BOROUGH OF HIGHLANDS

FORM-BASED CODE & DESIGN GUIDELINES

August 2018

Prepared by

HGA

Heyer, Gruel & Associates

FORM BASED CODE & DESIGN GUIDELINES

Borough of Highlands
Monmouth County, New Jersey

April 2018
Prepared By:

Heyer, Gruel & Associates
Community Planning Consultants
236 Broad Street, Red Bank, NJ 07701
(732) 741-2900

The original of this report was signed and
sealed in accordance with N.J.S.A. 45:14A-12

Susan S. Gruel, P.P. #1955

Fred Heyer, AICP, CUD, LEED-AP ND, CNUa, P.P. #3581

ACKNOWLEDGEMENTS

Mayor Rick O'Neil

Borough Council

Carolyn Broullon, Council President
Claudette D'Arrigo
Ken Braswell
Rosemary Ryan

Land Use Board

Rick O'Neil, Mayor
Rob Burton
Ken Brasswell
Andrew Stockton
Frank Nolan
Chris Francy
Rob Knox
Larry Colby
Art Gallagher
Christian Lee
Frank Montecalvo

Nancy O'Neil, Board Secretary
Jack Serpico, Board Attorney
Rob Keady, Board Engineer

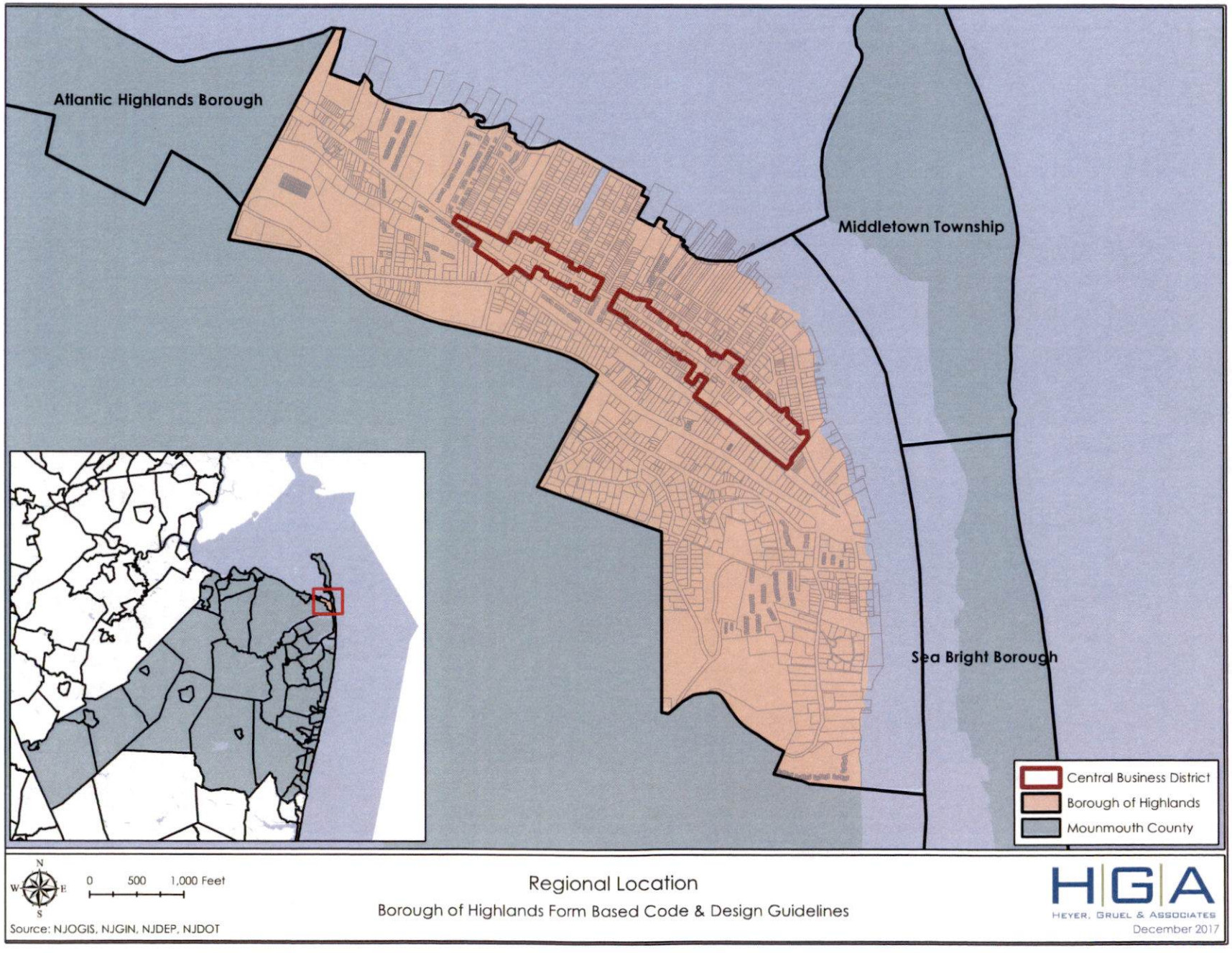
Borough of Highlands

Kim Gonzales, Borough Administrator
Bonnie Brookes, RMC, CMR, Borough Clerk & Registrar

Heyer, Gruel & Associates

Susan S. Gruel, PP, Principal
Fred Heyer, PP/AICP, LEED AP-ND, CNUa, Principal
M. McKinley Mertz, AICP, PP, Planner
Elena Gable, AICP, PP, Planner/GIS Specialist
Natalie Southerland, Assistant Planner

TABLE OF CONTENTS


Atlantic Highlands Borough
Middletown Township
Sea Bright Borough
Central Business District
Borough of Highlands
Mounmouth County
N
W
E
S
0
500
1,000 Feet
Source: NJOGIS, NJGIN, NJDEP, NJDOT
Regional Location
Borough of Highlands Form Based Code & Design Guidelines
HGA
HEYER, GRUEL & ASSOCIATES
December 2017

I. INTENT

The heart and identity of a traditional neighborhood or municipality is often located on its main street, where residents and visitors converge to shop, socialize, and engage in the civic and cultural life of their community. The Borough of Highlands has undertaken a careful analysis of its main street, Bay Avenue, in order to create regulations that will foster its transformation into a more attractive, walkable, and economically viable Central Business District (CBD) with the qualities of an identifiable and desirable destination.

This document provides the Form Based Code (Code) and Design Guidelines for the Borough of Highlands. The objective of this Code is to achieve an integrated built environment that identifies the desired character of future development, and accomplishes community goals.

Where traditional zoning regulations focus on the definition of detailed and distinctive use zones, form-based codes have emerged as an alternative approach to regulating the built environment. These codes focus on form, design, and the role of individual sites and buildings in constructing the public realm. The design guidelines complement the code by establishing standards for the features and forms of new developments and streetscapes in the CBD.

The Code for the designated area is comprised of: the Regulating Plan, Permitted Uses, Building Envelope and Height Standards, Parking and Circulation Standards, and Definitions. The Design Guidelines include floodproofing, sustainable, and landscaping design standards.

2015 Aerial

Form-Based Code & Design Guidelines
Borough of Highlands

HGA
HEYER, GRUEL & ASSOCIATES
April 2018

II. DEFINITIONS

Form-based zoning districts require more detailed definitions than are typically provided in conventional zoning and land use regulations. This section contains a glossary to ensure the precise use of technical terms. Additionally, due to the District's location within a Special Hazard Area, certain terms have been included related to hazard mitigation and flood proofing. Terms not defined here are either defined elsewhere in the Borough's Zoning Code or in the Highlands Central Business District Design Manual.

ARCADE
Building frontage wherein the first floor (or the first two floors) façade is setback from the frontage line, and a permanent roof supported by a series of arches on columns or piers (or a colonnade) extends up to the frontage line. The upper floors of the building are built up to the frontage line. A double story (first and second floors) arcade is permitted.

ARCHITECTURAL FEATURES
A prominent or significant element extending beyond the main façade or wall of a building or structure. An architectural feature shall be included in the calculation of building coverage, and lot coverage.

BASE FLOOD
A flood having a 1% chance of being equaled or exceeded in any given year.

BASE FLOOD ELEVATION (BFE)
The computed elevation to which floodwater is anticipated to rise during the base flood. The BFE is the regulatory requirement for the elevation or floodproofing of structures.

BUILDING ENVELOPE
The three-dimensional space within which a structure is permitted to be built on a lot; it is defined by maximum height regulations, minimum yard setbacks, and sky exposure plan regulations where applicable.

CIVIC BUILDING
A building type in the Downtown Districts that is designed to accommodate public and quasi-public uses. Civic Buildings are intended to accommodate community service uses such as a place of worship, a library, a community hall, an historical (or other) society building, etc. These buildings are not operated primarily for profit or monetary gain.

ELEVATED BUILDING
Pursuant to Article XXIV, entitled "Flood Damage Prevention," of the Borough's Code.

EXTERIOR BUILDING WALLS
Any wall that defines the exterior boundaries of a building or structure.

FAÇADE
The exterior face of a building, including but not limited to, walls, window sills, doorways, and such traditional design elements as horizontal lines, cornice, and parapet.

FAÇADE TRANSPARENCY
The ratio between opaque building surfaces, such as brick, or wood, to transparent surfaces, such as glass, that make up the façade of a building. It determines the amount of visibility into and out of the space inside the building.

FLOOD INSURANCE PROGRAM (FIP)
A national program through which property owners, renters, and businesses can purchase insurance protection against losses from flooding. The federal government makes flood insurance available to

properties within a community provided the community adopts and enforces a floodplain management ordinance to mitigate flood risks to new construction.

FLOODPLAIN
Any land area susceptible to being inundated by floodwaters from any source.

FLOODPROOFING
Any combination of structural and nonstructural additions, changes or adjustments to structures, which reduce or eliminate risk of flood damage to real estate or improved real property, water and sanitation facilities or structures with their contents.

FLOODPROOFING, DRY
Dry floodproofing involves design and structural strategies that result in a structure that is watertight below the level that needs flood protection to prevent floodwaters from entering. Dry floodproofing cannot be used to bring a substantially damaged or substantially improved residential structure into compliance with this chapter.

FLOODPROOFING, WET
Wet Floodproofing includes permanent or contingent measures applied to a structure or its contents that prevent or provide resistance to damage from flooding while allowing floodwaters to enter the structure or area. Generally, this includes properly anchoring the structure, using flood resistant materials below the Base Flood Elevation (BFE), protection of mechanical and utility equipment, and use of openings or breakaway walls.

FOUNDATION WALLS
Masonry walls, poured concrete walls or precast concrete walls, regardless of height, that extend above grade and support the weight of a building.

FORM-BASED CODE
A method of regulating development to achieve a specific urban form. Form-based codes create a predictable public realm primarily by controlling physical form, with a lesser focus on land use.

FREEBOARD
An additional amount of height above the Base Flood Elevation used as a factor of safety (e.g., 2 feet above the Base Flood) in determining the level at which a structure's lowest floor must be elevated or floodproofed.

FRONTAGE
The property along a public street.

GROUND FLOOR
The floor of a building at or nearest to ground level.

LOWEST FLOOR
Pursuant to Article XXIV, entitled "Flood Damage Prevention," of the Borough's Code.

MIXED-USE DEVELOPMENT
A building consisting of ground floor retail, office, sales, or service uses with residential units above.

PLAZA
An unroofed public open space designed for pedestrians that is open to public sidewalks on at least one side.

PUBLIC REALM
The space between buildings, including publicly owned streets, sidewalks, rights-of-ways, parks and other publicly accessible open spaces, and public and civic buildings and facilities.

REGULATING PLAN

The regulating plan is the principal tool for implementing the Highlands's Code. The regulating plan provides standards for each lot and details how each lot relates to the adjacent lots and streetscapes.

SIDEWALK

A paved, surfaced, or leveled area, paralleling and usually separated from the traveled way, used as a pedestrian walkway.

SPECIAL FLOOD HAZARD AREA (SFHA)

An area having special flood, mudflow or flood-related erosion hazards and shown on a Flood Hazard Boundary Map (FHBM) or a Flood Insurance Rate Map (FIRM) Zone A, AO, A1-A30, AE, A99, AH, AR, AR/A, AR/AE, AR/AH, AR/AO, AR/A1-A30, V1-V30, VE or V. For the purpose of determining Community Rating System (CRS) premium discounts, all AR and A99 zones are treated as non-SFHAs.

STREET LIGHT

A lamp supported on a lamppost for illuminating a street.

SUBSTANTIALLY DAMAGED BUILDING

A building that has incurred damage of any origin whereby the cost of restoring the building to its before damaged condition would equal or exceed 50% of the market value of the building before the damage occurred.

SUBSTANTIALLY DAMAGED PROPERTY

Either a substantially damaged building or the contents within a substantially damaged building, or both.

SUBSTANTIALLY IMPROVED BUILDING

A building that has undergone reconstruction, rehabilitation, addition, or other improvement, the cost of which equals or exceeds 50% of the market value of the building before the "start of construction" of the improvement. This term does not include a building that has undergone reconstruction, rehabilitation, addition, or other improvement related to:

1. Any project or improvement of a building to correct existing violations of a state or local health, sanitary, or safety code specifications that have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or

2. Any alteration of a "historic building", provided that the alteration will not preclude the structure's continued designation as a "historic building."

SUBSTANTIALLY IMPROVED PROPERTY

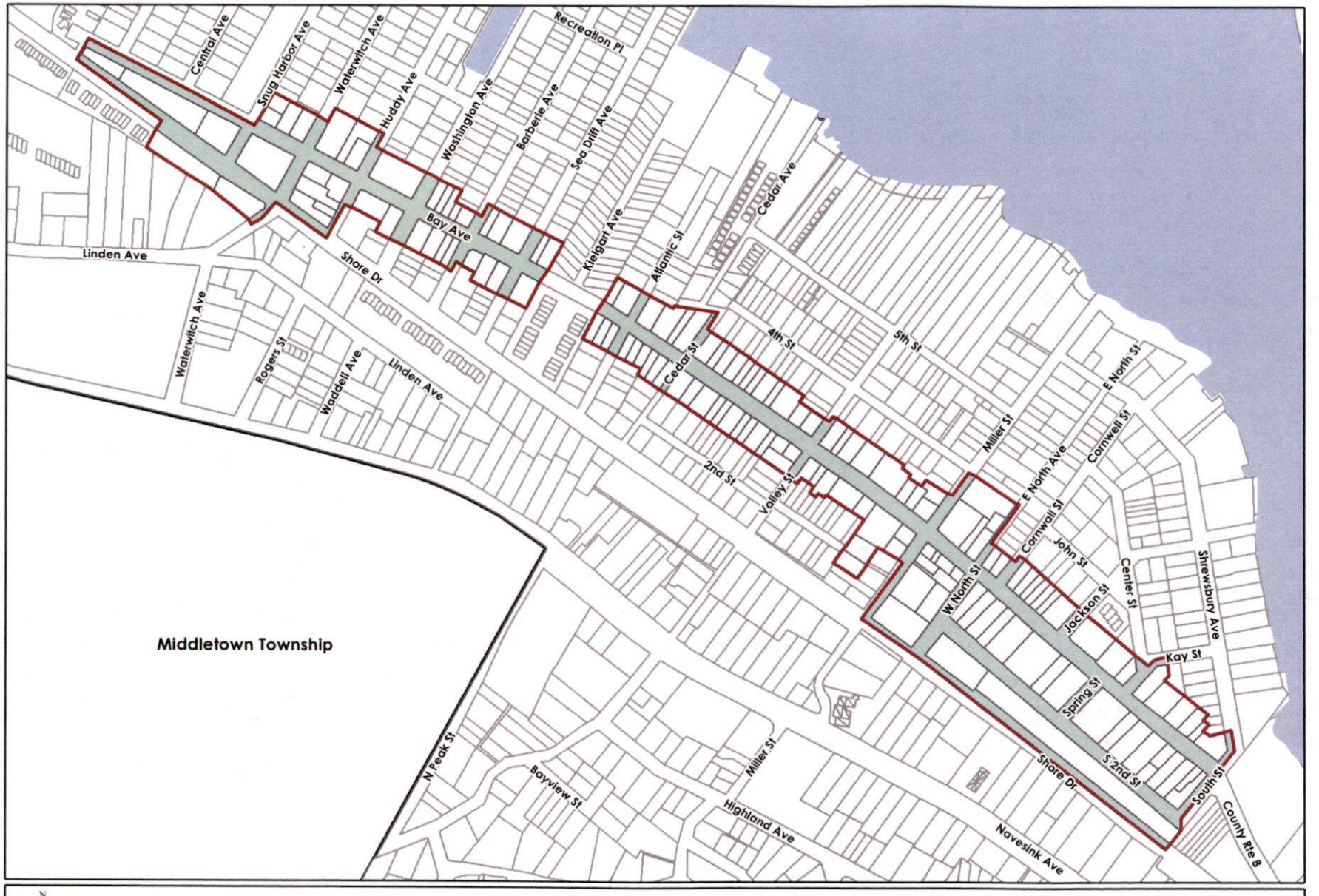
Either a substantially improved building or the contents within a substantially improved building, or both.

SOLID (PERIMETER) FOUNDATION WALLS

Walls that are used as a means of elevating a building in A Zones and that must contain sufficient openings to allow for the unimpeded flow of floodwaters more than 1 foot deep.

UNFINISHED AREA

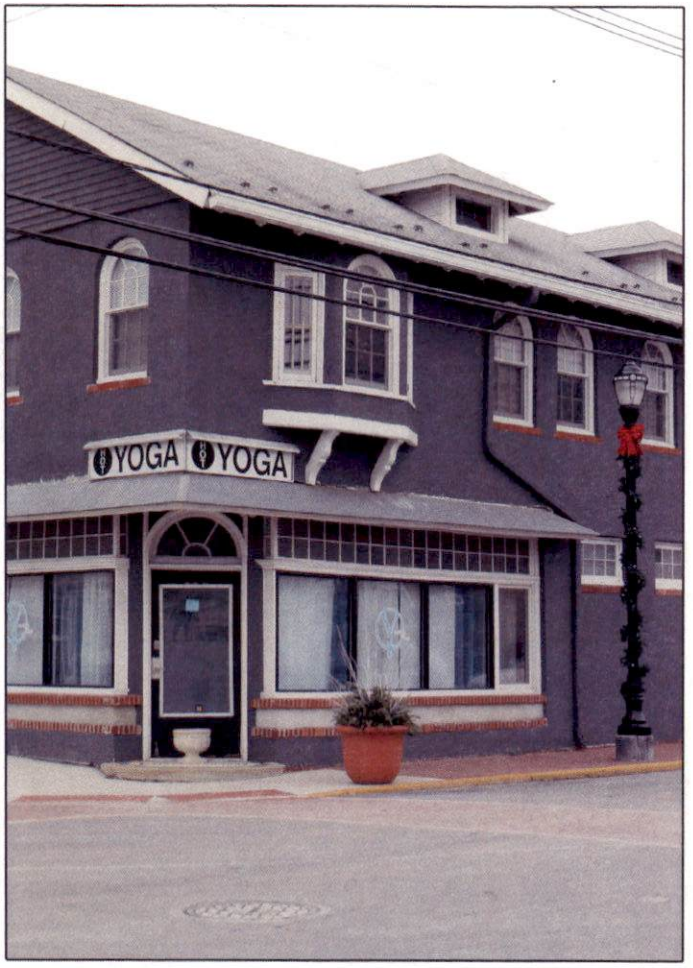
An enclosed area that is used only for the parking of vehicles, building access or storage purposes and that does not meet the definition of a finished (habitable) area. Drywall used for fire protection is permitted in unfinished areas.

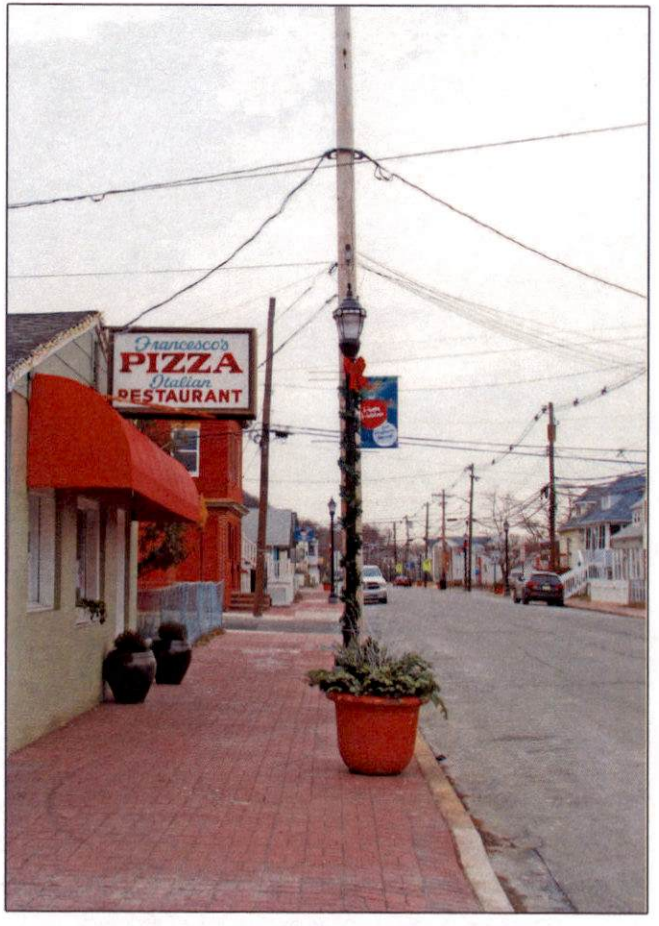

Central Ave
Snug Harbor Ave
Waterwitch Ave
Huddy Ave
Washington Ave
Barberie Ave
Recreation Pl
Sea Drift Ave
Kielgart Ave
Atlantic St
Cedar Ave
Bay Ave
Linden Ave
Shore Dr
Waterwitch Ave
Rogers St
Waddell Ave
Linden Ave
Cedar St
4th St
5th St
2nd St
Valley St
Miller St
E North St
E North Ave
Cornwall St
John St
Center St
Shrewsbury Ave
W North St
Jackson St
Kay St
Spring St
S 2nd St
South St
County Rte 8
Shore Dr
Navesink Ave
Highland Ave
Miller St
Bayview St
N Peak St
Middletown Township
N
W
E
S
0
200
400 Feet
Source: NJOGIS, NJGIN, NJDEP, NJDOT
Districts
Form-Based Code & Design Guidelines
Borough of Highlands
HGA
HEYER, GRUEL & ASSOCIATES
April 2018

III. REGULATING PLAN

In accordance with the objectives of the 2016 Highlands Master Plan Reexamination Report, the Regulating Plan allows for mixed-use development that will cultivate a traditional "Main Street" downtown area, with uses that are typically found in a vibrant downtown commercial district. The Plan provides the framework for a walkable, pedestrian friendly downtown area that employs parking and other streetscape standards meant to increase connectivity, provide for comfortable public spaces, integrate residential uses, and limit the impacts of vehicular traffic.

The standards in this Regulating Plan relate to Ordinance 0-18-01 of the Borough of Highlands Zoning Ordinance for the designated areas of the CBD.





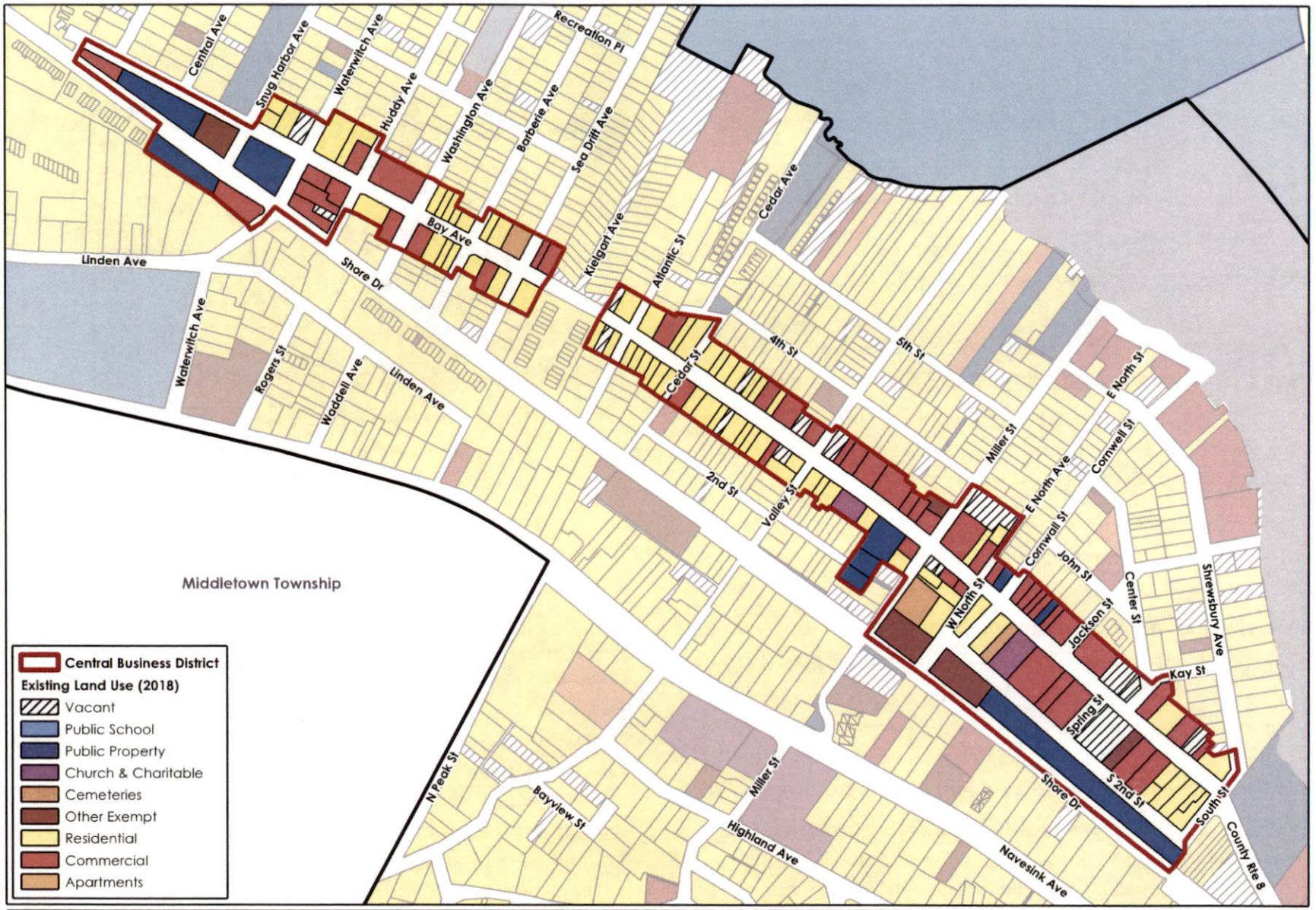
Area and Site Description

This Code lays out the framework for future development in the Borough's CBD. The CBD is centrally located within the 1.369 square mile borough of which 0.767 square miles is land and the remaining 0.602 square miles is water. Bay Avenue runs parallel to the shoreline of Sandy Hook Bay, less than 1,000 feet to the northeast.

The CBD incorporates the properties fronting Bay Avenue from South Street to Snug Harbor Avenue. The CBD also extends from Bay Avenue back to Shore Drive between South Street and Miller Street and between Waterwitch Avenue and Gravelly Point Road. The residential developments along Marina Bay Court and Marina Bay Drive are excluded from the CBD.

The CBD is primarily built-out with a mix of commercial and residential uses. There are also institutions, including the post office, a church, and veteran service organizations. The Borough Hall on Bay Avenue was damaged in Hurricane Sandy. The administration currently occupies trailers off South Second Street. At the northern end of the CBD, Huddy Park offers an area for outdoor recreation. Several vacant lots dot the Avenue as well.

Bay Avenue has brick-paved sidewalks interspersed with street trees, planters, garbage receptacles, streetlights, benches, and bicycle racks. Free on-street parallel parking also lines both sides of the avenue. There are few parking lots associated with the existing buildings and even fewer offer shared parking. There is currently no bicycle infrastructure along Bay Avenue.

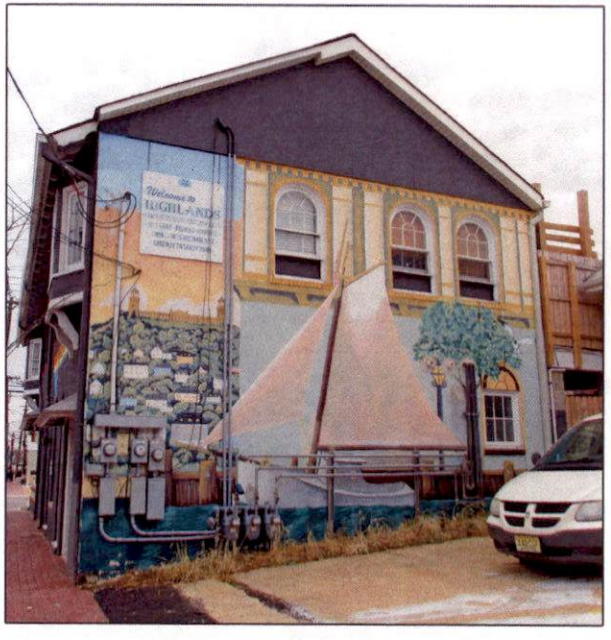


Existing Land Use
Form-Based Code & Design Guidelines
Borough of Highlands

HGA
HEYER, GRUEL & ASSOCIATES
April 2018

Consistency with Highlands's Master Plan

The policy underpinnings for this Code and the vision that it supports come directly from the Borough's 2016 Master Plan Reexamination Report and Amendments. The Reexamination recommends revision of the Borough's zoning for the downtown business area to promote sustainable development and resiliency and to facilitate rebuilding and reinvestment while preserving the existing character of the Borough. The zoning revision replaces the B-1 Neighborhood Business District and the B-2 Central Business District with one downtown business district, governed by a form-based code. This implementation document is the next step, providing a new set of development regulations aimed at bringing about the desired physical elements associated with an active, pedestrian-oriented "main street". Additional zoning policy updates included in this document address sustainability and resiliency to future storms.



Guiding Principles

The guiding principles for the regulatory standards that have been established in this document are:

1. To create a proper framework for new buildings and renovation of existing buildings with a Form-Based approach and to reinforce the positive elements of the CBD.
2. To define distinctive street profiles that balance the needs of various groups of users - businesses, pedestrians, motorists, bicyclists, and transit riders - while creating a public realm that is active, comfortable and attractive.
3. To specify quality streetscape elements and signage of areas, gateways, and landmarks to create a positive identity for the CBD.
4. To provide adequate parking for automobile users and to consider the location of garage parking where appropriate.
5. To create mixed-use development of high design quality.
6. To strengthen the CBD by encouraging a mix of uses that provides employment, retail opportunities, services, housing, and entertainment.
7. To promote sensitive design, energy efficiency, and sustainable waste management to minimize the impact on the local environment.
8. To encourage infill development to revitalize vacant or underutilized parcels within the CBD.

Applicability

These Regulating Plan and Design Guidelines of this Code shall supersede the Highlands Zoning Ordinance within the designated CBD. For development standards not covered by the Code (such as the subdivision and site plan regulations), the applicable sections of the Highlands Land Use Legislation shall be in effect. Should there be a conflict between the Ordinance and this Code, the requirements set forth in this Code shall prevail.

Any deviation from the Regulating Plan will require a variance. Any deviation from standards of this Code that would result in a "D" variance pursuant to N.J.S.A. 40:55D-70 shall be heard by the Borough's Land Use Board. "C" variance relief pursuant to Section N.J.S.A. 40:55D-70C may be addressed by the Land Use Board through the development application process. Deviations from the Design Guidelines section of the Code will require a design waiver.

Pre-Existing Residential Conditions

Residential developments that received approval or were in existence prior to the adoption of this Code shall be allowed to remain as permitted uses. In the case that a residence is to be elevated pursuant to FEMA standards, the residence is permitted to maintain its existing footprint and square-footage. Expansion of floor area is permitted only if it is within the allowable setbacks. Additionally, new porches, decks, and/or staircases needed to access the newly elevated structure are permitted.

Permitted Uses

Permitted Uses are the specific uses that are permitted within the Regulating Plan District. The Code places additional importance on the building form and allows for somewhat greater flexibility in the uses that occupy the buildings. A compatible mix of uses in each building is encouraged. Any deviation from permitted uses requires a "d" variance.

CBD District – Central Business District	Type of Use
Principal Permitted Uses [1]	• Retail sales and services • Offices • Banks and financial institutions • Eating and drinking establishments • Microbreweries and distilleries • Pool halls • Houses of worship • Theaters • Child Care Centers • Educational uses • Art, handicraft studios/workshops and galleries • Health, fitness, dance, music, and martial arts studios • Municipal uses • Open space • Mixed-use developments • Residential, above ground floor • Existing single-family homes • Wholesale sales and services
Permitted Accessory Uses	• Parking in rear, side and front yard or under building • Signage • Any other uses and structures customarily subordinate and incidental to permitted principal uses and permitted conditional uses
Permitted Conditional Uses [2]	• Hotels • Bed & breakfasts

1. Permitted Uses Below the BFE:
   A. Commercial or mixed-use buildings may have dry floodproofed, non-residential uses, such as office or retail, below the BFE that complies with FEMA and FIP.
   B. Existing residential developments may remain in place if the total work done within the unit and/or building is not a substantial improvement, as defined by this Chapter.
      i. If substantial improvements are to be made the unit/building must be elevated to FEMA standards or eliminated.

2. Hotels and Bed & Breakfasts shall abide by the conditional use standards found in Ordinance Section 21-97.

Building Envelope and Height Standards

The Building Envelope Standards regulate basic building form, considering the manner in which buildings relate to one another as well as their relationship to the streetscape. The Building Height Standards designate the maximum and minimum building height in stories and in feet permitted in the district.

Dimension	Requirement
Minimum Lot Area	2,500 square feet
Yards Front (Min.) Front (Max.) Rear (Min.) Side (Min.)	 0 5 feet 15 feet [1] 0 or 5 feet [2]
Minimum Lot Width	25 feet
Maximum Building Height	3 stories / 42 feet (or 4 stories / 45 feet for commercial structures or hotels with the 4th floor setback 10 feet and/or parking on the ground floor) [3]
Minimum Ground Floor Height	13 feet floor to ceiling for commercial spaces
Maximum Lot Coverage	100%
Maximum Building Coverage	90%
Residential Outdoor Requirement	Outdoor living space shall be provided at a minimum of fifty (50) square feet per unit. [4]

The height regulations shall apply to existing buildings as well as new construction. These standards ensure that each building complements the neighboring structures, the spaces between buildings and the public street.

1. Rear yards. There is a fifteen (15) foot setback required for buildings. There is no setback required for surface parking.

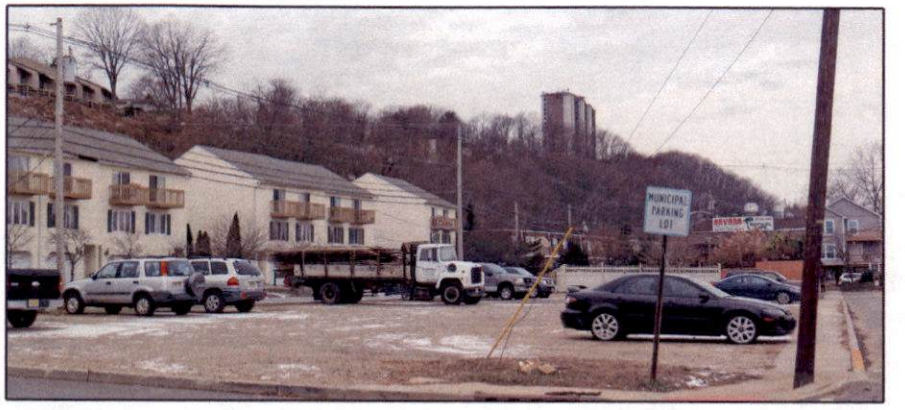
2. Side yards. No side setback is required for properties abutting commercial or mixed-use parcels. However, if any setback is to be provided, it shall be at least five (5) feet. Any side yard that abuts a residence use shall be a minimum of five (5) feet and shall contain an appropriately landscaped buffer.

3. Elevated residential structures shall be elevated in accordance with FEMA standards.

4. This space can be provided either at ground level or directly adjacent to the unit in the form of decks, balconies, and/or roof top terraces. The area provided shall be private, for the exclusive use of the residential terrace and shall be sufficiently screened or otherwise designed to ensure for privacy and exclusive use.

Parking and Circulation Standards

The location and availability of parking along Bay Avenue is problematic and offers a challenge to the revitalization efforts of the CBD. Free on-street parallel parking is currently provided along Bay Avenue. The existing parking model, however, is inefficient and lends itself to parking congestion issues. Due to the complex nature of parking strategies, there is no single way to solve parking challenges. This Code offers a series of strategies to meet the parking needs of the CBD. The overall goal of these parking strategies is to promote development patterns that create a sense of community and vibrancy in Highlands's CBD.



Minimum Parking Standards

The minimum parking standards currently in the Borough's Zoning Ordinance apply to development in the CBD; however, for restaurants on lots less than 4,000 square feet, no on-site parking is required. This section of the Ordinance (Section 21-65.4) identifies parking regulations for every residential, non-residential, and mixed-use development within the CBD. Any time a building or structure is erected, enlarged, increased in capacity, or undergoes a change of use, off-street parking spaces must be provided in accordance with the requirements set forth in this Code. Any free off-site street parking along the development frontage and/or immediate side streets can be taken into consideration in a development application.

Additional Parking Requirements

- Parking is not permitted in the front yard(s) of lots located in the CBD.
- Parking for joint or multiple uses, such as day and night or weekday and weekend may be shared between the uses, provided that sufficient spaces are provided for any period of overlap in use. Shared parking arrangements in the CBD shall be further regulated by the requirements previously stated.
- Parking located on the ground floor of structures shall be screened. Screening shall be architecturally compatible with the exterior façade of the structure .
- Parallel parking shall be provided the full length of South Second Street, between South Street and North Street.

Off-Street Loading

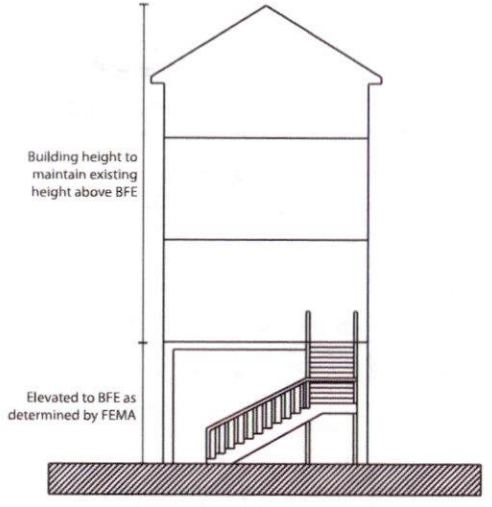
All such spaces shall be designed, planned and constructed in accordance with generally accepted engineering and construction practices and be reviewed by the Borough Engineering Department prior to submission to the reviewing board under site plan review.

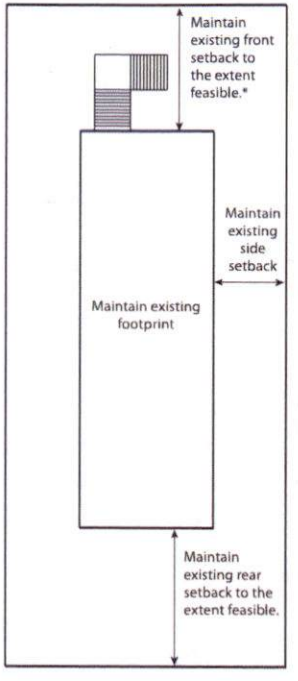
Off-Street Loading Requirements

Nonresidential Use Ground Floor	**Minimum Required Off-Street Loading/Unloading**
Less than 5,000 SF	None
5,000 SF - 10,000 SF	1 space
Greater than 10,000 SF	2 spaces

IV. BUILDING TYPOLOGIES

Pre-Existing Residential





Specifications

Building Height

1. Should a residence be elevated, the building shall be raised to a minimum height of 1 foot above Base Flood Elevation (BFE) in accordance with FEMA standards. In no case shall the building be elevated more than 4 feet above BFE.

Setbacks

1. Existing side setbacks shall be maintained.
2. Maintain existing front and rear setbacks to the extent feasible. Stairs and access to the elevated structure may project beyond existing front and rear setbacks.
3. Front porches may project up to 6 feet from building facade.
4. Stairs and access may encroach into existing setbacks.

Permitted Principal Use

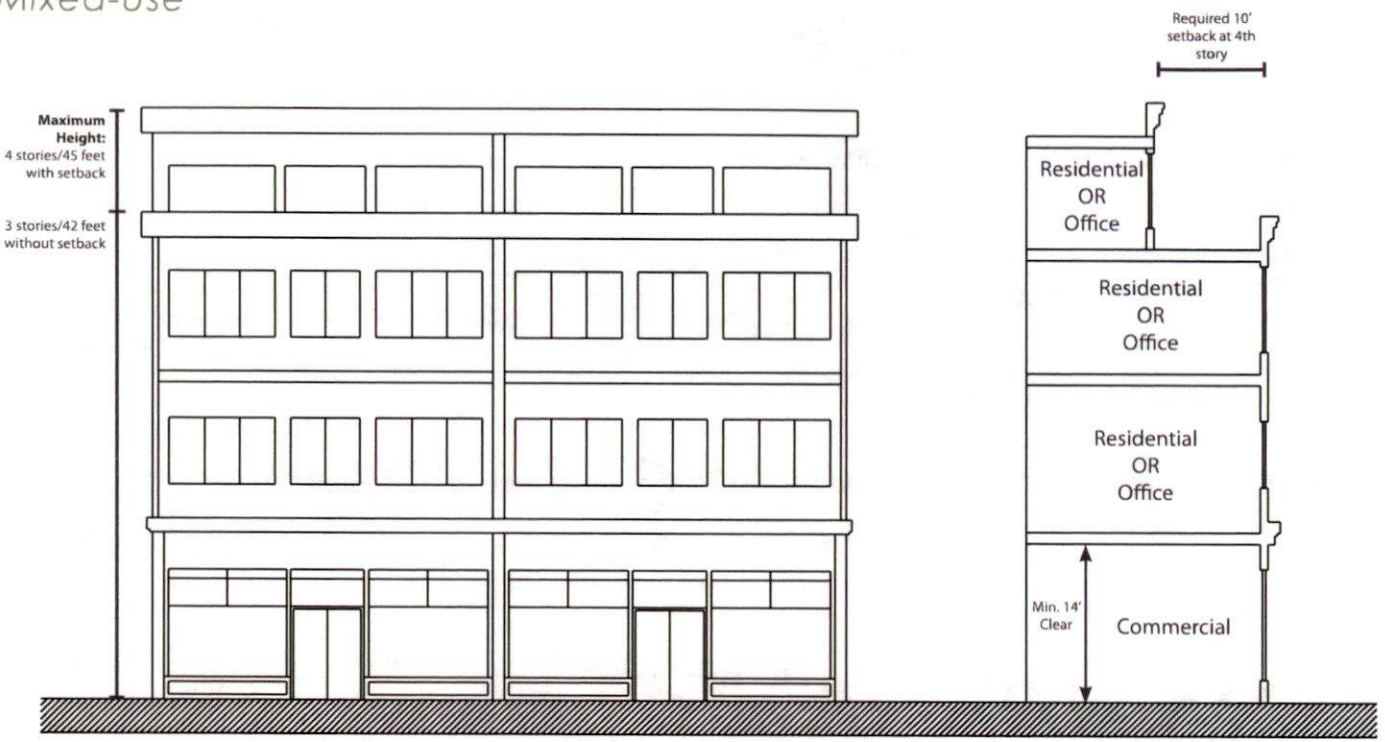
1. The existing residential use that has been approved or built prior to the adoption of this code.

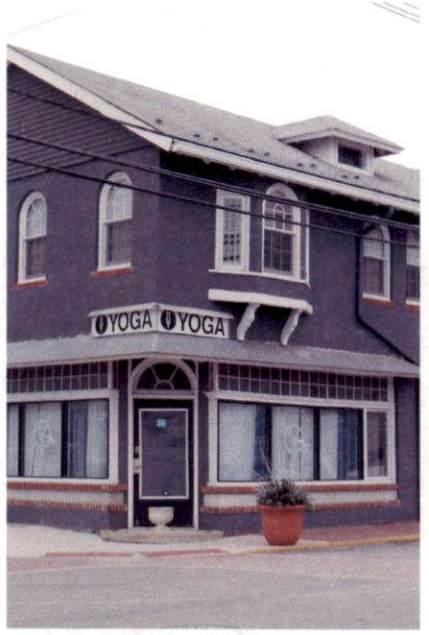
Parking

1. Parking is permitted as existing/approved at the time of adoption of this code.
2. Parking is permitted under the elevated structure or by surface parking on-site.

Bulk Specifications

Mixed-Use





Specifications

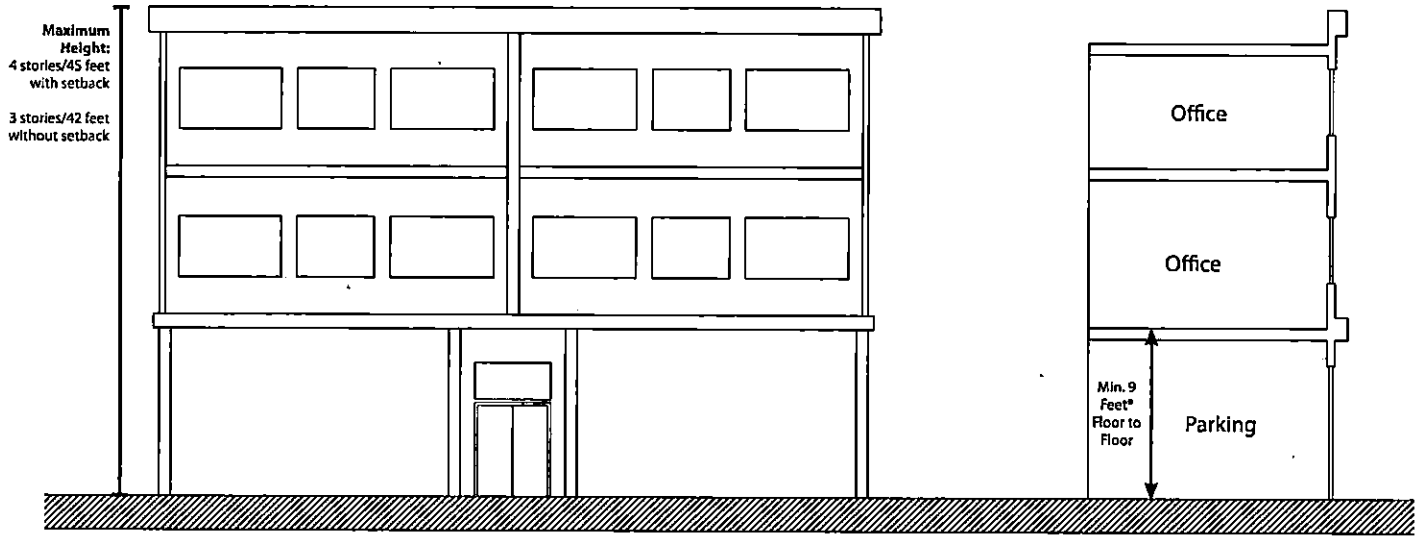
Building Height

1. A maximum of 3 stories and 42 feet is permitted; 4 stories and 45 feet is permitted provided a 10 foot setback from the front facade is provided.
2. The fourth story shall not be permitted if the parking requirement cannot be met.

Permitted Principal Use

1. Commercial, retail, and garage parking are permitted on the ground floor.
2. Office OR residential uses are permitted on upper floors. A single upper floor cannot be occupied by both office and residential.

Bulk Specifications
Office & Parking



Specifications

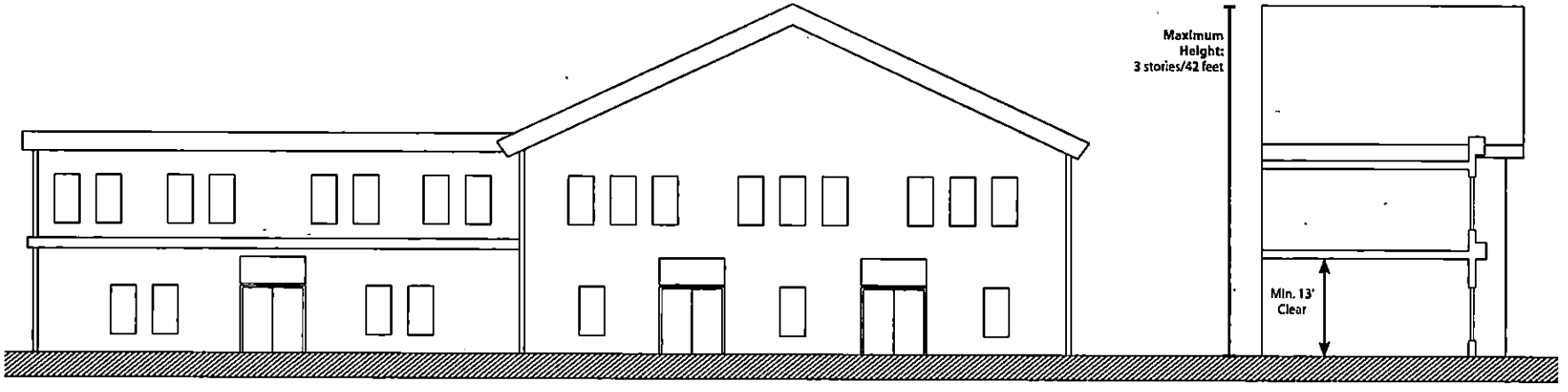
Building Height

1. A maximum of 4 stories and 45 feet is permitted with a ground floor of parking and a fourth story set-back of 10 feet.
2. The fourth story shall not be permitted if the parking requirement cannot be met.

Permitted Principal Use

1. Garage parking is permitted on the ground floor. *The height shall conform to building code.
2. Office uses are permitted on upper floors.

Bulk Specifications
Civic/Institutional



Specifications

Building Height

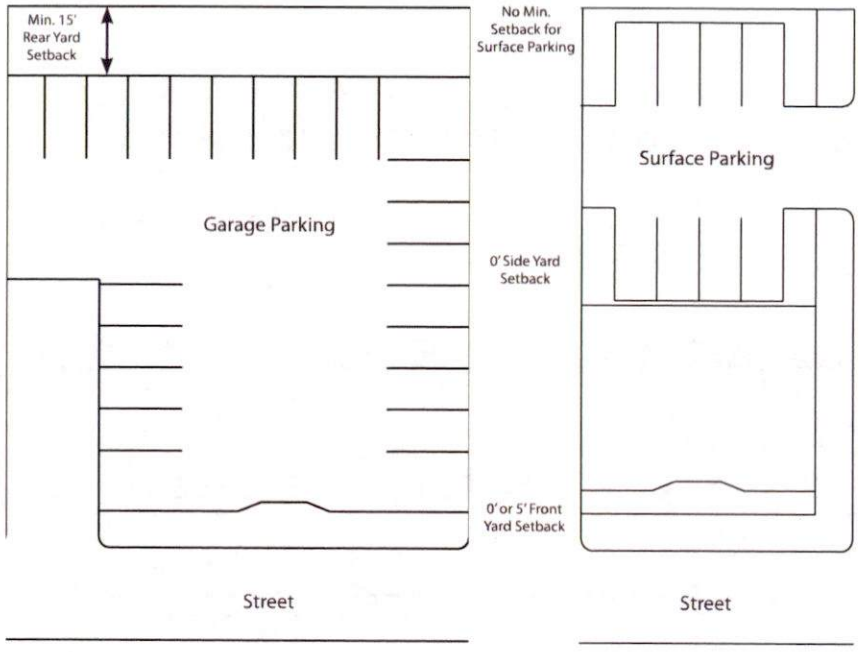
1. A maximum of 3 stories and 42 feet is permitted.

Permitted Principal Use

1. Houses of worship
2. Theaters
3. Educational uses
4. Municipal uses

Site Specifications

Residential and Non-Residential Properties



Specifications

Lot Size

1. The lot must be a minimum of 2,500 square feet.

Lot Coverage

1. A maximum lot coverage of 100% is permitted.

Building Coverage

1. The building is permitted to cover 90% of the lot.

Setbacks

1. The front yard requires no setback. If one is to be provided, it must be 5 feet.
2. The rear yard requires a minimum 15-foot setback for buildings. No rear yard setback is required for surface parking.
3. No side yard setback is required for properties abutting commercial or mixed-use parcels. If any setback is to be provided, it shall be at least 5 feet. Any side yard that abuts a residence shall be a minimum of 5 feet and shall contain an appropriately landscaped buffer.

V. DESIGN STANDARDS

These design standards shall be considered site plan standards for any development in the Commercial Business District. Deviations shall require design standard waivers. The purpose of the design standards is to ensure quality construction and foster a sense of community and conformity.

In the wake of Superstorm Sandy, it has become increasingly critical for municipalities in coastal areas and other areas subject to flooding to adopt more stringent design standards to limit or prevent the loss of property and create a more sustainable and resilient community.

The aesthetics of all new construction, alterations, and renovations shall be governed by the Highlands Central Business District Design Manual. The Highlands Central Business District Design Manual is incorporated into this Code by reference.

The following standards relate to the sustainability and resiliency of the Central Business District.

Wet Floodproofing and Flood Openings

1. Flood openings must allow automatic inflow and outflow of water to minimize pressure on walls and must also allow water levels within the enclosure to rise and fall at the same rate as those outside.
2. The number of openings must be engineered for the amount of enclosed space. The number may vary based on the type of vent, but a general rule of thumb would be 1 square inch of vent area to 1 square foot of enclosed floor area.
3. Vents must be located on at least two sides of the enclosed area.
4. The bottom of each vent opening may not be located more than 12 inches above the interior floor or the exterior grade immediately below the opening, whichever is higher.
5. Screens, grates, grills or other covers or devices must be free moving and must not resist or impede automatic flow of floodwater.
6. All wet floodproofed areas must use materials designed to withstand contact with floodwaters.
7. All wet floodproofing shall be in accordance with FEMA and FIP.

Dry Floodproofing Standards

1. These standards can only be used for non-residential buildings or for commercial uses below the BFE in mixed-use buildings.
2. All buildings that use dry floodproofing must provide a FEMA Floodproofing Certificate.
3. Where possible, use automatic or "passive" floodproofing measures. Measures that require human intervention before an event may result in higher insurance premiums.
4. All dry floodproofing shall be in accordance with FEMA and FIP.

Mechanical Systems and Utilities

1. Requirements for New Systems and Recommendations for Existing Systems
    a. Locate utility connections at or above the BFE.
    b. Locate mechanical equipment above BFE.
    c. Relocate or Elevate Equipment
        i. Move external equipment to the roof.
        ii. Relocate internal equipment to higher floors.
        iii. Build an additional equipment room above BFE.

iv. Replace multi-unit systems with smaller on-demand systems within individual units.

v. Remove fuel tanks if heating systems are replaced with a natural gas system.

vi. Consider clearance and venting requirements before relocating any equipment.

vii. In areas below the BFE, raise internal equipment as high as possible.

viii. Place external equipment on platforms above the BFE.

ix. Anchor equipment against wind.

d. Floodproof

i. Mechanical equipment in non-residential buildings may be located inside barriers that are designed to resist flood loads and keep floodwaters away from the equipment. In new construction, however, elevating mechanical equipment provides a higher level of protection and is preferable.

e. Electrical

i. When replacing electrical wiring in areas below BFE, wires should run down from the ceiling, instead of along the floor, and outlets should be elevated above the BFE.

ii. Any wiring installed below the BFE must be water-resistant and comply with the National Electric Code.

iii. All new electric meters and panels must be relocated above the BFE.

iv. Use conduits mounted on walls, which will be easier to replace after flooding.

v. Where permitted, place electric equipment such as disconnects, panels, switch gear, and transformers above the BFE. Make sure they are accessible by stairs and a work platform if higher than 65 inches above the ground or floor.

vi. Branch circuits and secondary electrical components vulnerable to flooding can be isolated from the building's electrical system to allow power to be safely restored. All work must comply with the National Electric Code.

f. Elevators & Lifts

i. Elevators and lifts may access areas below BFE, but motors, elevator controls, and hydraulic pumps must be located above the BFE.

ii. Cabs and shafts should be designed to resist flood loads and constructed of flood damage-resistant materials.

iii. Use float switches to avoid sending cabs to areas below the BFE during a flood.

iv. Refer to FEMA's Technical Bulletin 4: Elevator Installation for Buildings Located in Special Flood Hazard Areas in accordance with the National Flood Insurance Program for additional technical guidance.

g. Heating and Cooling Equipment

i. Electrical service is only permitted below the BFE to meet life safety and electrical code requirements.

ii. Furnaces, water heaters and other equipment can be protected by floodproof gates in non-residential buildings, but elevating equipment above the BFE offers the surest protection from flood damage.

iii. Vents and fill inlets on all mechanical equipment should be elevated above the BFE or protected against infiltration of floodwater.

iv. Underground storage tanks must be properly anchored or removed since submerged tanks can collapse or be dislodged.

v. For existing buildings, consider converting to natural gas.

h. Water and Sewer Pipes

i. Utility pipes and lines that come from the ground must be installed to prevent the entry of floodwaters.

ii. Backflow prevention valves should be added to sewer lines and floor drains to minimize stormwater and sewage flowing into buildings.

iii. In areas expected to have waves and debris, pipes and lines should be attached to the inland side of a foundation element or placed in conduit that will resist impacts.

i. Duplicate Power Sources

i. Back-up power such as natural gas generators or battery back-ups should be used to provide power to life safety equipment, alarms, or emergency lighting.

ii. Install generator-ready hookups for quick-connections after floodwater recedes.

Stairs, canopies and awnings.

1. Stairs, steps, ADA-compliant ramps and related elements providing access to the lowest floor (only), where necessary to conform with BFE lowest floor requirements, may project into any setback, up to but in no case beyond the property line.
2. Wheelchair ramps shall not be subject to any yard requirements.

Parking and Circulation

1. Surface Parking
   a. It is recommended that developers and property owners utilize permeable pavement for all surface parking lots used by passenger vehicles.
2. Structured Parking
   a. All garages below the BFE must be wet floodproofed.
   b. To the extent feasible, the use of dry floodproofed commercial spaces to surround parking in new buildings to protect the streetscape is encouraged.
   c. Regular fenestration (windows) consistent with the pattern of fenestration on floors above is required for garage walls fronting on a public right-of-way.
   d. Use screening mechanisms such as planting beds, vegetation, rain gardens or green wall systems, installed and maintained by the property owner(s), to enhance the streetscape.
3. Electric charging stations are encouraged.
4. Incorporate bicycle parking where feasible for all new construction.

Sustainable Building Design

Buildings are the largest source of energy consumption. The following guidelines provide opportunities to improve building efficiency and sustainability.

1. Where possible, developments should maximize renovation and reuse of existing buildings.
2. Orient windows to the south.
3. Daylight workspaces with properly oriented windows.
4. Utilize high-performance glazing to reduce heat gain while admitting light.
5. Provide shading devices such as roof overhangs, controllable shades, etc.
6. Use deciduous landscaping to shade the summer sun and maximize heating from winter sun.
7. Ensure that insulation is properly rated.
8. Install high-efficiency HVAC systems.
9. Incorporate thermal mass construction.
10. Install fully shielded and cutoff light fixtures that are compatible with dark skies guidelines.
11. Utilize programmable switches, sensors or timers to adjust lighting levels for different times of day, and to reduce energy consumption.
12. Install lighting fixtures that utilize LED bulbs or a similar efficient models.
13. Use roofs of lighter shades or utilize reflective surface finishing.
14. Install green roofs, which consist of a Lightweight engineered soil media, underlain by drainage layer and a high-quality impermeable membrane that protects the building structure. Green roofs are useful for assisting with storm water management, but they also protect the roof, can be used as an amenity, reduce the urban heat island effect, reduce noise, reduce cooling needs in the summer and heating needs in the winter, and provide water quality and management benefits.
15. Where feasible, the use of arcades is encouraged.

Landscape Design for Site Efficiency and Resiliency

The purpose of implementing landscaping design standards is to improve building system efficiency. Landscape placement and species selection can enhance shading during summer months to reduce energy requirements and costs for cool, and can act as insulation to improve building heat retention during winter months.

1. Planting for Solar insulation and shading:
   a. Deciduous plantings should be planted to cast a shadow on southern building exposures. Large trees with substantial canopies such as oaks and maples are preferred. Trees with finer canopies such as birch and locusts are also acceptable.
   b. Evergreen trees and shrubs should be planted along the northern side of buildings. Evergreen trees that cast shadows on southern building exposures are not recommended. These plantings may be incorporated into buffer areas, but should be located at a sufficient distance from buildings so as not to contribute to shading.
   c. Smaller trees and shrubs are preferred along the eastern and western sides of buildings. Foundation plantings along these exposures are recommended.
   d. Shade trees or shade structures (e.g. pergolas, trellises, etc.) should be located to cast shadows on exterior HVAC units

during summer months. Screening design for HVAC units should also consider shading.

2. Landscaping plans shall consider alternative irrigation source designs. Where feasible, plans should consider the incorporation of cisterns, rain barrels, downspout planters, and other similar functions.
3. Parking area designs shall include deciduous trees to provide shade. Trees shall be of a type suitable and adaptable to planting within a parking lot. A minimum of 50% of parking lots with 10 or more spaces shall be shaded within fifteen (15) years after tree planting.
4. Planting for Wind Resistance
   a. In areas vulnerable to heavy winds and coastal storms, trees should be planted in groups rather than as single specimens.
   b. Trees planted in groves with several different types of trees grouped together are also more resilient.
   c. Planting new trees and shrubs in close proximity to existing single trees can improve their resiliency as well.
   d. Trees with deep, wide spreading root systems are preferred for windy areas.
   e. Large maturing tress should not be planted where the water table or compacted layers of soil are within eighteen (18") inches of the soil surface. Smaller maturing trees are preferred in these situations.

Parking Design Standards

The following are additional parking standards as they relate to the design of parking within the CBD.

Size of Space

Each off-street parking space shall measure not less than nine by eighteen (9 x 18) feet, exclusive of access drives and aisles, and shall be of usable shape and condition. Where front overhang of the vehicle is possible onto a paved or grass area not used for circulation, parking or landscaping, the space may be reduced to nine by seventeen (9 x 17) feet. The number of handicap spaces shall be as required by law. Except in the case of one- and two-family dwellings, no parking areas provided shall be established for less than three spaces.

Construction

Each off-street parking space shall have an improved support consisting of asphalt, concrete or gravel.

Parking Areas for Three or More Vehicles

Parking areas for three or more vehicles and access to such parking shall be paved and shall be designed, planned and constructed in accordance with generally accepted engineering and construction practices. All such plans shall be reviewed by the Borough Engineer, and recommendations shall be forwarded to the reviewing board before the board shall act under site plan review.

Parking areas shall be landscaped to minimize nuisance characteristics to adjacent properties and for aesthetic reasons. They shall be drained in accordance with Borough specifications.

Parking Area Lighting

All parking area lighting shall be designed for convenience and safety and operated so as not to reflect or shine on adjacent properties. Parking spaces, driveways and pathways shall be clearly marked.

- Light fixtures and poles shall be in accordance with the Highlands Central Business District Design Manual.
- Light sources shall comply with the following:
    - All light sources shall be shielded or positioned so as to prevent direct glare to adjacent properties or the traveling public.
    - Poles in pedestrian walkway areas shall not be greater than 15 feet in height and shall utilize underground wiring.
    - Poles in all other areas shall not exceed 20 feet in height and shall utilize underground wiring.
    - Light sources on structures shall not exceed 20 feet or the height of the structure, whichever is less.
- All utility improvements, such as transformer compounds, external heating and cooling equipment, and refuse areas, etc. shall be screened from adjacent properties and public rights-of-way.

Garage Parking

- No blank walls shall front the streetscape. All facades shall provide pedestrian interest at the street level either through retail uses, architectural details, landscaping, or views into the structure itself.
- Structures shall be constructed of compatible and/or complementary materials as the surrounding buildings so as to blend architecturally with the context of the Downtown.
- The provision of electric vehicle charging spaces is encouraged in any parking facility with 10 or more spaces.

Driveways

There shall be adequate provision for ingress and egress to all parking spaces. Access drives or driveways shall be paved and not less than 12 feet wide and designed so as to minimize interference with traffic on abutting streets. If customer parking is involved, access driveways shall be at least 20 feet wide, except if only one-way traffic is permitted, than the driveway shall be at least 12 feet wide. A walkway at least four feet wide shall be provided to permit ingress and egress to and from buildings

The following requirements with respect to the location and construction of driveways shall apply:

- No driveway entrance or exit from a parking area shall be located closer than 50 feet from any intersection or as required by county or state regulations.
- No driveway shall have a width in excess of 30 feet.
- All driveways shall cross sidewalk areas at sidewalk grade.
- Curb cuts along Bay Avenue are only permitted for access to ground floor parking garages of mixed-use structures.

Access drives or driveways for existing one- and two-family dwellings shall be located entirely on the lot with the principal building and shall be not less than 10 feet wide and not more than 14 feet wide at the curb line for single driveways or 16 feet for double driveways. No more than one driveway entrance is permitted for any one- or two-family dwelling.

All access driveways and/or driveways to one- and two-family homes shall be paved to the standards of the Borough Engineering Department.

Loading Areas

Loading and service areas shall be located in the rear of the property, integrated into building design, and screened from public view. Materials shall be complementary in quality and design to materials used for the primary façade if the loading/service areas are visible from any public sidewalk or street right of way.