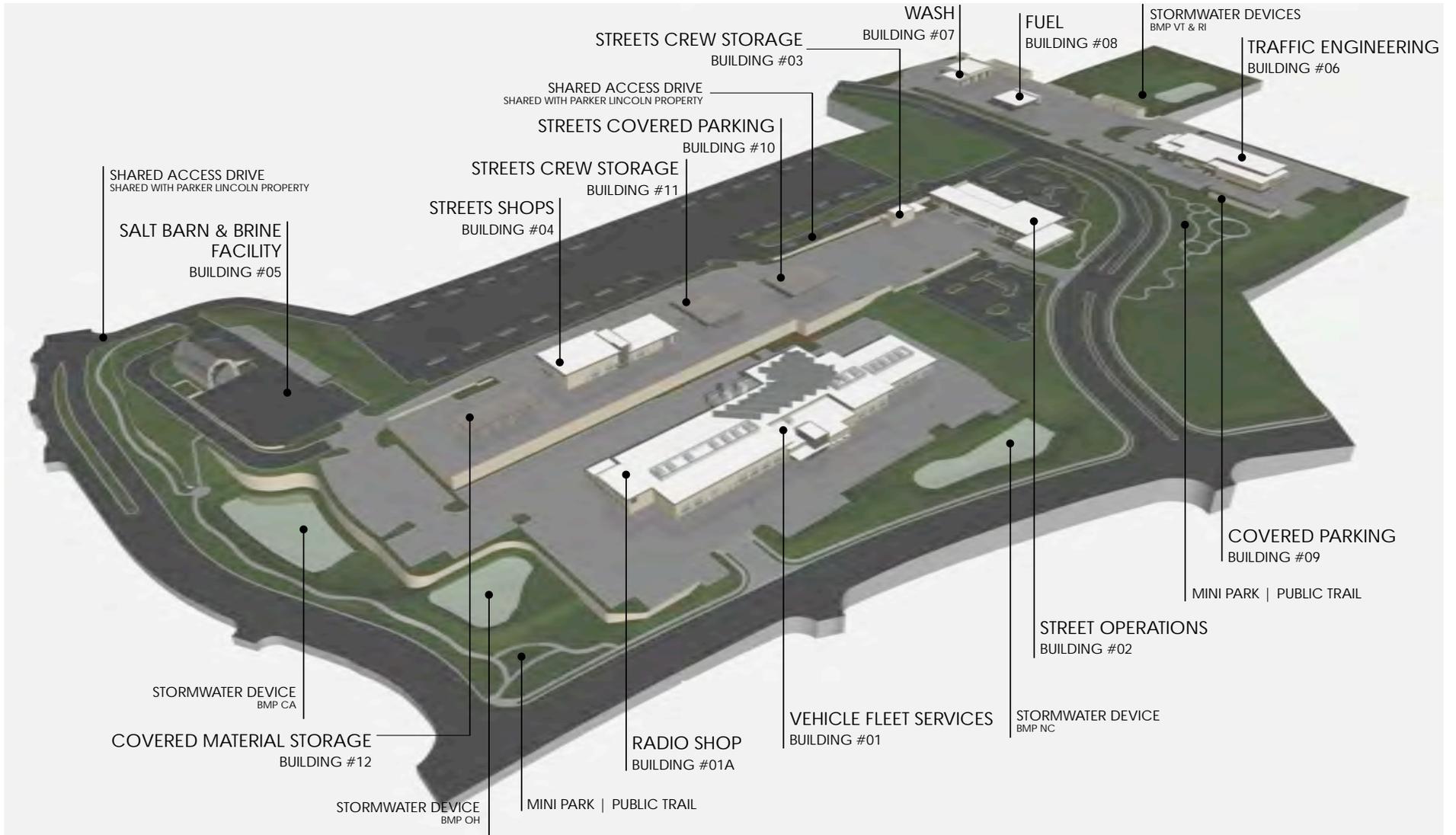
SOUTH WILMINGTON STREET

VICINITY MAP

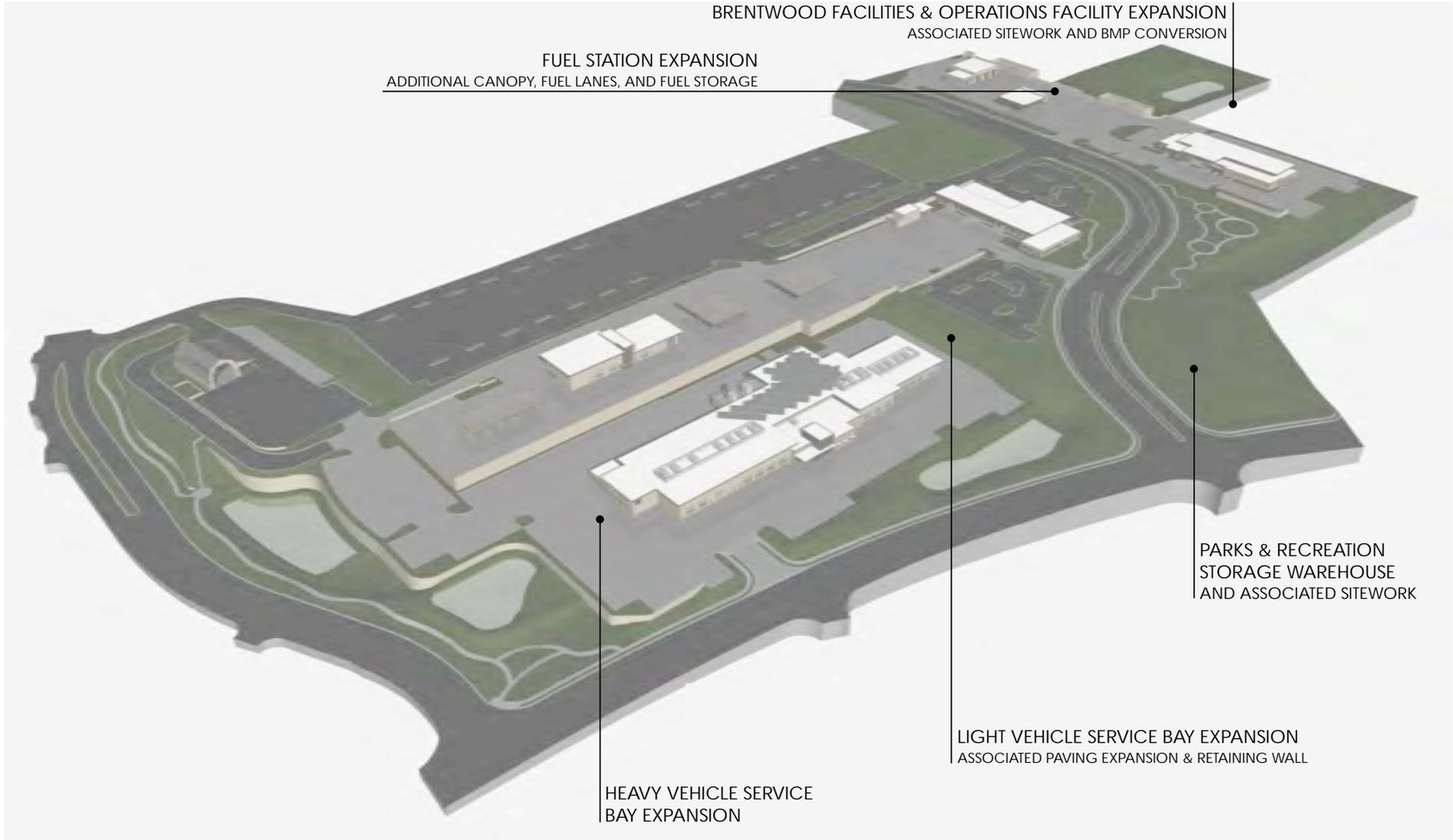
EXISTING FACILITIES RELATIONSHIPS
TO PROJECT SITE

IMAGE COURTESY OF GOOGLE MAPS





SITE PLAN
 PHASE 1



FUEL STATION EXPANSION
ADDITIONAL CANOPY, FUEL LANES, AND FUEL STORAGE

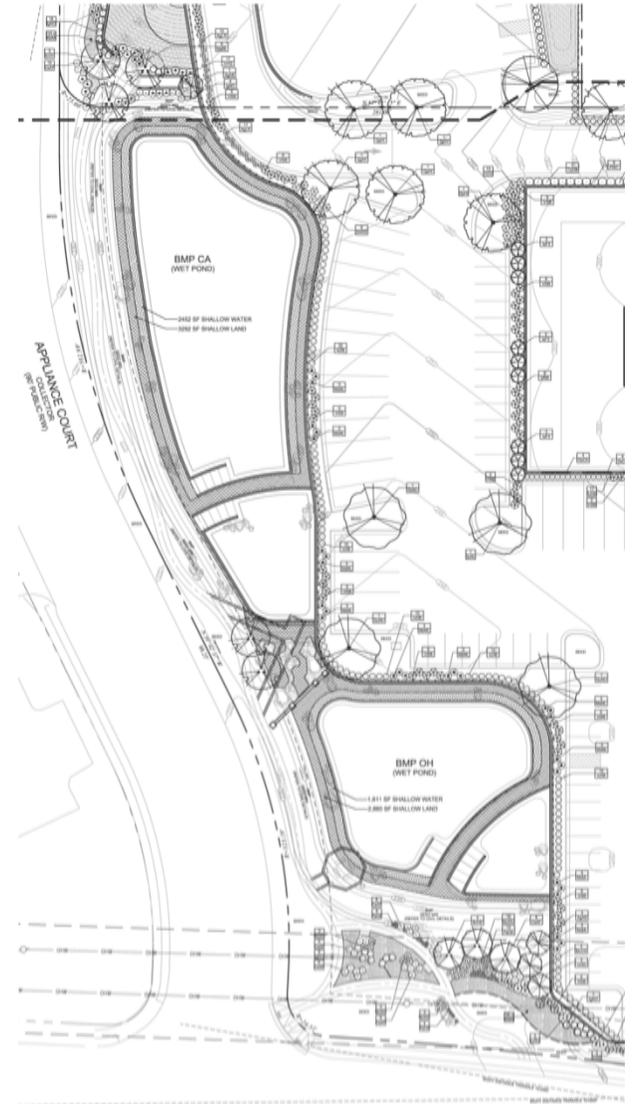
BRENTWOOD FACILITIES & OPERATIONS FACILITY EXPANSION
ASSOCIATED SITEWORK AND BMP CONVERSION

PARKS & RECREATION
STORAGE WAREHOUSE
AND ASSOCIATED SITEWORK

LIGHT VEHICLE SERVICE BAY EXPANSION
ASSOCIATED PAVING EXPANSION & RETAINING WALL

HEAVY VEHICLE SERVICE
BAY EXPANSION

SITE PLAN
PHASE 2
FUTURE DEVELOPMENT



SITE PLAN
STORMWATER
WEST MINI PARK | PUBLIC WALK



SITE PLAN
STORMWATER
WEST MINI PARK | PUBLIC WALK

BUILDING AT A GLANCE

- 68,978 SQUARE FEET (PHASE 1)
- MAJOR PROGRAM AREAS:
 - EIGHT HEAVY VEHICLE MAINTENANCE BAYS AND SUPPORT AREAS
 - WELDING SHOP
 - VEHICLE CHASSIS WASH
 - TWO HEAVY VEHICLE PREVENTATIVE MAINTENANCE BAYS
 - TIRE AND ALIGNMENT BAYS
 - TEN LIGHT VEHICLE SERVICE BAYS
 - DEDICATED COMPRESSED NATURAL GAS (CNG) SERVICE BAY
 - TRAINING ROOM
 - ADMINISTRATIVE OFFICES
 - EMPLOYEE LOCKER, BREAK, AND SUPPORT AREAS
 - PARTS DEPARTMENT
- INCORPORATES 11,121 SQUARE FOOT RADIO SHOP AND ASSOCIATED SERVICE BAYS
- MASTER PLANNED FOR 15,761 SQUARE FOOT PHASE 2 EXPANSION OF HEAVY AND LIGHT VEHICLE SERVICE WINGS

SUSTAINABLE STRATEGIES

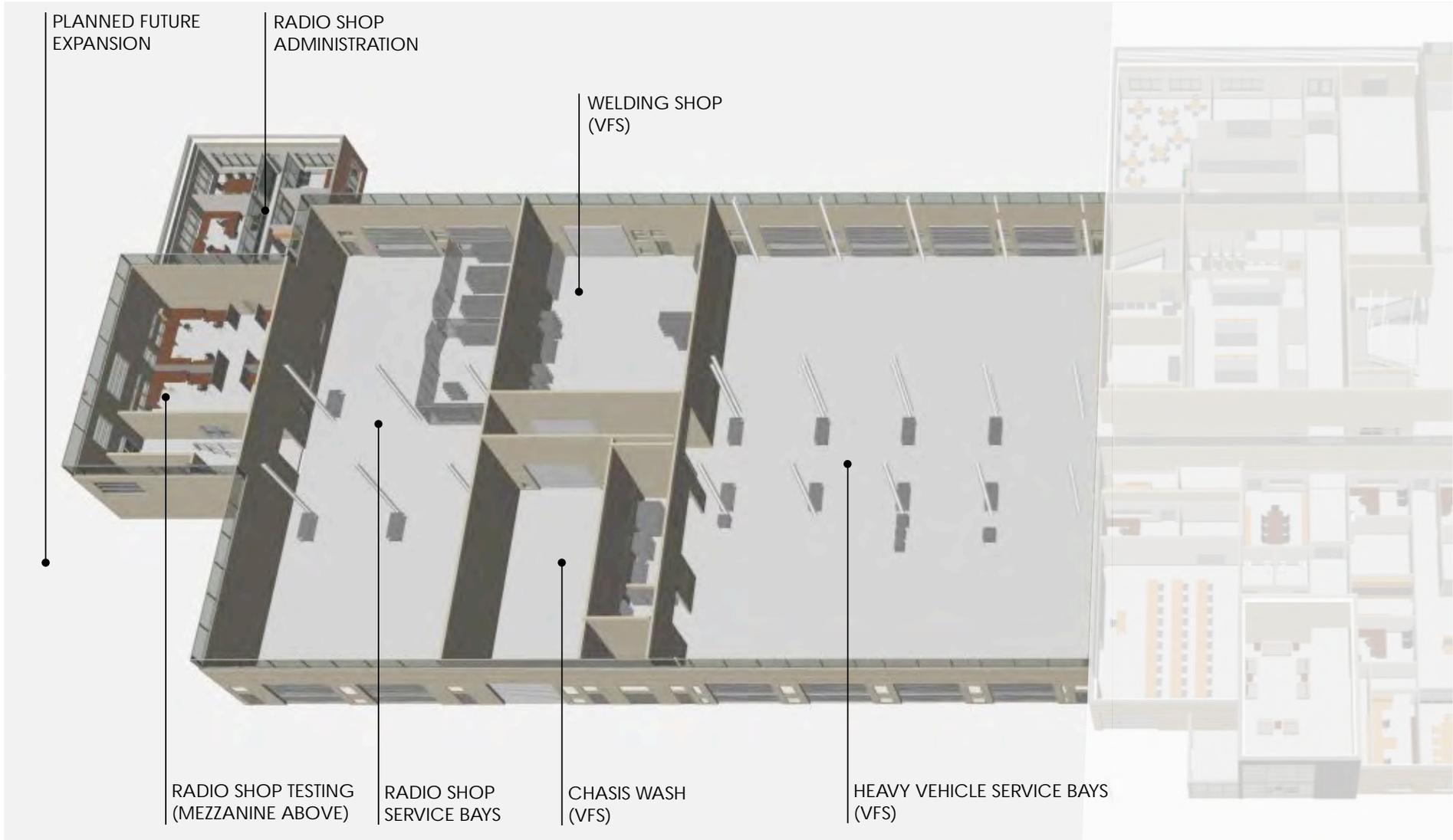
- DAYLIGHTING (CLERESTORIES AND SKYLIGHTS)
- SOLAR HOTWATER
- RADIANT FLOOR HEATING IN SERVICE BAYS
- HIGH EFFICIENCY MECHANICAL SYSTEMS
- REGIONAL AND RECYCLED MATERIALS
- LOW VOC MATERIALS
- VEHICLE CHARGING STATIONS
- INVESTIGATING POTENTIAL FOR INCORPORATING CITY OF RALEIGH REUSE WATER



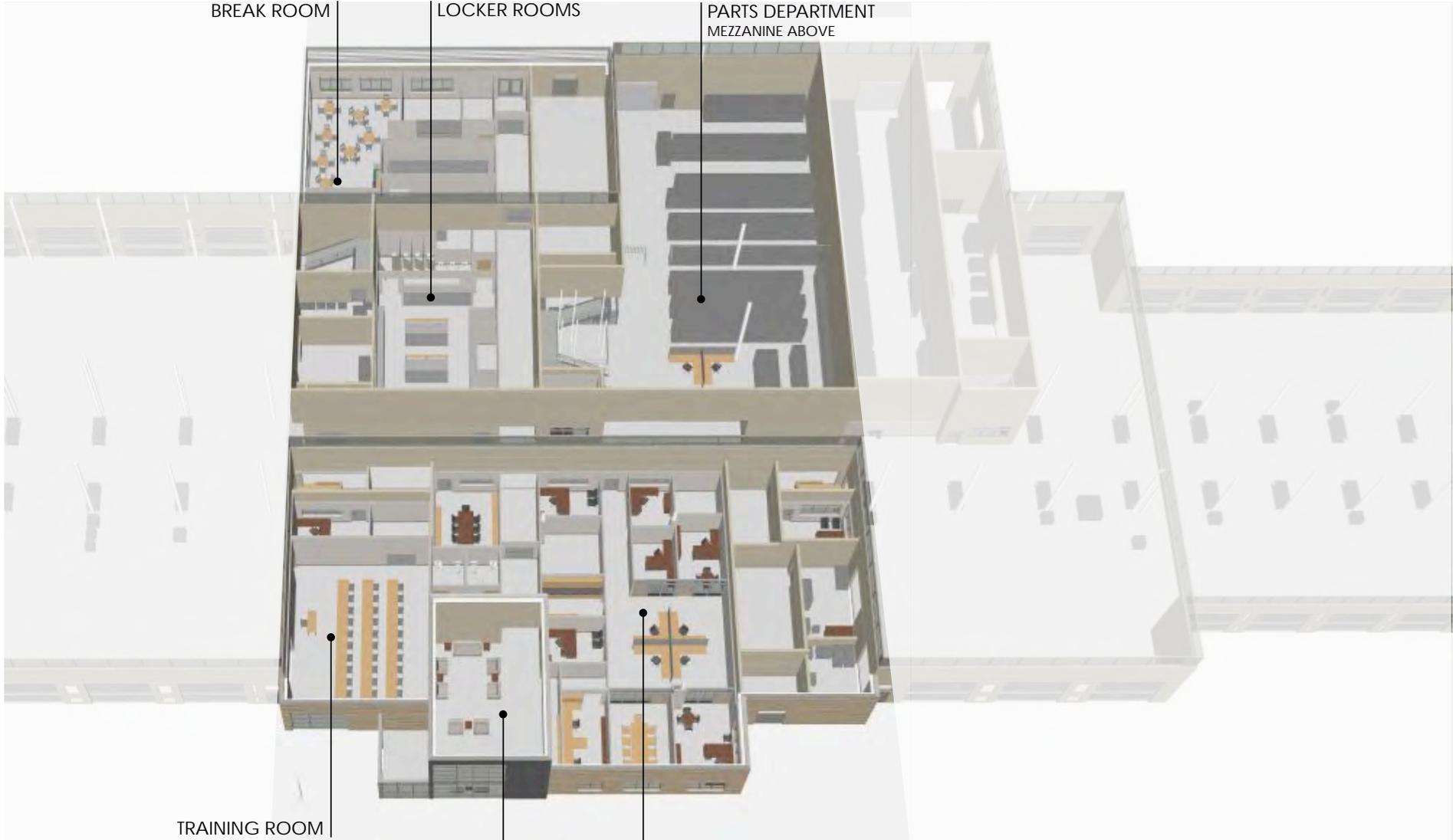
RADIO SHOP
BUILDING #01

VEHICLE FLEET SERVICES
BUILDING #01

VEHICLE FLEET SERVICES
MAINTENANCE BUILDING



VEHICLE FLEET SERVICES MAINTENANCE BUILDING



BREAK ROOM

LOCKER ROOMS

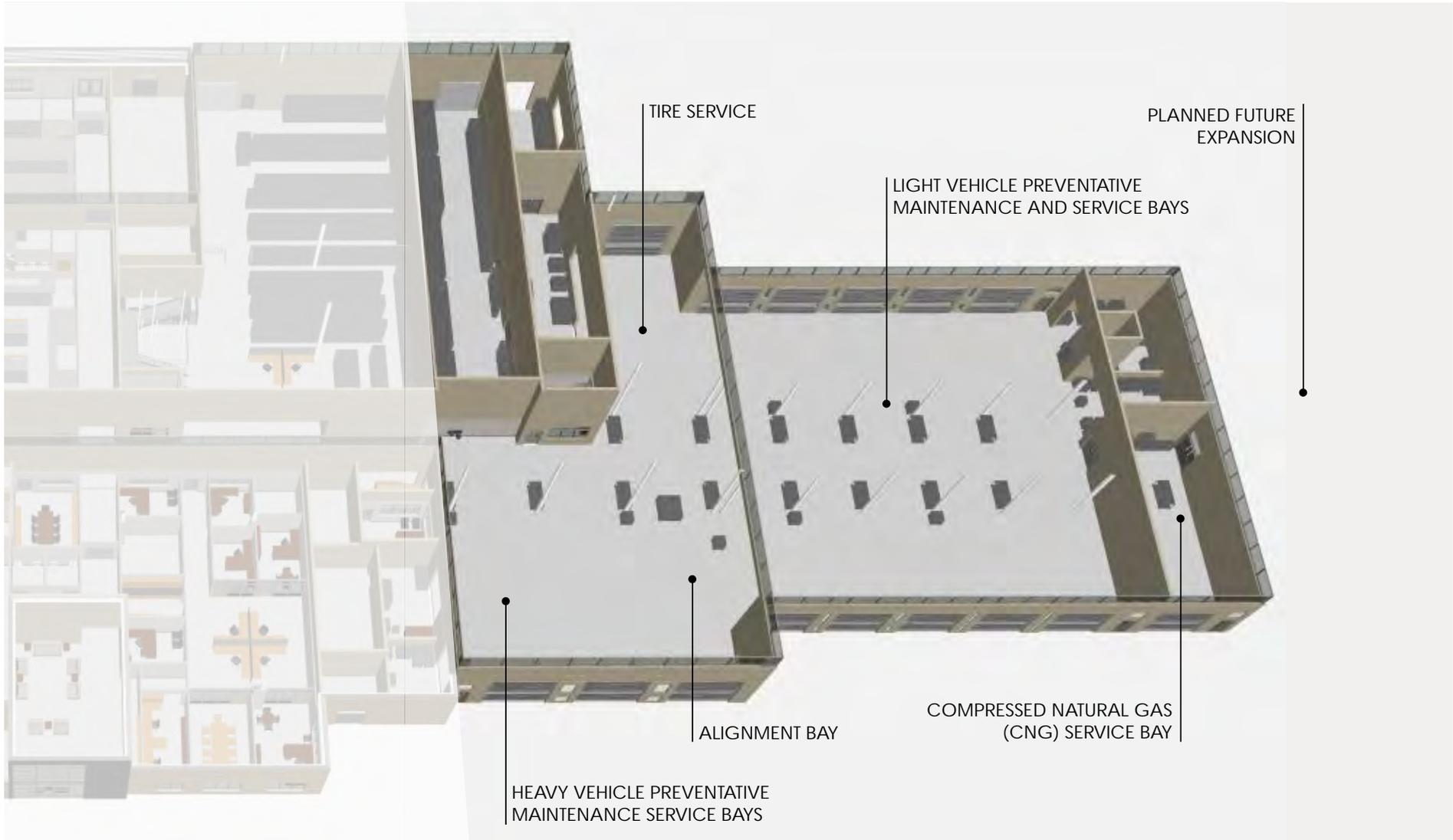
PARTS DEPARTMENT
MEZZANINE ABOVE

TRAINING ROOM

LOBBY | WAITING AREA

VEHICLE FLEET SERVICES
ADMINISTRATION

VEHICLE FLEET SERVICES
MAINTENANCE BUILDING



TIRE SERVICE

PLANNED FUTURE EXPANSION

LIGHT VEHICLE PREVENTATIVE MAINTENANCE AND SERVICE BAYS

HEAVY VEHICLE PREVENTATIVE MAINTENANCE SERVICE BAYS

ALIGNMENT BAY

COMPRESSED NATURAL GAS (CNG) SERVICE BAY

VEHICLE FLEET SERVICES MAINTENANCE BUILDING



INTERSECTION OF APPLIANCE COURT & RALEIGH BOULEVARD



INTERSECTION OF RALEIGH BOULEVARD & WESTINGHOUSE BOULEVARD

VEHICLE FLEET SERVICES
MAINTENANCE BUILDING



WESTINGHOUSE ELEVATION



VIEW LOOKING EAST



VIEW LOOKING WEST

VEHICLE FLEET SERVICES
MAINTENANCE BUILDING

BUILDING AT A GLANCE

- 21,010 SQUARE FEET
- MAJOR PROGRAM AREAS:
 - TRAINING | MEETING ROOM
 - STREETS ADMINISTRATIVE OFFICES
 - EIGHT CREW ROOMS
 - SURVEYING DIVISION
 - SUBDIVISION INSPECTORS
 - CONSTRUCTION INSPECTORS
 - TRANSPORTATION INSPECTORS
 - PAVEMENT MAINTENANCE CREW
 - CONCRETE & DRAINAGE CREW
 - SPECIAL OPERATIONS CREW
 - STORMWATER & LEAF CREW
 - EQUIPMENT & TOOL WAREHOUSE
 - CONFERENCE ROOM
 - EMPLOYEE LOCKER, BREAK, AND SUPPORT AREAS
 - MUDROOMS
- WILL SERVE AS STREETS OPERATIONAL HEADQUARTERS DURING EMERGENCIES & WEATHER EVENTS

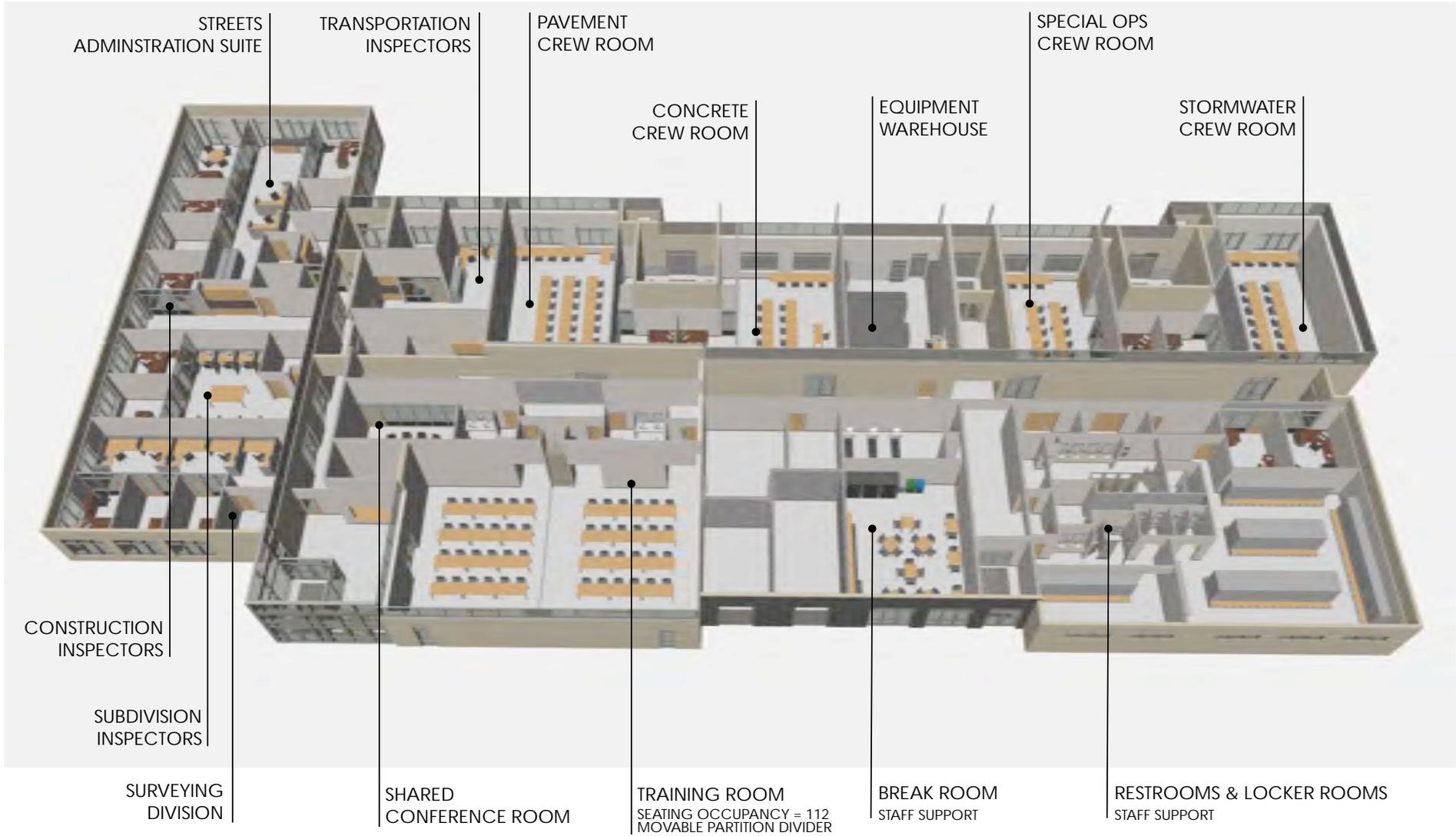
SUSTAINABLE STRATEGIES

- DAYLIGHTING (CLERESTORIES)
- HIGH EFFICIENCY MECHANICAL SYSTEMS
- REGIONAL AND RECYCLED MATERIALS
- LOW VOC MATERIALS
- VEHICLE CHARGING STATIONS
- INVESTIGATING POTENTIAL FOR INCORPORATING CITY OF RALEIGH REUSE WATER



STREET OPERATIONS
BUILDING #02

STREET MAINTENANCE
OPERATIONS BUILDING



STREET MAINTENANCE OPERATIONS BUILDING



MAIN ENTRY APPROACH



STREET OPERATIONS EQUIPMENT YARD

STREET MAINTENANCE
OPERATIONS BUILDING

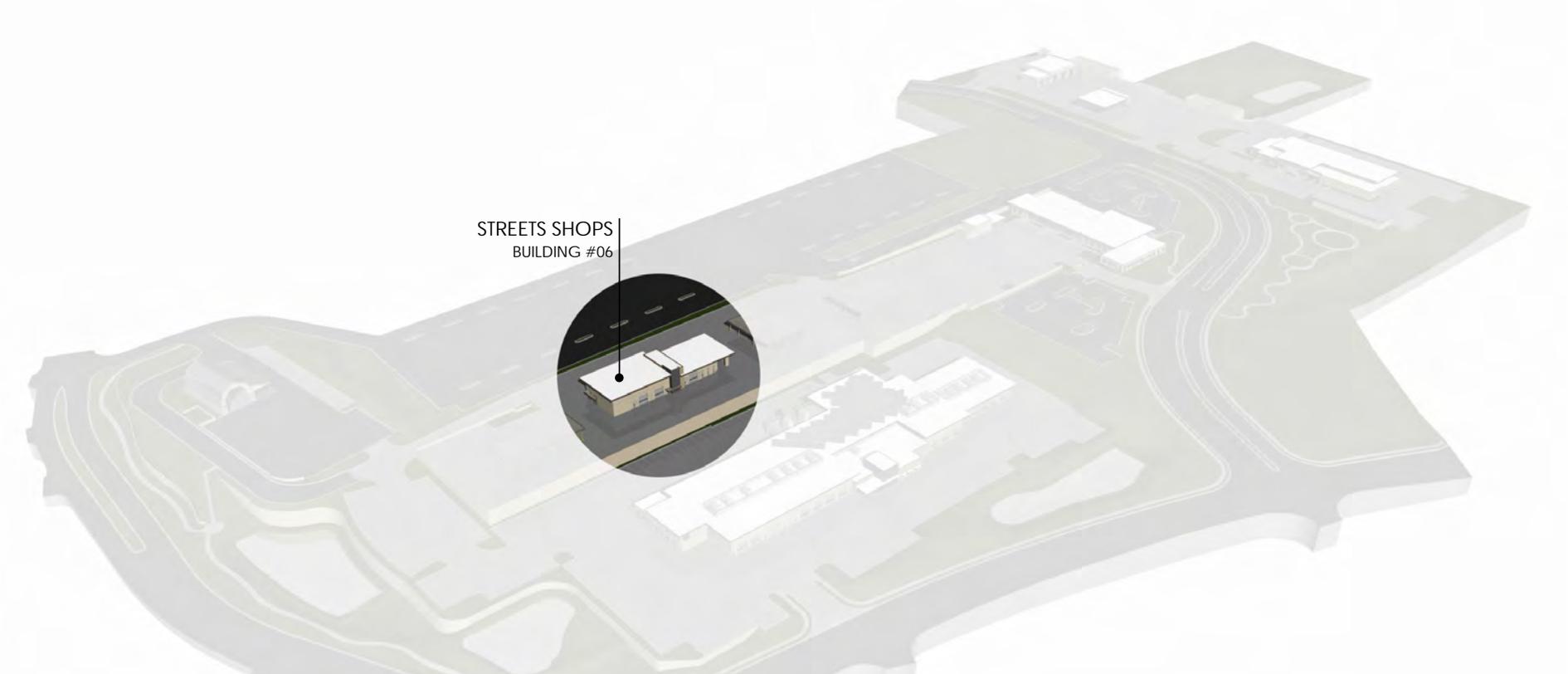


VIEW FROM WESTINGHOUSE BOULEVARD



MAIN VEHICLE ENTRY FROM WESTINGHOUSE BOULEVARD

STREET MAINTENANCE
OPERATIONS BUILDING



STREETS SHOPS
BUILDING #06

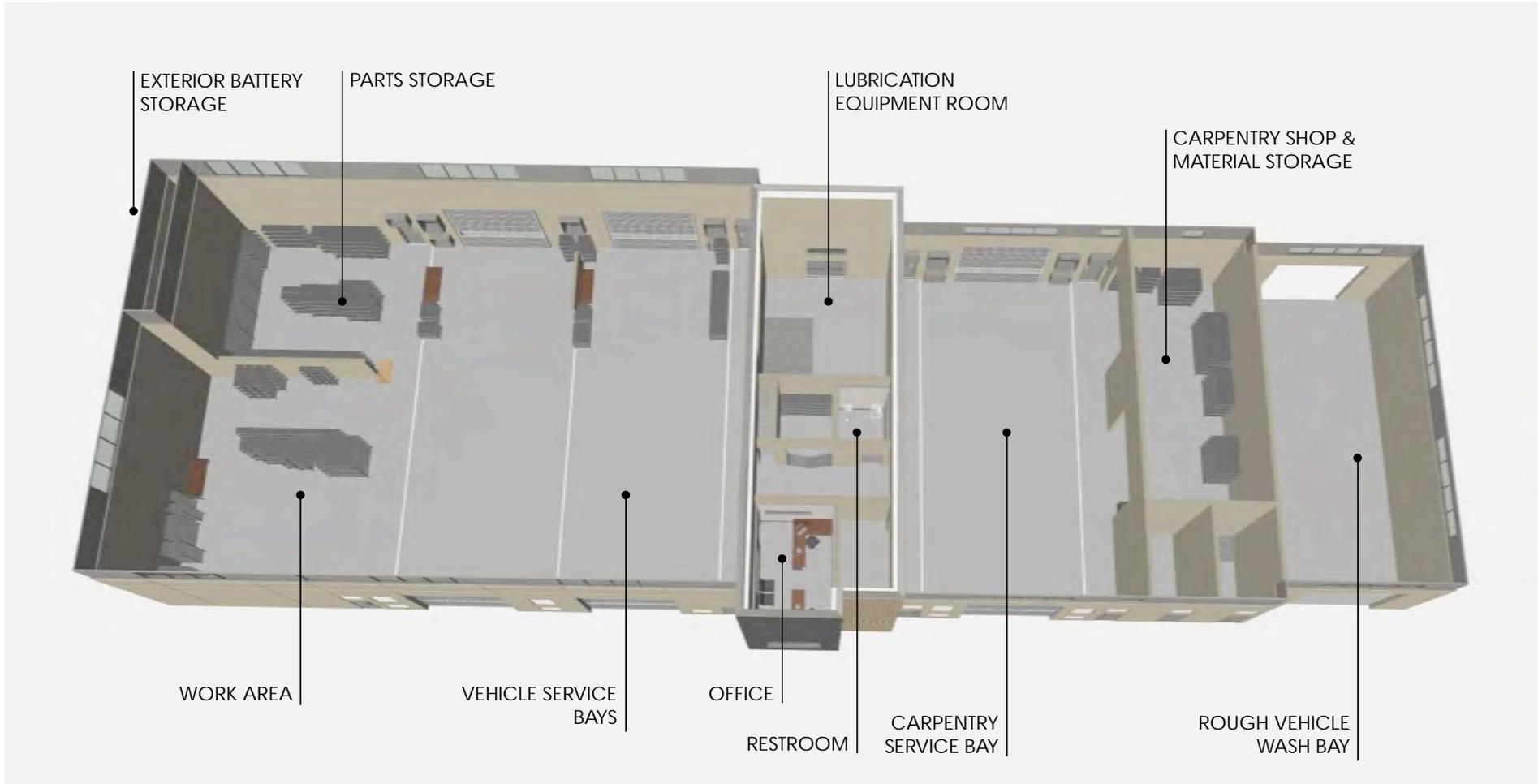
BUILDING AT A GLANCE

- 10,635 SQUARE FEET
- MAJOR PROGRAM AREAS:
 - TWO VEHICLE SERVICE BAYS
 - SERVICE SHOP AREA AND PARTS STORAGE
 - CARPENTRY SHOP AND SERVICE BAY
 - ROUGH VEHICLE WASH
 - EXTERIOR BATTERY STORAGE
 - STAFF OFFICE AND SUPPORT AREAS

SUSTAINABLE STRATEGIES

- DAYLIGHTING (CLERESTORIES AND SKYLIGHTS)
- RADIANT FLOOR HEATING IN SERVICE BAYS
- HIGH EFFICIENCY MECHANICAL SYSTEMS
- REGIONAL AND RECYCLED MATERIALS
- LOW VOC MATERIALS
- INVESTIGATING POTENTIAL FOR INCORPORATING CITY OF RALEIGH REUSE WATER IN RESTROOM & ROUGH WASH BAY

STREET MAINTENANCE
STREET SHOPS



STREET MAINTENANCE
 STREET SHOPS

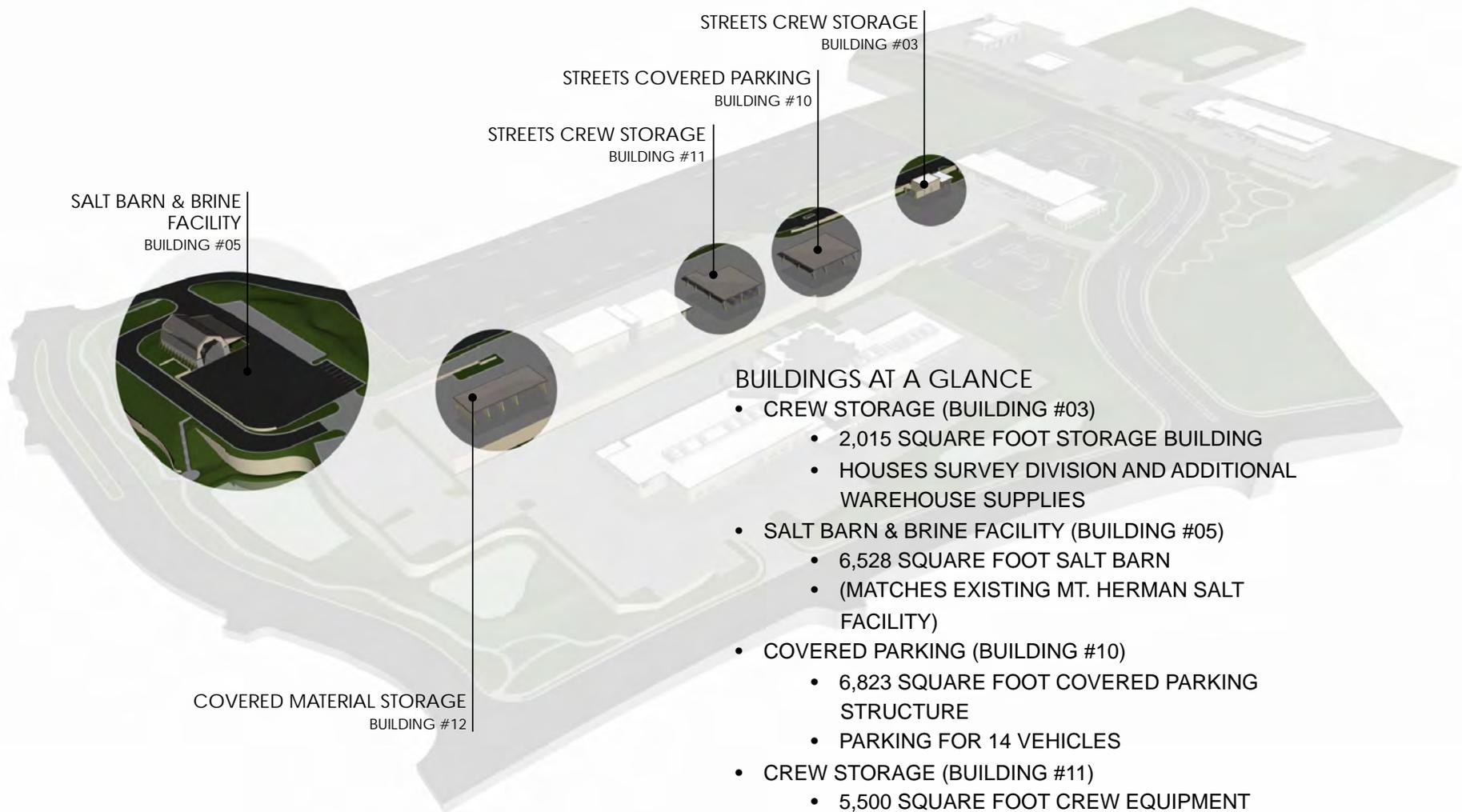


VIEW LOOKING WEST
CREW STORAGE IN FOREGROUND | MATERIAL STORAGE IN BACKGROUND



VIEW LOOKING EAST
MATERIAL STORAGE IN FOREGROUND | CREW STORAGE IN BACKGROUND

STREET MAINTENANCE STREET SHOPS



STREETS CREW STORAGE
BUILDING #03

STREETS COVERED PARKING
BUILDING #10

STREETS CREW STORAGE
BUILDING #11

SALT BARN & BRINE
FACILITY
BUILDING #05

COVERED MATERIAL STORAGE
BUILDING #12

BUILDINGS AT A GLANCE

- CREW STORAGE (BUILDING #03)
 - 2,015 SQUARE FOOT STORAGE BUILDING
 - HOUSES SURVEY DIVISION AND ADDITIONAL WAREHOUSE SUPPLIES
- SALT BARN & BRINE FACILITY (BUILDING #05)
 - 6,528 SQUARE FOOT SALT BARN
 - (MATCHES EXISTING MT. HERMAN SALT FACILITY)
- COVERED PARKING (BUILDING #10)
 - 6,823 SQUARE FOOT COVERED PARKING STRUCTURE
 - PARKING FOR 14 VEHICLES
- CREW STORAGE (BUILDING #11)
 - 5,500 SQUARE FOOT CREW EQUIPMENT STORAGE
- COVERED MATERIAL STORAGE (BUILDING #12)
 - 5,184 SQUARE FOOT STORAGE AREA FOR GRAVEL, BARK, STRAW, STONE, DIRT AND OTHER MATERIALS

STREET MAINTENANCE
SUPPORT BUILDINGS



BUILDING #05 | SALT BARN & BRINE PRODUCTION FACILITY



EXISTING MT. HERMAN ROAD
SALT BARN



BUILDING #03 | COVERED CREW STORAGE



BUILDING #11 | COVERED VEHICLE PARKING (FOREGROUND)
BUILDING #12 | COVERED CREW STORAGE (BACKGROUND)



BUILDING #12 | COVERED MATERIAL STORAGE

STREET MAINTENANCE SUPPORT BUILDINGS

BUILDINGS AT A GLANCE

- 20,360 SQUARE FEET
- MAJOR PROGRAM AREAS:
 - SIGN & SIGNAL ADMINISTRATIVE OFFICES
 - SIGN SHOP & WAREHOUSE
 - SIGNAL SHOP & WAREHOUSE
 - SHARED CONFERENCE ROOM
 - CREW ROOMS (WITH MOVABLE WALL SYSTEM FOR COMBINATION)
 - EMPLOYEE LOCKER, BREAK, AND SUPPORT AREAS
 - COVERED VEHICLE PARKING



TRAFFIC ENGINEERING
BUILDING #06

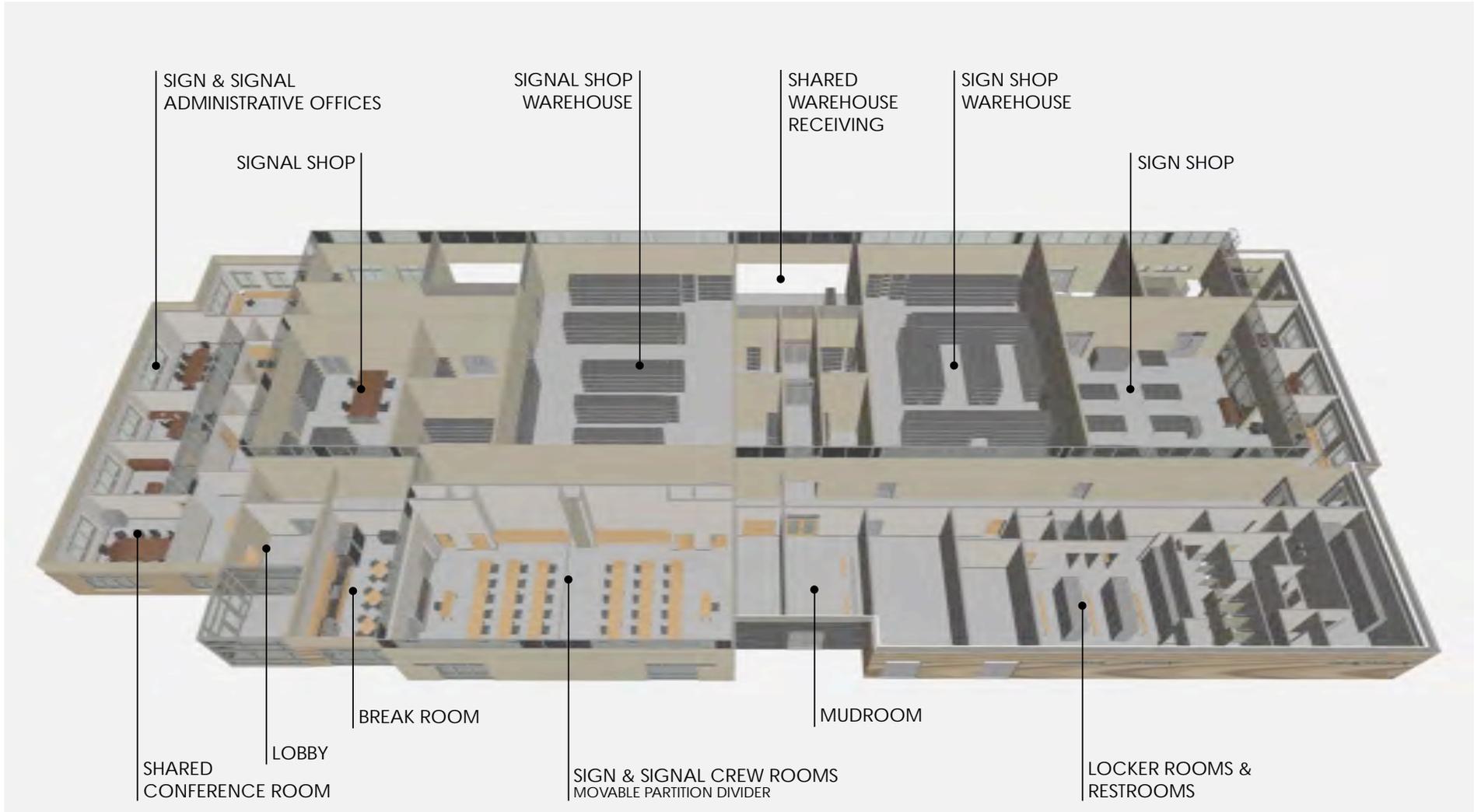
COVERED PARKING
BUILDING #09

SUSTAINABLE STRATEGIES

- DAYLIGHTING (CLERESTORIES AND SKYLIGHTS)
- HIGH EFFICIENCY MECHANICAL SYSTEMS
- REGIONAL AND RECYCLED MATERIALS
- LOW VOC MATERIALS
- VEHICLE CHARGING STATIONS
- INVESTIGATING POTENTIAL FOR INCORPORATING CITY OF RALEIGH REUSE WATER

TRAFFIC ENGINEERING

SIGN & SIGNAL SHOP
COVERED VEHICLE PARKING



TRAFFIC ENGINEERING

SIGN & SIGNAL SHOP



VIEW OF TRAFFIC ENGINEERING
FROM MAIN WESTINGHOUSE BOULEVARD ENTRY



WAREHOUSE RECEIVING & OPERATIONS SIDE
OF TRAFFIC ENGINEERING



COVERED STORAGE STRUCTURE

TRAFFIC ENGINEERING
SIGN & SIGNAL SHOP

BUILDINGS AT A GLANCE

- WASH BUILDING:
 - 6,775 SQUARE FEET
 - HEAVY VEHICLE AUTOMATED WASH
 - LIGHT VEHICLE AUTOMATED WASH
 - TWO ROUGH HIGH-PRESSURE VEHICLE WASH BAYS
- FUEL FACILITY:
 - 5,271 SQUARE FOOT FACILITY
 - TWO FUELING ISLANDS (PHASE 1)
 - OFFICE AND SUPPORT FACILITIES
 - DESIGNED FOR FUTURE EXPANSION TO DOUBLE FUEL ISLANDS AND FUEL STORAGE
 - TWO FUEL STORAGE AREAS
 - FUELS:

ULR GASOLINE	12,000 GALLONS
ULS DIESEL	10,000 GALLONS
E85 GASOLINE	8,000 GALLONS
B20 DIESEL	10,000 GALLONS
OFF ROAD ULS DIESEL	8,000 GALLONS
CNG SERVICE CAPACITY	11,000 SCF
LPG	10,000 GALLONS



SUSTAINABLE STRATEGIES

- WATER RECLAMATION SYSTEM INCORPORATED INTO AUTOMATED WASH BAYS
- VEHICLE CHARGING STATIONS (AVAILABLE AT TRAFFIC BUILDING)
- INVESTIGATING POTENTIAL FOR INCORPORATING CITY OF RALEIGH REUSE WATER IN ROUGH VEHICLE WASH BAYS

SHARED FACILITIES

WASH BUILDING
FUEL FACILITY



VIEW FROM MAIN WESTINGHOUSE ENTRY
FUEL FACILITY IN FOREGROUND | WASH BUILDING IN BACKGROUND



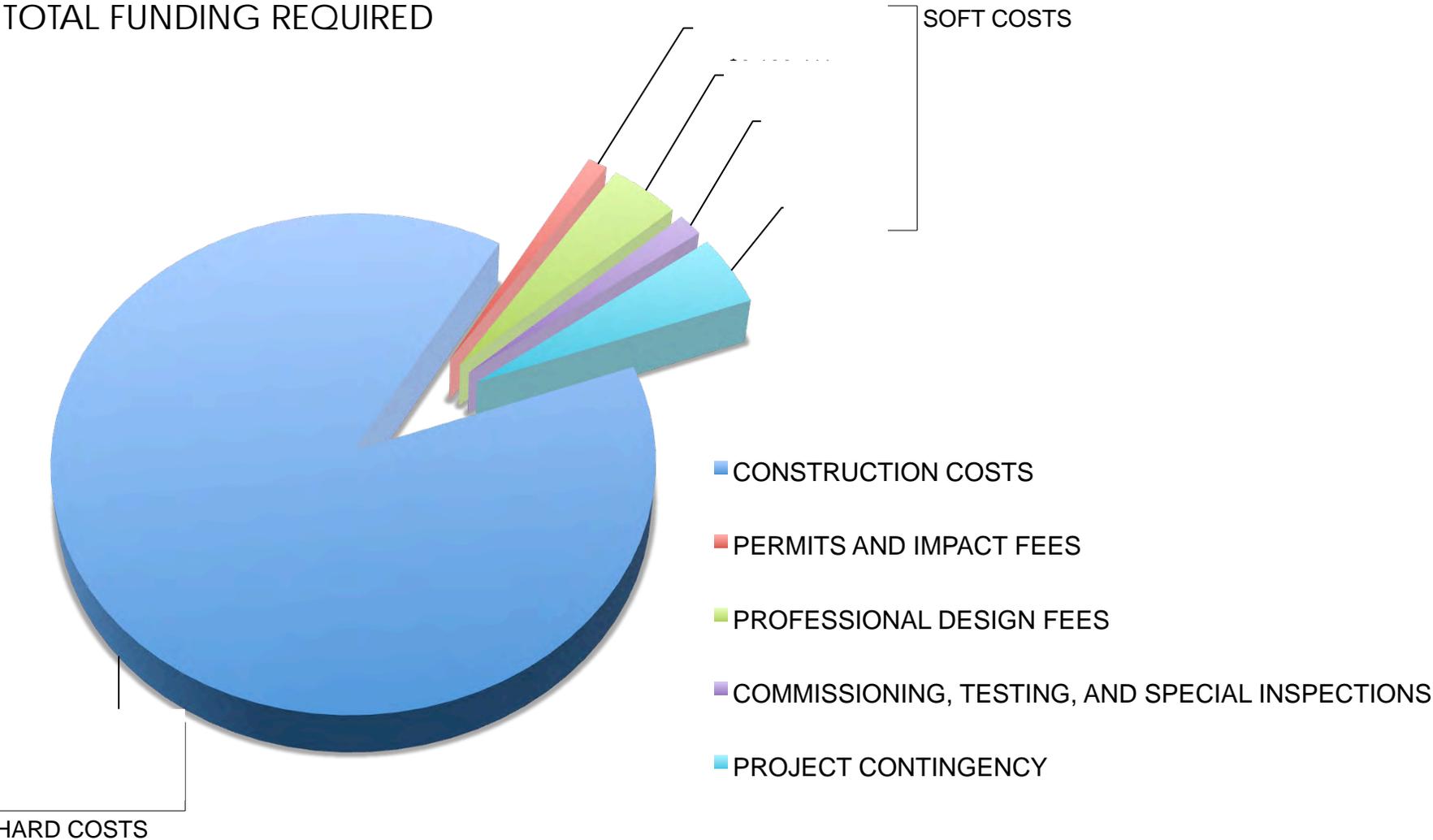
VIEW LOOKING WEST
FUEL FACILITY IN FOREGROUND | WASH BUILDING IN BACKGROUND



AREA PLAN

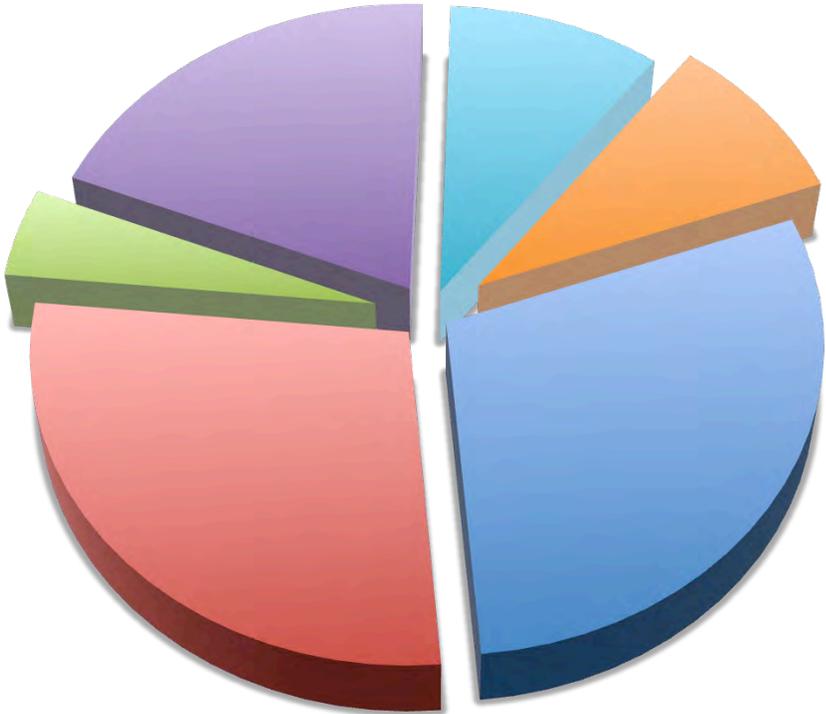
SHARED FACILITIES
WASH BUILDING
FUEL FACILITY

TOTAL FUNDING REQUIRED



PROJECT FUNDING
TOTAL PROJECT

TOTAL FUNDING REQUIRED



■ SITE CONSTRUCTION

■ RADIO SHOP

■ TRAFFIC ENGINEERING

■ VEHICLE FLEET SERVICES

■ STREET MAINTENANCE

■ SHARED FACILITIES (FUEL & WASH)

WEIGHTED COSTS
BY DEVELOPMENT
AREA
INCORPORATES HARD AND SOFT
COSTS

PROJECT FUNDING
TOTAL PROJECT



DOWNTOWN REMOTE OPERATIONS FACILITY
RALEIGH, NORTH CAROLINA

OWNER
CITY OF RALEIGH
ARCHITECT
WILLIARD FERM ARCHITECTS, PA