Greater Park Place: Community Gateway
and Neighborhood Beautification

Prepared for the Park Place Community, Norfolk, VA

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Greater Park Place: Community Gateway
and Neighborhood Beautification

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The Community Design Assistance Center (CDAC) is an outreach center in the College of Architecture and Urban Studies at Virginia Tech that assists communities, neighborhood groups and non-profit organizations in improving their natural and built environments. Assistance is provided in the areas of landscape architecture, architecture, planning, and interior design. Working with communities, the conceptual planning and design provides communities with a graphic vision of their project that can then be used for grant applications and fundraising for the next steps toward implementation.

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# Greater Park Place: Community Gateway and Neighborhood Beautification

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Greater Park Place is a term used to represent four adjoining neighborhoods – Lamberts Point, Kensington Place, Park Place, and Villa Heights – located in the City of Norfolk. Developed as a streetcar community in the late 19th and early 20th century, this area makes up one of Norfolk's oldest neighborhoods. The aesthetic character created by its historic architecture, as well as its proximity to downtown, the Zoological Gardens, Lafayette Park, and Old Dominion University, make it an attractive neighborhood.

Over the years, the Greater Park Place has struggled with high poverty rates, low property values, and low home ownership, which has led to reduced property stewardship and neighborhood appeal. In recent years, however, the community and various partners have come together to try and revitalize the neighborhood. As part of this process, residents worked with cbz LLC in 2010 to draft a Vision Engagement Plan (VEP) report for the Greater Park Place neighborhood. This document was authored “by the residents for themselves and their future partners” and serves as both a status report and a mission statement for future development. Within this document, residents were able to identify a Target Area where there is the greatest concentration of marketable strength; where stabilization and health...
can be achieved with the greatest efficiency. The Target Area is located inside Omohundro-Debree-38th to mid-block of 30th and 29th. After after the purchase of a tract of farm land by the city, the Park Place Neighborhood was incorporated into the historic City of Norfolk in 1902. Now the diverse community within the Park Place neighborhood boasts its own Civic League run by its residents, who pride themselves on their rich history as a neighborhood, the opportunities their location has to offer, and a close-knit community feeling. The neighborhood has recently built a new YMCA and houses Monroe Elementary School, a community garden, and many churches. The historical architecture featuring houses in Late Victorian, Tudor Revival, Late 19th and Early 20th Century Revival, and Craftsman styles is also a prominent feature of the neighborhood.

The Community Design Assistance Center (CDAC) was tasked with developing a number of conceptual designs: a gateway park at the intersection of Broadway, Granby, and Omohundro Streets, a design of gem lots, a series of proposed parklets, and residential planting designs. In addition, the team explored community branding and street-scape design. CDAC worked closely with the community and stakeholder groups to develop these concepts, which are discussed in further detail in the following report.
The design process began with an initial site visit to Park Place in March of 2015. The CDAC team walked through the designated project areas inside of Park Place neighborhood with several key residents. After this introduction, the team gathered on-site data, documented existing conditions, and took soil samples. In doing this, the team gained an understanding of the opportunities and constraints of each of the project areas. This analysis would later influence the design concepts. Also during this initial visit, the team met with community residents and stakeholders to gather information about the neighborhood. The team also performed community-identity exercises and clarified the goals of the community. From this data and vision, the team then developed the following preliminary designs: conceptual neighborhood master plan alternatives, multiple concepts for a gateway park, a trail system throughout the neighborhood which connected gem lots and important community amenities, and planting plan templates for residences.

During a return visit on May 19th, the CDAC team presented these conceptual designs to both stakeholders and community residents. Comments and decisions were made as to what would best fit the community’s vision for their neighborhood. The design alternatives were then revised and combined into a final neighborhood conceptual master plan. The conceptual master plan included a trail system with gem lot stops, a streetscape plan, a gateway park plan, and three different themes for residential planting designs.

The final conceptual master plans were presented at final community and stakeholder meetings on June 8th.
PART 1: FINAL DESIGN CONCEPTS
Park Place Neighborhood Plan
Neighborhood master planning was undertaken to provide a conceptual framework for street hierarchies and streetscapes. This planning process worked to distinguish Park Place from other neighborhoods, to identify key features of the neighborhood, and to define the culture and character of Park Place. The conceptual master planning also led to the development of a culture trail, which runs throughout the neighborhood, offering stops with outdoor fitness equipment and historical interpretive signs. These stops are located at designated “gem lots”. These gem lots occur when a parcel of land, owned by the Housing Authority, is too narrow to develop. These vacant lots offer an opportunity to provide additional community green space. Integrated into the Park Place Culture Trail, these gem lots serve as open spaces where neighborhood residents can exercise, find some shade, and catch up with neighbors.

Incorporated into the Park Place neighborhood plan are streetscape improvements, decorative intersections, designed to both beautify the neighborhood and calm fast-moving traffic. Complete streets were designed to keep pedestrians and cyclists safe from vehicular traffic, while still providing space for street trees and planted medians to grow. Neighborhood signs, signaling that you have arrived in the Park Place neighborhood, may also include interpretive history information on them. These were meant to mark entrances into Park Place, further defining and characterizing Park Place as its own neighborhood community.

Discussed on the following page is The Park Place Neighborhood Plan.
Corner of W 37th & Llewellyn
1832 - Ferry to Portsmouth established: a slow-moving team boat drawn by blindered horses. In 1832 the Gosport, the first steam ferry between Norfolk and Portsmouth, begins service.

Corner of W 36th & Omohundro
1838 - The Wilkes Expedition sails from Norfolk to explore southern Pacific and Antarctica. This voyage established the new country’s diplomatic presence and eagerness to become a world leader.

Corner of W 34th & Llewellyn
1851 - An 80-mile stretch of railroad connecting Norfolk and Petersburg was authorized. It was completed in 1858 and was the forerunner of today’s Norfolk Southern Railroad.

Corner of W 33rd & Omohundro
1852 - Mrs Margaret Douglass is arrested for teaching freed African-Americans to read and write out of her Norfolk home. She is convicted and spends one month in jail.

Corner of Broadway & Omohundro
1862 - The first battle between ironclad ships is fought in Hampton Roads. The Merrimac, rebuilt at the Norfolk Navy Yard and renamed Virginia, fought the Union’s Monitor.

Corner of W 31st & Llewellyn
1866 - The first African-American-owned newspaper in Norfolk, the True Southerner, was published by Joseph T. Wilson, a South African runaway slave who had returned to the U.S. to fight in the Union army at the outbreak of the Civil War.

Corner of W 30th & Omohundro
1883 - The first car of coal arrives from Pocahontas fields over Norfolk & Western Railway. This coal came from the mountains of southwest and western Virginia, and was N&W Railway’s number one commodity. Shown here: Lambert’s Point pier.

Corner of W 29th & Omohundro
1903 - Sterling Place Corporation purchases Peter March’s 166-acre farm to develop Colonial Place and subsequently Park Place and Riverview neighborhoods. Shown here: Colley Avenue.

Corner of W 28th & Omohundro
1883 - The first horse-drawn trolley is introduced in Norfolk. In 1894, the electric streetcar was introduced, causing the expansion of the city’s suburbs and the layout of Park Place neighborhood.

Corner of W 27th & Omohundro
1865 - The first African-American-owned newspaper in Norfolk, the True Southerner, was published by Joseph T. Wilson, a South African runaway slave who had returned to the U.S. to fight in the Union army at the outbreak of the Civil War.

Corner of W 26th & Omohundro
1870 - The first horse-drawn trolley is introduced in Norfolk. In 1894, the electric streetcar was introduced, causing the expansion of the city’s suburbs and the layout of Park Place neighborhood.

Corner of W 25th & Omohundro
1883 - The first car of coal arrives from Pocahontas fields over Norfolk & Western Railway. This coal came from the mountains of southwest and western Virginia, and was N&W Railway’s number one commodity. Shown here: Lambert’s Point pier.

Corner of W 24th & Omohundro
1903 - Sterling Place Corporation purchases Peter March’s 166-acre farm to develop Colonial Place and subsequently Park Place and Riverview neighborhoods. Shown here: Colley Avenue.

Information provided by:
The Smithsonian Institution: http://www.sil.si.edu/digitalcollections/usexex/learn/Philbrick.htm
Streetscape Design

Streetscaping Park Place, which includes brick edging, a cohesive signage plan, and street tree plantings, defines the neighborhood’s character and improves safety for both pedestrians and cyclists. Such cohesive elements can help to brand the Greater Park Place neighborhood. In addition, decorated intersections and remodeled traffic lanes are included with the goals of decreasing vehicular speed and increasing pedestrian safety. The team consulted with VDOT to adhere to state regulations and develop new concepts while maintaining existing curbs and Norfolk city laws. Bike lanes were added in a variety of locations to help designate a consistent bike route through the neighborhood and to help improve cyclist safety. In some areas, the road was wide enough to provide a designated bike lane. In other areas, where the road was too narrow for a designated lane, a shared-lane marking would be painted on the road.
**FINAL DESIGN: NEIGHBORHOOD PLANNING**

**Streetscape Design**

**Typical Section of 36th Street**
- North: 6' road, 6' sidewalk, 9'24' verge, 12'9' sidewalk, 9' road
- South: 6' road, 6' sidewalk, 9'24' verge, 12'9' sidewalk, 9' road

**Typical Section of Llewellyn Avenue**
- West: 6'7' road, 4' bike, 12'7' road, 9'4' sidewalk, 6'7' road, 4' bike, 12'7' road, 9'4' sidewalk
- East: 6'7' road, 4' bike, 12'7' road, 9'4' sidewalk, 6'7' road, 4' bike, 12'7' road, 9'4' sidewalk

**Typical Section of 35th Street**
- South: 6'7' road, 13'24' shared, 13' road, 8'9' sidewalk
- North: 6'7' road, 13'24' shared, 13' road, 8'9' sidewalk
Signs and Lighting Design
The neighborhood street signs and lighting fixtures were chosen based upon the design aesthetic common to the early 19th and 20th century era in which the neighborhood was established. A distinctive black coating on light fixtures and street signs and gold-paint lettering, would help Park Place establish its own neighborhood aesthetic, standing apart from surrounding residential areas. All implemented street lighting elements should follow Dominion Power standards.

Included on the following page are the concepts for streetscape design as well as signs and lighting design.
1. Standard light post, for use along neighborhood sidewalks.

2. Standard street sign with bike and pedestrian symbols, promotes neighborhood identity, wayfinding, and branding.

FINAL DESIGN: NEIGHBORHOOD GATEWAY

Broadway Gateway Entry Sign
A grand and characteristic neighborhood sign was important for the community to mark their neighborhood along Granby Street. In the foreground of Gateway Park’s flying banners, this neighborhood entry sign is located at the intersection of Granby and Broadway Streets. The sign welcomes visitors to Park Place Neighborhood and is exemplified by the beautified and planted median along Broadway Street. Two designs were developed for each concept. Both respond to the sign siting and desired function of the sign. Smaller lettering and a higher level of detail are present on the pedestrian oriented sign, while larger lettering and bolder gestures form the vehicular oriented sign.

The Broadway Gateway Entry Sign concepts can be found on the following pages.
Broadway Gateway Entry Sign Concept A
This design was inspired by the historic streetcars of Norfolk, Virginia. Footings support the simple rectangular form, and the supplemental banding was inspired by the streetcar geometry and aesthetic. The suggested materials include black aluminum with gold trim. Overall, residents preferred the pedestrian oriented Concept A sign.
FINAL DESIGN: NEIGHBORHOOD GATEWAY

Broadway Gateway Entry Sign Concept B
Neighborhood Entry Signage Concept B is inspired by the homes found in Park Place. A brick pedestal supports a rectangular piece of cor-ten steel, with silver mounted lettering. A simple diagram of a typical Park Place home would be milled through the piece of cor-ten: this allows light to shine through the piece, making it more noticeable.
Gateway Park Design Elements
The community was interested in developing a gateway into the neighborhood that would help identify the community as well as depict an identity, or brand, for the neighborhood. Broadway Street and the open space bounded by Granby Street, Broadway Street, Omohundro Avenue, and 32nd Street work in concert as the main gateway to Park Place. Passing by the Broadway Street intersection while traveling north or south along Granby Street, the Park Place neighborhood presents itself to the passerby, boasting an artistic neighborhood sign and decorated hardscape to mark the neighborhood’s presence along this main arterial road. Broadway Street itself acts as a grand entrance past the neighborhood gateway park, marked with dawn redwoods and colorful plantings in the beautified median. A final park design addresses community needs for an event-size gathering area, active community-building amenities, and a grand introduction to Park Place for both pedestrians and drivers. CDAC designers programmed the interior of Gateway Park with a community garden, an outdoor fitness cluster encouraging active social lifestyles, and a wide open lawn to serve as an outdoor event space.
Park Place Gateway Park welcomes both visitors and residents to the neighborhood when approaching from Granby Street, a main arterial North-South throughway. This lot was selected by the residents as the future site of a neighborhood gateway. A display of banners on the northwest corner of Gateway Park marks Park Place Neighborhood that would also serve as a neighborhood park and event space. The park features a large grassed lawn to serve as a recreation area or an event space when the opportunity arises. The existing curb cuts were connected to create Plaza Drive, a semi-circular drive accessed by vehicles by removable bollards. This drive is adorned with stamped concrete in a linked circle pattern. This pattern provides branding for the neighborhood by symbolizing the diversity, connectivity, and opportunity inherent to the Park Place community. Plaza Drive acts as a road for food trucks, a staging area for musical performances, and a location for vendors to set up on for an event on the hardscaped areas. A 3-4’ high grassed berm and groups of large boulders serve as seating when places are needed for rest. Trees are located around the edge of gateway park and along its pathways, creating edges and enclosing the spaces. A wide buffer of perennial flowers and evergreen trees mark the separation between community park space and public space. The team utilized concepts from CPTED (Crime Prevention Through Environmental Design) in the park design to make it as safe, accessible, visible, and cherished as possible.

To the north of the park, an existing median on Broadway Street was widened and designed with grasses, flowers, and large trees and also includes the entry signage described on page 17. The median terminates with a focal sculpture creating a grand entranceway into the neighborhood.
The residential entrance into the park is marked by small flowering trees. The community garden and fitness quad are both bounded by a white post-and-rail fence.

A community garden is proposed on the community end of the park. A white post-and-rail fence bounds the space on the north side of the site. The final design proposal suggests an outdoor fitness quad containing grouped equipment to foster a social exercise scene. A community kiosk is sited at the intersection of pathways in the park. This kiosk provides a map of the Park Place Culture Trail, a community information board, a brief description of the neighborhood’s history, as well as a community mural.

Following is the Final Conceptual Master Plan for Gateway Park. Perspectives of the park can be found on pages 26-29.
FINAL DESIGN: GATEWAY PARK
Conceptual Master Plan

Greater Park Place: Community Gateway and Neighborhood Beautification

- Decorative Intersection
- Multi-Use Recreation Field
- Boulder Group
- Grassed Berm
- Decorative Intersection
- Brick Crosswalks
- Street Trees
- Micro Community Garden
- Fitness Quad
- Community Kiosk
- Plaza Drive with Stamped Concrete
- Existing Power Line
- Perennial Buffer with Evergreen Edge
- Removable Bollards
- Focal Sculpture
- Residential Parallel Parking
- Entrance Sidewalk with Brick Banding
- Existing Structure
- Neighborhood Entrance Sign and Expanded Median
- Neighborhood Flag Display
- 32nd Street Painted Crosswalk
- Broadway
- Granby Street
- Omohundro Ave

40        20           0    10   20

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Gateway Park Phasing Plan
A phasing plan was developed in order to help guide implementation. The recommended phases are described below and depicted on the following map.

Phase 1: Broadway Improvements and Neighborhood Entryway
Community members listed the Broadway Street improvements and neighborhood entrance area as the highest priority for development. These improvements include the neighborhood entrance sign on the corner of Broadway and Granby Streets as well as the expanded median with landscape plantings and focal sculpture. Detailed sidewalks with brick banding, improved brick crosswalks, new street paint markings for bike lanes and parallel parking, and decorative intersection detailing are among the intended improvements for this area.

Phase 2: Gateway Park
Phase 2 includes the hardscape improvements for Gateway Park. These areas include the following design elements: vehicular plaza driveway with removable bollards, that connects Broadway to 32nd Street and the curving brick walkways within Gateway Park. Gateway Park should be regraded to create a level central recreation field and infilled to create the grassed berm shown in the plan. The grouping of boulders and the community kiosk should be implemented during this phase. Once all hardscape and land form improvements have been completed, landscape plantings can safely be installed. These include the curving, evergreen hedgerow with perennial display bed fronting on Granby Street and the tree-lined park boundary which define Gateway Park.

Phase 3: Gateway Park Amenities
Installation of fitness equipment and community garden elements form the majority of Phase 3. Afterward, path lighting, fence borders, small flowering trees on the corner of Broadway and Omohundro, and sidewalk with street tree improvements on Omohundro complete Gateway Park.

Phase 4: Park Place Neighborhood and Streetscape Improvements
Greater neighborhood and street improvements, such as infilling of street trees, repainted crosswalks, dedicated bike lanes, and repaired sidewalks constitute Phase 4. See ‘Streetscape Design’ (pg 14) for more details.
FINAL DESIGN CONCEPTS
Gateway Park Phasing Plan

Phase 1:
Broadway Improvements and Neighborhood Gateway

Phase 2:
Gateway Park

Phase 3:
Gateway Park Amenities

Phase 4:
Neighborhood and Streetscape Improvements
Gateway Park Community Kiosk
Located at the intersection of pathways in Gateway Park, the Park Place community kiosk serves as an introduction to the community and its amenities. This four-sided kiosk references a historic streetcar motif. The rounded dome and design of the top of this structure are reminiscent of the streetcar design. Each side of this kiosk has its own purpose: a community bulletin board and events calendar, a mural created by the Park Place community, a history essay explaining Park Place's history in Norfolk, and a neighborhood map with the Park Place Culture Trail highlighted.

Following are perspectives for the neighborhood gateway and Gateway Park.
Proposed gateway sign at the intersection of Granby and Broadway Streets.
Proposed entry into gateway park and streetscape improvement at the intersection of Omohundro Avenue and Broadway Street.
A community gathering at Gateway Park.
The proposed Gateway Park includes a community garden (left), community kiosk (center), and fitness area (right).
Gem Lot Design
The gem lots were pointed out to the CDAC team while walking through the neighborhood at the preliminary site visit. The gem lots are pieces of property, owned by the Norfolk Housing Authority, which are too narrow for construction. Consequently, they serve as open spaces in the neighborhood with the potential to be used for the community’s benefit. Multiple concepts and ideas for these gem lots were presented to the community. With the community’s input, the concepts were combined into the final gem lot designs. They incorporate a series of outdoor-fitness stations along a fitness loop, historical-interpretive signs explaining bits of history about Park Place and Norfolk, and low-maintenance landscaping to decrease the need for City resources and resident responsibility.

The following pages include Gem Lot Designs 1, 2, 3, and 4, and concepts for gem lot signage.
Located on the corner of 29th Street and Omohundro, across from the YMCA, Gem Lot 1 is the furthest south of all gem lots. Currently under private ownership, Gem Lot 1 was identified as a future green space opportunity. Gem Lot 1 could potentially feature a concrete art pad for display of local sculptures, a brick avenue that loops around a grassed lawn, and evergreen hedges around the backside to provide privacy for residences bordering the lot. Two small fitness stations are situated just off of the brick pathway, and small trees provide shade. Proposed Park Place street signs are also illustrated in the perspective.
Gem Lot 2 is located at the corner of Omohundro Avenue and 30th Street. It features a concrete art pad for local art display. This Gem Lot has a larger fitness station and a larger grassed lawn than Gem Lot 1. An interpretive history sign can be seen in the perspective. An evergreen hedge buffer and street trees green the space providing additional pedestrian comfort.
Gem Lots 3 and 4 mirror each other across 31st Street, and are bounded by Llewellyn Avenue. A decorated pedestrian crosswalk connects Gem Lots 3 and 4. These Gem Lots have small rain gardens to soak up rainwater from storm events. Seen in this perspective, Gem Lot 4 has an outdoor fitness station. Gem Lot 3 has an art pad for local art displays. As seen in the perspective, all outdoor fitness stations have instructional signage on how to use the equipment.
Greater Park Place: Community Gateway and Neighborhood Beautification

**HISTORY OF NORFOLK**

**The Streetcar Suburb**

In 1894 the awe-inspiring electric streetcar was introduced across the city of Norfolk, replacing the horse-drawn trolleys which had begun operation twenty-four years earlier. The trolleys criss-crossed and clanged their way throughout the streets of the city, carrying passengers to work, play, and home. Park Place has a special connection to these streetcars: the road patterns which we see today in the neighborhood are a product of these streetcar lines. This is why the layout of Park Place is called a “historic streetcar suburb”. The streetcar allowed Park Place and surrounding neighborhoods to expand beyond the downtown streets of the city. The streetcars ran for forty-four years in Norfolk, until the last car clanged its bells in 1948, to make way for the new gas-powered buses.

**The Wilkes Expedition**

In 1894 the awe-inspiring electric streetcar was introduced across the city of Norfolk, replacing the horse-drawn trolleys which had begun operation twenty-four years earlier. The trolleys criss-crossed and clanged their way throughout the streets of the city, carrying passengers to work, play, and home. Park Place has a special connection to these streetcars: the road patterns which we see today in the neighborhood are a product of these streetcar lines. This is why the layout of Park Place is called a “historic streetcar suburb”. The streetcar allowed Park Place and surrounding neighborhoods to expand beyond the downtown streets of the city. The streetcars ran for forty-four years in Norfolk, until the last car clanged its bells in 1948, to make way for the new gas-powered buses.

**The Ironclad battle**

In 1894 the awe-inspiring electric streetcar was introduced across the city of Norfolk, replacing the horse-drawn trolleys which had begun operation twenty-four years earlier. The trolleys criss-crossed and clanged their way throughout the streets of the city, carrying passengers to work, play, and home. Park Place has a special connection to these streetcars: the road patterns which we see today in the neighborhood are a product of these streetcar lines. This is why the layout of Park Place is called a “historic streetcar suburb”. The streetcar allowed Park Place and surrounding neighborhoods to expand beyond the downtown streets of the city. The streetcars ran for forty-four years in Norfolk, until the last car clanged its bells in 1948, to make way for the new gas-powered buses.

**Park Place**

In 1894 the awe-inspiring electric streetcar was introduced across the city of Norfolk, replacing the horse-drawn trolleys which had begun operation twenty-four years earlier. The trolleys criss-crossed and clanged their way throughout the streets of the city, carrying passengers to work, play, and home. Park Place has a special connection to these streetcars: the road patterns which we see today in the neighborhood are a product of these streetcar lines. This is why the layout of Park Place is called a “historic streetcar suburb”. The streetcar allowed Park Place and surrounding neighborhoods to expand beyond the downtown streets of the city. The streetcars ran for forty-four years in Norfolk, until the last car clanged its bells in 1948, to make way for the new gas-powered buses.

**Historical-Interpretive Signage**

**Fitness Station Signage**

FINAL DESIGN: PARK PLACE GEM LOTS

Gem Lot Signage
Planting Overview
In an effort to beautify Park Place, the CDAC team was asked to prepare residential planting templates to offer residents of Park Place inspiration and choices for their own residential plantings. Paving materials are also suggested as opportunities to use CPTED (Crime Prevention through Environmental Design). CPTED suggests changing paving materials to distinguish public and private paths, mark ownership, and indicate responsibility. Residential plantings also encourage residents to care for their own yards and to take pride in their homes' outward appearance. CDAC prepared three different planting schemes to give the residents a broad choice of plantings.

Colonial:
This was chosen as a scheme to match the era in which a majority of the residences in Park Place were built. Colonial planting follows a formal layout of evergreen shrubs planted around the foundation of the home. Colonial planting also features flowering herbs, used for practical and aesthetic purposes, and southern heritage plants.

Coastal:
This was chosen for Park Place's location in coastal Norfolk, a coastal planting palette consists of flowing lines and curving planting beds. Lots of grasses and some native coastal plants were chosen for this planting palette.

Permaculture:
This planting scheme was suggested by residents of Park Place as an introduction to growing healthy food in a beautiful garden. Permaculture planting involves growing edible plants.

All of the plants selected for the planting palettes are, to the best of the team's knowledge, hardy for the environment in which Park Place is located.

The following pages include Residential Planting Designs for Colonial, Coastal, and Permaculture Designs, and Planting Palettes. The planting palettes suggest a variety of plant options that correspond to each type of design (Colonial, Coastal, and Permaculture).
215 & 217 West 29th Street

Vision of Intricate Planting Scheme

These example mirrored residences offer an opportunity for a symmetrical formal design, great for colonial plantings. Evergreen hedges around the foundation of these homes, along with small accent trees, were selected to create order yet add interest to these facades.
202 West 35th Street

Vision of Intricate Planting Scheme

This example home on the corner of Omohundro and West 35th Street offers a beautiful setting for a garden. A colonial scheme, bordering the shape of the house, was designed to complement the architecture. A flowering fruit tree and planting beds were proposed as an accent this corner lot.
Intricate

Simple

Planting Schemes

This example house on 30th Street has a lot of yard space to plant a garden. The long pathway leading up to the house can be paved with brick and lined with shrubs or grasses.
**Final Design: Residential Planting**

**Colonial Planting Palette**

**Greater Park Place: Community Gateway and Neighborhood Beautification**

### Suggested Planting Palette for Colonial Landscapes

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**Legend:**
- = Drought Tolerant
- = Flood Tolerant
= Evergreen

<table>
<thead>
<tr>
<th>Full Sun</th>
<th>Trees</th>
<th>Shrubs</th>
<th>Perennials</th>
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<tbody>
<tr>
<td></td>
<td>Liliiflora Saucer Magnolia Magnolia x soulangiana <em>‘Lilliputian’</em></td>
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<td>Purple Coneflower Echinacea purpurea</td>
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<tr>
<td></td>
<td>Southern Magnolia Magnolia grandiflora <em>‘Little Gem’</em></td>
<td>Clethra Clethra alnifolia</td>
<td>Coral Drift Rose Rosa <em>‘Coral Drift’</em></td>
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<td>Azalea Rhododendron</td>
<td>Japanese Anemone Anemone x hybridra</td>
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<td></td>
<td>Amur Maple Acer tataricum ginnala</td>
<td>Boxwood Buxus</td>
<td>Rozanne Geranium Geranium <em>‘Rozanne’</em></td>
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<tr>
<td></td>
<td>Kousa Dogwood Cornus kousa</td>
<td>Cherry Prunus</td>
<td>Bigleaf Hydrangea Hydrangea macrophylla</td>
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<tr>
<td></td>
<td>Cherry Prunus</td>
<td>Sweet Box Sarcococca hookeriana</td>
<td>Variegated Solomon’s Seal Polygonatum odoratum <em>‘Variegatum’</em></td>
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<tr>
<td></td>
<td>Variegated Solomon’s Seal Polygonatum odoratum <em>‘Variegatum’</em></td>
<td>Miracle coralbells Heuchera villosa</td>
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</table>
Vision of Intricate Planting Scheme

Sweeping, curving planting beds with high grasses and coastal palms contrast the horizontal lines of these example houses. Layering short, medium, and tall plants gives these houses, and their yards more, dimension.
Vision of Intricate Planting Scheme
The distinctive lines of this example house can inform the boundaries of the planting beds along the structure’s foundation. Small shade trees, grasses, and perennials create layers that provide visual interest throughout the seasons.
Vision of Intricate Planting Scheme

Curvilinear planting beds can be used to either enclose this yard or add some depth to the house and porch. Marking the pathway with a distinctive paving pattern will alert passersby to the private walk. This planting scheme has the opportunity to possess many layers of different textured plantings.
### Full Sun
- **Trees**
  - Dwarf Palmetto
  - Hollywood Juniper
  - Sweetbay Magnolia
- **Shrubs**
  - Yucca filamentosa
  - Wakefield Juniper
  - Serviceberry
- **Perennials**
  - Yucca
  - Hollywood Juniper
  - Indian Hawthorn

### Part Sun
- **Trees**
  - Red Maple
  - Japanese Rose
  - Serviceberry
- **Shrubs**
  - Red Chokeberry
  - Japanese Rose
  - Carolina Cherry Laurel
- **Perennials**
  - Russian Sage
  - Red Chokeberry

### Part Shade
- **Trees**
  - Bald Cypress
  - Virginia Sweetspire
  - Shawnee Brave
- **Shrubs**
  - Coastal Fothergilla
  - Virginia Sweetspire
  - Virginia Sweetspire
- **Perennials**
  - Liatris
  - Coastal Fothergilla

### Full Shade
- **Trees**
  - Bald Cypress
  - Virginia Sweetspire
  - Shawnee Brave
- **Shrubs**
  - Coastal Fothergilla
  - Virginia Sweetspire
  - Wood spurge
- **Perennials**
  - Russian Sage
  - Scarlet Beebalm

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**Legend:**
- = Drought Tolerant
- = Flood Tolerant
- = Evergreen
A paving pattern, distinctive from the concrete sidewalk, would be a nice transition into these example home entrances. Plantings bordering the walkways also bring attention to the private nature of these walkways. A raised garden bed or grouped companion plants is proposed between these mirrored houses. Trees and planting beds are proposed to anchor the planting scheme.
Vision of Intricate Planting Scheme

This home serves as an example of permaculture planting in a large yard and offers many opportunities to grow vegetables and other edible plants. Vines can grow on trellises and planting mirroring the semi-circular shape of the front porch would give depth to the front of the house. Opportunities for large planting beds filled with herbs, fruits, and vegetables are abundant in this south facing yard.
Vision of Intricate Planting Scheme

Shown in this perspective, an arbor offers an opportunity to enclose the front walk and grow vines overhead. Raised beds and companion plantings are shown in the planting schemes for this house.
# Suggested Planting Palette for Permaculture Landscapes

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## Planting Palettes

### Full Sun

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<tr>
<th>Trees</th>
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<tbody>
<tr>
<td>Persimmon</td>
<td>Black Raspberry</td>
<td>Ozark Beauty Strawberry</td>
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<tr>
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<td>Fragaria x ananassa</td>
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<td>Brown Turkey Fig</td>
<td>Highbush Blueberry</td>
<td>Yarrow</td>
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<tr>
<td>Ficus carica 'Brown Turkey'</td>
<td>Vaccinium darrowii</td>
<td>Achillea millefolium</td>
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<td>Blue Shore Juniper</td>
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<td>Juniperus conferta</td>
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## Greater Park Place: Community Gateway and Neighborhood Beautification

**Final Design: Residential Planting**

**Permaculture Planting Palette**

- **Persimmon**
- **Brown Turkey Fig**
- **Diospyros virginiana**
- **Ficus carica 'Brown Turkey'**
- **Kalamata Olive**
- **Olea europaea**
- **Little Leaf Linden**
- **Tilia cordata**
- **Paw Paw**
- **Asimina triloba**
- **Plum**
- **Prunus domestica**
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- **Rhus glabra**
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- **Sambucus canadensis**
- **Sage**
- **Salvia officinalis**
- **Purple Beautyberry**
- **Calliarpia dichotoma 'Issai'**
- **Butterfly Bush**
- **Buddleja x Lo & Behold 'Blue Chip'**
- **Violet**
- **Viola odorata**
- **Ostrich Fern**
- **Matteuccia struthiopteris**
- **Elderberry**
- **Sambucus canadensis**
- **Blue Shore Juniper**
- **Juniperus conferta 'Blue Pacific'**
- **Oregano**
- **Origanum vulgare**
- **Yarrow**
- **Achillea millefolium**
- **Oregano**
- **Thymus vulgaris**.
- **Daffodil**
- **Narcissus sp.**
- **Lemon Balm**
- **Mentha officinalis**
- **Oregano**
- **Origanum vulgare**
CONCLUSION

The Community Design Assistance Center worked closely with the Park Place community to enhance their neighborhood’s beauty and community amenities. The neighborhood designs create a connected neighborhood through trail and streetscape design, creating a pedestrian-and-cycle-friendly atmosphere while enriching the neighborhood with Norfolk’s rich culture. The gateway park aims to create a space where residents can walk, garden, and exercise on a daily basis. It also aims to provide a gathering space to host neighborhood-wide events on special occasions. The residential planting designs act as guidelines for residents to reference as they beautify and enhance the value of their yards.

These design efforts and this publication can become a tool to empower the Park Place community and begin to enact change within the neighborhood. By listening to the community, compiling site data through analysis, and understanding the identity of Park Place, these conceptual designs speak to the cohesive vision and values of the neighborhood. These concepts establish a framework and a direction for future action by dedicated residents.
PART 2: PRELIMINARY ANALYSIS AND DESIGN
Site Inventory and Analysis Overview

On the preliminary site visit, photographs and soil samples were taken, sun-shade patterns were studied, and site conditions were documented. Design precedent examples in which landscape design was used to beautify urban neighborhoods were also gathered.

Following are the various aspects of the site inventory and analysis that was conducted. They include Photo Inventory of Park Place, Building Ownership and Condition, Transit Infrastructure, Photo Inventory of the Gateway Site, Site Analysis of Gem Lots, Site Analysis of Target Residences, Conservation District Guideline Examples, Case Studies, and information about Crime Prevention Through Environmental Design (CPTED).
COLONIAL PLACE GREENWAY
Collects stormwater in retention ponds and keeps the surrounding area from flooding. Asphalt paths create connections to nice public green space.

CHRISTIAN TEMPLE
Seen from many vantage points throughout the neighborhood, the church boasts light stone construction, gothic arches, and stained glass. Dedicated maintenance, funding, and reprogramming would help this beautiful community amenity return to its former glory.

MONROE ELEMENTARY
This community school is a daily destination for many children and parents in Park Place. Enhancing pedestrian access could improve the current quality of life in the neighborhood.

29TH ST. PEACE GARDEN
This small, productive community garden draws children from the neighboring elementary school for education about organic, local food production.

GRANBURY STREET
Functioning as the area’s main arterial road, this street connects Park Place with downtown Norfolk and serves as the entrance for the state Zoo. Acts as the eastern edge for the entire Park Place neighborhood, and should be punctuated with gateways to announce the presence of Park Place.

EXISTING BIKE LANE
Ends at the Granby-Broadway Street intersection. In the City’s Norfolk2030 plan, bike lanes have been added to run along 35th, 38th, Omohundro, and Lewellen.

THE ‘Y’ ON GRANBY
Opened in May 2013, this community centered nonprofit boasts beautiful, modern facilities for family oriented programs and activities.
SITE INVENTORY AND ANALYSIS
Transit Infrastructure

Greater Park Place: Community Gateway
and Neighborhood Beautification

Transit Infrastructure
- Expanded Target Area
- Focus Area
- Street Centerline
- Bus Routes
- Historic Trolley
- Traffic Signals
- Railroad

SITE INVENTORY AND ANALYSIS
Transit Infrastructure
A Neighborhood Gateway

This 1.30 acre site sits poised at the intersection of Granby St, Broadway St, and Omohundro St, across from the Lafayette Park and the State Zoo entrance. It is a prime location to establish a gateway into the Park Place and Virginia Place neighborhoods. This space can announce community presence, become a gathering or event space, and can act as the threshold that draws visitors into the Park Place neighborhood.
Access to natural sunlight will directly affect areas where people wish to congregate and where designed planting beds will thrive. A simple analysis of sunpaths reveals these areas, and provides insights into the daily and seasonal movement of shade patterns.

The three represented shadow regions are:
- Spring / Autumn - Morning
- Summer - Early Midday
- Winter - Late Afternoon

### Gem Lot A
- 29th & Omohundro: Full sun all times throughout year in southern half of lot.
- Area under canopy is fully shaded.
- Balance of open, sunny space and shaded, enclosed space.
- Right next to the Park Place “Y”.

### Gem Lot B
- 30th & Omohundro: Receives full shade in the morning and full to partial sun in the afternoon.
- Northern half of lot gets full sunlight.
- Private driveway encroaches on north side.
- Deteriorating concrete on site.

### Gem Lots C & D
- 31st & Llewellyn - NE: Gets full sun, aside from the tree canopy on the northern half.
- Bordered by private fence.
- Opportunity for improved pedestrian conditions at intersection.
- Current vegetation collects trash.

### Target Gem Lots
- Greater Park Place: Community Gateway and Neighborhood Beautification.

---

**SITE INVENTORY AND ANALYSIS**
**Target Gem Lots**

The three represented shadow regions are:
- Spring / Autumn - Morning
- Summer - Early Midday
- Winter - Late Afternoon

---

**Community Design Assistance Center**
Virginia Polytechnic Institute and State University
Access to natural sunlight will directly affect areas where people wish to congregate and where designed planting beds will thrive. A simple analysis of sun paths reveals these areas, and provides insights into the daily and seasonal movement of shade patterns.

**Spring / Autumn - Morning**
- Areas close to porch and side yards have balanced morning and evening shade
- Front yard gets full sun
- Structure is well maintained and in excellent condition

**Summer - Early Midday**
- Front and side yards get full shade
- Lawn area near sidewalks get partial sunlight
- Young, newly planted street trees
- No threshold between front and side yard

**Winter - Late Afternoon**
- Side yards get balanced morning and evening shade
- Front yard gets year-round full sunlight
- Newly renovated exterior and front porch
- Fenced edges define front yard from side yard
What is a Conservation District?

A “CD” preserves, revitalizes, protects, and enhances a historic area beyond standard code specifications. They are located in residential neighborhoods with a distinct physical character—in Park/VA Place’s instance, early 20th century suburban streetcar development. Conservation districts regulate fewer features than a Historic District, focusing more on significant character defining features such as lot size, building height, setbacks, streetscapes, and tree protection.

Near North End Conservation District

- Used conservation district status to protect this residential neighborhood which was sandwiched between the city’s central business district and a low-density historic neighborhood

- Ordinance encourages existing residential uses while protecting historical and architectural character through adaptive reuse

- Maintain neighborhood as a transitional area between commercial intensity of downtown and the predominant single-family residential neighborhoods

- Specific uses prohibited, such as new off-site parking lots and on-site surface parking lots larger than 2,500 sq ft

- Incorporate both development restrictions and design controls to remove underlying pressures for incompatible development

- High emphasis is based on community participation

Greater Park Place: Community Gateway and Neighborhood Beautification

- Row Houses: Front stoops surrounded by dooryard gardens or ornamental plantings enclosed with low copings

- Larger lots with side yards: informal beds along building foundation with walks or lawn filling open space

- Brick walls, wrought iron fences, flower beds, terra cotta pots, vases, urns, sundials, fountains, benches

- Maintenance of details such as original fences or garden ornaments is important in maintaining the sense of continuity along the street

- Traditional fencing materials (wood and iron) should be cleaned, primed, and painted in traditional colors such as dark brown, dark bottle green, and black

- Brick walls may be used if not too high

- Chain-link, split rail, and stockade fences are not appropriate

- Beds can be edged with scalloped terra cotta tile, inverted stout bottles, or Savannah gray brick in sawtooth patterns

- Flagstone, crushed shell, and tamped earth used for walkways between border and central beds

- Fan-shaped trellises with roses used in front of house instead of shrubs
Planting Design
Good residential planting designs can be found all throughout Norfolk. The images below show examples from:

Gateway Design
Gateways signify a means of entrance and a sense of arrival, and act as the threshold between two places. Examples of these range from:

Streetscape Design
Using design features to visually and thematically connect areas throughout Park Place can add to the Sense of Place, such as:

Typical Garden Styles:
- Cottage:
  - Lush Layers
  - Seasonality
  - Density of Plants
  - Informal Layout
  - Color & Texture
  - Edible Quality

- Colonial:
  - Evergreen Base
  - Rectilinear Paths
  - Extension of House
  - Formal Layout
  - Functionality
  - Form of Enclosure

- Coastal:
  - Perennial Flowers
  - Curving Paths
  - Spaces to Occupy
  - Informal Layout
  - Native Plantings
  - Loose and Moving

PRELIMINARY ANALYSIS AND DESIGN

Greater Park Place: Community Gateway and Neighborhood Beautification
PRELIMINARY ANALYSIS AND DESIGN

Crime Prevention Through Environmental Design (CPTED)

is an approach to problem-solving that considers environmental conditions and the opportunities they offer for crime or other unintended and undesirable behaviors. CPTED attempts to reduce or eliminate those opportunities by using elements and design of the environment.

MAINTENANCE

Essential to creating a sense of community and pride, maintenance supports accessibility, visual access and ownership.

- Include liability and security experts in planning and management
- Partner with local business and community organizations
- Perform regular security and safety assessments
- Keep up-to-date data on site crimes
- Cultivate an anti-crime culture
- Create a strategic plan for crime prevention management

OWNERSHIP

Use design to define ownership and encourage maintenance of territories.

- Movable elements to define spaces
- Hierarchy of spaces and paths
- Elevation change to imply ownership
- Change in material to imply ownership
- Residential signage declares territory
- Personalizing spaces

ACCESS

Control access by creating both real and perceptual barriers to entry and movement.

- Tree lines, shrubs, fences to define edges
- Pathways to guide movement
- Gateways for focused points of entry
- Accessible information signage
- Consistency in common space identity
- Wayfinding signage

PROGRAMMING

Providing adequate programming attracts legitimate users to ensure there will be people present.

- Organize planned activities and programs
- Secure sponsorship for activities
- Create programs targeting specific groups
- Encourage users to take ownership of site
- Incorporate education
- After-school programs for teens

VISIBILITY

Take advantage of design to provide opportunities to see and be seen.

- Night lighting
- Path lighting
- Building orientation to share views
- Elevated views to common spaces
- Focal points in shared spaces
- Properly maintained vegetation
Conceptual Neighborhood Plan A

Conceptual Neighborhood Plan A was created on the basis of a pattern of streets throughout the neighborhood creating a rhythm to Park Place and giving each east-west street its own character using planting and paving patterns. In addition to the rhythmic street order, a central greenway running lengthwise through Park Place was envisioned, creating a central neighborhood open space, joining the northern part and the southern parts of the neighborhood together with open space. Complete streets was an important concept in this conceptual neighborhood plan, turning the busy north-south throughways into pedestrian-friendly, walkable, and cyclable streets. The gem lots in this neighborhood concept are used to collect rainwater falling during storms and drain into rain gardens planted in these neighborhood open spaces throughout Park Place.

Following are Conceptual Neighborhood Plan A and Conceptual Gem Lots Plan A.
1. **Llewellyn Complete Street:**

Pedestrian oriented with bike lanes, street plantings, storm water retention areas, and parallel parking. Connects open spaces in a greenway network.

2. **Broadway Gateway Park:**

Through acquisition of block between Omohundro and Llewellyn, a continuous boulevard connects the northern and southern halves. This promenade signifies entry, increases street frontage, and serves as gathering, special event, and recreation space.

3. **Alternating Street Themes:**

Common planting palette and material choices provide visual consistency throughout the East-West streets, creating the sense of a unified neighborhood.

4. **Omohundro & Debree:**

Improvement through street-scape beautification and allees of street trees, but remain auto-centric.

**Legend:**

- Complete Street
- Open Space
- Street Theme A
- Street Theme B
- Connector Streets
- Gem Lot 1, etc.

The gem lots are re-purposed for storm water management. Slight depressions in the lots create rain gardens which capture runoff and allow infiltration to occur. Excess storm water is diverted into overflow devices which connect to the cities sewer system.
Greater Park Place: Community Gateway and Neighborhood Beautification

PRELIMINARY ANALYSIS & DESIGN
Conceptual Gem Lots Plan A

Changes in paving patterns deliniate public spaces.

Alternating Street Themes signifies entry, increases street frontage, and serves as gathering, special event, and recreation space.

Through acquisition of block between Omohundro & Debree streets, creating the sense of a unified neighborhood provide visual consistency throughout the East-West.

Common planting palette and material choices connect to the city’s sewer system.

Slight depressions in the lots create rain gardens which capture runoff and allow infiltration to occur. Excess stormwater is diverted into overflow devices which connect to the city’s sewer system.

The gem lots are repurposed for stormwater management. Slight changes in paving patterns and allees of street trees, but remain auto-centric.

Connects open spaces in a green way network.

Omohundro Complete Street: Llewellyn Complete Street

1. Street Theme A
   - Open Space
   - Complete Street

2. Street Theme B
   - Open Space
   - Complete Street

Legend:
- Grasses
- Native Grasses
- Sidewalk
- Street Trees
- Evergreen Hedge
- Rain Garden
- Street Bed
- Perennial Bed
- Bricks

Omohundro, East-West Connector Streets

Rain Garden

Intersection Court with Planted Curb

Open Lawn

Garden

A street beautified by trees and residential plantings.
Conceptual Neighborhood Plan B
Conceptual Neighborhood Plan B is based off of the idea of a Park Place Cultural Trail running through the neighborhood, using the gem lots as outdoor fitness stations combined with local art displays and small neighborhood green spaces. The Culture Trail is marked with way-finding elements, such as interpretive history signs placed at gem lots and entrances into Park Place.

Following is Conceptual Neighborhood Plan B and Conceptual Gem Lots Plan B.
1. Broadway Trailhead

The gateway site becomes a trail head for walking and biking as well as a central welcoming point to showcase Park Place’s history and community.

2. Extended Bike Lane System

Bike lanes are added in accordance with the Norfolk 2030 Plan. This creates connections with downtown and across the Lafayette River.

3. Historic Streetcar Trail

Way-finding elements and informational signs celebrate the history of Norfolk’s streetcar. This trail is enhanced with the exhibition of local art in vacant lots or public ground.

4. Fitness Trail Loops

Looping walkways connect community hubs and neighborhood gem lots through fitness stations with simple workout structures.

Legend:
- Neighborhood Trailhead
- Fitness Station
- Fitness Trail
- Historic Streetcar Trail
- Existing/Proposed Bike Lane
- Gemlot 1, etc.

The gem lots become fitness stations along the fitness trail. Simple workout structures give residents an easy way to remain active and encourage residents to interact with each other and get outside.
Greater Park Place: Community Gateway and Neighborhood Beautification

PRELIMINARY ANALYSIS & DESIGN
Conceptual Gem Lots Plan B

The Norfolk biking community is dynamic and expanding. The gem lots become fitness stations along the fitness trail. Simple workout structures give residents an easy way to remain active and encourage outdoor activity.

Greater Park Place: Community Gateway and Neighborhood Beautification

Outdoor exercise stations encourage residents to interact with each other and get outside.

The gem lots become fitness stations along the fitness trail. Simple workout structures give residents an easy way to remain active and encourage outdoor activity.

1. Street trees
2. Brick pathways
3. Evergreen hedge
4. Perennial border
5. Fitness station
6. Brick paths
7. Fenced edge
8. Open lawn
9. Crosswalks
10. Play court & bike rack

Fitness Station

Legend

Existing/Proposed Bike Lane

Fitness Trail

Fitness Station

Neighborhood Trailhead

Neighborhood Master Plan Concept B

Extended Bike Lane System

Bike lanes are added in accordance with the Norfolk 2030 Plan. This creates connections with downtown and across the Lafayette River.

Way-finding elements and informational signs showcase Park Place's history and community. This trail celebrate the history of Norfolk's streetcar. This trail is enhanced with the exhibition of local art in vacant lots or public ground.

Greater Park Place: Community Gateway and Neighborhood Beautification

Outdoor exercise stations encourage residents to interact with each other and get outside.
PRELIMINARY ANALYSIS AND DESIGN

Conceptual Gateway Plans
Four conceptual designs for the Park Place Gateway Park were presented at the second meetings. Both residents and key stakeholders weighed in on these designs, and these were combined into a final gateway design. Each of these four concepts focuses on a separate theme.
Greater Park Place: Community Gateway and Neighborhood Beautification

PRELIMINARY ANALYSIS & DESIGN
Conceptual Gateway Plans

Concept 1: Garden
- Community garden for residents, highly visible from Granby
- Perennial buffer limits access from Granby Street
- Linear garden beds increase accessibility
- Central patio with storage shed, movable tables and chairs
- Edible forest garden planted on Omohundro
- Entrance sign on corner of Broadway and Granby

Concept 2: Plaza
- Special event field and plaza court on Granby with perennial buffer
- Bosque of trees encloses and formalizes area
- Removable bollards limit access to plaza court
- Plantings define threshold between semi-public plaza and community lawn
- New trees planted on Omohundro help enclose community lawn
- Entrance sign on corner of Broadway and Granby

Concept 3: Trail-Head
- Trail-head for bike, fitness, and art & history trails running throughout the neighborhood
- Recreation field for play, surrounded by grassy, shady lawn
- Wide perennial or evergreen buffer to separate community space from busy Granby Street
- Info boards including history of Park Place as a streetcar suburb, trail maps, and amenities surrounding Park Place
- Entrance sign on existing Broadway island

Concept 4: Stormwater
- Vegetated rain garden BMP fronts Granby St.
- Dynamic berm edge defines field and creates opportunity for play and seating
- Street tree allees enclose space
- Open recreation field oriented towards residences
- Entrance sign on existing Broadway island
PART 3: APPENDIX
### Soil Analysis Results

<table>
<thead>
<tr>
<th>Sample Name</th>
<th>pH</th>
<th>BpH</th>
<th>P ppm</th>
<th>K ppm</th>
<th>Ca ppm</th>
<th>Mg ppm</th>
<th>Zn ppm</th>
<th>Mn ppm</th>
<th>Cu ppm</th>
<th>Fe ppm</th>
<th>B ppm</th>
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<th>% Base Sat</th>
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The above soil data table correspond to the soil sample maps on the following pages.
An explanation of this soil analysis can be found on page 79.
APPENDIX

Gateway Site Soil Sample
Greater Park Place: Community Gateway
and Neighborhood Beautification

APPENDIX

Gem Lot 1 Soil Sample

Ph 6.34
Gem Lot 2 Soil Sample

Greater Park Place: Community Gateway
and Neighborhood Beautification

Ph 7.14
Omohundro
W 30th Street
Gem Lot 3 Soil Sample
Greater Park Place: Community Gateway
and Neighborhood Beautification

Gem Lot 4 Soil Sample

Ph 5.44
202 West 35th Street Soil Sample

Ph 5.25
Ph 6.27
210 West 30th Street Soil Sample

Ph 6.67
Greater Park Place: Community Gateway and Neighborhood Beautification

215 & 217 West 29th Street Soil Sample
The accompanying Soil Test Report (and supplemental Soil Test Notes, when provided) will help you assess your plant’s need for fertilizer and lime. The “History of Sampled Area” section restates the information you filled in on the Soil Sample Information Sheet you submitted with the soil sample. The “Lab Test Results” section shows the relative availability of nutrients numerically and if appropriate, as a rating. The rating may be interpreted as follows: L=Low, M=Medium, H=High, VH=Very High, EH=Excessively High (soluble salt test only), DEF=Deficient, or SUFF=Sufficient, and sometimes a “+” or “-.” When soils test Low, plants almost always respond to fertilizer. When soils test Medium, plants sometimes respond to fertilizer and a moderate amount of fertilizer is typically recommended to maintain fertility. When soils test High to Very High, plants usually do not respond to fertilizer. If there is no rating for a nutrient, the adequacy of that nutrient in the soil for the plant you specified has not been determined.

The following is an explanation of the symbols and abbreviation used in the report:

**Report Symbols and Abbreviations**

<table>
<thead>
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<th>Symbol</th>
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<td>P</td>
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<tr>
<td>Est-CEC</td>
<td>estimated cation exchange capacity</td>
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<tr>
<td>AG</td>
<td>agricultural limestone (dolomitic or calcitic)</td>
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<td>N</td>
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<tr>
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<td>parts per million</td>
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**Fertilizer Recommendation**

The fertilizer recommendations may be used for the same crop for two to three years. After this time, it is advisable to retest the soil to determine if significant changes have occurred in nutrient levels. When the soil tests Very High for phosphorus or potassium and no fertilizer for these nutrients is recommended, you should retest the following year to determine if fertilizer will be needed. Due to the variability associated with sampling, fertilizer application rates may be varied by a plus or minus 10 percent.

No soil test is performed for nitrogen because this element is too mobile in the soil for laboratory results to be useful. Nitrogen fertilizer recommendations are based on the crop/plant to be grown, the previous crop, and when applicable, the soil’s yield potential. Comments on the report and other enclosed Notes, if any, will have further information regarding nitrogen.

**Lime Recommendation**

If needed, a lime recommendation is given to neutralize soil acidity and should last two to three years. After that time, you should have the soil retested. The measured soil test levels of calcium and magnesium are used to determine the appropriate type of limestone to apply. If neither dolomitic nor calcitic lime is mentioned, or “Ag” type or “agricultural” limestone is stated on the report, then it does not matter which type is used. When no information on the Soil Sample Information Sheet was provided regarding the last lime application, the lab assumed you have not applied lime in the past 18 months. If this is not correct, contact your Extension agent for advice on adjusting the lime recommendation to take into consideration recent lime applications. Do not over lime! Too much lime can be as harmful as too little. For best results, apply lime, when possible, several months ahead of the crop/plant to be planted to allow time for more complete soil reaction.
Methods and Meanings

For more detail on the lab procedures used, visit www.soiltest.vt.edu and click on “Laboratory Procedures.”

Soil pH (or soil reaction) measures the “active” acidity in the soil’s water (or hydrogen ion activity in the soil solution), which affects the availability of nutrients to plants. It is determined on a mixed suspension of 1:1, volume to volume ratio of soil material to distilled water.

Virginia soils naturally become acidic, and limestone periodically needs to be applied to neutralize some of this acidity. A slightly acid soil is where the majority of nutrients become the most available to plants, and where soil organisms that decompose organic matter and contribute to the “overall health” of soils are the most active. When a soil is strongly acid (< 5.0-5.5), many herbicides lose effectiveness and plant growth is limited by aluminum toxicity. When soils are over-limed and become alkaline (> 7.0), micronutrients, such as manganese and zinc, become less available to plants.

For most agronomic crops and landscaping plants, lime recommendations are provided to raise the soil pH to a slightly acid level of between 5.8 and 6.8. Blueberries and acid-loving ornamentals generally prefer a pH of 4.5 to 5.5 and an application of liming material is suggested when the soil pH drops below 5.0. For the majority of other plants, lime may be suggested before the pH gets below 6.0. This is to keep the soil pH from dropping below the ideal range, since lime is slow to react and affects only a fraction of an inch of soil per year when the lime is not incorporated into the soil. If the soil pH is above the plant’s target pH, then no lime is recommended. If the pH is well above the ideal range, then sometimes an application of sulfur is recommended to help lower the pH faster; however, most of the time, one can just let the soil pH drop on its own.

A Mehlich buffer solution is used to determine the Buffer Index to provide an indication of the soil’s total (active + reserve) acidity and ability to resist a change in pH. This buffer measurement is the major factor in determining the amount of lime to apply. The Buffer Index starts at 6.60 and goes lower as the soil’s total acidity increases and more lime is needed to raise the soil pH. A sandy soil and a clayey soil can have the same soil pH; however, the clayey soil will have greater reserve acidity (and a lower Buffer Index) as compared to the sandy soil, and the clayey soil will require a greater quantity of lime to be applied in order to raise the soil pH the same amount as the sandy soil. A reported Buffer Index of “N/A” means that it was not measured since the soil (water) pH was either neutral or alkaline and not acidic (soil pH ≥ 7.0) and therefore requires no lime.

Nutrients that are available for plant uptake are extracted from the soil with a Mehlich 1 solution using a 1:5 vol:vol soil to extractant ratio, and are then analyzed on an ICP-AES instrument. An extractable Mehlich 1 level of phosphorus from 12 to 35 pounds per acre (lb/A) is rated as medium or optimum. A medium level of potassium is from 76 to 175 lb/A. Medium levels of calcium and magnesium are 721 to 1440 and 73 to 144 lb/A, respectively. Calcium and magnesium are normally added to the soil through the application of limestone. It is rare for very high fertility levels of P, K, Ca and Mg to cause a reduction in crop yield or plant growth. Levels of micronutrients (Zn, Mn, Cu, Fe and B) are typically present in the soil at adequate levels for plants if the soil pH is in its proper range. See Soil Test Note 4, at www.soiltest.vt.edu/stnotes, for documented micronutrient deficiencies in Virginia.

Soluble Salts (S.Salts) or fertilizer salts are estimated by measuring the electrical conductivity of a 1:2, vol:vol ratio of soil material to distilled water. Injury to plants may start at a soluble salts level above 844 ppm when grown in natural soil, especially under dry conditions and to germinating seeds and seedlings. Established plants will begin to look wilted and show signs related to drought. This test is used primarily for greenhouse, nursery and home garden soils where very high application rates of fertilizer may have led to an excessive buildup of soluble salts.

Soil Organic Matter (SOM) is the percentage by weight of the soil that consist of decomposed plant and animal residues, and is estimated by using either the weight Loss-On-Ignition (LOI method) from 150° to 360°C, or a modified Walkley-Black method. Generally, the greater the organic matter level, the better the overall soil tilth or soil quality, as nutrient and water holding capacities are greater, and improved aeration and soil structure enhance root growth. The percent of organic matter in a soil can affect the application rate of some herbicides. Soil organic matter levels from 0.5% to 2.5% are ordinary for natural, well-drained Virginia soils. A soil organic matter greater than 3% would be considered very high for a cultivated field on a farm, but can be beneficial. Due to relatively large amounts of organic materials being commonly added to gardens, the soil organic matter in garden soils can be raised into the range of 5% to 10%.
The remaining values that are reported under the “Lab Test Results” section are calculated from the previous measured values and are of little use to most growers.

Estimated Cation Exchange Capacity (Est-CEC) gives an indication of a soil’s ability to hold some nutrients against leaching. Natural soils in Virginia usually range in CEC from 1 to 12 meq/100g. A very sandy soil will normally have a CEC of 1 to 3 meq/100g. The CEC value will increase as the amount of clay and organic matter in the soil increases. This reported CEC is an estimation because it is calculated by summing the Mehlich 1 extractable cations (Ca + Mg + K), and the acidity estimated from the Buffer Index and converting to units commonly used for CEC. This is also an Effective CEC since it is the CEC at the current soil pH. This value can be erroneously high when the soil pH or soluble salts level is high.

The percent Acidity is a ratio of the amount of acid-generating cations (as measured by the Buffer Index) that occupy soil cation exchange sites to the total CEC sites. The higher this percentage, the higher the amount of reserve acidity in the soil, and the higher the amount of acidity there will be in the soil solution and the lower the soil pH will be. A reported Acidity% of “N/A” means that a buffer index was not determined, and the acidity is probably less than 1 meq/100g and/or 5%, and the soil pH is alkaline (greater than 7.0).

The percent Base Saturation is the ratio of the quantity of non-acid generating cations (i.e., the exchangeable bases, Ca, Mg, and K) that occupy the cation exchange (CEC) sites.

The percent Ca, Mg, or K Saturation refers to the relative number of CEC sites that are occupied by that particular nutrient and is a way of evaluating for any gross nutrient imbalance.

Additional Information
For questions and more information, contact your local Virginia Cooperative Extension (VCE) office or go to www.ext.vt.edu. Contact information for your local Extension office appears on the upper left of your soil test report.

### Conversion Factors

(Some Values are Approximate)

1 acre = 43,560 square feet
1 pound of 5-10-5, 5-10-10 or 10-10-10 fertilizer = 2 cups
1 pound of ground limestone or ground dolomitic limestone = 1.5 cups
1 pound of aluminum sulfate or magnesium sulfate = 2.5 cups
1 pound of sulfur = 3.3 cups
1 quart = 2 pints = 4 cups
1 pint = 2 cups = 32 tablespoons
1 tablespoon = 3 teaspoons
1 bushel = 35.24 liters = 1.25 cubic feet

Pounds per 100 square feet x 0.54 = lbs per cubic yard
100 square feet = 5 feet x 20 feet, 10 feet x 10 feet, or 2 feet x 50 feet
1,000 square feet = 50 feet x 20 feet, 10 feet x 100 feet, or 25 feet x 40 feet

Pounds per 100 square feet x 436 = pounds per acre
Pounds per 1,000 square feet x 43.6 = pounds per acre
Pounds per acre x 0.0023 = pounds per 100 square feet
Pounds per acre x 0.023 = pounds per 1,000 square feet