



CITY OF
**VIRGINIA
BEACH**

ATLANTIC AVENUE

STREETSCAPE DESIGN GUIDELINES

STAKEHOLDER ENGAGEMENT PRESENTATION
FEBRUARY 2023

ATLANTIC AVENUE



CITY OF
**VIRGINIA
BEACH**

STREETSCAPE DESIGN GUIDELINES

ATLANTIC AVENUE

STREETSCAPE DESIGN GUIDELINES VIRGINIA BEACH, VIRGINIA FEBRUARY 2023

ACKNOWLEDGMENTS:

City Council
Planning Commission
Resort Advisory Commission (RAC)
Planning/Design Review Committee (PDRC)
Transportation, Parking, Pedestrian Committee (TPPC)
Atlantic Avenue Association
17th Street Gateway Association
Bikeways & Trails
Hotel/Motel Association
Restaurants/Retail Association
Virginia Beach Vision
Old Beach and Shadowlawn Civic League
17th Street Gateway Association
Bikeways and Trails
Virginia Beach Vision

CITY PROJECT TEAM:

Economic Development
Emily Archer
Michael Anaya
Public Works
Denis Ozowara
Jason Wilson
Dave Jarmin
Events
Lisa Bleakley | Resort Administrator
Jamie Capps | Special Events
Wendell Phillips | Code Compliance
Parks and Recreation
Frank Fentress
Kenny Denson
Steve Lambert
Rob Buchardt
Robert MacPherson
Corinna Green

Beach Operations
Mitch St. Clair | Waste
Rajindra Rodney | Waste Building Maintenance
Brian Delfenthal
Rich Dickson
Eddie Barnard
Traffic Engineering
Ric Lowman
Heather Hartle Operations
Jody Harp | Signs, Markings
William Morgan
Frank Hickman Resort Management
Emergency Services
Nick Ball | Police
Anthony Espinosa | Police
Charlotte Mayberry | Police
Allen Perry | Police
Deidra Peterson | Fire
Paul Roenker | Fire

PREPARED FOR:

City of Virginia Beach

PREPARED BY:

Economic Development
&

CONSULTANT TEAM:



CLARK NEXSEN

Kimley»Horn

Table of Contents

	PAGE#
CHAPTER 1: INTRODUCTION	5
1. Purpose & Intent	6
2. Project Background	7
3. Guidelines Components	8
CHAPTER 2: COMMUNITY VISION	9
1. Stakeholder Engagement Timeline	10
2. Challenges & Opportunities	11
3. Initial Community Input: What We Heard	15
CHAPTER 3: CONCEPTUAL STREETScape DESIGN	16
1. Streetscape Zones	17
2. Conceptual Streetscape Design Options	18
CHAPTER 4: STREETScape ELEMENTS OPTIONS	32
1. Landscaped Areas	33
2. Green Infrastructure	36
3. Site Furnishings	
Literature Racks	38
Waste/Recycle Receptacles	39
Bicycle Parking	40
Mobility Hub	41
Seating	42
4. Hardscape	
Sidewalks	43
Crosswalks	45
Intersections	46
Curb Level Street	48
Loading Zones	49
5. Crowd Control/Vehicle Management	50
6. Lighting	51
7. Sense of Arrival Features	54

Chapter 1

INTRODUCTION

Atlantic Avenue is a featured, iconic street in the Resort Area and along the eastern seaboard. It creates the full resort experience with places to shop, stay, eat, and be entertained. It is also rich with tradition, history, and nostalgia. For mobility, Atlantic Avenue does everything. It ushers vehicles to thriving businesses and hotels. It serves pedestrians, bicyclists, and scooters. It offers space for deliveries and loading. And it provides space for the Atlantic Avenue Trolley. Atlantic Avenue has unique challenges and opportunities. Resort stakeholders agree that today's Atlantic Avenue does not reflect the vision for the corridor nor does it contribute to the larger goal of the oceanfront as a year-round destination attractive to both locals and visitors.

Purpose & Intent

PURPOSE OF THE STREETScape DESIGN GUIDELINES

The Atlantic Avenue Streetscape Design Guidelines were identified as one of the next steps for furthering the public realm goals and vision as depicted in the Resort Area Mobility Plan (RAMP) and the Resort Area Strategic Action Plan 2030 (RASAP). The intent of this document is to delineate the extent of improvements and define the streetscape character, connections, materials, color palette, and furnishings from the building facades to the curb. The framework of the streetscape will differ depending on the scale of the adjacent streets, connector parks, and associated land uses.

The Guidelines will assist in ensuring the consistency and quality of the development at present and with future phases. Development on Atlantic Avenue shall be in accordance with the RASAP and RAMP documents and consistent with the guidelines within this document. Any substantial changes to the Streetscape Design Guidelines are subject to the approval of the City of Virginia Beach Economic Development Authority. The Guidelines were developed in collaboration with the City of Virginia Beach Economic Development, Kimley-Horn, City stakeholders, and community partners.

GUIDELINES BOUNDARY

- Atlantic Avenue
- Streetscape Design Guidelines



Project Background

GUIDING DOCUMENTS

The Atlantic Avenue Streetscape Design Guidelines include background information and recommendations from many previous City plans and initiatives, including:

CITY OF VIRGINIA BEACH ACTIVE TRANSPORTATION PLAN (2021)

Envisions active transportation as the backbone of daily life in Virginia Beach, with particular emphasis on making walking and bicycling a safe, comfortable, and fun option for trips throughout the City.

VIRGINIA BEACH RASAP 2030 (2020)

Identifies public amenities, infrastructure improvements and policy changes to help the resort area become a diverse, world-class, year-round coastal community for residents and visitors.

VIRGINIA BEACH RAMP (2022)

The Resort Area Mobility Plan (RAMP) addresses one of the priorities of the Resort Area Strategic Action Plan (RASAP), which was adopted in June 2020. It balances the transportation network by focusing on safely moving people, which contributes to the vision set forth in the RASAP for the Resort Area to become a diverse, world-class, year-round coastal community for residents and visitors.

OCEANFRONT RESORT DISTRICT CONNECTOR PARK DESIGN GUIDELINES (2017)

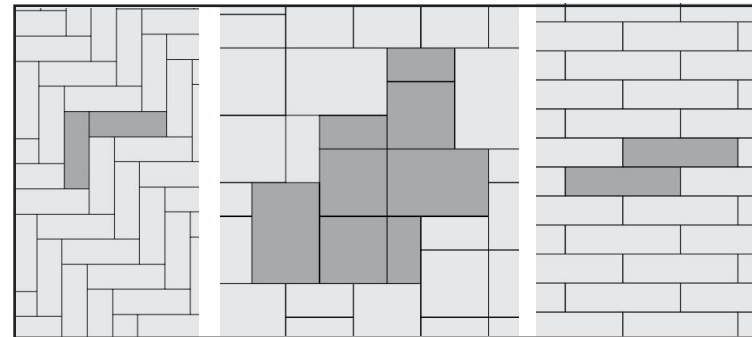
Provides guidelines that protect and enhance pedestrian use, emergency/service vehicle access, viewsheds, and aesthetics of the 33 paths and stub streets that link Atlantic Avenue to the Boardwalk between 2nd and 40th Streets.

CITY OF VIRGINIA BEACH RESORT AREA OUTDOOR CAFÉ FRANCHISE REGULATIONS (2020)

Establishes enforceable, effective and efficient administrative procedures and regulations for outdoor cafés in the Resort Area. Goals include enhancing the appearance and pedestrian ambiance of the Boardwalk, Connector Parks and pedestrian-oriented streets by creating public visual amenities and implementing facade improvements and preserving the character of the Resort Area.

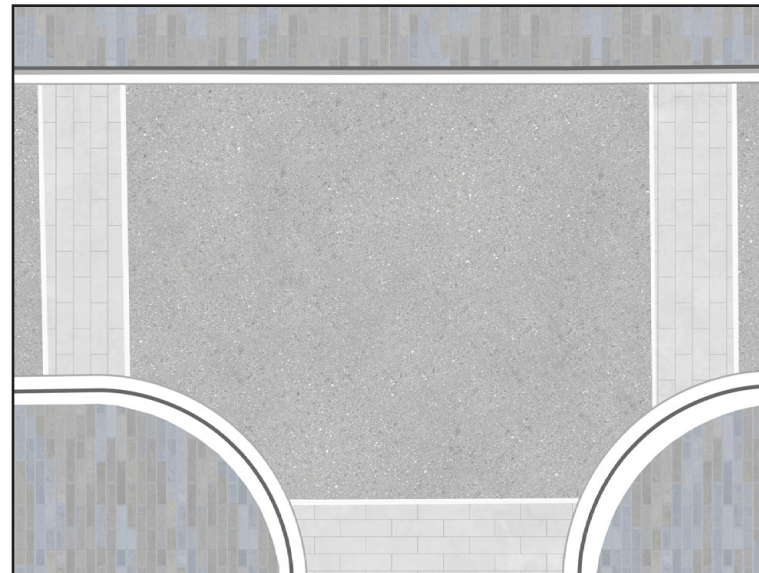
Guidelines Components

The Atlantic Avenue Streetscape Design Guidelines contain two main components:



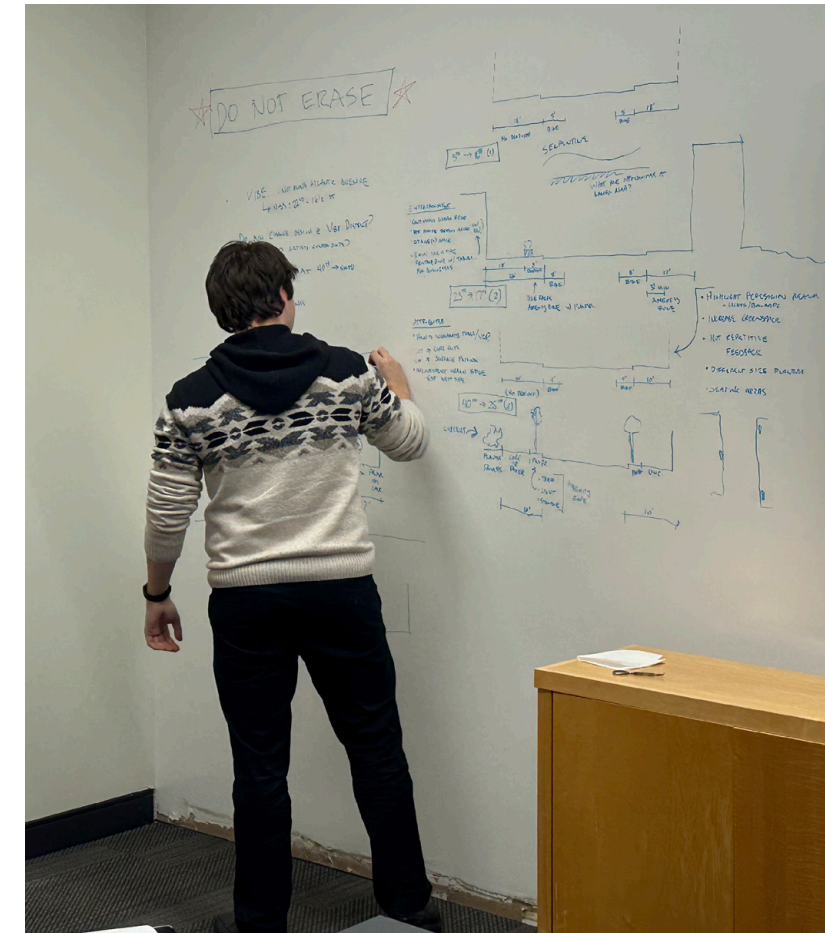
CATALOG OF MATERIALS AND STREETScape ELEMENTS

A selection of styles, materials, and colors for furnishings, planting areas, lighting, and community identity elements are established in this document to encourage a visually unified Atlantic Avenue corridor. All materials have been determined suitable by the City of Virginia Beach.

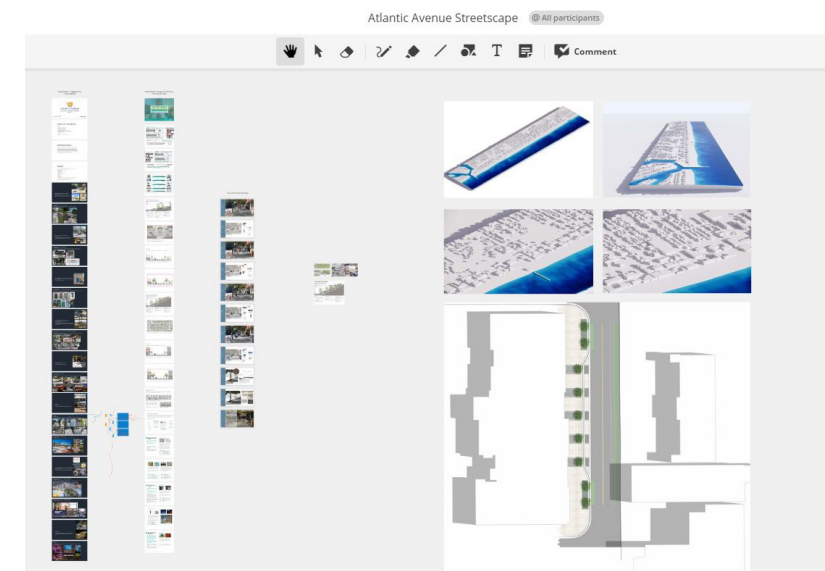


CONCEPTUAL DESIGNS FOR STREETScape PUBLIC REALM

This document includes conceptual streetscape designs for different sidewalk conditions that are proposed along Atlantic Avenue. These conceptual designs can serve as inspiration for how various streetscape elements might be laid out and organized on the sidewalk along the entire corridor.



Conceptual Design Development



Conceptual Design Development
Virtual Design Charette

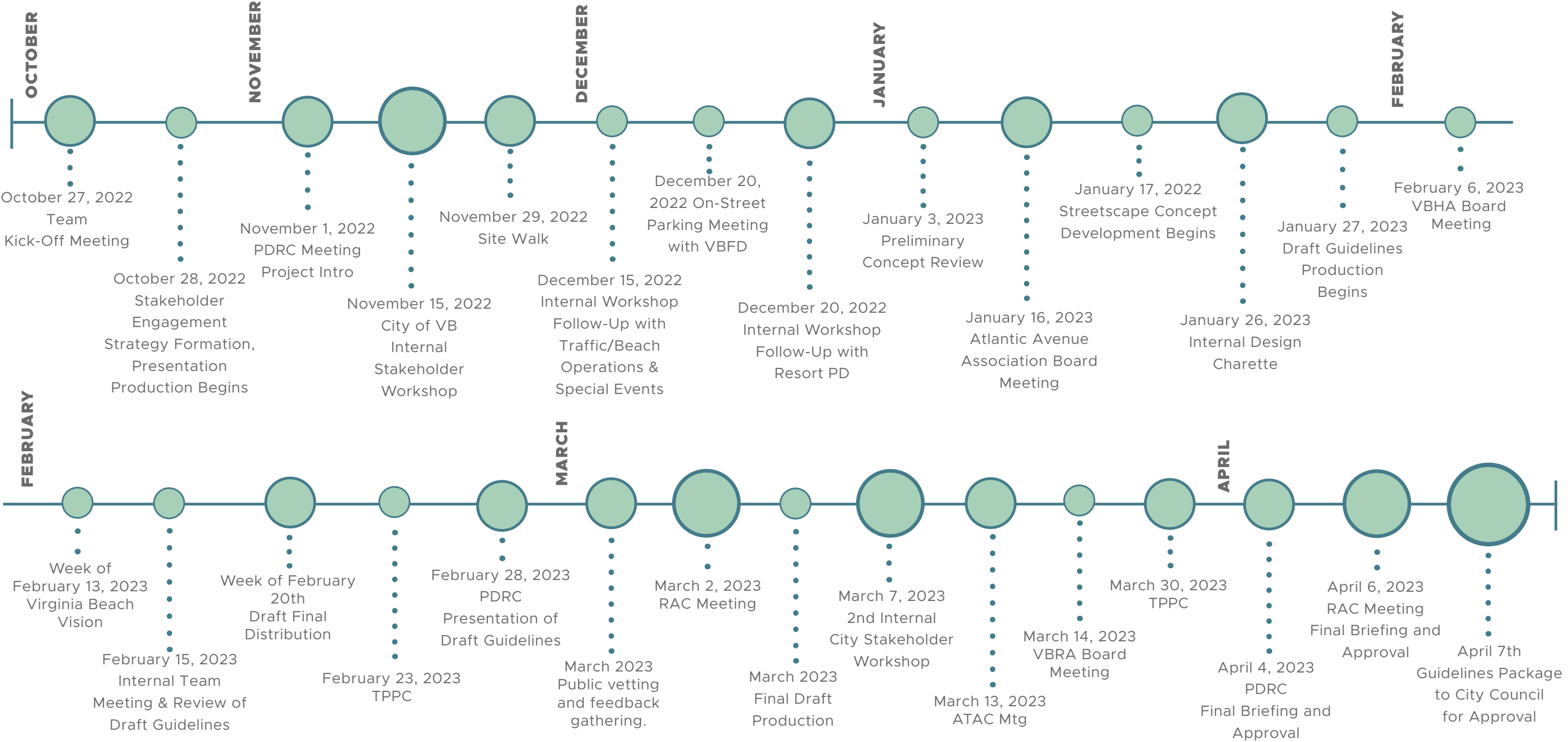
Chapter 2

COMMUNITY VISION

Throughout the fall of 2022 and spring of 2023, the design team and City of Virginia Beach partners conducted outreach to inform the community about the redevelopment of the Atlantic Avenue Streetscape Design Guidelines and involve them in the process. The stakeholder input collected during this period was used to develop the design criteria established in this document.

Stakeholder Engagement and Guidelines Production

Between October of 2022 and May of 2023, the design team and City of Virginia Beach partners conducted a series of strategy meetings, site walks, meetings with City stakeholder groups, technical experts and community groups to understand which streetscape improvements would be the most beneficial to the community and strengthen the corridor identity. The feedback informed the conceptual design.



Challenges & Opportunities

The initial stakeholder engagement sessions discussed existing conditions, current challenges, and potential ideas for improvement. The following images were used to promote discussion and guide the conversation.

Challenges

1. Landscaped Areas - Street Trees, Planters



Historically, it has been very difficult to keep plants within the Atlantic Avenue corridor alive. Small plant beds paired with harsh salt and wind conditions and trampling from pedestrians makes growing anything especially challenging. Only a limited palette has been successful.

Opportunities



Larger plant beds with structural soil/modular suspended pavement systems and irrigation where possible combined with protection from crowds using curbs, railings, and/or built-in benches proposed.

2. Street Clutter - Literature Racks



Literature racks of all shapes, sizes and colors are piled up all along Atlantic Avenue, with many containing outdated, rotting material or even empty. Past efforts have been made to try to condense and organize them, but due to Freedom of Press, this has proved to be a very challenging endeavor with no real solution.



New literature racks, similar to those used in other cities, condense and organize the street literature into dedicated bins. The racks will be sturdy, coordinate with other site furnishings, and provide the ability to promote events, city logos, information, maps, and/or QR codes for publications that have gone to a digital platform.

Challenges & Opportunities

Challenges

3. Site Furnishings - Waste/Recycle Receptacles



Current waste receptacles fill quickly in high traffic areas. They need to be heavy and/or bolted down to prevent any mis-use or safety concerns.

Opportunities



New receptacles to be sturdy, mounted, and in-line with the new site furnishings design aesthetic. Solar powered compacting receptacles proposed in high traffic areas to alleviate excess waste. Potential for graphics to wrap receptacles and promote city events/logos/green initiatives.

4. Site Furnishings - Bicycle Storage/ Alt Transportation Modes



Several types/styles of bicycle racks exist along Atlantic Avenue, but there is no cohesive style. Bikes are regularly chained to other site items such as trees, light poles, etc., and are often blocking portions of the sidewalk. No dedicated areas for storage of e-bikes/scooters, low-speed vehicles (golf cart-type vehicles with license plates).



Smaller capacity bicycle racks to be incorporated mid-block, aligned with the street or strategically placed to reduce sidewalk obstructions, and could include a theme. Majority of bicycles/e-bikes/scooters to be stored at bicycle corrals that occupy a parking space along side streets wherever possible. Possibly provide smaller parking spaces dedicated to low-speed vehicles in these locations.

Challenges & Opportunities

Challenges

5. Site Furnishings - Seating



Very few benches exist currently, most have been removed due to mis-use.

Opportunities



Sturdy, mounted seating to align with cohesive theme of other site furnishings. Style to deter mis-use, and skate deterrents required in the design. Strong potential for accent lighting opportunities.

6. Paving



Existing pavers are dated and inconsistent. Some are no longer stocked and difficult to match when replacements are needed. Settling has created uneven surfaces and ADA issues.



Sawcut concrete, with clean lines are one idea to replace a portion of existing paver areas. This will ease maintenance efforts with the ability to pressure wash as needed. Accent pavers could be strategically located for aesthetic interest in amenity areas and to help delineate right-of-way lines. Pavers could be installed within intersections and/or within crosswalks, especially in key areas such as those within the entertainment zones.

Challenges & Opportunities

Challenges

7. Events - Crowd Control / Vehicle Management



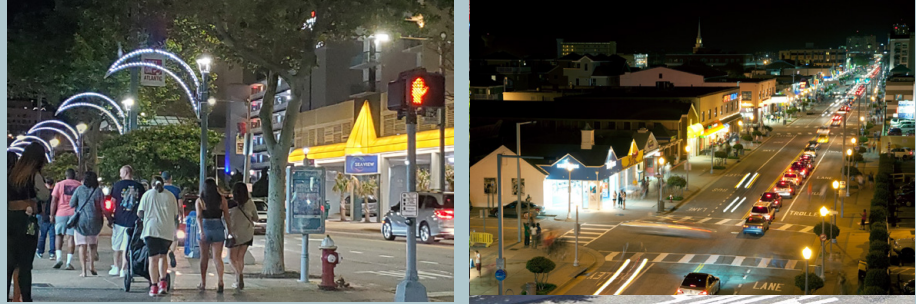
Events of all sizes are a regular occurrence along Atlantic Avenue. Barricades for pedestrians and vehicles are needed often. They are regularly left out and/or stacked in multiple locations.

Opportunities



Removable or automated bollards could be placed at strategic locations along the corridor to be used during events. Traffic arms are another option that could be added in key locations, and could be concealed within an artistic vertical element. Removable or portable bollards could be connected with a decorative metal piece or custom banners advertising an event or city logo.

8. Lighting



All pedestrian poles are in the process of getting upgraded to LED. They will be relocated along the Atlantic Avenue corridor as needed to facilitate the new design. There is some accent lighting that has been utilized on the pedestrian poles, more accent lighting is desired for a more welcoming nighttime presence.



Accent lighting could come in many forms including additional accent lighting at pedestrian poles, lighting at street trees, catenary lighting over the street in key locations (attached to artistic vertical elements, not business facades), lit bollards (with the option for power receptacles for events), and even strategically placed lit pavers.

Stakeholder Engagement

WHAT WE HEARD

» Existing Conditions/Challenges:

Too many pavers, not enough contrast. Uneven surfaces, settling, difficulty replacing.

Challenge growing trees/plant material in the corridor. Limited palette will survive the harsh conditions: wind, salt, small planters with limited root space, trampling from crowds.

Not enough bike racks, and people will lock their bikes in every direction taking up lots of sidewalk space. Will also lock bikes to railing on the boardwalk.

Crowd control barriers are unsightly and in multiple locations, need a storage solution.

Newsstands are a large challenge. Community board members worked with the publication stakeholders in the past with no resolution.

Most benches have been removed. In the past, business owners would vandalize the benches and trees to not block their storefront. Have also become a place for people to sleep.

» Ideas/Topics for Further Investigation:

Combination of pavers/paver bands/concrete with clean sawcut lines, (not troweled), and more contrast. Clear delineation at ROW line. Easier for maintenance, pressure washing, etc.

Maintain the streetscape aesthetic along Atlantic Avenue regardless of the connector park design. Atlantic Ave. to set the precedent and tie in as best as possible, the hope long-term is that connector parks will be updated as well.

Consider developing block identities based on area, i.e. entertainment area from 17th-25th. Need to define café locations.

Preference is to add parking on the side streets. Will need to discuss how to define project limits for the side streets as the pavers extend to Pacific Avenue in some locations.

Entrance materials are going to be concrete by default. Consider an allowance to modified or paver entrances after contract award.

Water connections and power at each intersection and mid-block for power washing.

Cluster trees opposed the traditional "tree, light, tree, light, etc." to eliminate the "bowling alley" feel that traditional streetscapes can create. Groups of 3-4 shade trees to create a canopy but provide variation. Elevated plant beds for protection from trampling. Possibly include annuals for instant color. However, quote of the day, "friends don't let friends plant annuals."

Several discussions on types of structural soil, soil cell pavement systems, but the intent is to allow something to grow without limiting root systems. Consider adding irrigation in strategic locations.

Consider locating bike racks on side streets, there is the potential to use one parking space for bicycle parking.

Automated bollards or bollards with retractable fencing as crowd control.

Chapter 3

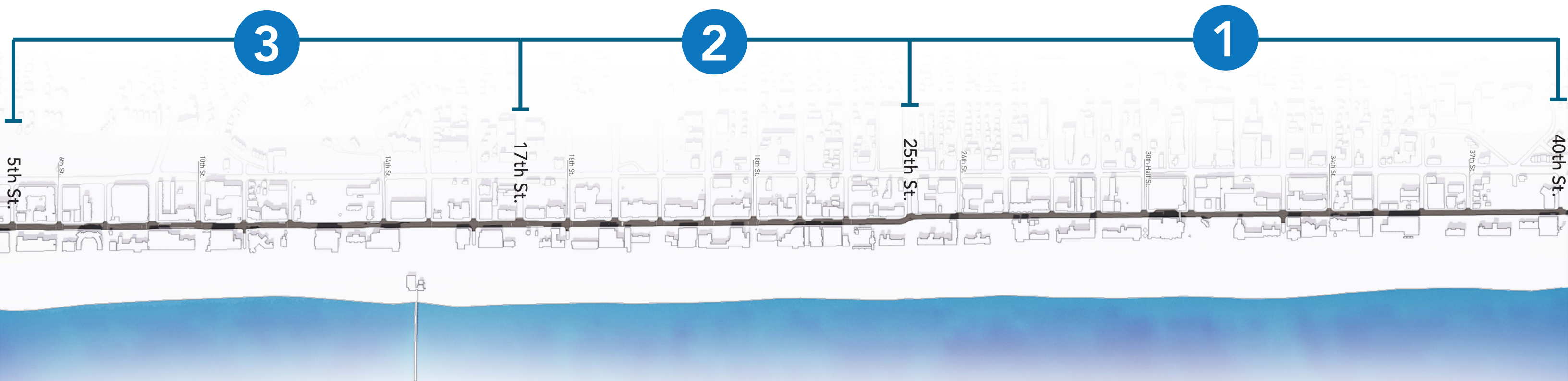
CONCEPTUAL STREETScape DESIGN

The following chapter outlines conceptual framework options that respond to the constraints and opportunities identified during the visioning meeting with various City stakeholder groups. The options focus on pedestrian paving, landscape and amenities that create a clean, cohesive and safe modern streetscape.

Conceptual Streetscape Design

STREETSCAPE SECTIONS

As shown in the Resort Area Mobility Plan (RAMP) document, the new Atlantic Avenue is divided into three distinct sections. Each section contributes to the identity of the corridor even as it faces unique opportunities and constraints. Regardless of the segment, the reimagined Atlantic Avenue shall include enhanced sidewalks with amenity spaces, seating opportunities, accent lighting, a cohesive site furnishings theme, and expanded plant beds.



KEY MAP

Conceptual Streetscape Design

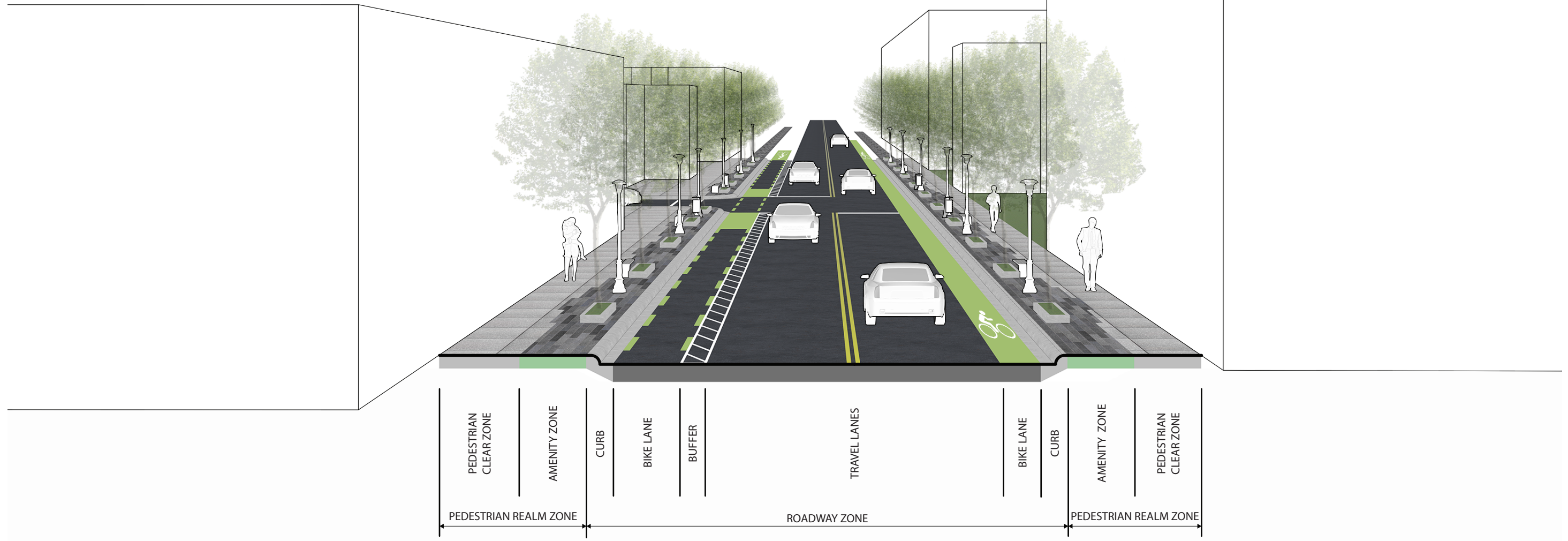
STREETSCAPE ZONES

The new Atlantic Avenue is divided into two core zones, the pedestrian realm zone and the roadway zone. The pedestrian realm zone is further divided into the frontage pedestrian clear zone and the amenities zone. The roadway zone is comprised of vehicle travel lanes, bike lanes and loading/ drop off zone which is primarily located on the west side of Atlantic.

The pedestrian frontage is the storefront space used in some locations for outdoor dining. The pedestrian clear zone is the dedicated space for clear, uninterrupted walking area. The amenity zone is a multi-use space allocated for organized green spaces, lighting, seating, mid-block bike racks and other site furnishings.

SECTION I

Section I, from 25th to 40th Streets, features two vehicle lanes, a traditional bike lane, a buffered bike lane that can be used as shared space to allow for commercial deliveries, and an enhanced sidewalk and streetscape.

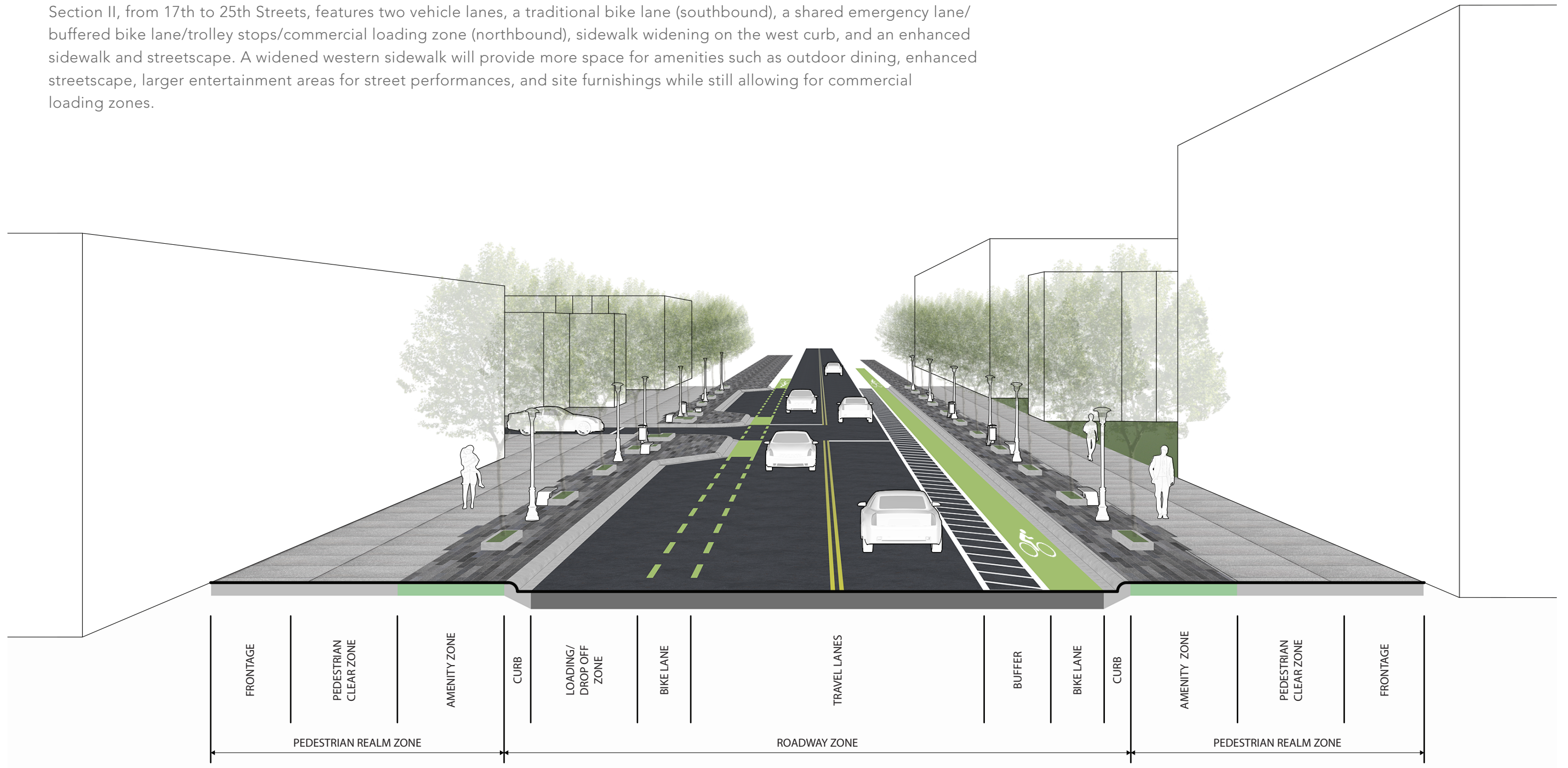


TYPICAL STREET SECTION I - 25TH TO 40TH STREETS

Conceptual Streetscape Design

SECTION II

Section II, from 17th to 25th Streets, features two vehicle lanes, a traditional bike lane (southbound), a shared emergency lane/ buffered bike lane/trolley stops/commercial loading zone (northbound), sidewalk widening on the west curb, and an enhanced sidewalk and streetscape. A widened western sidewalk will provide more space for amenities such as outdoor dining, enhanced streetscape, larger entertainment areas for street performances, and site furnishings while still allowing for commercial loading zones.

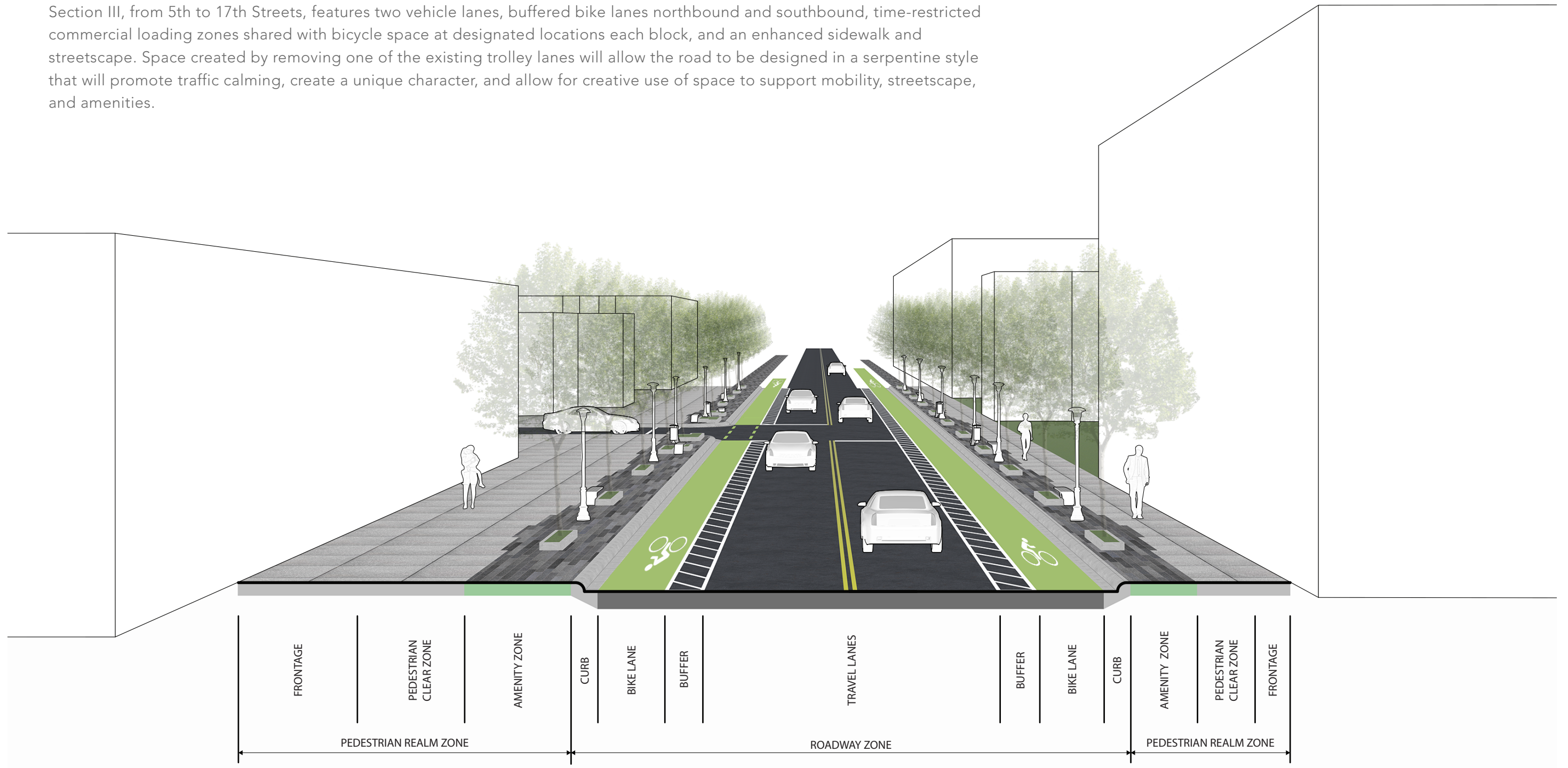


TYPICAL STREET SECTION II - 17TH TO 25TH STREETS

Conceptual Streetscape Design

SECTION III

Section III, from 5th to 17th Streets, features two vehicle lanes, buffered bike lanes northbound and southbound, time-restricted commercial loading zones shared with bicycle space at designated locations each block, and an enhanced sidewalk and streetscape. Space created by removing one of the existing trolley lanes will allow the road to be designed in a serpentine style that will promote traffic calming, create a unique character, and allow for creative use of space to support mobility, streetscape, and amenities.



TYPICAL STREET SECTION III - 5TH TO 17TH STREETS

Conceptual Streetscape Design

CONCEPTUAL DESIGN FOR PEDESTRIAN REALM

The pedestrian realm zone of the streetscape can be treated in numerous ways, from pavement layout and design, to plant bed shapes and sizes, to site furnishings types and locations. Three different schemes were created to engage stakeholder groups in discussion regarding preferences to help narrow the focus of the design and start to establish a cohesive theme.



OPTION A



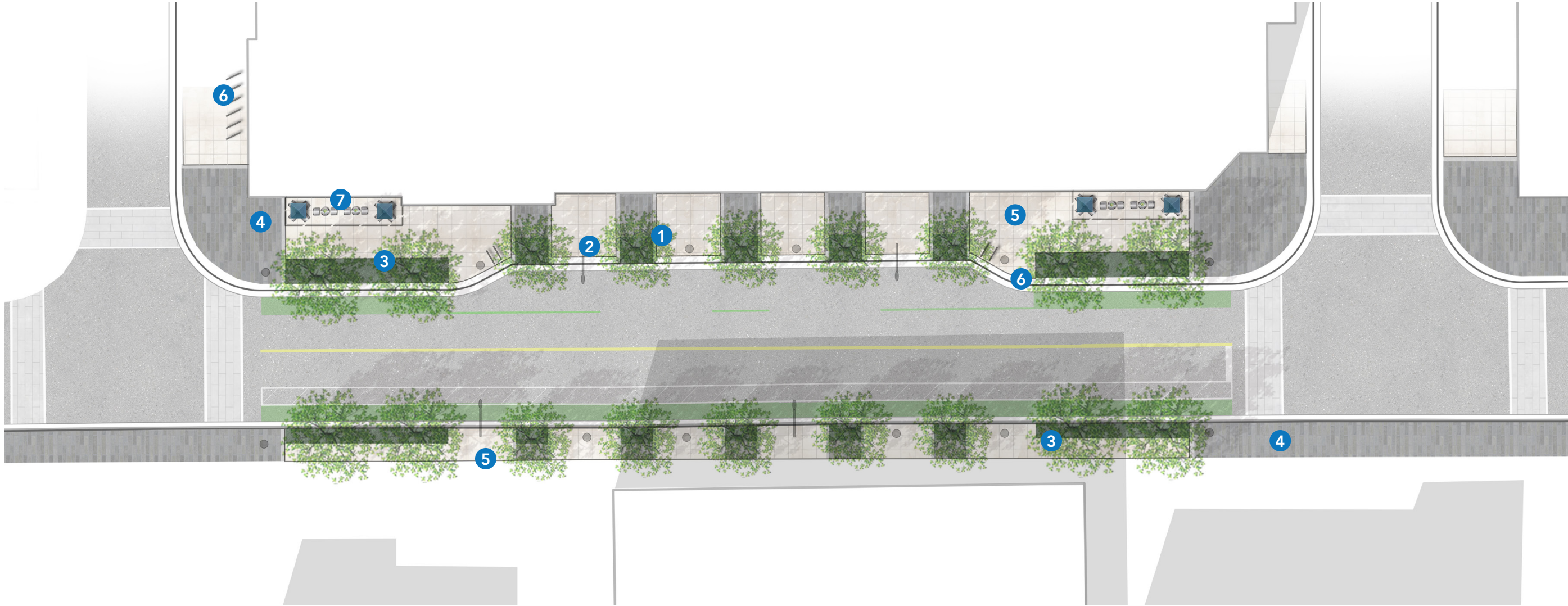
OPTION B



OPTION C

TYPICAL BLOCK OPTIONS

Conceptual Streetscape Design



PLANVIEW

- 1 Seating
- 2 Street Lighting
- 3 Planting Areas
- 4 Decorative Pavers
- 5 Scored/Integral Color Concrete
- 6 Bicycle Racks/Mobility Hub
- 7 Outdoor Cafe Space

TYPICAL BLOCK - OPTION A (ASPHALT LOADING ZONE)

Conceptual Streetscape Design

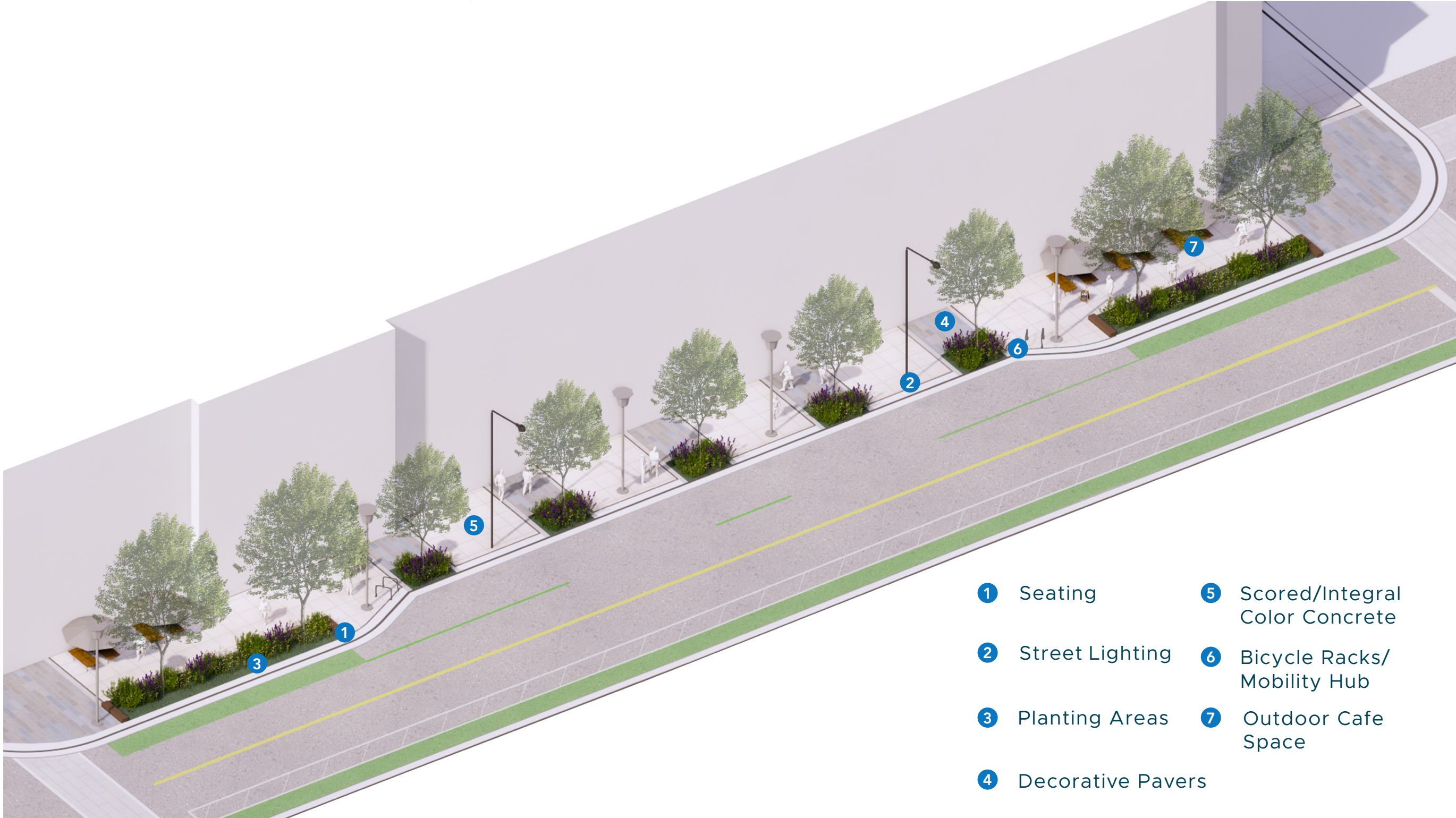


PLANVIEW

- 1 Seating
- 2 Street Lighting
- 3 Planting Areas
- 4 Decorative Pavers
- 5 Scored/Integral Color Concrete
- 6 Bicycle Racks/Mobility Hub
- 7 Outdoor Cafe Space

TYPICAL BLOCK - OPTION A (PAVER LOADING ZONE)

Conceptual Streetscape Design

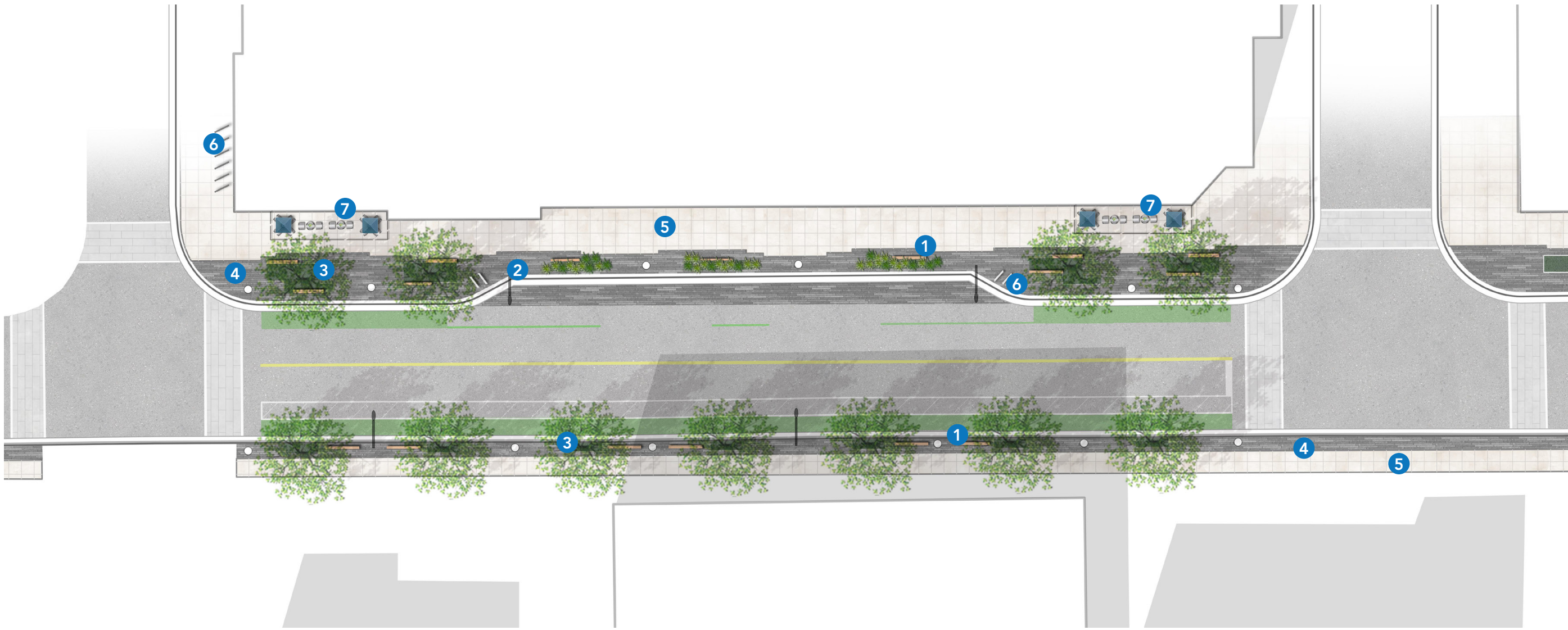


- ① Seating
- ② Street Lighting
- ③ Planting Areas
- ④ Decorative Pavers
- ⑤ Scored/Integral Color Concrete
- ⑥ Bicycle Racks/Mobility Hub
- ⑦ Outdoor Cafe Space

TYPICAL BLOCK - OPTION A

ISOMETRIC

Conceptual Streetscape Design



PLANVIEW

- 1 Seating
- 2 Street Lighting
- 3 Planting Areas
- 4 Decorative Pavers
- 5 Scored/Integral Color Concrete
- 6 Bicycle Racks/Mobility Hub
- 7 Outdoor Cafe Space

TYPICAL BLOCK - OPTION B

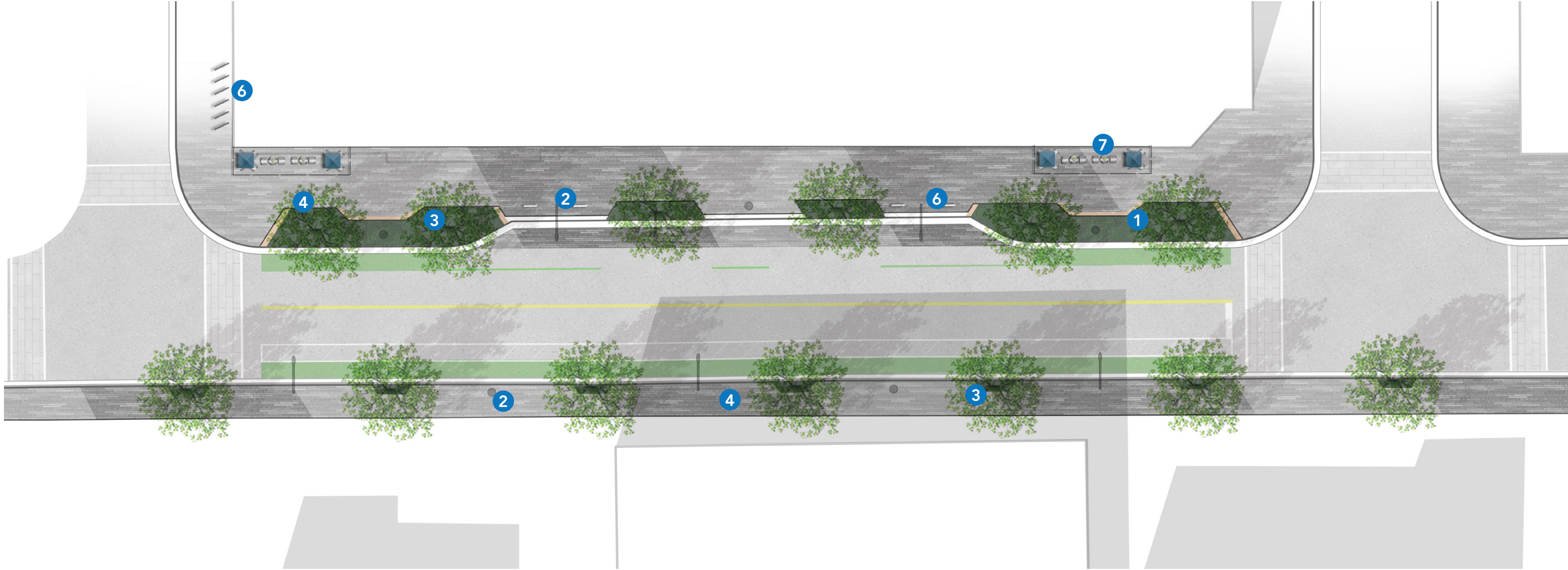
Conceptual Streetscape Design



TYPICAL BLOCK - OPTION B

ISOMETRIC

Conceptual Streetscape Design



PLANVIEW

- 1 Seating
- 2 Street Lighting
- 3 Planting Areas
- 4 Decorative Pavers
- 5 Scored/Integral Color Concrete
- 6 Bicycle Racks/Mobility Hub
- 7 Outdoor Cafe Space

TYPICAL BLOCK - OPTION C

Conceptual Streetscape Design



- 1 Seating
- 2 Street Lighting
- 3 Planting Areas
- 4 Decorative Pavers
- 5 Scored/Integral Color Concrete
- 6 Bicycle Racks/Mobility Hub
- 7 Outdoor Cafe Space

TYPICAL BLOCK - OPTION C

ISOMETRIC

Conceptual Streetscape Design



OPTION A



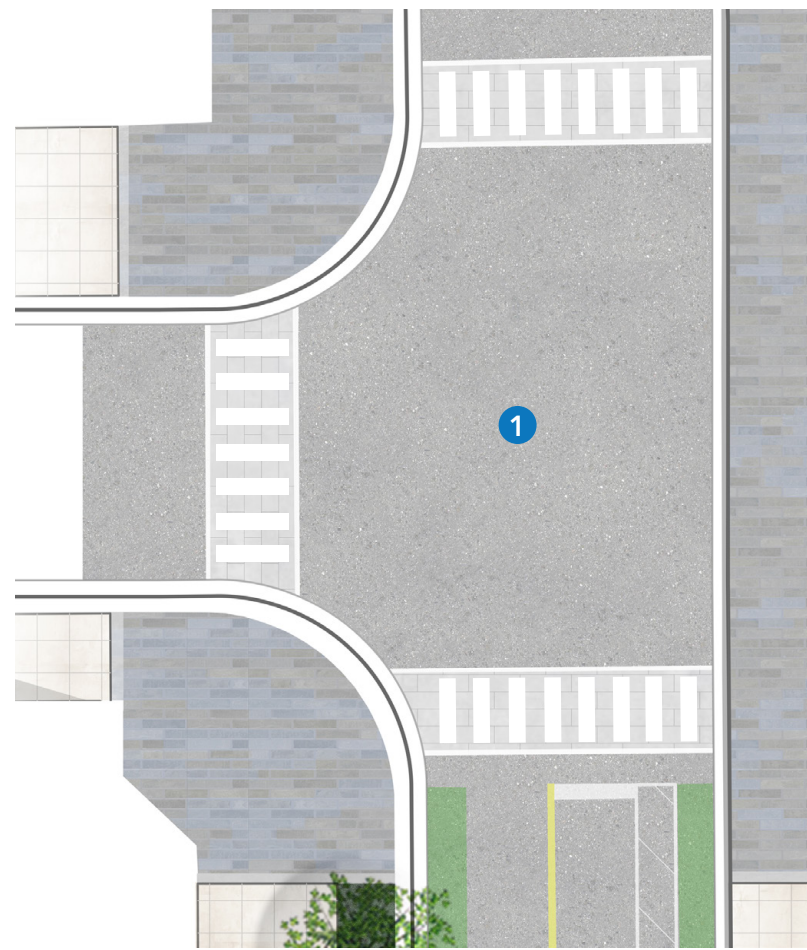
OPTION B



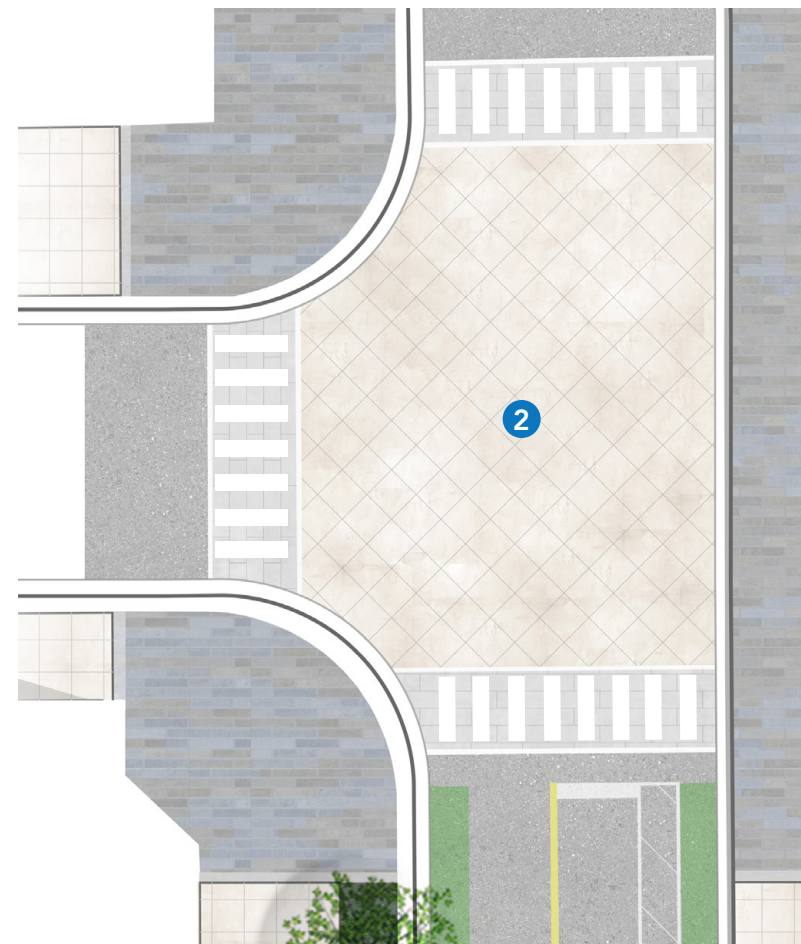
OPTION C

TYPICAL BLOCK OPTIONS

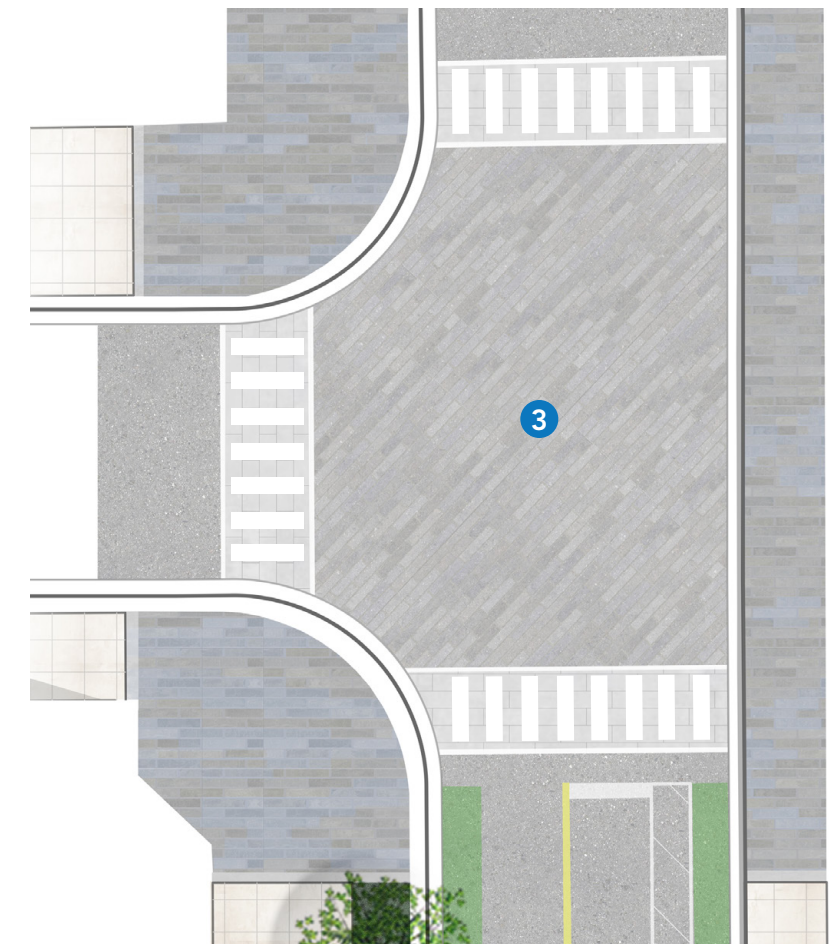
Conceptual Streetscape Design



ASPHALT



CONCRETE





DECORATIVE PAVERS

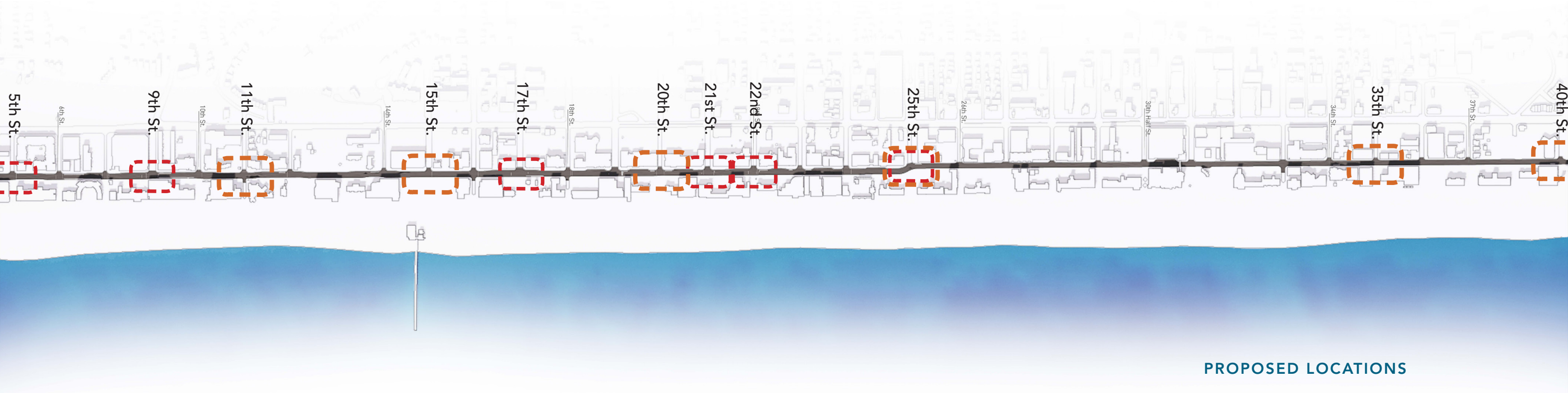
- ① Asphalt
- ② Scored/Integral Color Concrete
- ③ Decorative Pavers

TYPICAL INTERSECTION OPTIONS

Conceptual Streetscape Design

PROPOSED INTERSECTION TYPES

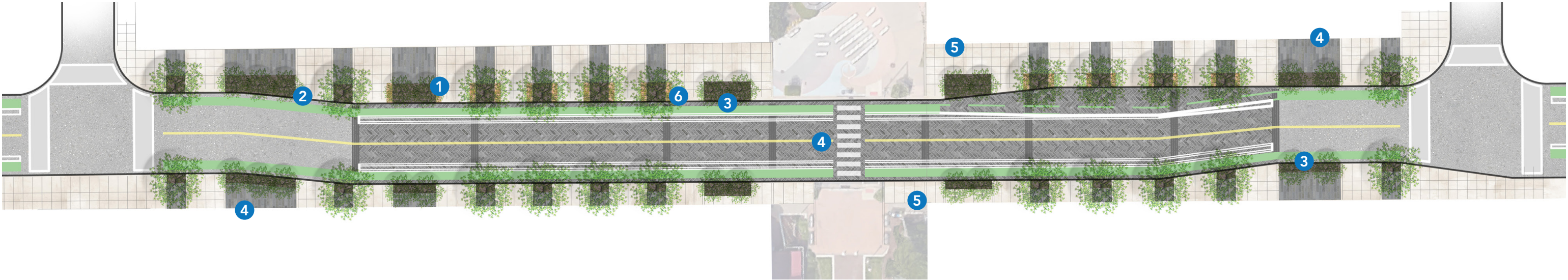
-  Raised Intersections
-  Paver Intersections



PROPOSED LOCATIONS

INTERSECTION LOCATIONS

Conceptual Streetscape Design



PLANVIEW

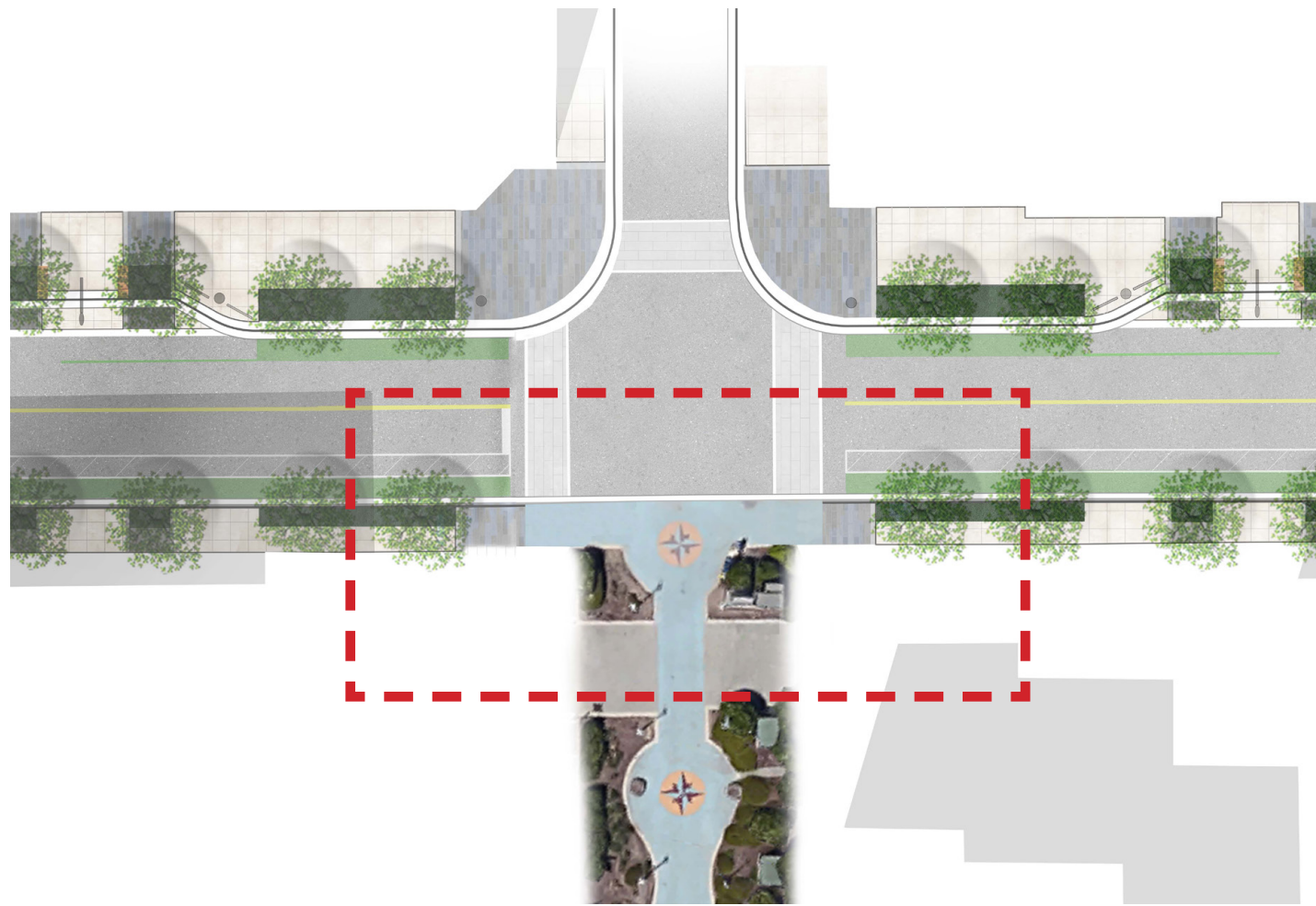
- 1 Seating
- 2 Street Lighting
- 3 Planting Areas
- 4 Decorative Pavers
- 5 Scored/Integral Color Concrete
- 6 Bicycle Racks/Mobility Hub

CURB LEVEL STREET OPTION

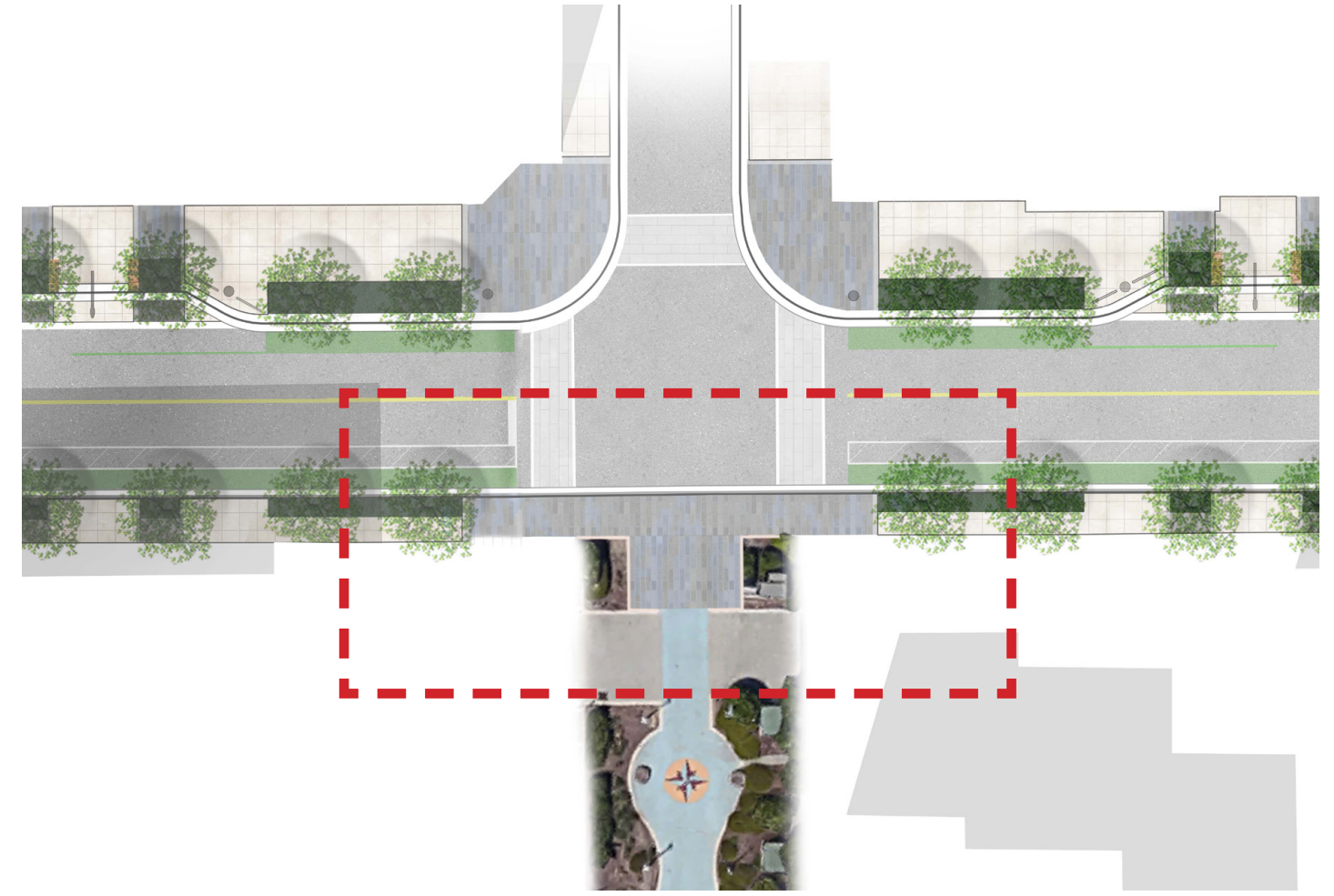
Conceptual Streetscape Design

CONNECTOR PARK TRANSITION ZONES

Connector parks exist in multiple locations, connecting beach goers from Atlantic Avenue to the boardwalk. Each park transition will need to be studied on a case-by-case basis to ensure the transition corresponds to the existing conditions and makes sense for each location.



CONNECTOR PARK TRANSITION - OPTION A

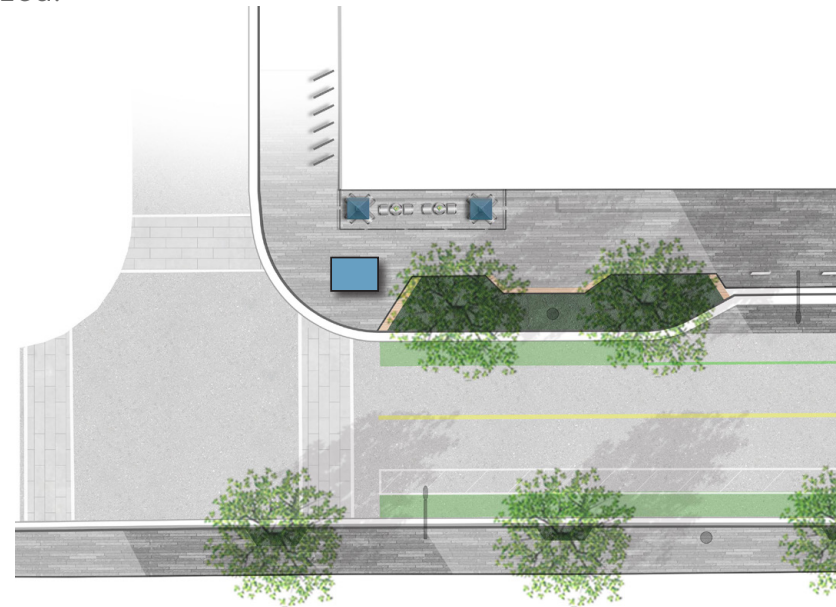


CONNECTOR PARK TRANSITION - OPTION B

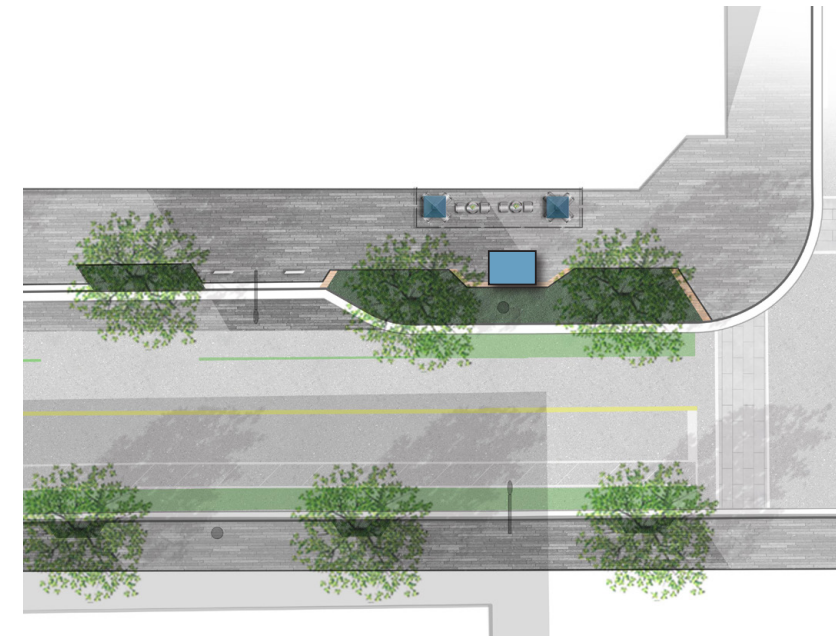
Conceptual Streetscape Design

AMENITY SPACES - POTENTIAL PERFORMANCE STAGE LOCATIONS

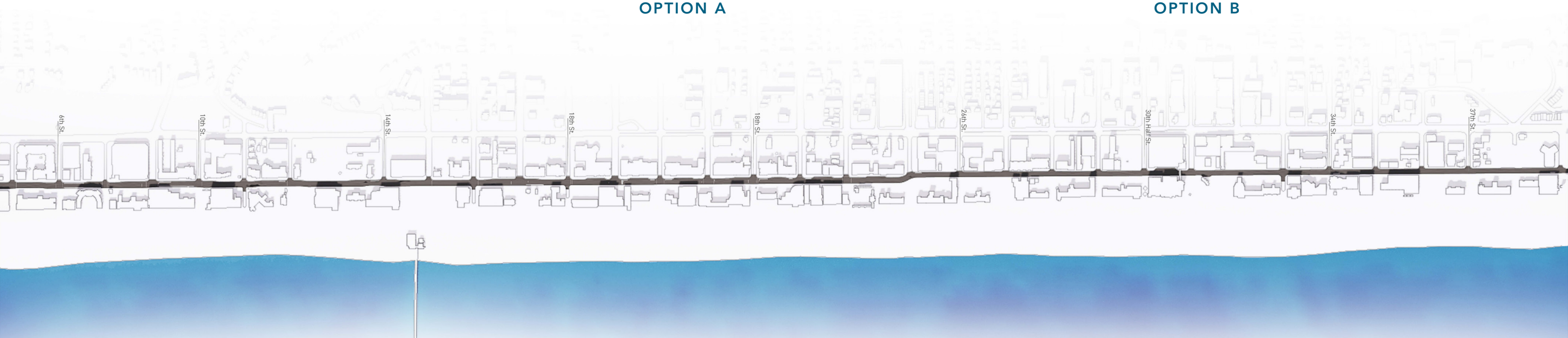
“Live on Atlantic” and other events occur regularly along Atlantic Avenue, requiring temporary performance spaces in multiple locations. The streetscape design shall incorporate dedicated spaces to accommodate these events, with adequate support receptacles nearby, such as power, lighting, etc. Locations to be strategically placed where obstructions to flow of pedestrian traffic is minimized.



OPTION A



OPTION B



KEY MAP

Chapter 4

STREETSCAPE ELEMENTS

The streetscape elements for Atlantic Avenue shall have a distinct aesthetic that is consistent in theme. All elements within the corridor shall be designed to provide a clear, unified, and easily identifiable character and appearance. Clean, simple forms that are vandal resistant and low maintenance shall be incorporated, with a definite sense of pedestrian hierarchy within the public realm of the streetscape. Representative imagery, some with manufacturer's information, are shown to give an example of the quality of product and materials expected. Equivalent alternates are acceptable.

Streetscape Elements - Landscaped Areas

CUSTOM RAISED PLANTERS

Raised planters protect vegetation from pedestrian traffic and provide various seating opportunities. Precast or cast-in-place concrete and integral color concrete are options. Skate deterrents are required to be included in the design for all raised planter walls. Walls with seating to be designed with the intent to rest, not linger. Excellent opportunities to incorporate accent lighting.

Ensure all plant selections do not interfere with site lighting and that adequate light levels for safety are maintained throughout the streetscape.



Planter with Unique Shape and Style to Complement the Hardscape Design



Curved Precast Planters with Integrated Seating and Skate Deterrents

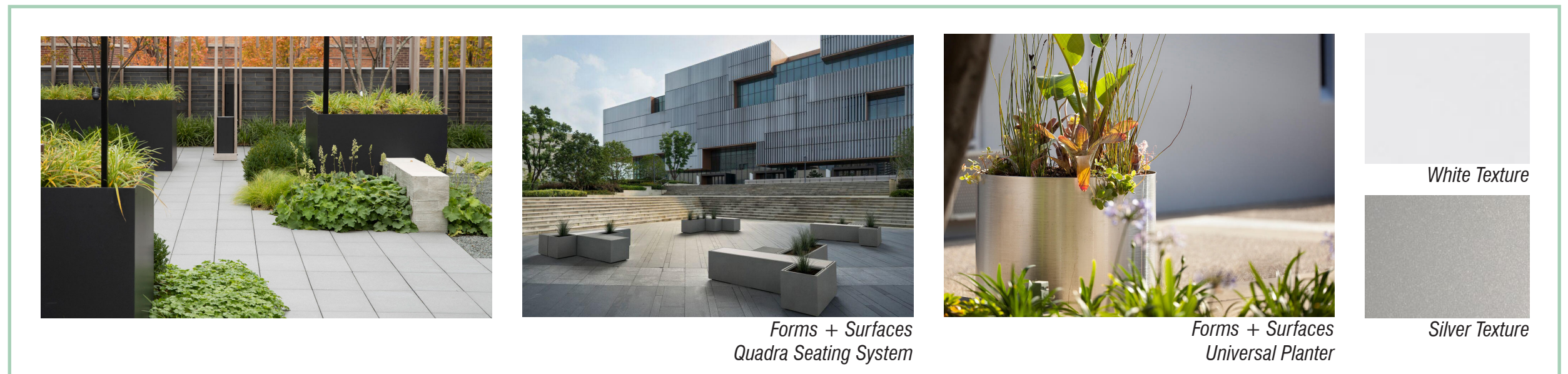


Cast-in-Place Planters with Integrated Seating Aligning two sides of a Planting Area

Streetscape Elements - Landscaped Areas

MODULAR PLANTERS

Modular planters are an excellent way to incorporate semi-permanent plant installations and provide pops of color. They protect vegetation from pedestrian traffic and can provide various seating opportunities. Acceptable materials include precast concrete, metals or powder coated metals that won't rust and will withstand harsh salt, wind, and heavy pedestrian conditions. Skate deterrents are required to be included in the design where applicable.



Streetscape Elements - Landscaped Areas

PLANTERS WITH CURB

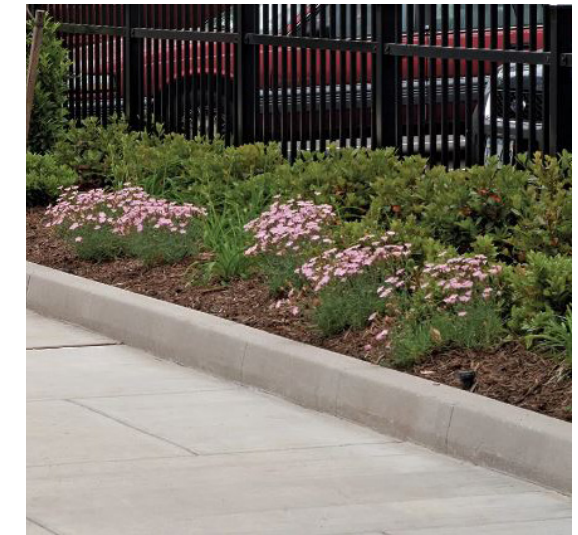
Planters surrounded by a raised curb help protect vegetation from pedestrian traffic and seating can be incorporated in the design. Acceptable materials include precast or cast-in-place concrete and stone.



Granite



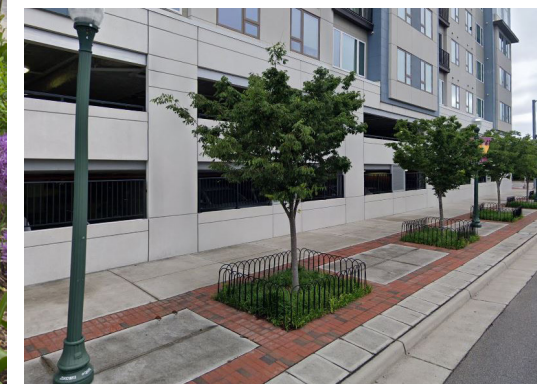
Concrete



*Hanover
Rockcurb*

PLANTERS WITH PROTECTIVE RAILING

Decorative railings provide an extra layer of protection to at-grade or curbed planter areas. Railings to be designed to fit within the character of the streetscape design and be composed of materials that will not rust and will endure harsh salt, wind, and heavy pedestrian conditions.



Streetscape Elements - Green Infrastructure

STRUCTURAL SOIL

Healthy street trees and other vegetation are a high priority in the redevelopment goals of Atlantic Avenue. They are a critical component to the sustainability and resiliency of green infrastructure throughout the corridor.

Select trees and plants for diversity and microclimate suitability based on their harsh marine environment tolerance and low maintenance properties. Locate trees so that they don't block street lighting and cause safety concerns, and ensure there is ample visibility and clearance for signage, sidewalks, bike lanes, traffic signals, etc. Maintain vegetation to ensure visibility for the safety of all users.

A large volume of uncompacted soil, with adequate drainage are key to the healthy growth of trees. Maximize soil volume and incorporate strategies such as structural soil under pavement for trees to have the opportunity to thrive and grow to their full potential.



*Structural Soil Installation
Zuccotti Park, New York*



Structural Soil Installation



*Standard City Tree Pit
Inadequate Conditions for Tree Health*



*Trees Planted in Limited Soil Volumes Struggle
to Survive and Often Damage Adjacent Sidewalks*



*Access to Soil Volume Makes a Substantial
Difference in Tree Growth and Health*

Streetscape Elements - Green Infrastructure

SOIL CELL PAVEMENT SYSTEM

Soil cells are designed to provide trees in urban environments with suitable conditions that promote healthy growth, without disturbing the structures above, and protecting existing infrastructure below. They can also be a great way to incorporate stormwater solutions in plant beds/tree pits.

In tree locations where space does not allow a larger plant bed, utilize tree pit coverings that promote soil aeration, allow for trunk diameter growth, and prevent waste to fall through, such as pave-stone grates or porous paving materials in colors that complement the streetscape design aesthetic.



*GreenBlue Urban
Soil Cell Pavement System*



*GreenBlue Urban
Paving Stone Grate*



*GreenBlue Urban
Soil Cell Pavement System Install*



*Capitol Flexi-Pave
Porous Paving
Polar White Marble*



*Capitol Flexi-Pave
Porous Paving
Misty Gray Marble*



*Capitol Flexi-Pave
Porous Paving
Salt & Pepper Granite*

Streetscape Elements - Site Furnishings

LITERATURE RACKS

Reduced street clutter is a major priority in the redevelopment of Atlantic Avenue. Through a partnership between the City and the various publication organizations, literature racks shall be consolidated into uniform, organized racks with a consistent theme and complementary color/finish to other street furnishings. Provide opportunities for displaying posters of upcoming events, City initiatives, maps of key locations, and QR codes for digital publications.



*City News Stands
1-Tower
Silver*



*City News Stands
3-Tower - Front*



*City News Stands
3-Tower - Back
Black*

Streetscape Elements - Site Furnishings

WASTE/RECYCLE RECEPTACLES METAL/PRECAST OPTIONS

Trash and recycle receptacles shall be either mounted or precast to withstand heavy pedestrian use. Larger openings with mounted lid and removable liner preferred. Materials should be those that will not rust and can endure the harsh marine environment, and complement other site furnishings.



WASTE/RECYCLE RECEPTACLES SOLAR POWERED COMPACTING OPTION

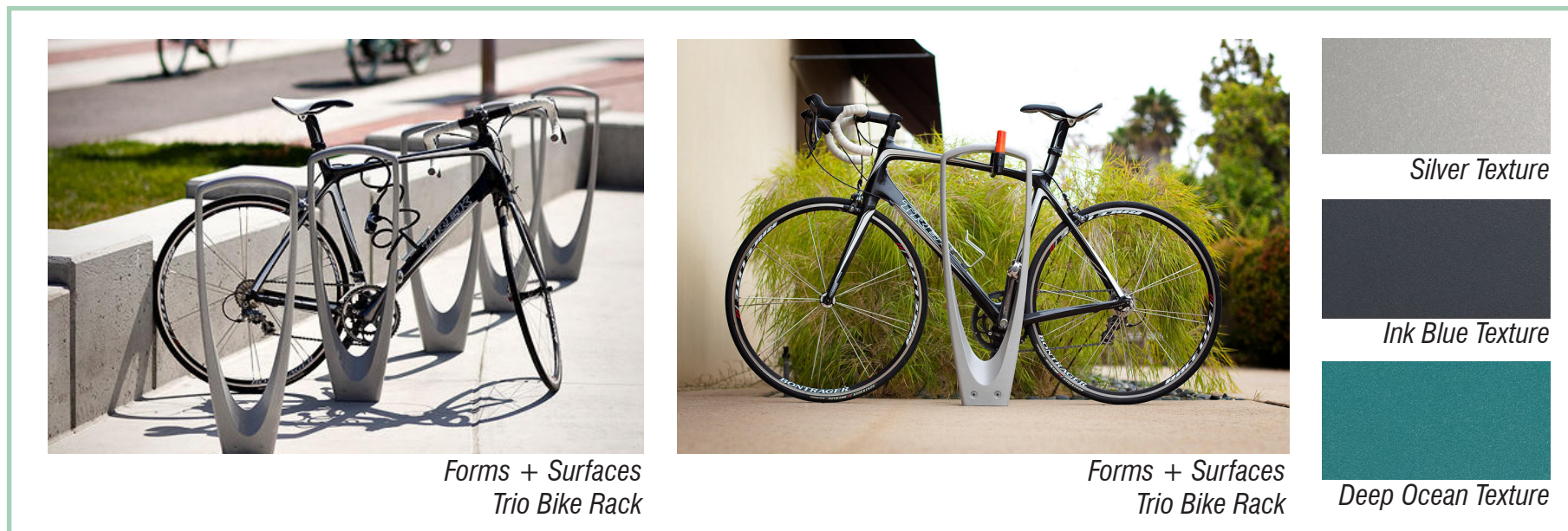
In high traffic areas where space allows, solar powered compacting receptacles can be incorporated. Materials shall be those that will not rust and can endure the harsh marine environment, and complement other site furnishings. Color palette shall be neutral, with the ability to add graphics such as City logo and/or City approved QR codes containing Resort Area information.



Streetscape Elements - Site Furnishings

BICYCLE PARKING METAL OPTIONS

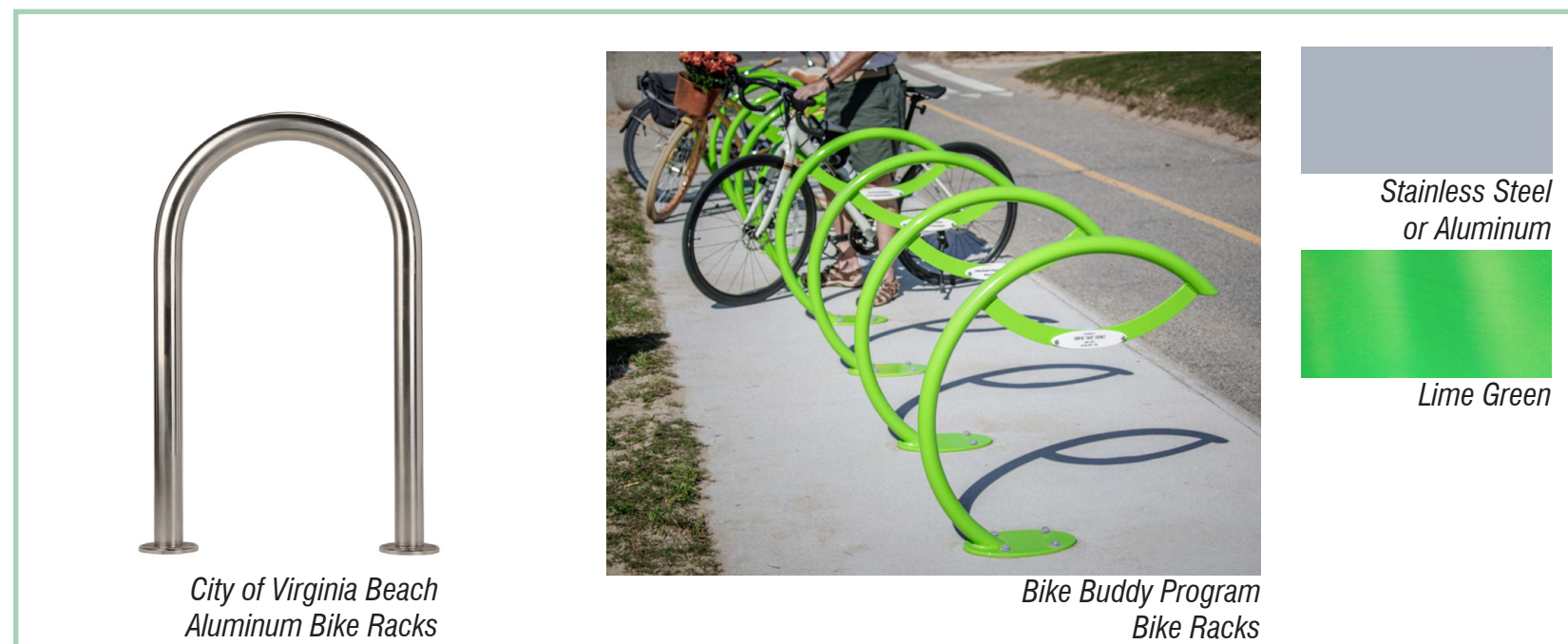
Bike rack selections shall be constructed of a material that will not corrode in the harsh salt air environment at the Oceanfront. After much research and testing, Parks & Recreation Landscape Management Division reports that aluminum holds up best in a marine environment. Powdercoated stainless steel and other materials can also be considered, but durability and ease of maintenance are the highest priority.



BICYCLE PARKING CUSTOM OPTIONS

The Bike Buddy Program combines the installation of bike parking with the opportunity to memorialize an event, a loved one, or gain positive exposure for an organization or business. The bike racks reflect the whimsical artform of a leaf in color and shape. The racks are powder-coated green steel for durability and stand just over 32-inches tall. The bike racks are installed in rows of five or ten.

City of Virginia Beach's Parks & Recreation Landscape Management Division has the ability to fabricate surface mounted inverted U-shaped polished or brushed aluminum bike racks and perform repairs. If specified, dimensions, specifications, and finishes shall be coordinated with Parks & Recreation for their standard.



Streetscape Elements - Site Furnishings

BICYCLE CORRAL

Bicycle corrals can be added along side streets with the capacity to contain the bulk of the bicycle storage needed. They can be located along the building facade where space allows or in a City designated parking space. Materials shall be durable to withstand heavy use, and those that will not rust and can endure the harsh marine environment. Design to complement other site furnishings.



*Madrax
Bike Corral*



*Madrax
Bike Corral*



MOBILITY HUB

Mobility hubs to store e-bikes, scooters, and other alternate modes of transportation can be added along side streets in a City designated parking space. Materials shall be durable to withstand heavy use, and those that will not rust and can endure the harsh marine environment. Design to complement other site furnishings.



*DERO
Bikeep Smart Bike Station*



*DERO
E-Scooter Rack*



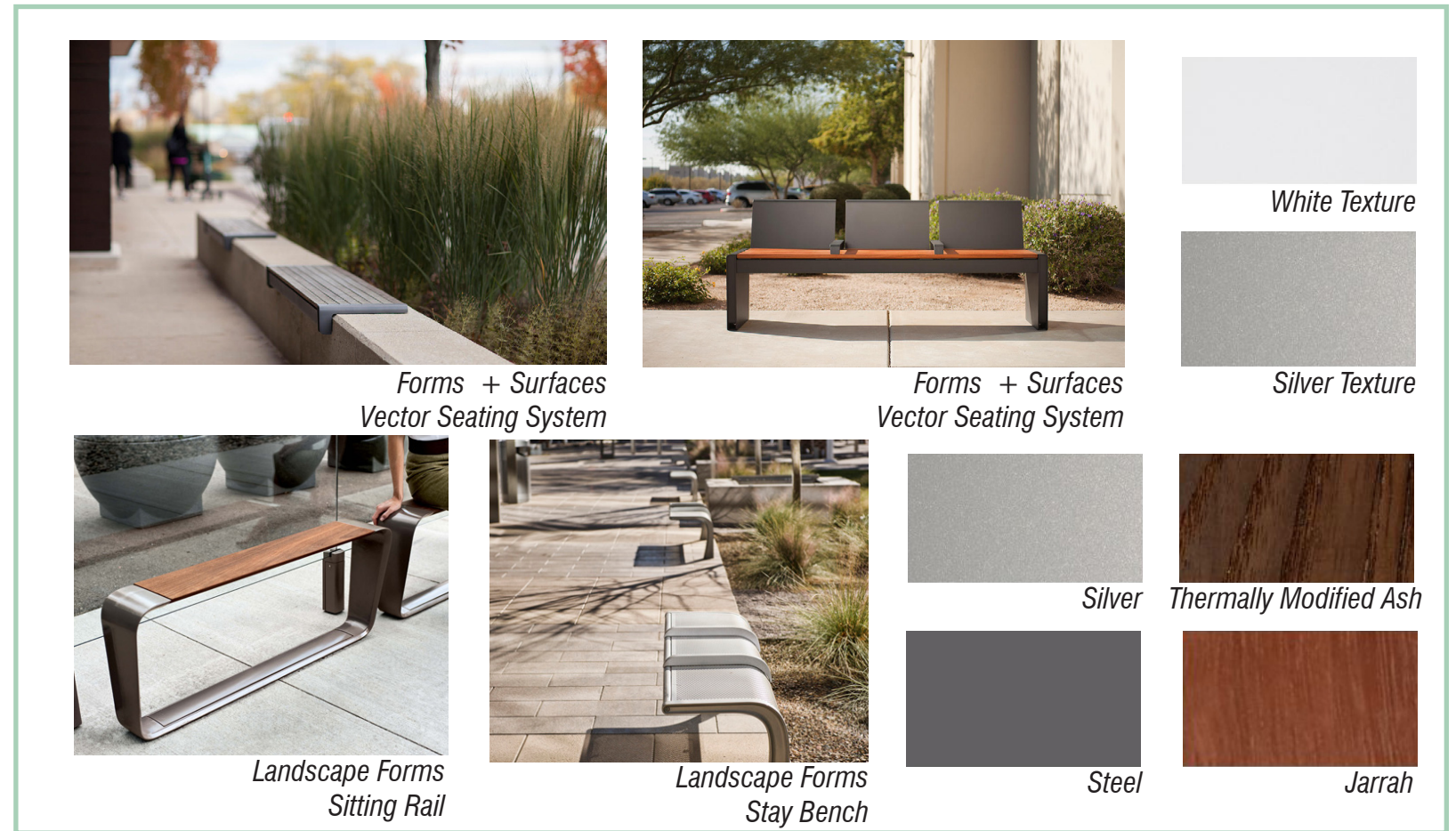
*City Design
Quert*

Streetscape Elements - Site Furnishings

BENCH

METAL/WOOD OPTIONS

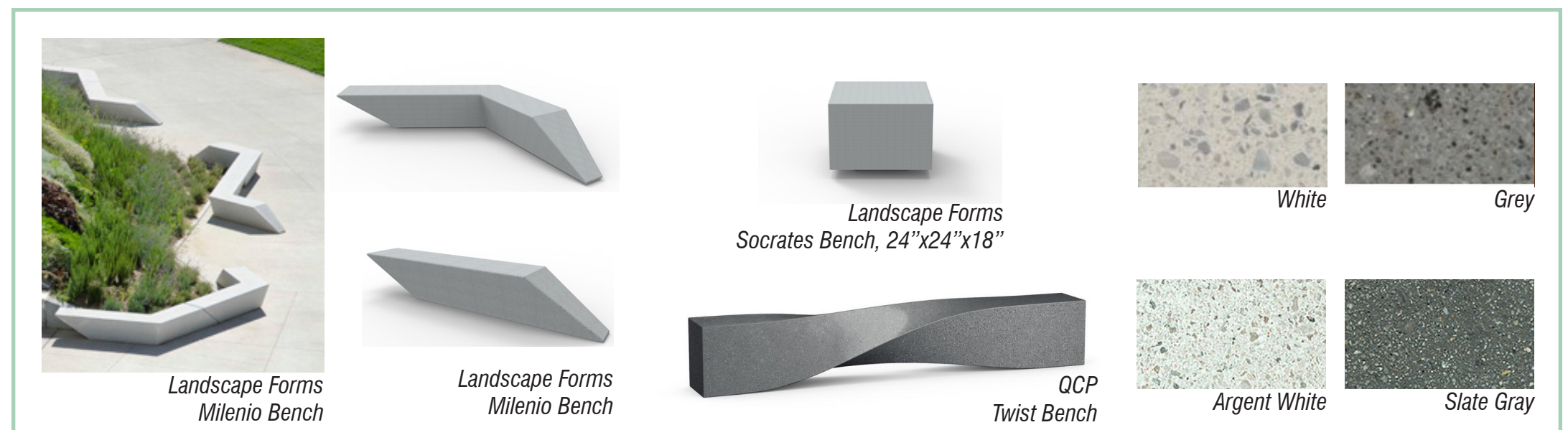
The location and type of seating element shall respond to adjacent land uses, available shade, and width of the amenity zone. Comply with all ADA clearance requirements. Benches shall be either mounted to seatwalls or sidewalks and be durable and vandal resistant. Skate deterrents are required to be included where applicable. Armrests are acceptable. All seating to be designed with the intent to rest, not linger. Excellent opportunities to incorporate accent lighting. Materials shall be those that will not rust and can endure the harsh marine environment, and complement other site furnishings. If wood is used, it must be a premium, sustainable, low maintenance, durable exterior material, such as thermally modified Ash, Jarrah, etc.



BENCH

PRECAST/STONE OPTIONS

Precast or stone seating elements are excellent materials for use in an urban setting. Skate deterrents are required to be included where applicable. Color palette to complement other site furnishings.

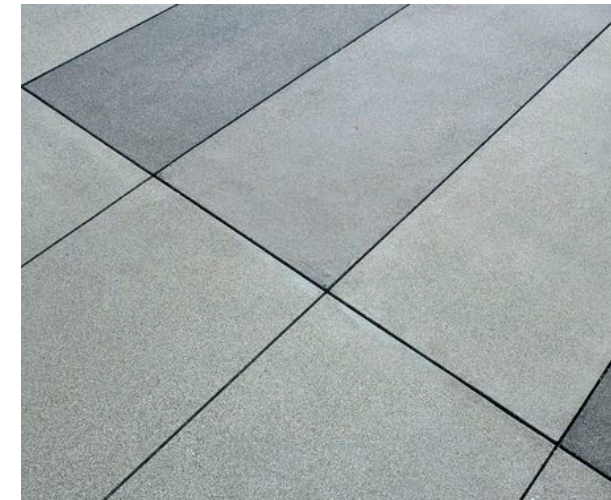
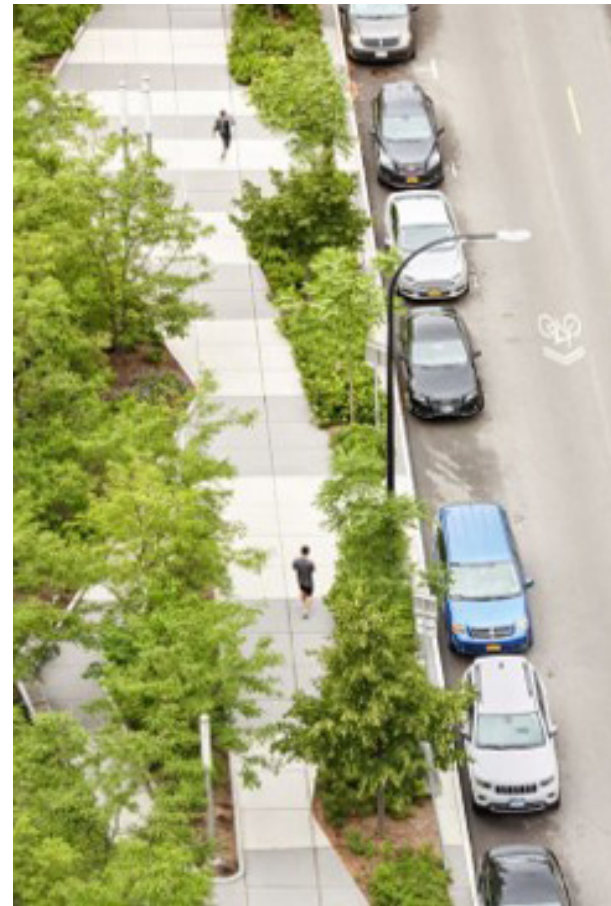


Streetscape Elements - Hardscape

SIDEWALKS CONCRETE OPTION

Sidewalk areas shall enhance the character of the streetscape through the use of a complementary design and color palette. In concrete areas, utilize clean, sawcut lines to add pattern and to break up large areas of pavement. Use of either concrete or integrally colored concrete with broom finish or sand texture is acceptable. Colors and patterns can be used to delineate right-of-way transition areas. Concrete can be integrated with paver areas.

Pavement size and thickness shall accommodate heavy pedestrian use and occasional heavy equipment/machinery and maintenance vehicles.



Nickel Gray



Steel Blue



Natural Gray



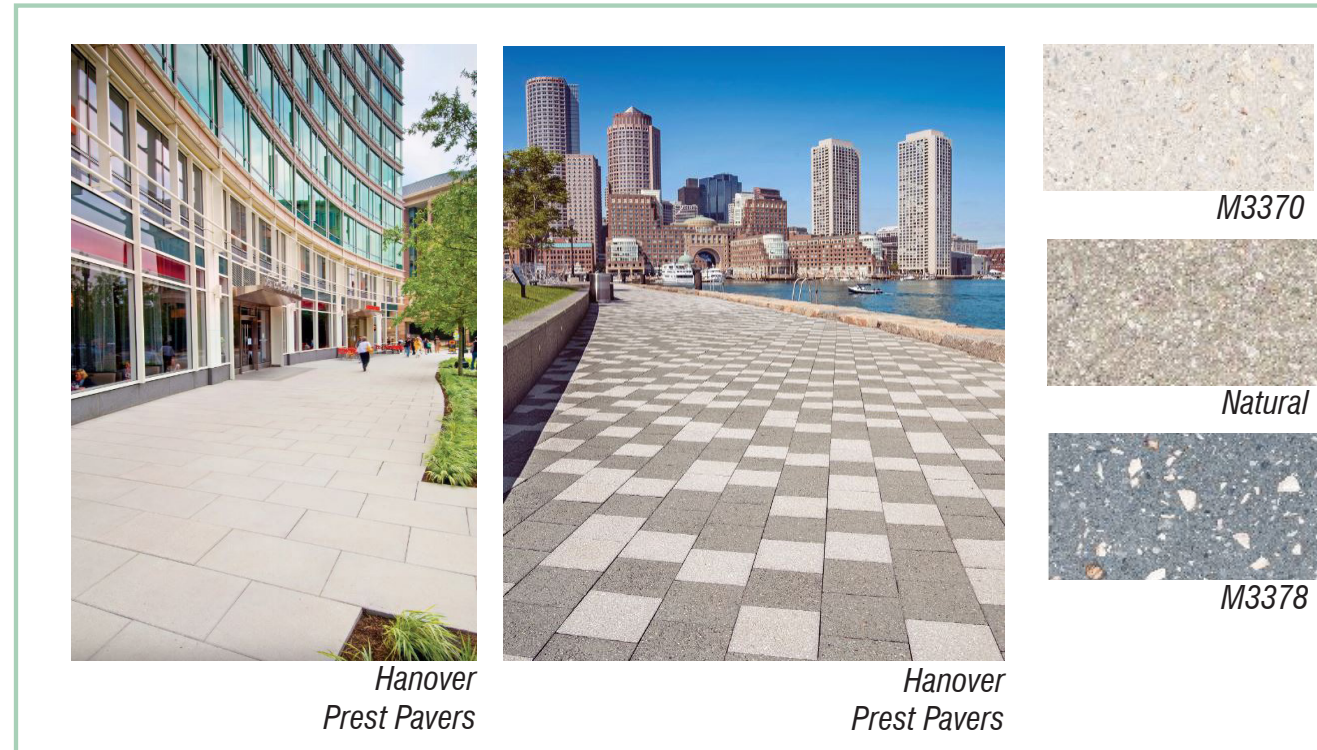
*Bomanite
Sandscape*

Streetscape Elements - Hardscape

SIDEWALKS PAVER OPTION

The use of accent materials such as concrete pavers are encouraged in areas where they will have the most visual impact, and/or where they are highlighting an important feature or amenity zone. Color palette and design shall be complementary to the other sidewalk paving, and help define the resort character of the corridor.

Materials shall be vandal and stain resistant, low maintenance, easy to clean, and meticulously installed to the required detailed specifications to ensure even surfaces and longevity. Paver areas can be designed in conjunction with areas of concrete. Design shall incorporate clean lines, a cohesive theme, and may contain splashes of color such as the use of washed glass pavers. Paver sizes and thicknesses shall accommodate heavy pedestrian use and occasional heavy equipment/ machinery and maintenance vehicles.



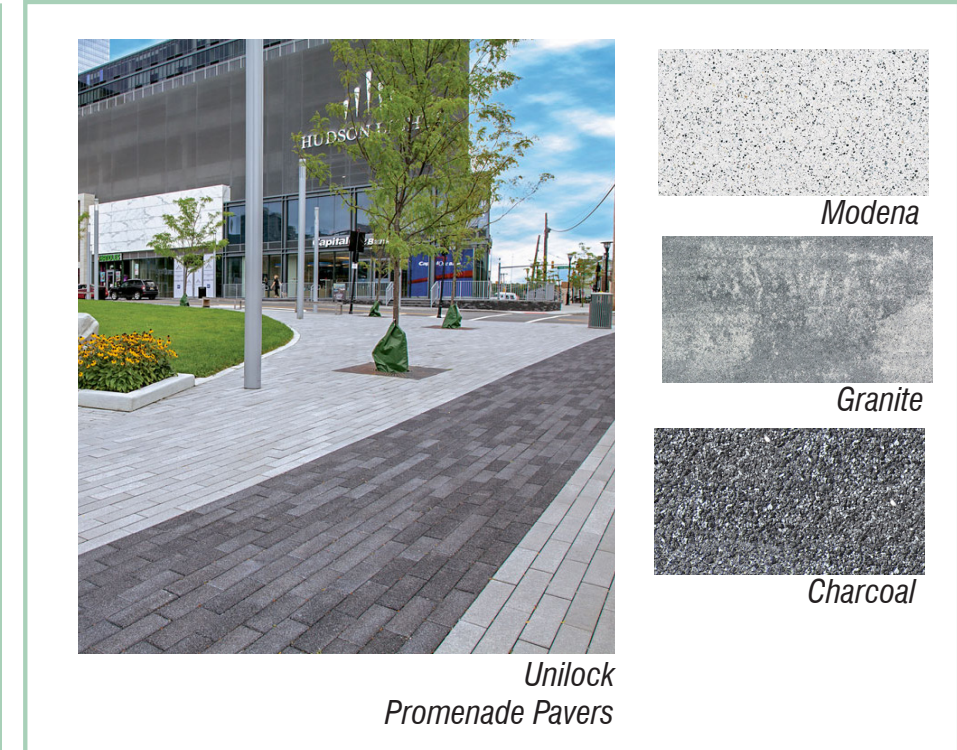
*Hanover
Prest Pavers*

*Hanover
Prest Pavers*

M3370

Natural

M3378



*Unilock
Promenade Pavers*

Modena

Granite

Charcoal

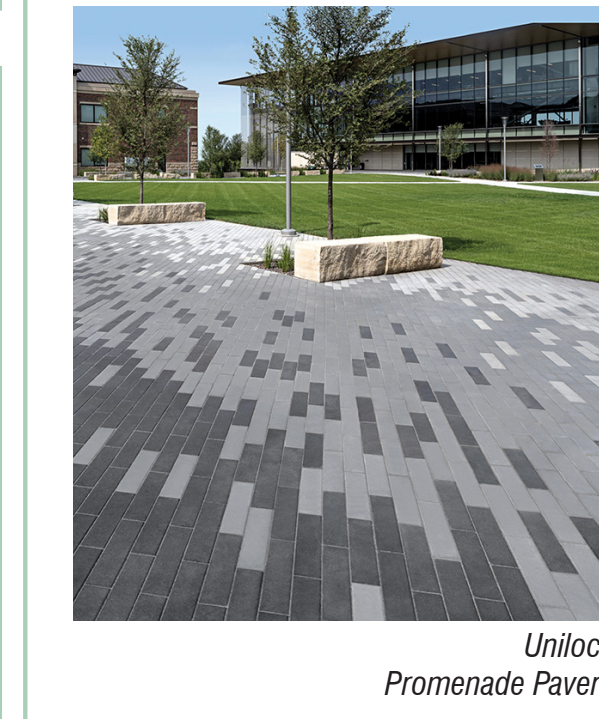


*Wausau Tile
Washed Glass Pavers*

BG-10

BG-20

BG-Blue



*Unilock
Promenade Pavers*

Streetscape Elements - Hardscape

CROSSWALKS PAVER OPTION

Concrete pavers are an option for crosswalks within the corridor. Color palette to be neutral and design to be complementary to the other site paving in sidewalk areas. Materials shall be stain resistant, low maintenance, easy to clean, and meticulously installed to the required detailed specifications to ensure even surfaces and longevity. Paver sizes and thicknesses shall accommodate heavy duty vehicular use and pattern to interlock to prevent shifting.



*Hanover
Prest Pavers*



Glacier White



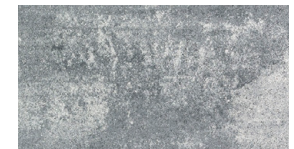
Limestone Grey



*Unilock
Promenade Pavers*



Modena



Granite

CROSSWALKS STAMPED ASPHALT OPTION

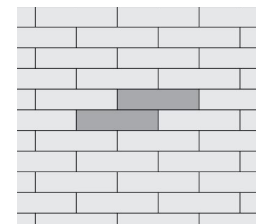
Stamped asphalt with integrated color is another option for crosswalks. Color palette to be neutral and pattern to be complementary to the other site paving in sidewalk areas. Materials to be hot applied resin mixed with granite aggregate, sand and pigment that is stamped with a decorative brick pattern.



*Traffic Calming USA
Imprint*



Herringbone Pattern



Brick Pattern



Sand



Light Grey



Dark Red

Streetscape Elements - Hardscape

INTERSECTIONS PAVER OPTION

Concrete pavers are an option for specific intersections within the corridor, see page 27 of this document for proposed locations. Paver color palette to be neutral and design to be complementary to the other site paving in sidewalk areas. Materials to be stain resistant, low maintenance, easy to clean, and meticulously installed to the required detailed specifications to ensure even surfaces and longevity. Paver sizes and thicknesses shall accommodate heavy duty vehicular use and pattern to interlock to prevent shifting.



RAISED INTERSECTIONS PAVER OPTION

Raised intersections create a safe, slow-speed crossing and public space. They are an option for specific intersections within the Atlantic Avenue corridor, see page 27 of this document for proposed locations. Concrete pavers are an option for raised intersections. Color palette to be neutral and design to be complementary to the other site paving in sidewalk areas. Materials to be stain resistant, low maintenance, easy to clean, and meticulously installed to the required detailed specifications to ensure even surfaces and longevity. Paver sizes and thicknesses shall accommodate heavy duty vehicular use and pattern to interlock to prevent shifting.



Streetscape Elements - Hardscape

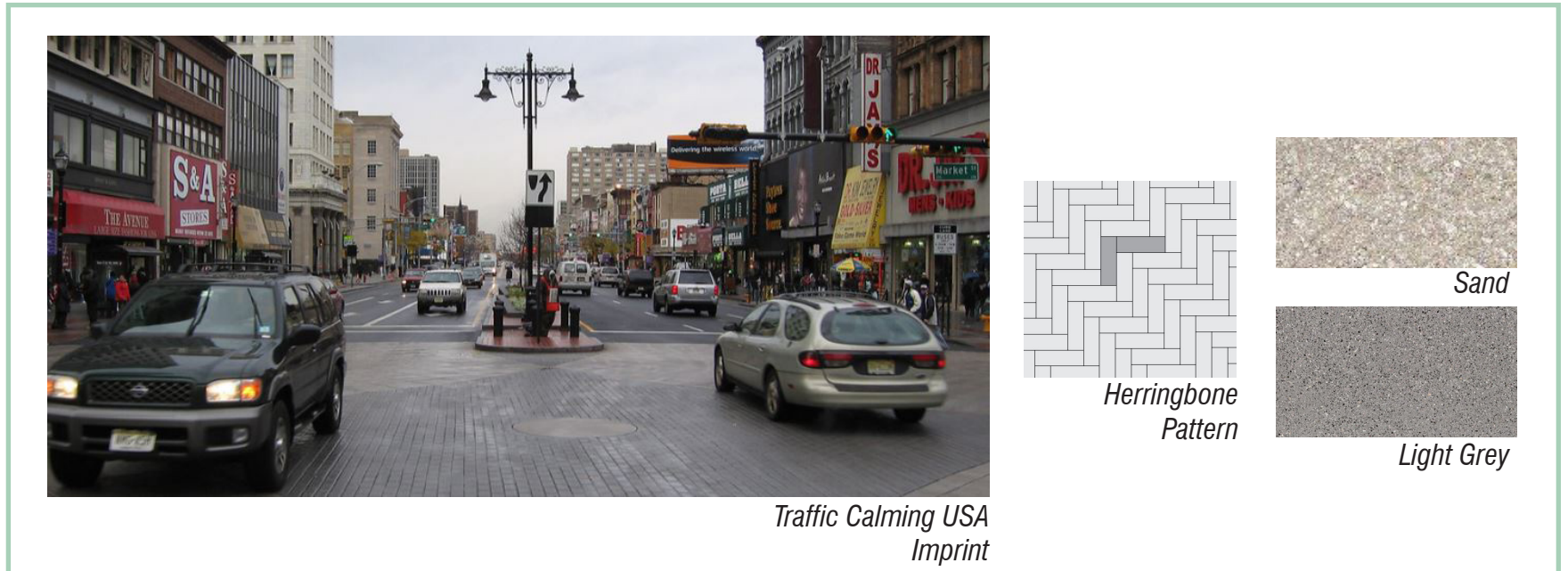
INTERSECTIONS CONCRETE OPTION

Concrete is an option for intersections within the corridor. Color palette to be neutral and design to be complementary to the other site paving in sidewalk and crosswalk areas. Utilize clean, sawcut lines to add pattern and to break up large areas of pavement. Use of either concrete or integrally colored concrete with broom finish or sand texture is acceptable.



INTERSECTIONS STAMPED ASPHALT OPTION

Stamped asphalt with integrated color is another option for intersections. Color palette to be neutral and pattern to be complementary to the other site paving in sidewalk and crosswalk areas. Materials to be hot applied resin mixed with granite aggregate, sand and pigment that is stamped with a decorative brick pattern.



Streetscape Elements - Hardscape

CURB LEVEL STREET PAVER OPTION

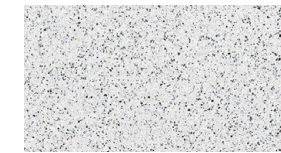
The use of accent materials such as concrete pavers can be used in sections where curb level street is proposed. Color palette and design to be an extension of sidewalk paving. Materials to be stain resistant, low maintenance, easy to clean, and meticulously installed to the required detailed specifications to ensure even surfaces and longevity. Paver sizes and thicknesses shall accommodate heavy duty vehicular use and pattern to interlock to prevent shifting.



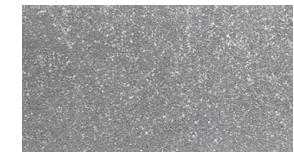
Unilock Promenade Pavers



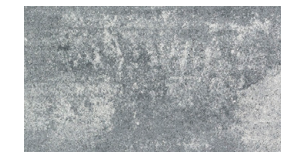
Hanover Prest Pavers



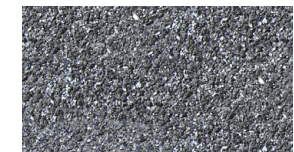
Modena



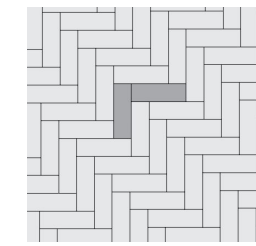
French Grey



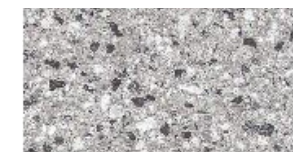
Granite



Charcoal



Herringbone Pattern



M1025



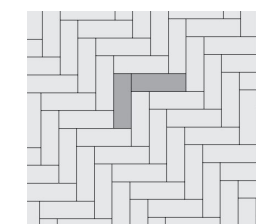
Charcoal

CURB LEVEL STREET STAMPED ASPHALT OPTION

Stamped asphalt with integrated color is another option for curb level street sections. Color palette and design to be an extension of sidewalk paving. Materials to be hot applied resin mixed with granite aggregate, sand and pigment that is stamped with a decorative brick pattern.



Traffic Calming USA Imprint



Herringbone Pattern



Sand



Light Grey

Streetscape Elements - Hardscape

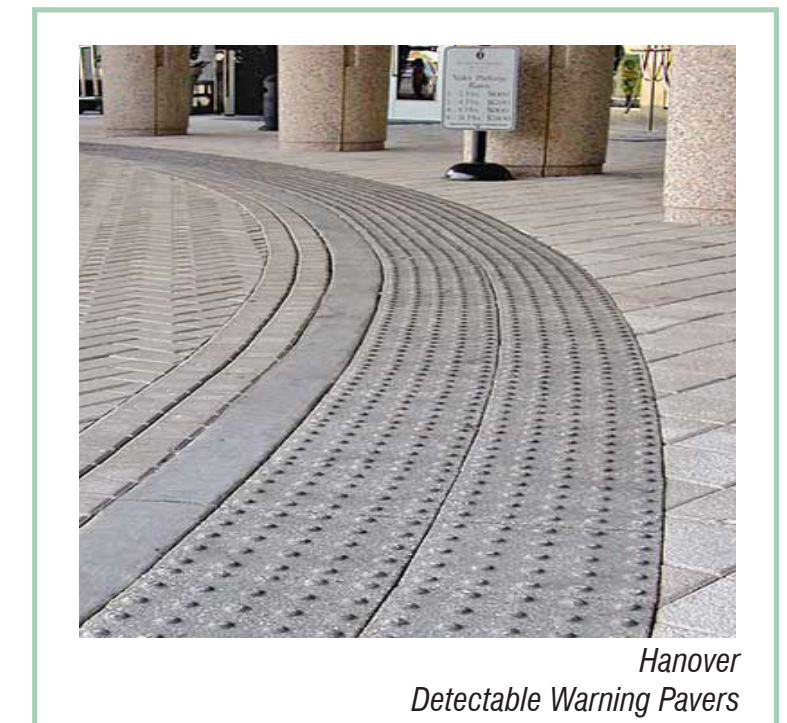
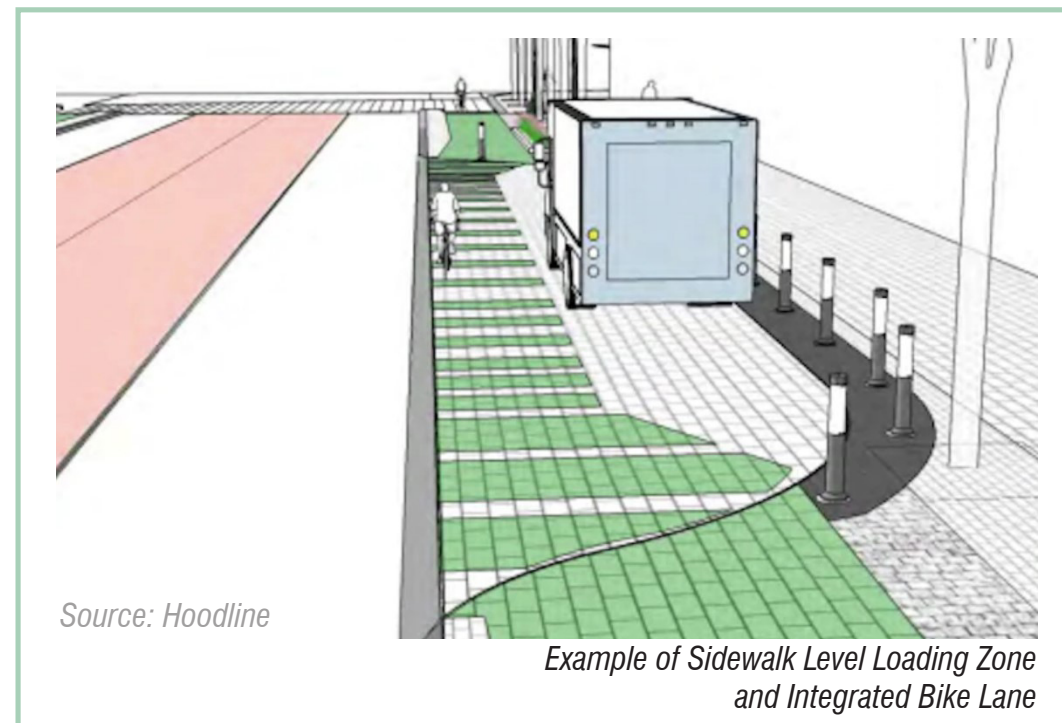
SIDEWALK LEVEL LOADING ZONES

The use of accent materials such as concrete pavers can be used in sections of sidewalk level loading zones. Color palette and design shall be an extension of sidewalk paving. Materials to be stain resistant, low maintenance, easy to clean, and meticulously installed to the required detailed specifications to ensure even surfaces and longevity. Paver sizes and thicknesses shall accommodate heavy duty vehicular use and pattern to interlock to prevent shifting.



*Hanover
Prest Pavers*

Incorporate pedestrian protection elements as required such as detectable warning pavers and bollards. Design of pedestrian protection elements shall be complementary to the paving design and site furnishings selections.



Streetscape Elements - Crowd Control/Vehicular Management

AUTOMATED BOLLARDS

Automated bollards are an acceptable vehicular management and crowd control device in areas where street and sidewalk closures occur regularly for events. Materials to be traffic-rated (in roadway applications) and durable to withstand heavy use, rust-proof, and built to withstand the harsh marine environment. To complement other site furnishings.



*Atkore Calpipe
Automatic Retractable Bollard*



*FAAC
J-Series Traffic Automated Bollard*

REMOVABLE BOLLARDS

Removable bollards are also an acceptable vehicular management and crowd control device in areas where street and sidewalk closures occur regularly for events. Materials to be traffic-rated (in roadway applications) and durable to withstand heavy use, rust-proof, and built to withstand the harsh marine environment. To complement other site furnishings.



*Reliance Foundry
Removable Bollard*

VEHICULAR DROP-ARM CONCEALED WITHIN A VERTICAL ARTISTIC ELEMENT

Creative solutions are encouraged for vehicular management and crowd control. One option is a vehicular drop-arm, which could be concealed from view within a vertical artistic element when not in use. Materials to be traffic-rated and durable to withstand heavy use, rust-proof, and built to withstand the harsh marine environment. To complement established theme and other site furnishings.



Streetscape Elements - Lighting

ACCENT LIGHTING

Lighting is intended to create a nighttime character that reinforces the image of Atlantic Avenue as a welcoming and inviting space. Site lighting shall be designed to be as energy efficient as possible while still maintaining the appropriate light levels as characterized by best engineering practices. The use of shields and refractors shall be used to limit glare and light spillage. All exterior on-site lighting must be shielded and confined within site boundaries.

Gathering and seating areas shall be lighted to promote pedestrian use and safety. A variety of mounted and ground level lighting may be used to create interest and special effects in coordination with the character and function of the specific area. Energy efficiency shall be maintained. Unique lighting may be used to feature architectural elements, landscaping, entries, and site signage provided it is compatible with all other lighting, especially in color. If lighting surrounds trees as pictured, lights shall automatically turn off at a City designated time to prevent a negative biological response from street trees.



*Dura Trench
Custom Grate Light*



Custom LED Tree Lighting



Custom LED Tree Lighting



*TTC Lighting
Lightline*



*TTC Lighting
Lightline*



*TTC Lighting
Lightline*

Streetscape Elements - Lighting

SITE FURNISHINGS LIGHTING

Accent lighting may be incorporated into site furnishings and landscaped areas provided it is compatible with the character and theme of the overall sidewalk design and all other lighting. Fixtures shall be low maintenance, rust-proof, vandal resistant, and contain a consistent color temperature and lumen output.



*TTC Lighting
Lightline*



*3 Form
Backlit Acrylic Lighting*



Custom LED Undermount Bench Lighting



Custom LED Undermount Bench Lighting



*Forms + Surfaces
Vector Bench with Lighting*

Streetscape Elements - Lighting

VERTICAL LIGHT ELEMENTS

Vertical light elements containing accent lighting may be incorporated into the streetscape design provided it is compatible with the character and theme of the corridor and all other lighting. Fixtures shall be low maintenance, rust-proof, vandal resistant, and contain a consistent color temperature and lumen output.



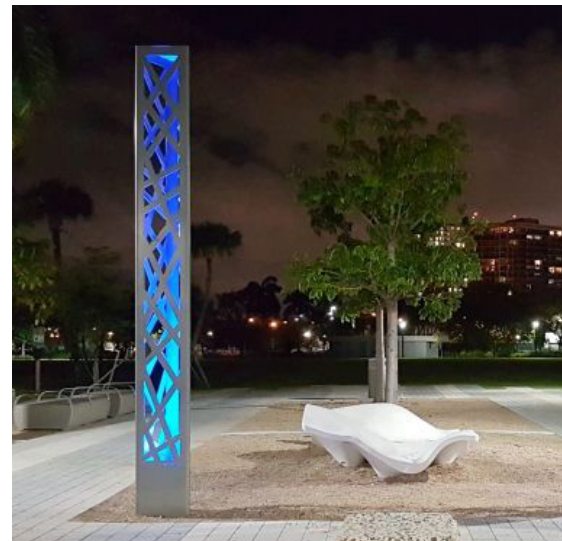
*Forms + Surfaces
Light Column Bollard*



*Forms + Surfaces
Light Column Bollard Receptacle*



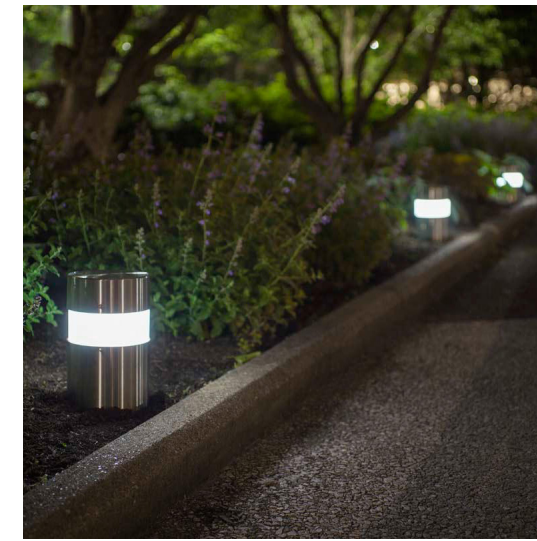
*Forms + Surfaces
Light Column Bollard-Scale Pattern*



*Streetlife
Open Pillar*



*Landscape Forms
Ring Light*



*Forms + Surfaces
Light Column Pathway*



*Accent Light Elements
Attached to Street Light Poles*

Streetscape Elements

POTENTIAL SENSE OF ARRIVAL FEATURE AT 21ST STREET

Sense of arrival features are an important component to establishing a sense of place and would be a welcome addition along Atlantic Avenue. They are a great way to welcome residents and visitors to the area, and bring an artistic component to the streetscape character. A sense of arrival feature could potentially be located at 21st Street, as recommended in the RASAP document. Size and shape would need to fit the desired location. Local artwork could be incorporated, similar to the ViBe District markers, and features shall contain lighting for nighttime presence.



AMBIENT MUSIC

Ambient music currently exists at the oceanfront as speakers attached to street lights. These type of elements could be re-used or upgraded and incorporated into the design of the streetscape to help create a sense of place and inviting atmosphere at the Oceanfront.



PROJECT PARTNERS:

Kimley»Horn



CLARK NEXSEN

4525 Main Street, Suite 1400
Virginia Beach, VA 23462
clarknexsen.com