



PLANNING ABACO

A PROPOSAL TO RESTORE A SUSTAINABLE SETTLEMENT TRADITION ON
GREAT ABACO ISLAND, THE BAHAMAS

BY

THE 2008 URBAN DESIGN STUDIO
THE SCHOOL OF ARCHITECTURE
ANDREWS UNIVERSITY

PLANNING ABACO
GREAT ABACO ISLAND, THE BAHAMAS
SEPTEMBER – DECEMBER, 2008

A PROPOSAL TO RESTORE A SUSTAINABLE SETTLEMENT TRADITION
PREPARED FOR THE PEOPLE OF ABACO

SANCTIONED BY
The Honorable Earl D. Deveaux, Minister of the Environment



IN COLLABORATION WITH



Bahamas National Trust



Friends of the Environment, Abaco



Islands by Design, Ltd.

EXECUTED BY
Andrews University School of Architecture
The 2008 Urban Design Studio

Book Design by Christopher Perry
Production Assistance by Bryce Buckley & Michael Figueroa

STUDENTS

Peter Biskupski, Bryce Buckley, Kayno David, Michael Figueroa, Kevin Fresse, Christos Hardt, Amanda Harrell,
Lionel Johnson, Krystal Kaiser, Richard Kanjira, Takishah Michel, Hector Ontiveros, Diana Pastor, Jane Peeks,
Joseph Pellegrino, Christopher Perry, Devin Phillips, Christina Pierson, Brian Reeves, Andrew Rellora,
Arturo Rodriguez, Kevin Rosado, Sondra Ruffner, John Schaaf, Aaron Steen, David Surmann

FACULTY

Andrew von Maur
Troy Homenchuk

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CONSULTING SERVICES

JAIME CORREA AND JENNIFER GARCIA

Jaime Correa & Associates / Coral Gables, Florida

KENNETH GARCIA

Dover, Kohl & Partners / Coral Gables, Florida

STEPHEN A. MOUZON

Mouzon Design, Inc. / Miami Beach, Florida

SANDY SORLIEN

Bungalow Studio / Philadelphia, Pennsylvania

GUEST CRITICS

THOMAS E. LOW

Duany Plater-Zyberk & Company / Charlotte, North Carolina

SAM MARTS

Sam Marts Architects & Planners, Ltd. / Chicago, Illinois

PHOTOGRAPHY CREDITS

Abaco Realty Ltd., The Bahamas Ministry of Tourism, Bahamas National Trust, William Dalton, Ulf Erik Forsbakk, Bob Friel, Friends of the Environment, A. C. Hepburn, John Bethel Lightbourn, www.marinasc.com, Joseph Marsden, David Ralph, The Nature Conservancy, Dominic Sherony, Sandy Sorlien, Christopher Vengco, Harry Walden, and the 2008 Urban Design Studio

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Benjamin Pinder, administrator

Preston Roberts, chief councilor

Frank Hepburn, town planning committee chair

MARSH HARBOUR

Cephas Cooper, administrator

Roscoe W. Thompson III, township committee chair

Mike Malone, deputy chief councilor / chamber of commerce

Marcus Bethel, town planning committee chair

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PURPOSE

This document is intended to help restore a sustainable conservation and settlement tradition on Great Abaco Island, The Bahamas. Its fundamental purpose is to serve the people of Abaco as a guide for future deliberations and decisions that affect the way people build and live. It is a broad proposal that advocates the building of civil communities, the pursuit of economically and environmentally sustainable development practices, and the building and preservation of places that are useful, beautiful and meaningful.

PLANNING ABACO was prepared to be a useful document with realistic ambitions, despite the fact that its tone is set by high ideals. It includes many illustrations that may appear at first glance to be impossible in the face of current conditions. Its broad scope and detailed proposals may challenge even the boldest visionary. However, after carefully studying this document in its entirety, the reader is encouraged to consider its true significance to the future of the Abaco community. Without such a strategy, will Abaco be able to continue to grow economically and not destroy the environmental and cultural assets that are the backbone of its economy and identity? Will it be able to harness future growth towards something sustainable, something profitable, something beautiful, something good? In keeping with centuries of Bahamian traditions and the best practices of the New Urbanism, this document suggests that settlement-making in the 21st century can be an enterprise of building communities, landscapes and places worth loving. Great Abaco Island is in the unique position to lead the nation in an effort to do just this. This document builds on previous and current planning and conservation efforts and is intended to be

a useful guide for future development on Abaco. In particular, this proposal draws from recent efforts by the Sandy Point community, Friends of the Environment, the Bahamas National Trust, and various independent citizens, researchers, developers, businesses and patrons of Bahamian culture. However, the proposals and assessments presented here are only a first small step in a much larger effort of cultivating places. Leaders in politics, business, conservation, and town planning professionals with a proven record of successful placemaking will need to build upon this work to advance its vision.

PLANNING ABACO includes both, visionary illustrations which depict a possible future, as well as tools for the mechanisms of contemporary planning culture. It is essential for the reader to understand the difference: the pictures provide the vision, the diagrams provide tools for understanding, and the code provides a mechanism for implementation. This proposal asks citizens, government officials, conservationists, business owners and developers to work together towards something that can be truly fruitful to all. It is for them that this document has been prepared.



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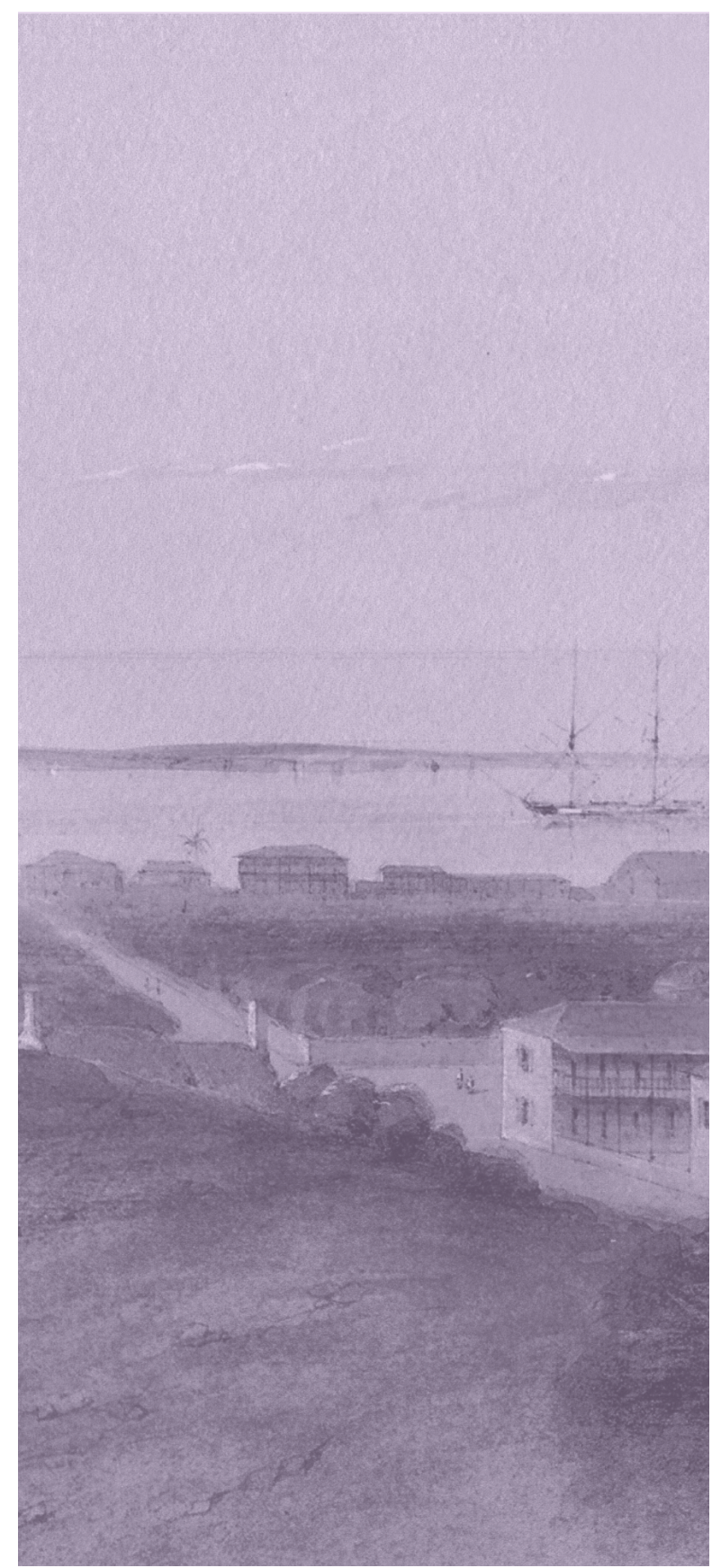
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INTRODUCTION



GREAT ABACO ISLAND, THE BAHAMAS

The immediate subject of this study and its proposals is Great Abaco Island in the Bahamas. Together with its many outlying cays and islands it forms what is known collectively as the Abacos. The island, which is colloquially referred to as Abaco, is around one hundred miles long but varies in width from ten down to less than a half mile. Its southern tip is just over fifty miles from the Bahamian capital Nassau, while its principal airport is approximately 180 miles east of Palm Beach, Florida. The Lucayans, Abaco's pre-Columbian indigenous culture, disappeared completely with the arrival of Spanish slavery raids and disease. The island remained unsettled by Europeans until English loyalists emigrating from the new United States began arriving in 1783, primarily from New York, New England and the Carolinas. Beginning in the 1790s, migrants from established families on Harbour Island, Spanish Wells and Eleuthera joined these early settlers.

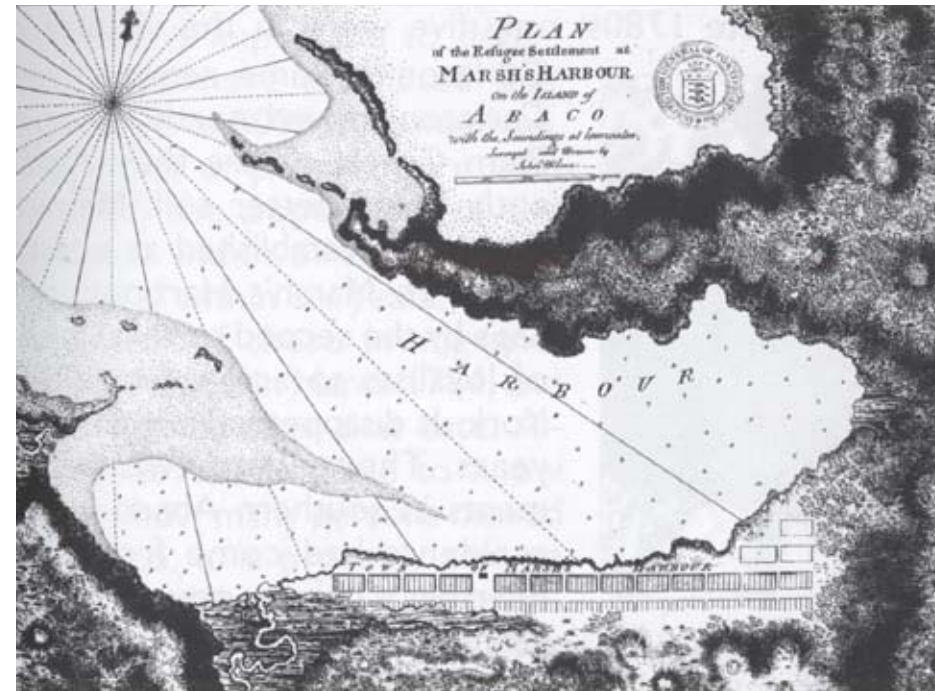
Because fishing, wrecking and boat building were the primary means of providing a living, towns located on the cays (such as Hope Town and New Plymouth) rather than on Great Abaco Island became the principal settlements. The population of Abaco grew slowly during most of the 19th century, in part because agriculture was not marketable due to distance or unfavorable trading terms with the United States. Despite its advantageous climate, much of the Bahamas do not feature particularly suitable agricultural lands due to its very shallow layer of soil or organic matter. The 20th century featured two short-lived timber booms during which American industry virtually stripped the island of its pine forests twice.

It was not until the advent of airplanes and modern tourism that Abaco's population began to significantly grow in the 1960s. With the exception of the resort complex Treasure Cay, most early tourism-related development remained relatively small but provided a new industry and jobs. Also, Abaconians were joined by a significant number of poor and often undocumented workers from Haiti who were brought in to support the timber industry and a short-lived sugar cane boom in the 1960s.

The principal commercial and political center is Marsh Harbour, which was laid out in 1784 by British government officials assisting in the loyalist relocation efforts. With an official population of over five thousand, contemporary Marsh Harbour is the Bahamas' third largest city and serves as a transportation hub for air travel, the Great Abaco Highway and ferry service to many of the principal cays. Tourism has become the engine of the Abaconian economy and has led to significant resort and subdivision development as well as an overall population of over 13,000. The true population is estimated to be significantly higher due to the presence of several informal shantytowns that house undocumented Haitian immigrants. Unlike the predominantly black population of the Bahamas, the ethnic makeup of the Abacos features approximately 50% black and 50% white citizens. Abaconians are reputed to be particularly proud of their unique identity and autonomy, even launching an attempt at their own independence from the young Commonwealth of the Bahamas in the 1970s.

Abaco is divided into three political administrative districts. South Abaco features more isolated communities such as Sandy Point and Crossing Rocks that were founded by emancipated slaves and have maintained a local crawfishing industry. South Abaco also features the single largest expanse of undeveloped critical wildlife habitat in the Bahamas, part of which is protected in the Abaco National Park. Surrounded by ocean trenches thousands of feet deep to the east and south, and the vast expanse of the shallow Marls to the northwest, South Abaco is positioned within some of the best marine habitat in the world.

Source: Abaco: The History of an Out Island and its Cays, by Steve Dodge, White Sounds Press (2005)



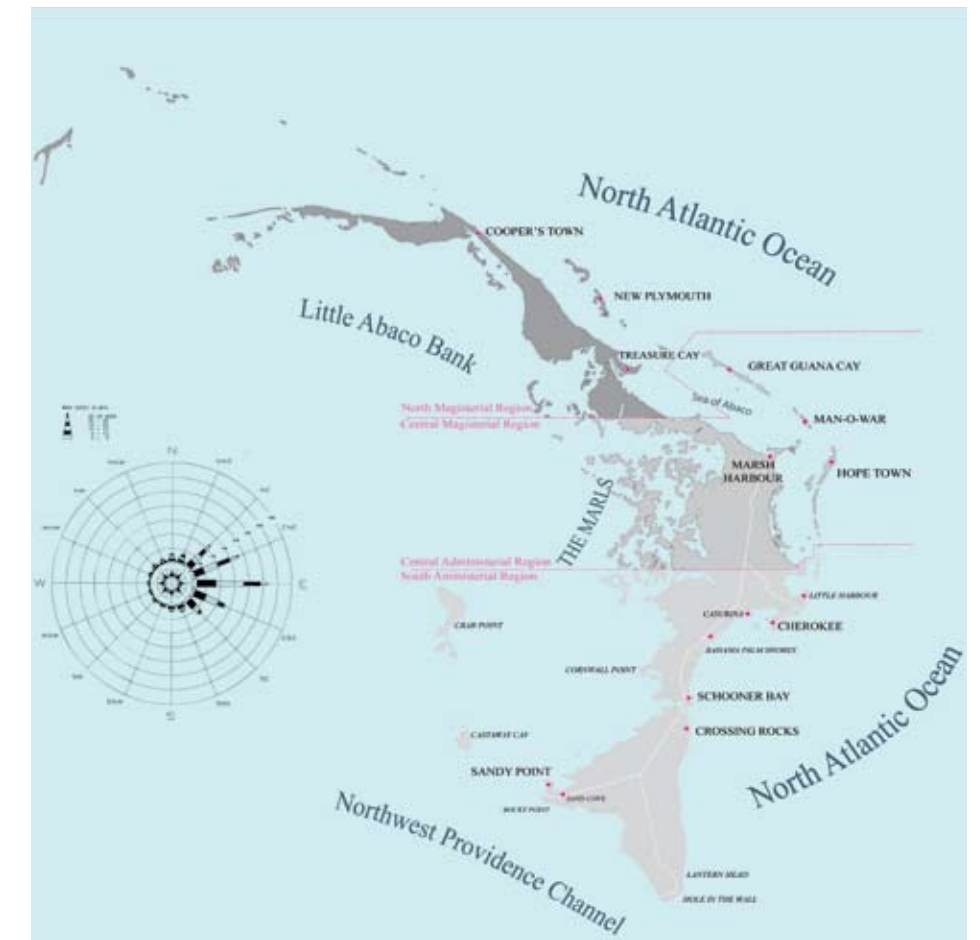
MARSH HARBOUR: 1784 plan of the settlement by John Wilson (Source: Public Records Office)



THE SEA OF ABACO: As seen from the Abaco Beach Resort, site of the 2008 charrette studio



THE BAHAMAS: Showing the location of Great Abaco Island



GREAT ABACO ISLAND: Including a windrose to illustrate predominant winds on Abaco



THE CHARRETTE STUDIO: The student team working with professional guidance



SITE VISIT: A student team member speaks with residents of The Mud



STUDY OF CURRENT DEVELOPMENT EFFORTS: At Schooner Bay with founder Orjan Lindroth



DESIGN REVIEW: Students speaking with elected leaders and citizens of Sandy Point



MEETING: With Marsh Harbour elected officials and administrators



A PUBLIC PRESENTATION: The Hon. Earl Deveaux, Minister of the Environment, reviewing the process

PROJECT PROCESS

Sanctioned by the Honorable Earl Deveaux, Bahamian Minister of the Environment, the Andrews University design team prepared this project to develop town planning, conservation and architectural design proposals for Great Abaco Island. The project was launched in collaboration with the Bahamas National Trust, Friends of the Environment, and Islands by Design, Ltd. The purpose of the project was to study and evaluate existing conditions and practices in order generate design and regulatory solutions that can assist the island's future planning and development efforts. In general, the intention was to work through a collaborative process to develop a set of planning guidelines, and to seek visionary but realistic proposals that can be supported by Abaconians and marketed for future redevelopment.

Andrews University's School of Architecture was invited in part because of its commitment to the principles of the New Urbanism. Andrews University is a Seventh-day Adventist university located in Berrien Springs, Michigan. The design team was composed of 26 graduate architecture students and Assistant Professors Andrew von Maur and Troy Homenchuk. This team was augmented by a number of professional participants who helped to commence the project by providing invaluable expert input: Jaime Correa and Jennifer Hamilton of Correa + Associates assisted in the area of planning for shanty towns; Kenneth Garcia of Dover Kohl & Partners assisted in the field of urban design; architect Stephen Mouzon of Mouzon Design, Inc. provided insight in the development of architectural solutions; and Sandy Sorlien, coordinating editor of the SmartCode, provided consulting services in the area of codes and ordinances.

The project was started through a charrette – a public participatory process during which designers, local citizens and officials collaborate on a vision for development. A design charrette is a planning tool which provides a forum for ideas and information in order to provide designers with immediate feedback and direction. The charrette was conducted from September 21 to October 1, 2008 and hosted at the Great Abaco Beach Resort in Marsh Harbour, where the Andrews University team set up a full working office complete with drafting equipment, supplies, computers, printers, projectors and telephones. The process was organized to encourage the participation of all citizens, property owners, developers, business interests, government officials and activists. Through a series of design sessions and public meetings (conducted at St John the Baptist Anglican church), the team worked with the public, local elected officials and administrators, local environmental organizations, the Bahamas National Trust, business owners, developers, as well as the team's professional participants to define creative but realistic proposals which can lead to implementation. Most significantly, the charrette sought to engage all participants in a dialogue that will hopefully lead to good planning decisions and sound development on Abaco. The charrette resulted in design proposals for various places on Abaco, which were met with general enthusiasm by participating citizens. Further details about the charrette and its results can be viewed for a limited time online at www.PlanningAbaco.org.

Following the design charrette, the team returned to Andrews University to refine the proposal, work on a proposed urban code and guidelines, and to complete this document. While the charrette proposals were altered and improved, they still represent the original intentions conceived on Abaco. Throughout the remaining academic semester, professional urban designers and code writers periodically reviewed the evolving proposals to ensure a high quality. This finished document represents a summary of the complete proposal and intends to be a useful tool for Abaco's leaders and its citizens.

BAHAMIAN SETTLEMENT TRADITIONS

As in all modern nations, the history of Bahamian settlement planning and building has included two fundamentally different models of development. Excepting the vanished pre-Columbian cultures, the first model of Bahamian settlement development was introduced by European settlers - primarily from Britain and its colonies. Beginning in 1648, communities such as Governor's Harbour on Eleuthera took on the characteristics typical of English villages, although they were modified to account for local geography, climate and resources. Starting in the late 18th century, loyalist settlers from New England and the Carolinas built settlements such as New Plymouth and Man-O-War within this unique English-Bahamian tradition.

Although many of these settlements grew rather informally, they share fundamental characteristics because their builders were part of a living tradition in which knowledge about shaping places was continuously shared, handed down and improved collectively. Other communities were planned or re-planned by local authorities and their surveyors. Laid out in 1791 by the governor of the Bahamas, Dunmore Town on Harbour Island has been greatly defined by this same living tradition and still retains most of its original street network.

These historic communities have fundamentally shaped the settlement culture and identity of the Bahamas. While they are of European descent, they are also distinctly Bahamian because their builders responded to a unique climate, geography, availability of resources, and culture. And while most modern Bahamians do not live in these types of settlements, the culture at large still identifies with their core characteristics and meaning. Locals rank their historic communities amongst the most beautiful destinations within the Bahamas. Modern buildings frequently imitate historic Bahamian traditions, even if the applications are often clumsy or superficial. The loyalist settlement of Hope Town is found to possess a beauty and meaning that merits its placement on the \$10 bill.

Visitors also value these places - often to excessive degrees. Most Bahamians can no longer afford much of the real estate in Dunmore Town. Hope Town's cottages and narrow lanes are dominated by tourists, and Cherokee is being "discovered" as a last best place by those hoping to find a quiet getaway. Photos of historic settlements and buildings compliment pristine beaches in almost all tourist literature, and many vacation cottages and resorts attempt to imitate a Bahamian architectural style, albeit as a cartoon version. The tradition of Bahamian settlements and their buildings runs deep within the nation's identity and economy. In many local economies, the quality of the historic settlements is a principal reason for visitors (and locals) to come, stay and return.

These historic settlements are usually compact, pedestrian-friendly, and feature a mix of uses and housing types distributed throughout the community. Urban blocks are usually small and interconnected, especially at the center of the community, dispersing traffic and allowing for a range of routes for the traveler to choose from. A variety of street types can accommodate automobile traffic, pedestrians, and often golf carts, and almost always offer opportunities for shade via plantings, galleries or buildings. The compact nature of the settlements yields smaller distances and the population is not dependent on automobile transportation for many local trips. Because buildings are generally close to the street and feature outdoor rooms such as verandahs and gardens, the form of the settlement fosters the social interaction so typical of traditional Bahamian culture. Lined by garden walls, fences, plantings and buildings, streets themselves are "outdoor rooms" in their own right and present some of the most memorable places in the Bahamas.

These same settlements are also known to contain a broad mix of uses. For example, a single block in Dunmore Town features two convenience stores, a restaurant, a fellowship hall, vacation cottages, a boat storage yard, a private school, a gift shop, a take-away, an office, and a variety of single-family houses with a broad range of real estate values. A hardware store, two churches, an inn, and the government dock can be found across the street. A school, government offices, various grocers, a library, a marina, a gas station, market shacks, and a bank are within an easy walk from here. A broad range of housing can be found throughout the community within walking distance of each other, from working class houses and small cottages to substantial estates and period homes. In general, most buildings are designed to compliment the human scale through carefully crafted verandahs, windows and gates.

The entire composition is usually arranged around a safe harbor, which is the center of the community, the foundation for its economy and the reason for the settlement's existence. The street network typically runs streets and paths towards the water and a harborside street as frequently as possible, making access, views and breezes readily available for much of the community, even for those properties that are not on the water. Nearby beaches are connected to the settlement via frequent paths and roads, linking the two primary assets of the tourism economy: the beach and the safe anchorage. The settlement and its physical characteristics provide the essential framework for the economies of Hope Town, Harbour Island, Green Turtle Cay, Spanish Wells and many other historic communities across the Bahamas. Not only is the settlement a functioning place, it is also the amenity by the virtue of its physical characteristics. In places like this, citizens are proud to know that the settlement is both their true hometown and the resort, simultaneously.



A HISTORIC POSTCARD: The settlement advertised as the amenity



TRADITIONAL BAHAMIAN SETTLEMENT PATTERNS: A view of Dunmore Town, Harbour Island (Photo by John Bethel Lightbourn)



A CONTEMPORARY POSTCARD: Amenities in isolation



CONVENTIONAL SETTLEMENT PATTERNS: A view of conventional automobile-dominated sprawl on New Providence.

CONTEMPORARY CONVENTIONS

The other model of Bahamian settlement development was adopted from American conventions in the second half of the 20th century. Especially following its independence, the Bahamas embraced planning and development practices common to most of the United States at that time. This model differs quite radically from the historic tradition, primarily because of its emphasis on the separation of uses and automobile transportation. This model has remained the primary pattern of development in the Bahamas until today.

Unlike the historic model, contemporary conventional development practices should not be viewed as a living tradition. Instead of a cultural process in which knowledge is continuously shared, safeguarded, improved and handed down from generation to generation, contemporary development practices are based on standardized norms proposed by experts and conventions adapted for the convenience of industrial production. These standards and conventions may have origins in perceived usefulness or exercises in efficiency but are often at odds with historical traditions because they were invented under entirely different considerations. Road standards and building setbacks found in Bahamian legislative acts are descendants of automobile-dominated zoning ordinances in the United States. New commercial buildings are constructed according to construction industry standards devised for strip development in the Carolinas. New residential buildings are built in keeping with methods engineered by production builders for ranch subdivisions and condominium complexes in Florida. Extensive lawns that are more reminiscent of the American Midwest than of Bahamian neighborhoods dominate properties, demanding a level of maintenance not native to Bahamian soil or water supply. As a result, the form of settlements and their relationship to the economy and culture has changed considerably.

Contemporary settlements are usually sprawling, automobile-dominated, and separate uses apart from each other. Blocks are usually large and feature streets that offer only limited connectivity. There are only a few types of roadways (local roads and regional arterials) and most traffic is channeled onto very few routes, resulting in enormous delays during rush hour traffic. Roads are primarily designed for the automobile and feature wide pavements with long crossing distances and limited shade for pedestrians. Generous lane widths and large curb radii at intersections encourage faster driving. Because the resulting environment is not generally comfortable for walking and distances are great, sidewalks are underutilized even when they are present. Except for those who can't afford to, citizens become increasingly automobile-dependent even for local trips. Large building setbacks do little to foster social interaction and streets cease to become "outdoor rooms". Streets in these places are not places at all, but mere transportation and utility infrastructure.

Contemporary settlements are also known to separate their uses. For example, a single-family subdivision on New Providence is usually distinctly separated from a condominium complex, which is separated from an office park, which is separated from a strip mall, which is separated from a resort, which is separated from everything else. Schools, government buildings, libraries, and service centers may be miles away and almost always require a car or bus. Housing is generally separated by income: affordable units are lined up on one cul-de-sac, middle-class ranches are found in another subdivision, and high-end mansions are in yet another. Many buildings are ignorant of any human scale and little attention is paid to crafting features that may compliment a pedestrian experience. Garages, parking lots and driveways dominate the landscape.

Besides the fact that individual subdivisions have been surveyed for perceived efficiency, the entire assembly is rarely arranged in a way that is legibly related to the water or any other feature. Safe harbors are only accessible by automobile and beaches are often walled-off from the bulk of the community by long stretches of private development, making access, views and breezes difficult to come by. In this model, the two primary assets of the tourism economy have been severed from the settlement. The settlement ceases to provide an essential framework for the local economy and instead becomes a mere provision of transportation, utility, housing, and consumption infrastructure. While amenities are dotted throughout the individual properties, the settlement itself ceases to be an amenity because it ceases to be a place. Its physical characteristics provide no "there" there. As a result, the settlement and the resort are now entirely separate ideas and entities, yielding a gulf between local community and tourist pleasure grounds that is evident throughout contemporary Bahamian culture, society, politics, its economy and landscapes.

In the end, most visitors (whose activity accounts for at least two thirds of the nation's economy) are no longer visiting the Bahamas but only artificial islands removed from its settlements and culture. We have even stopped calling them settlements. They are now referred to as subdivisions.



LESSONS FROM NASSAU

The capital of the Bahamas is a superb case study of the two models of settlement development presented on the previous pages. On the one hand, this city with roots in the 17th century features some of the finest examples of Bahamian architecture, urban spaces and landscapes. Buildings such as the public library, the Jacaranda house and Christ Church are a testament to the sophisticated building culture that transformed English practices into a uniquely Bahamian tradition. Urban spaces such as Queen Street (past the US embassy) and the Frederick Street staircase still reveal the quality of public life they were designed for. The Queen's Staircase and the St Matthews grounds offer a glimpse into a Bahamian settlement tradition that is as rich as it is exemplary.

On the other hand, the city has undergone a dramatic transformation in the last four decades. Many beautiful old buildings are surrounded by parking lots, vacant properties, or banal utilitarian structures that are evidence of the city's change in settlement culture. Few Bahamians live within the old core of Nassau, making the grand public buildings seem lonely and archaic in their isolation from those they are intended to serve. Most streets have been transformed into utilitarian corridors that serve primarily the function of carrying automobiles. Traffic engineers have managed to retrofit the historic interconnected network of streets into a limited access system of motorways common to suburban areas, resulting in a tremendous traffic jam throughout various times of the day. Parking lots have replaced buildings and gardens, and curb cuts have replaced street trees.

The photo comparison on this page illustrates the neglect of settlement culture as it is common in the modern world. The United States is perhaps the best witness to this transformation, having managed to consume many of its towns and landscapes within less than two generations. Victoria Street illustrates how subtly this process has occurred over less than thirty years. The palm rows have not been maintained or replanted, slowly removing the possibilities for shade for pedestrians. Many of the gardens and buildings that lined the street are now parking lots – evidence that activity here is increasingly transient, automobile-dominated and utilitarian in nature. Frequent curb cuts for vehicles suggest an increasingly frustrating pedestrian experience. The removal of the open gutters reminds of the increased adoption of conventional engineering techniques, even when they are not fit for local conditions. And the removal of garden walls illustrates the loss of physical definition in the public realm. The street is losing its status as an “outdoor room”, as an amenity, as a vehicle for social, economic and cultural activity. It is being reduced to the status of a transportation thoroughfare. Many streets in old Nassau have fared much worse than Victoria Street.

At the regional scale and outside of the relatively small historic core, Bahamians have been busy applying these exact same conventions to virtually all new development on New Providence. In less than two generations, most of the island has been carpeted with single-use subdivisions, strip malls, parking lots, shopping centers, condominium complexes, office parks, resort compounds, special use districts, cul-de-sacs and arterial roadways. The open coppice and pine landscape captured by Gaspard Le Marchant Tupper in the 1850s has vanished. And while conditions may seem crowded because land is running out for a burgeoning population of 260,000, the average population density of New Providence is only about five people (or less than two households) per acre – roughly comparable to outlying suburban communities in Florida or the Midwest. By comparison, the settlement density within Dunmore Town, Harbour Island is at least ten households per acre. Efficiency of land-use is not one of the hallmarks of modern Bahamian settlement patterns. The effects on the ecology, traffic, waste manage-



VICTORIA STREET: 1980



VICTORIA STREET: 2008



HOLE-IN-THE-WALL: The rich natural landscape of Abaco is an amenity worth preserving



NEW PROVIDENCE: Just over thirty years of conventional development have carpeted the island



CENTRAL ABACO: Conventional development surrounding Marsh Harbour, shown at the same scale



FT FINCASTLE, EAST VIEW: Part of a watercolor by Gaspard Le Marchant Tupper (c. 1854), showing Nassau's surrounding open landscape, which has now vanished



NEW PROVIDENCE: New conventional subdivisions



ABACO: New conventional subdivisions

ment, infrastructure maintenance, access to services, property values, gasoline budgets, beauty and identity are self-evident. Despite its political and economic preeminence, its significant historical heritage and the goodwill of its people, Nassau's reputation is increasingly defined by its dysfunctional settlement patterns.

In such an environment, it is not surprising that New Providence has increasingly come to rely on the cruise ship industry and isolated resort complexes to fuel its tourist-dependent economy. This, of course, has only exacerbated the problem, yielding development but a decaying downtown; jobs but social and economic segregation; foreign investment but at the cost of artificially supported infrastructure; fun and cheap weekend getaways for visitors but barriers that prevent Bahamians from accessing their own landscape. Most Bahamians already know or sense all of this. But few have recognized the vital part that the form of settlements plays in this challenge.

LESSONS FOR ABACO

The state of settlement culture on Abaco is generally no different from New Providence. While the scale of development is still much smaller than Nassau, Marsh Harbour in particular has thoroughly embraced the habits and conventions that have defined its capital island. A quick comparison of development models reveals that the patterns are identical and will ultimately lead to similar consequences should the trend be continued. A virtual absence of planning and the wholesale adoption of conventional development practices are already compromising the Marsh Harbour area, the nation's third-largest city. Community leaders are continuously calling on central government to release more open crown land only to fill it with more of the same inefficient and dysfunctional systems. The relatively young Great Abaco Highway has now opened the possibility for these patterns to move throughout the island more swiftly. Evidence of this can already be seen around Sandy Point and Crossing Rocks.

However, Abaco is in the unique position to guide its economy towards a different model, in part through the use of planning principles and methods that learn from Nassau and Harbour Island, but also from new techniques that are available today. The current and next generation of Abaconians has the opportunity to lead the nation in charting a new course for settlement building and landscape conservation. Much of the natural wealth of South Abaco – the Bahamian "Yellowstone" – is still in existence. The seas of the Abacos have some of the best fishing in the world. The outlying cays offer some of the best precedent for placemaking in the Bahamas. Most settlements are still defined by resilient communities, and the opportunities for growth are just now beginning to be understood. Abaco even features the first new Bahamian settlement planned according to the principles of the nation's historic settlement tradition.

This document suggests that the proposals and principles laid out herein are a first but important step in the sustainable community building process that can shape Abaco's future. Significantly, a leading brlander¹ has stated: "There can never be another Harbour Island. You can't copy it. It is what it is because of its people who shape the place." Rather than copying any historic settlement, this document proposes that the heritage of placemaking principles can be understood, learned and applied by other communities so that they, in turn, can craft or reshape their own settlements. The hope of the people who produced this document is for Abaconians to reestablish a living tradition.

¹ Paraphrasing Juanita Percentie, daughter of Ma Ruby and owner of Tingum Village on Harbour Island.



OVERVIEW OF STUDY AREAS

This project chose to tackle four general areas of Abaco to illustrate how principled planning can help to shape an improved conservation and settlement culture on the island. The locations were chosen in part to represent a broad range of scales and types of implementation scenarios. They were also chosen because of their critical or exemplary status within current planning deliberations on Abaco.

Unfortunately, due to the limited time and resources of the project team, not every community or region of the Abacos could be studied in the process. This is not because of prejudice towards any particular place, and it is recommended for the remaining areas of Abaco to undergo a similar process of evaluation, collaboration and planning work. For the time being, however, the following range of places offer a window into how different planning and design techniques can potentially affect settlement culture on Great Abaco Island.

SOUTH ABACO

Regional Planning

To illustrate the potential of planning at the scale of the region, the team chose the South Abaco administrative district as a case study. This choice offered challenges in dealing with the planning of large expanses of undeveloped land, most of which is crown land. At the core of planning proposal is an investigation into how regional planning can assist conservation efforts and the planning of new communities. Choices in settlement and infrastructure patterns in South Abaco are likely to have a profound effect on water resources, some of the most substantial coppice and pine stands in the Bahamas, and critical species such as the Abaco Bahama Amazon parrot. Any new development will also greatly impact the existing rural communities of Cherokee, Crossing Rocks, and Sandy Point. Under construction in South Abaco is Schooner Bay, the Bahamas' first new settlement planned within the historic settlement tradition. Finally, considering the future expansion of the airport and ferry facilities at Sandy Point, regional planning may help to control possible development pressure that may arise along Great Abaco Highway.

ABACO PARK

Greenfield Settlement Planning

To illustrate the potential of planning in the instance of previously undeveloped land, the team chose various private properties adjacent to the Abaco National Park as a case study. Many of these properties have recently been identified as candidates for tourism-related development due to their spectacular views of the Atlantic set within a pristine natural environment. Development of these properties will greatly affect the existing natural habitat and wildlife that the national park protects only in part. Beyond this, if implemented carefully, new development could provide good jobs for local citizens who currently commute an hour or more to Marsh Harbour and its outlying cays. The team chose to tackle a planning proposal for these private properties in order to demonstrate how carefully applied settlement practices can offer a sustainable, profitable and meaningful alternative to conventional resort and subdivision development.



SOUTH ABACO *Regional Planning*



SOUTH ABACO AT HOLE-IN-THE-WALL



THE HOLE-IN-THE-WALL LIGHTHOUSE



ABACO PARK *Greenfield Planning*



NEAR LANTERN HEAD



PINE FOREST IN THE ABACO PARK



SANDY POINT *Infill Planning*



SANDY POINT



MARSH HARBOUR *Retrofit / Informal Settlement*



MARSH HARBOUR



THE BEACH OF SANDY POINT



THE MAIN STRIP IN MARSH HARBOUR

SANDY POINT

Infill Settlement Planning

To illustrate the potential of planning in the instance of existing communities, the team chose the settlement of Sandy Point as a case study. Sandy Point was settled informally by emancipated slaves in the 19th century and was later platted on a grid running parallel to the Sandy Point peninsula. Sandy Point is the administrative seat of South Abaco and is home to over five hundred people. While most land within the settlement is in private hands and not officially available for sale, many lots are relatively large and are not fully developed. Many of Sandy Point's residents are fishermen and fishing guides, although a significant portion of the population drives long hours to commute to work in Marsh Harbour and its outlying cays to supplement household incomes. The intention of this project is to demonstrate how careful planning can help an existing community like Sandy Point to foster new development and jobs within the existing settlement.

Recently, the ministry of housing has developed a new subdivision nearby to tackle the shortage of available affordable housing. The subdivision is called Sands Cove and is located just over three miles outside of the Sandy Point settlement on Great Abaco Highway. Its location was partly determined due to its relatively higher elevation – Sandy Point itself is only 6 to 7 feet above sea level and vulnerable to storm surges in the event of major storms. Although most of the land in Sands Cove is platted for residential lots based on modern suburban conventions, very few structures have been built and new construction is expected to take place relatively slowly. This project has also taken on the challenge to demonstrate how automobile-dominated infrastructure can be retrofitted according to traditional Bahamian settlement principles to make them more efficient, sustainable and meaningful to local culture.

MARSH HARBOUR

Planning Suburban Retrofit / Informal Settlement

To illustrate the potential of planning in the instance of existing automobile-dominated settlements, the team chose the center of Marsh Harbour as a case study. The center of Abaco's capital city is almost exclusively dominated by strip shopping centers, warehouses, vacant land, parking lots and automobile-dominated streets – only a handful of formal residential structures can be found near the waterfront, although most historic buildings have vanished or are in disrepair. This plan intends to demonstrate how planning and design can help settlements like this to retrofit its physical composition through careful infill and infrastructure transformations.

The center of Marsh Harbour also features the island's largest informal settlements (or shantytowns), which are occupied by several thousand Haitians – a precise census for this population does not exist. Most residents of The Mud and the Pigeon Peas have immigrated illegally and work for very low wages in the Abaconian construction and service industries. Both places are unplanned communities that are extremely crowded, feature semi-permanent housing, and are serviced by unsafe and unhygienic infrastructure. This project has chosen to focus on The Mud in order to demonstrate how planning and design may help to improve such places for the benefit of Bahamians and Haitians over time. The Mud was chosen in part because much of the land it occupies is crown land and may be more amenable to change.

This project recognizes that planning challenges in The Mud cannot meaningfully be addressed without first tackling questions of political status, ownership, social and economic justice. As such questions are far beyond the expertise of the design team, it does not pretend to be able to provide solutions for these complex Bahamian challenges. Therefore, the design team operated on the assumption that future political processes might resolve them in a fashion that permits the population to stay and achieve some type of legal status over time. The proposals for the area known as The Mud are intended to demonstrate how conditions might improve if Bahamians chose to permit such a transition.



SECTION I:
**PRINCIPLES OF TOWN PLANNING
 FOR THE BAHAMAS**

INTRODUCTION

THE TRANSECT

HOW TO USE THIS DOCUMENT

PRINCIPLES OF TOWN PLANNING

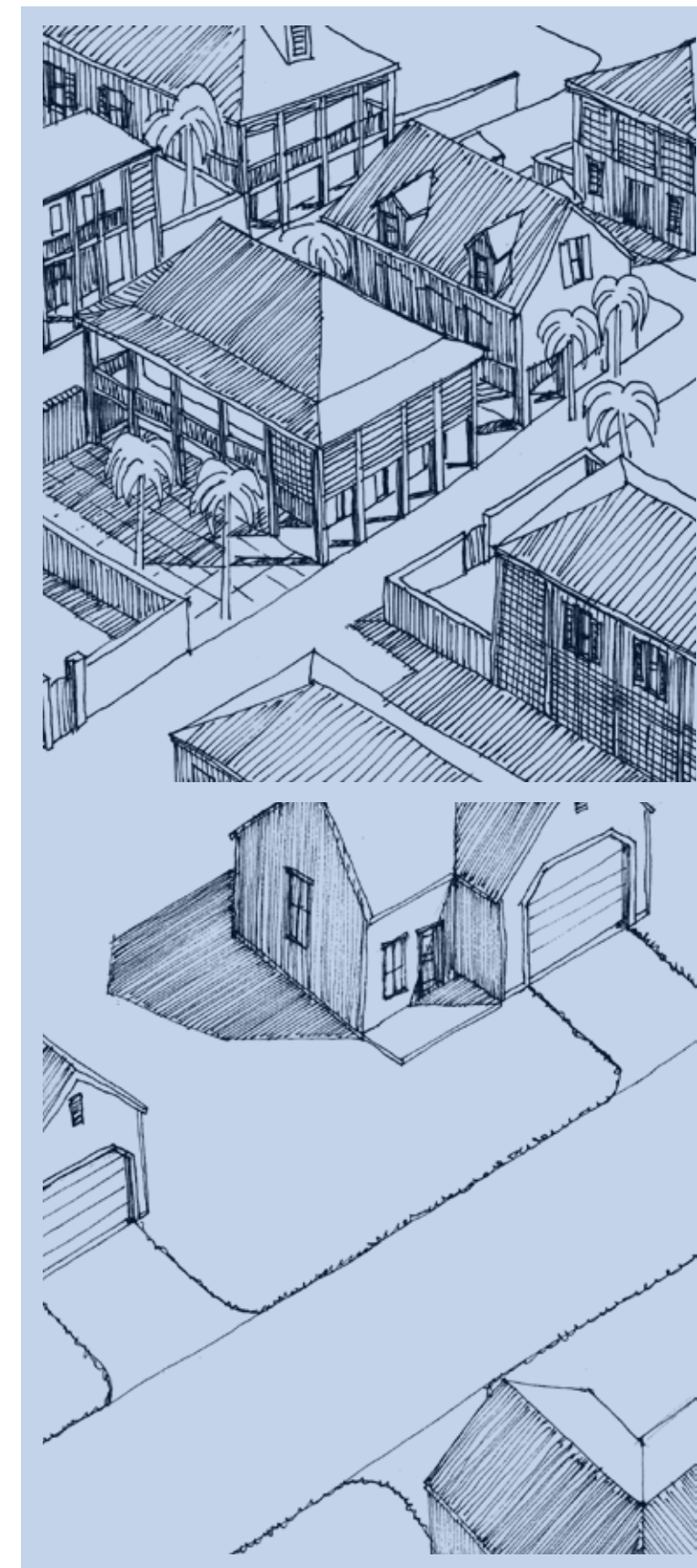
THE REGION

THE SETTLEMENT

THE BLOCK

THE STREET

THE BUILDING



TOWN PLANNING PRINCIPLES

For the Most-Loved Places in the Bahamas

To understand the town planning proposals within this document, it is important to understand the principles that have helped to shape it. Our modern culture often operates based on conventions (which we confuse with tradition) and standards (which we confuse with principles). The difference between convention and tradition has already been discussed in the introductory section of this document. This section is intended to review a series of essential principles that are necessary for the cultivation of a sustainable settlement tradition on Abaco and in the Bahamas.

Principles differ from standards in that they provide a fundamental framework for making a reasoned decision. Standards are usually fixed and specific, and a decision has already been made in advance of the application. Principles seek to provide understanding of how fundamental goals can be reached under differing circumstances. A living tradition requires its participants to have a general awareness and understanding of these principles so that details and specifics can be modified to respond to any set of circumstances without depending entirely on pre-determined standards. Only in this way can settlements truly be made suitable for a particular site, climate, geography, environment, culture, ownership pattern and economic opportunity. A fundamental problem with the conventional development model is that virtually the same standards are applied in almost every circumstance.

A perfect example is found in Chapter 257 of Bahamian Statute Law, which is titled the Private Roads and Subdivisions (Out Islands) Act. Among other things, it prescribes a minimum trunk road reservation of 60 feet in all new subdivisions. This prescribed standard must be applied in all new communities, whether or not the particular circumstance warrants it. Not a single road reservation in Hope Town, Dunmore Town or New Plymouth is this wide, making it essentially illegal to build such places without special permission of the relevant authority. Of course 60 ft road reservations make perfect sense in many applications, but not in all. So how does one decide what to do?

This document does not propose the abolition of standards, only that standards are set that allow for a reasoned and circumstance-specific application in accordance with principle. Appendix A of this document features a proposal for an urban code that is built just for this purpose. This section intends to offer fundamental principles that have generated successful settlements in the Bahamas and are still generating successful places today. It is only the beginning of a collection and must be refined and expanded significantly, but it should serve to help the reader begin to form an understanding of the proposals, their patterns, and their origins.

This section is loosely modeled on Stephen Mouzon's groundbreaking book *A Living Tradition: Architecture of the Bahamas* (The New Urban Guild Foundation, 2007) and intends to build on it by adding illustrated town planning principles to Mouzon's collection of architectural principles. It is recommended that the reader become familiar with this essential book, as it also provides a more thorough explanation of living traditions and their role in shaping those places that are most loved in the Bahamas.



PRINCIPLE NAME

A brief description of what this principle is.

WE DO THIS BECAUSE: This paragraph provides a description of why this principle is valuable.

DO

A diagrammatic illustration of a **CORRECT** application of this principle.

A diagrammatic illustration of a **CORRECT** application of this principle.

DON'T

A diagrammatic illustration of an **INCORRECT** application of this principle.

A diagrammatic illustration of an **INCORRECT** application of this principle.

WHAT MATTERS: This section explains any essential features that must be addressed when applying this principle.

WHAT DOESN'T: This section includes any elements that have no effect upon meeting the intent of the principle. The elements included in this section might be frequently misunderstood to be significant.

SMARTCODE: Included here are references to articles of the SmartCode that might be impacted by these principles.

HOW TO USE THIS SECTION

The following principles are arranged according to a format that intends to explain and illustrate them, and elaborate on their details. They are organized according to their application at the scale of the region, the settlement, the block, the street and the building. Each principle is stated at the top of the page and is then explained with "WE DO THIS BECAUSE..." According to Stephen Mouzon, who developed this simple technique of systematically explaining essential principles and patterns, "WE DO THIS BECAUSE..." is effective because it implies that the described principled application is of our time. If a pattern is framed this way, anyone can gauge the usefulness of the pattern based on the needs of here and now. "WE DO THIS BECAUSE..." is the ultimate regulating device of any living tradition because it puts the regulation of that tradition back in the hands of the average citizen. And in doing so, traditional settlements become the only truly modern settlements.

The diagrams intend to illustrate successful applications of the principle on the left, and unprincipled models on the right. For each "DO" and "DON'T" there are two illustrations that offer varying applications under different circumstances. Below the diagrams are short discussions of what matters and what doesn't. These discussions intend to clarify specific issues that are commonly associated with the pattern, although they do not clarify every possible circumstance and detail. At the very bottom of the page (SMARTCODE) the reader will find references to the urban code in Appendix A. These references list the code's articles and paragraphs that specifically deal with the respective principle. This is to serve as a reference for those interested in understanding how the code applies the principles as a legal mechanism.



T1: Rural Preserve



T2: Rural Reserve



T3: Sub-Urban



T4: Urban General



T5: Urban Center



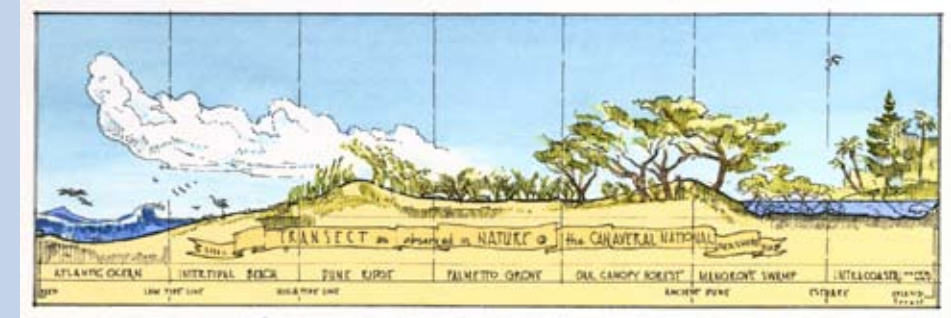
T6: Urban Core



A TYPICAL BAHAMIAN TRANSECT

THE RURAL-TO-URBAN TRANSECT

To understand the application of town planning principles under various circumstances, it is necessary to understand the rural-to-urban Transect. The idea of the Transect originated to describe a series of environments found in nature. A textbook example is a Transect that runs from the ocean to beach to dune to ridge to coppice to pine forest. Within this series, every type of environment can accommodate a range of species and natural features, and every species has its place within a limited range of environments. For example, a pine tree can't grow on the beach, but a crab might wander into the pine forest. The Transect is a tool to understand what the fundamental characteristics of each environment are and where different species have their place.



COURTESY OF DUANY PLATER-ZYBERK & CO.

This idea also applies well to the human habitat. The Transect of the human habitat is divided into six Transect Zones. Each zone has a unique range of characteristics, some of which are unique to itself and some that it shares with other zones. By using the rural-to-urban Transect as a framework, it becomes possible to more readily understand which settlement features are appropriate in which place. For example, a corner store might be appropriate in an urban center, but a tiny detached cottage surrounded by a large garden might not be. Likewise, an inn may be appropriate in a general urban neighborhood, but a six-story hotel should not be located in the middle of the country. The Transect helps to make planning and design decisions because it arranges the entire range of possible characteristics within a framework appropriate environments. Because cultures and communities vary, each culture and community has its own Transect. A good decision in New York might be a terrible decision on Abaco, while a sound solution in Nassau might be a poor solution on Harbour Island.

The urban code presented in Appendix A uses the Transect as a framework to arrange its requirements. Likewise, the principles within this section must be understood in response to the Transect, because each principle might have a varying application within each Bahamian Transect Zone. Perhaps the greatest benefit of the Transect is that it provides a framework for making reasoned choices in order to yield a range of environments (from rural to urban), which in turn provide choices for Bahamians. Under the Transect, a range of road reservation options arranged according to their appropriate place replaces the one-size-fits-all road reservation standard. It is the freedom to make principled decisions vs. the tyranny of standardization.

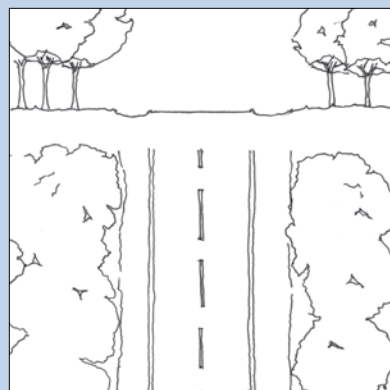
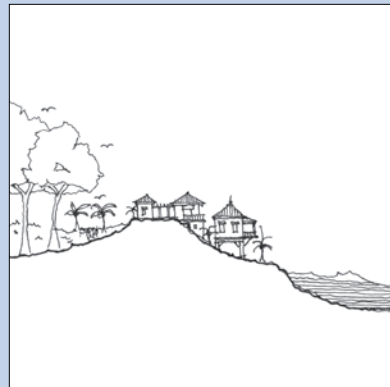
An illustrative diagram of a Bahamian Transect and exemplary photographs of Bahamian Transect Zones have been provided here for the reader's convenience. One unique feature of the Bahamian Transect is that the urban core and the rural preserve usually occur on the sea. For more information on the Transect and a description of the different Transect zones, please read Appendix A.

PRESERVING NATURAL INFRASTRUCTURE

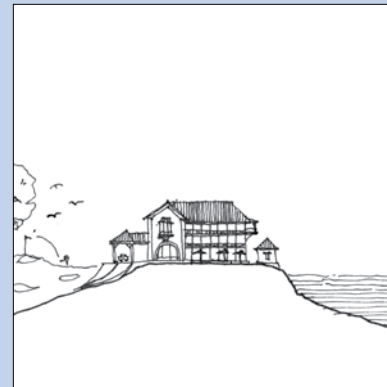
The region's natural infrastructure and visual character, derived from topography, woodlands, and coastlines, should be preserved.

WE DO THIS BECAUSE: The natural beauty of the Bahamas is its inherent and primary amenity. To destroy vast landscapes for construction would be the devastation of what makes this island nation such a stunning place. Uniquely beautiful features like mangroves, blue holes, and sandy beaches are central to a balanced Bahamian ecosystem. Mangroves help prevent erosion and absorb storm surges. Topography is key in avoiding floods. Many unique species of wildlife, attractions in their own right, thrive on vegetation that, if removed for development, would seriously damage their populations.

DO



DON'T



WHAT MATTERS: Light imprint construction will help conserve the natural drainage of the land, which is particularly important due to the porous nature of limestone and thin layer of fertile topsoil. When constructing any size project, preservation should guide decisions as much as possible.

WHAT DOESN'T: The size of individual preservation projects.

SMARTCODE: Articles 1.3.1a.

BAHAMIAN EXAMPLES



SOUTH ABACO: The most critical stand of coppice in The Bahamas must be preserved from conventional development.



SOUTH ABACO: Highway corridors are especially important to preserve from conventional strip development.

BAHAMIAN EXAMPLES



HOPE TOWN: The community thrives on the provision of a natural harbour.



CHEROKEE: This community relied on its harbor for transportation throughout most of its history.

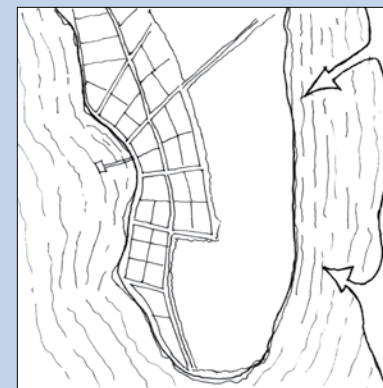
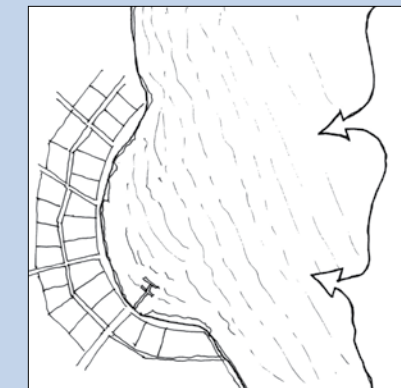
SITING SETTLEMENTS

The location, plan and size of settlements should be in response to nature's ability to provide a safe harbor.

WE DO THIS BECAUSE: A safe harbor is essential to sustain an active Bahamian community, economy and anchored boats. A safe harbor is imperative to the viable sea trade, commerce, and tourism of a sea-oriented nation. Refer to "A Living Tradition" (pg. 27-8)

DO

DON'T



WHAT MATTERS: The location of a harbor is critical to its viability and safety. Settlements with harbors need to be located along profitable sea routes. The growth of a settlement should not surpass its harbor's useful size.

WHAT DOESN'T: The specific activities within the harbor, or shape of the harbor.

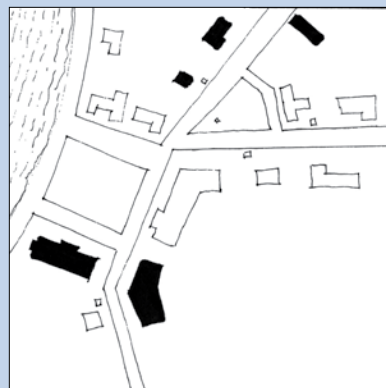
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PLANNING AND DEVELOPMENT POLICY

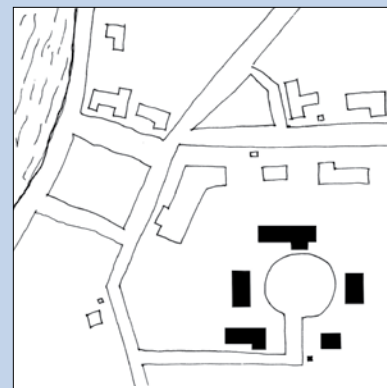
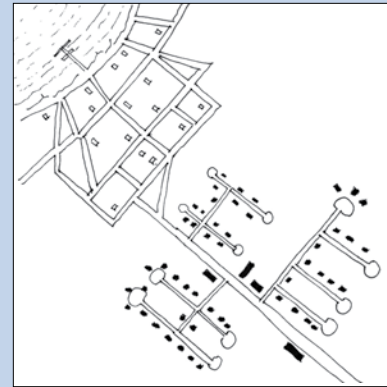
Infill and redevelopment should be encouraged in parity with new communities.

WE DO THIS BECAUSE: Abandoning established settlements in favor of new growth wastes natural resources, infrastructure, fuel and communities. Properties in already existing settlements can be subdivided to attract new businesses and residents. Abandoned buildings should be restored so that property and street are not underutilized. Securing existing investments helps provide for long-term economic sustainability.

DO



DON'T



WHAT MATTERS: For new development, first explore an existing site within the urban fabric.

WHAT DOESN'T: Special Districts that need significant space, such as airports and industrial uses.

SMARTCODE: Articles 1.3.1b.

BAHAMIAN EXAMPLES



DUNMORE TOWN: A historic building being restored for reuse.



DUNMORE TOWN: A new building positively fills an empty space in the neighborhood.

BAHAMIAN EXAMPLES



SCHOONER BAY: This new settlement employs green corridors to promote the continued survival of the Abaco Parrot. (Image courtesy of Schooner Bay / Design by Duany Plater-Zyberk & Company)

GREEN CORRIDORS

Urbanized areas should be defined and connected by green corridors.

WE DO THIS BECAUSE: Green corridors complement urban areas with a natural point of interest that is pleasing, walkable, and removed from busy streets and main thoroughfares. Green corridors can also direct movement and endow a protective buffer on pedestrian walkways. Green corridors assist in natural drainage, oxygen production, and a delightful place of natural repose. They can also provide crucial habitat for native species and enable their continued natural movement through a region.

DO

DON'T



WHAT MATTERS: Green corridors provide linear green spaces that define settlement edges and connect them to larger natural areas. They should preserve and protect existing green belts, as well as create new ones. Green corridors should be planted of native species.

WHAT DOESN'T: That green corridors have not found frequent use in the history of Bahamian settlement making, compared to other western settlement cultures. As Bahamian cities grow larger and settlements become more frequent, green corridors will become an important tool to conserve habitat and to keep urban places livable.

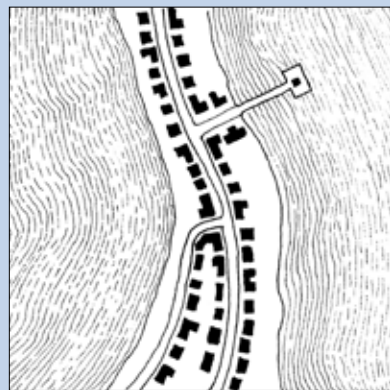
SMARTCODE: Articles 1.3.1g.

SETTLEMENT PATTERNS

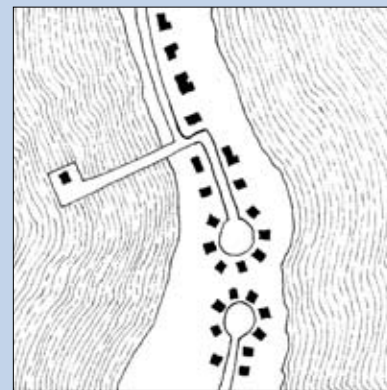
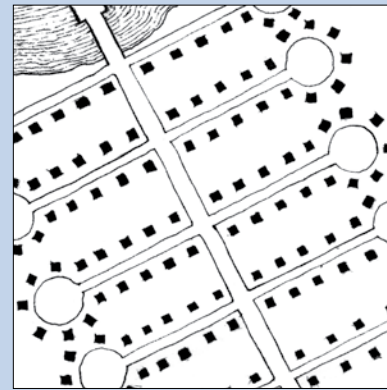
Development should be organized in the pattern of traditional settlements (hamlets, neighborhoods, and cities).

WE DO THIS BECAUSE: Traditional patterns have stood the test of time. Established settlements such as Hope Town, Dunmore Town, Spanish Wells, New Plymouth, and other such settlements are loved because of their form. Traditional streets are walkable and interconnected, and their widths allow for cars while keeping traffic slow enough for safe pedestrian passage. Buildings are close to the streets, located to give views and to take advantage of breezes. These patterns are familiar to people and can be applied at any scale when planning new communities that wish to become just as loved as established settlements.

DO



DON'T



WHAT MATTERS: A connection to the sea is integral and requisite to traditional Bahamian settlements. As traditional settlements grow, settlement units should be multiplied into a series of neighborhoods rather than one grossly oversized neighborhood.

WHAT DOESN'T: Its general character. Traditional settlements can be formal, informal and everything in between.

SMARTCODE: Articles 2.7, 2.8, 2.9, & 3.

BAHAMIAN EXAMPLES



HOPE TOWN: An example of a traditional settlement built on a narrow site.



DUNMORE TOWN: Perhaps the best-preserved traditional settlement in The Bahamas.

BAHAMIAN EXAMPLES



DUNMORE TOWN: A small shop building is located within a primarily residential street.



NASSAU: This urban core features civic, commercial and residential uses within easy walking distance.

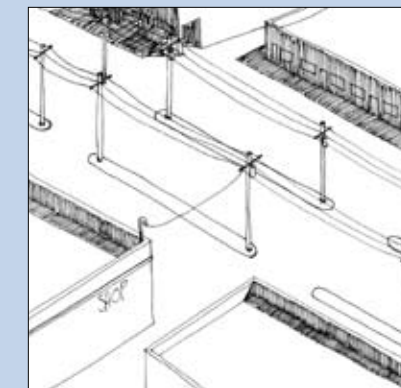
MIXED-USE

Settlements should be compact, pedestrian-oriented, and mixed-use.

WE DO THIS BECAUSE: A compact design can best satisfy pedestrian traffic while preserving resources. Mixed-use settlements best accommodate the many activities of daily living, and encouraging a diverse culture and economy. Walkable settlements encourage outdoor activities that promote health and fitness. Buildings capable of adapting to more than a single use at a time, such as live/work units, provide greater real estate choices, add interest to the street, and often eliminate travel time between home and work. Pedestrian-orientation provides an alternative to the automobile, thus involving the young and old alike who may be unable to drive. Walkable settlements are human scaled and more sustainable than conventional development.

DO

DON'T



WHAT MATTERS: Appropriately narrow streets help make settlements compact, and safe. Smaller blocks are easier to navigate and allow for smaller, manageable settlements. Generally, the distance between buildings across the street from one another should not exceed six times the height of either building.

What Doesn't: The character of the buildings and blocks, which can be formal or informal.

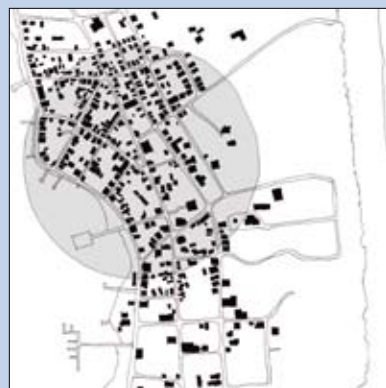
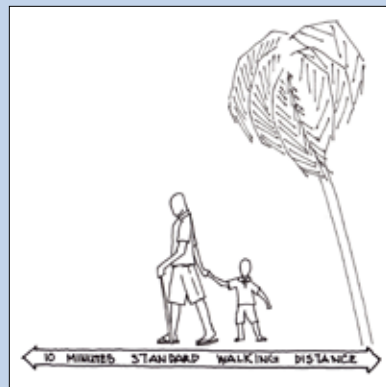
SMARTCODE: Articles 1.3.2a.

WALKABILITY

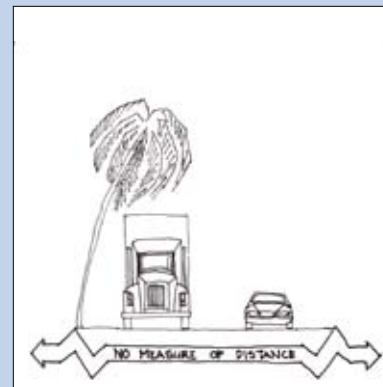
Ordinary activities of daily living should be located within walking distance of most dwellings.

WE DO THIS BECAUSE: The ability to accomplish ordinary activities is made more convenient when located within a short walk from home. As well, those unable to drive are free to participate in daily life and accomplish necessary chores, thus fostering independence in all segments of society. Overall walkability of a settlement saves resources and promotes a healthy way of life for citizens of all ages.

DO



DON'T



WHAT MATTERS: The radius of the walkable area should not exceed 1/6 of a mile, or five minutes from the center to edge (this equals ten minutes from edge to edge). Blocks should be small.

WHAT DOESN'T: Block size, shape, or layout (grid or organic). The pedestrian shed alone should not dictate the design of a settlement.

SMARTCODE: Articles 1.3.2c.

BAHAMIAN EXAMPLES



DUNMORE TOWN: A corner grocer is within an easy walk to the entire neighborhood.



HOPE TOWN: A church, government buildings, a library, marina and residences are all near each other.

BAHAMIAN EXAMPLES



CHEROKEE: A fine network of streets, lanes and paths connect all parts of this settlement.



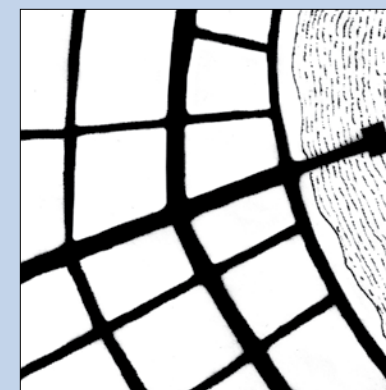
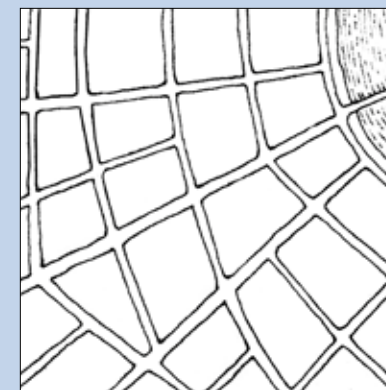
HOPE TOWN: Street intersections provide important places for community life because this is where activity occurs.

NETWORK OF STREETS

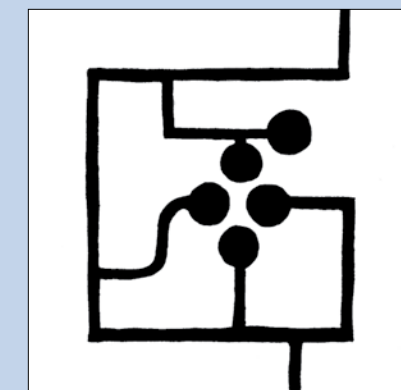
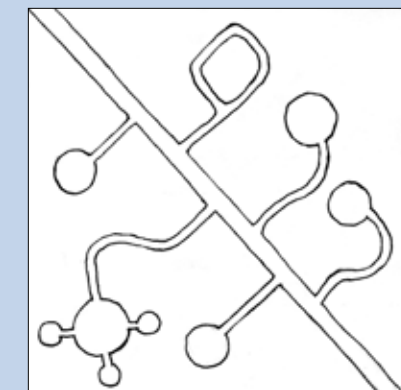
Networks of streets and paths should be interconnected.

WE DO THIS BECAUSE: Linked networks of streets and paths alleviate congestion and provide many possible routes for pedestrians. Connected streets allow traffic to flow more evenly than if streets terminate in cul-de-sacs. The greatest number of alternative routes from one place to another helps alleviate traffic congestions, especially important for emergency vehicles. If a street must be blocked off, alternative routes keep traffic flowing and can save travel time.

DO



DON'T



WHAT MATTERS: A hierarchy of streets, from broad boulevards to narrow lanes, helps to direct traffic appropriately and provides places for all types of activity.

WHAT DOESN'T: Not all streets must accommodate the same amount of traffic.

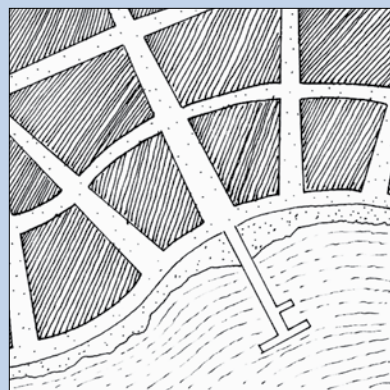
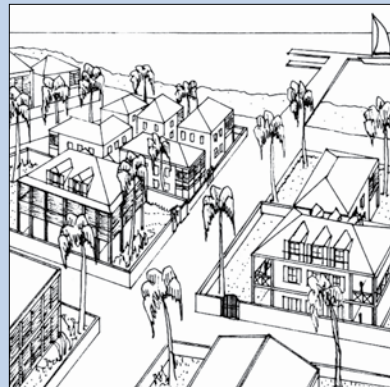
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ACCESS AND VIEWS TO THE WATER

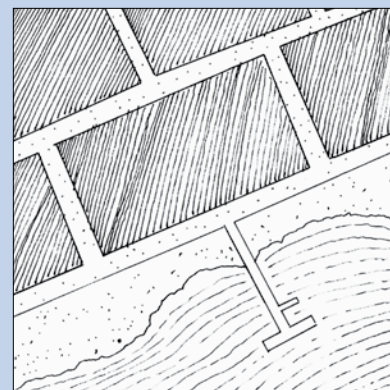
Street networks should maximize access and views to harbors and shorelines.

WE DO THIS BECAUSE: The water and harbor are vital to local economy and culture. Streets and paths that lead to the harbors and shorelines connect Bahamians to their heritage and way of life, and must be open to automobiles and pedestrians. Views to the harbors and shoreline lift spirits and contribute to a constant awareness of what it means to be Bahamian. Views and access to the shoreline and harbors also greatly increase property values, and in many cases connect Bahamians with the core of their economy. Refer to “A Living Tradition” (pg. 28).

DO



DON'T



WHAT MATTERS: Streets should be oriented in such a way as to most directly approach the harbor or shoreline. These shape of streets should be wider near the water and narrow farther from the water, thus allowing for indirect views of the water from sites well within the fabric of the settlement. Streets that are unable to access the shore directly should allow opportunities for views of the water.

What Doesn't: The type or scale of the access path is not as important as the orientation. The types of activity occurring along the path can vary. The directness of the view is not as important as the fact that a view exists.

SMARTCODE: Not addressed by the code.

BAHAMIAN EXAMPLES



DUNMORE TOWN: Almost all dwellings in Dunmore Town feel like they are on the water because of the network.



HOPE TOWN: Pathways to the water should occur as frequently as possible.

BAHAMIAN EXAMPLES



DUNMORE TOWN: The street network is roughly parallel to prevailing winds, allowing for good circulation.



NASSAU: The street network operates in concert with topography to naturally ventilate the area.

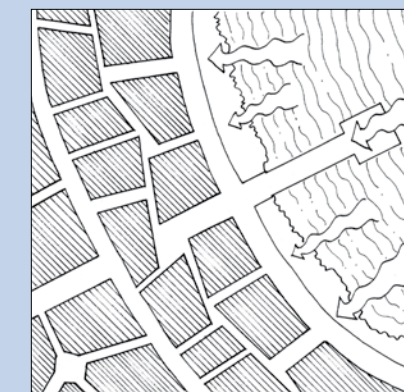
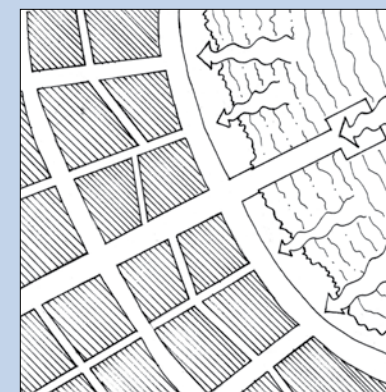
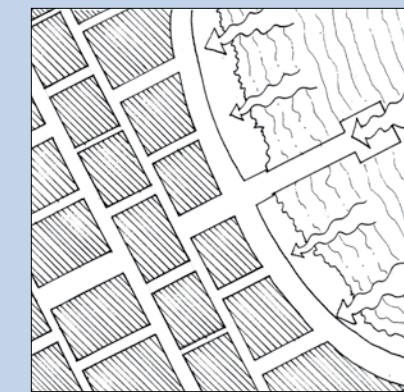
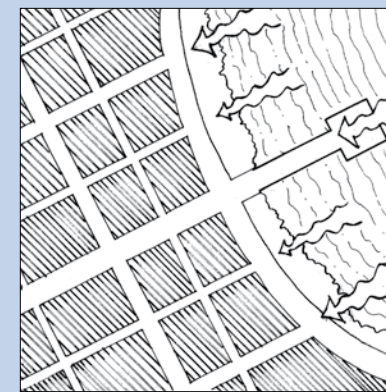
SETTLEMENTS AND PREVAILING WINDS

Blocks should be arranged to take advantage of prevailing winds.

WE DO THIS BECAUSE: Blocks that take advantage of natural cooling create comfortable environments. Arranging blocks to exploit breezes results in natural circulation patterns that assist in way-finding, orientation, and defining pleasing views.

DO

DON'T



WHAT MATTERS: Streets should be arranged parallel to prevailing winds so as to induce stronger air circulation deeper into the settlement.

WHAT DOESN'T: Not all streets can be expected to be parallel to prevailing winds. Other principles should not be sacrificed to achieve this.

SMARTCODE: Not addressed by the code.

CIVIC SPACE ON THE WATERFRONT

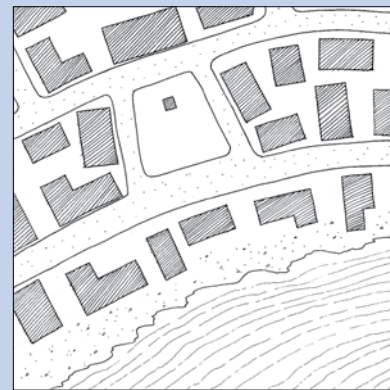
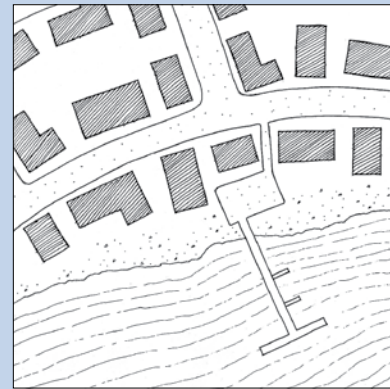
Settlements should front harbors and shorelines with prominent streets, civic squares, or public parks.

WE DO THIS BECAUSE: The most important amenity in The Bahamas is the water. Bahamians have always looked to the sea for their livelihood and identity. Associating civic places with this fundamental connection to the water helps continually reflect an important shared value. It also ensures continued access to the economic opportunities found at the waterfront. Refer to “A Living Tradition” (pg. 27)

DO



DON'T



WHAT MATTERS: Ensure civic space is within a reasonable distance of the harbor or shoreline for visual and physical connections. The area between the civic space and the water should be uninterrupted by buildings of significant size. Buildings on streets of a civic nature should front the water, thus yielding a single-loaded street. Typically the streets should maximize water frontage and views by conforming to the shoreline.

WHAT DOESN'T: Specific elements within the space do no matter as long as they are of a civic nature. Building types along the street matter little as long as the street is public.

SMARTCODE: Not addressed by the code.

BAHAMIAN EXAMPLES



NEW PLYMOUTH: A waterfront street is the front door of a community and an important economic opportunity for all.



NEW PLYMOUTH: This waterfront drive changes character many times as it wraps around the settlement.



BAHAMIAN EXAMPLES



DUNMORE TOWN: Temperance Square is surrounded by retail, offices, residences and a church.



NASSAU: A courthouse, an embassy, a library, and various commercial buildings surround this beautiful park.

SETTLEMENT CENTERS

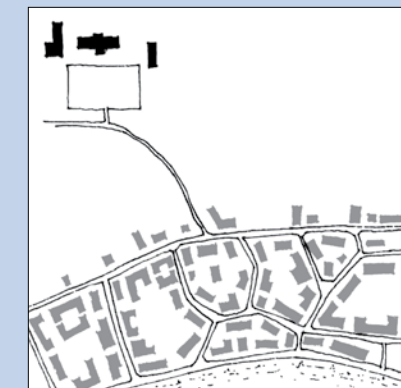
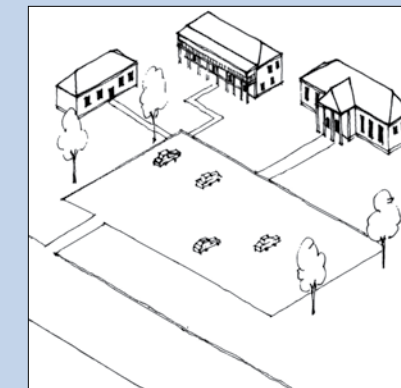
Civic, institutional, and commercial activity should be embedded within the settlements' centers, not isolated in remote single-use complexes.

WE DO THIS BECAUSE: The center of a neighborhood is the fabric of a settlement most dense with activity. Placing commercial and civic buildings (such as elementary schools, meeting halls, churches) within the center can help these buildings serve as landmarks and gathering points for the community. The center is where neighborhoods mix together, keeping the fabric alive and healthy by infusing it with diverse and complementary enterprises.

DO



DON'T



WHAT MATTERS: The center does not refer to the literal geographic center of a neighborhood, but rather to highly traveled streets – areas that benefit from substantial pedestrian and vehicular traffic and are within walking distance from any part of the neighborhood. For example, if the neighborhood faces the water, an area along the waterfront is usually designated as the center.

WHAT DOESN'T: Centers need not include a square or park.

SMARTCODE: Articles 1.3.2g & 3.5; Table 13.

COMMUNITY IDENTITY

Civic buildings and public gathering spaces should reinforce community identity and self-government.

WE DO THIS BECAUSE: Civic buildings and spaces are open to all citizens and represent the values and heritage of the whole settlement. Appropriate architecture, public buildings and spaces should reinforce the significance of their distinctive role in the fabric of the settlement and community.

DO



DON'T



WHAT MATTERS: Architecture and details must be distinctively Bahamian. Public amenities should be capable of various uses and located so as to accommodate the local population.

What Doesn't: Size of public space, surface of space (grass, stone, pavers), and the precise character of surrounding buildings.

SMARTCODE: Articles 1.3.3f.

BAHAMIAN EXAMPLES



GOVERNOR'S HARBOUR: The library is the center of Cupid's Cay and Governor's Harbour. Its site is illustrated to the left.



NASSAU: Parliament Square defines Bahamian self-government.

BAHAMIAN EXAMPLES



NASSAU: This large tree provides shade for visitors of the park. Bahamian parks require shade-giving plants.



NASSAU: This small neighborhood park provides an important meeting place for local residents.

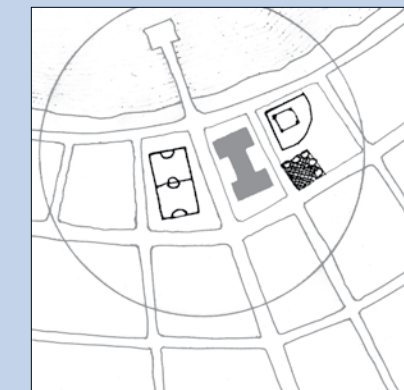
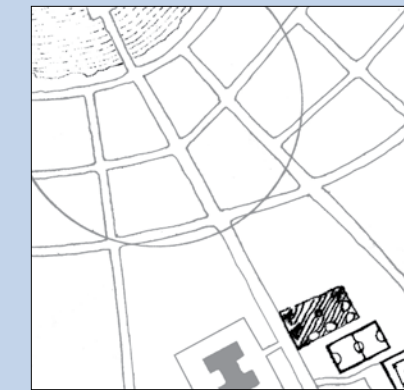
PARKS, SQUARES, & PLAYGROUNDS

A medley of parks, squares, and playgrounds should be located throughout all settlements.

WE DO THIS BECAUSE: Creating parks, squares, and playgrounds for each settlement provides a place for people to gather and play. Parks and squares are inviting places for people to relax, engage in community activities, hold social events, and nurture physical, mental, and spiritual capacities. Playgrounds encourage children to use their imagination, share, exercise, and interact with people of all ages in a protected environment. This especially helps to make larger settlements livable.

DO

DON'T



WHAT MATTERS: Place parks and squares so that at least 50% of their perimeter faces a road. For the safety of children, set playgrounds back from the road. Each walkable neighborhood should impart 5% of its total area to parks, squares and playgrounds. There should be a variety of locations, each of which are accessible to all citizens.

WHAT DOESN'T: Specific locations within a settlement.

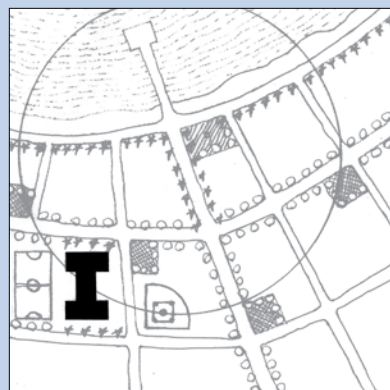
SMARTCODE: Articles 1.3.2i, 3.5.3c, & 3.5.3d; Table 13.

SCHOOLS

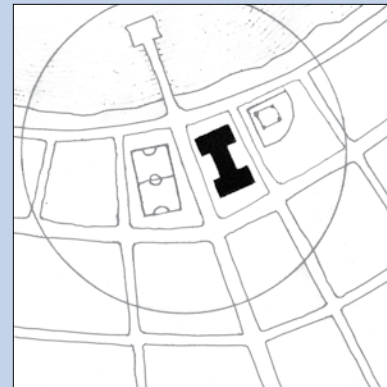
Schools should be sized and located appropriately to facilitate students who walk or bicycle to class.

WE DO THIS BECAUSE: Schools of a modest size which serve walkable settlements enable students to transport themselves to and from school by foot or bicycle. When appropriate, school buildings should be placed near the edge of settlements so as to serve multiple walking sheds. Doing so limits dependence on automobiles and buses for school transportation, thus benefiting students socially and physically.

DO



DON'T



WHAT MATTERS: Schools should be sized to accommodate all students within a walkable neighborhood. School size should be determined by the number of residences located within a walking shed. Schools which provide service to more than one walkable settlement should be sized by the collective number of residences in those settlements.

WHAT DOESN'T: Settlement type, and surrounding building types.

SMARTCODE: Articles 1.3.2h & 3.5.4b.

BAHAMIAN EXAMPLES



SANDY POINT: This small school is at the heart of the community and does not consume excessive space.



HOPE TOWN: This school is located at the edge of the settlement, but within an easy walk of all citizens.

BAHAMIAN EXAMPLES



HOPE TOWN: The athletic fields of the community are located within a short walk of the settlement.



CHEROKEE: This basketball court is located at the edge of the settlement, yet is very central due to its location near the water.

ATHLETIC FIELDS

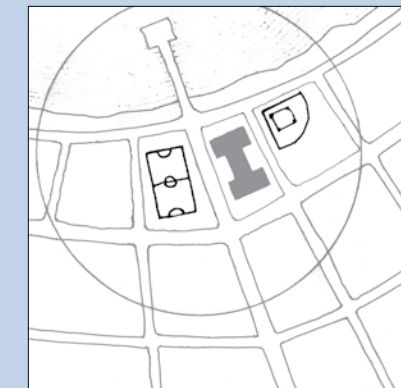
Athletic fields should be positioned at the edge of settlements and within a walkable distance of the settlement centers.

WE DO THIS BECAUSE: Positioning athletic fields at the edge of walkable settlements allows residents to access the fields by foot or bicycle, thus reducing dependence on the automobile and promoting a healthy lifestyle. By properly locating the fields, neighborhood involvement will increase because residents are more likely to attend events that are within a reasonable walking distance from their home.

DO



DON'T



WHAT MATTERS: When appropriate, athletic fields should be placed to allow for shared use by more than one settlement. Place athletic fields at the edge of the five minute walking radius of each settlement's center, such as near the community school. The size of each field depends on the sport, but the number of fields required for each community will depend on the population of each settlement.

WHAT DOESN'T: Athletic field placement and the specific type of fields needed will vary depending on the specific needs of each settlement.

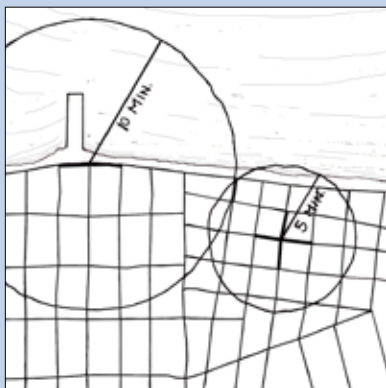
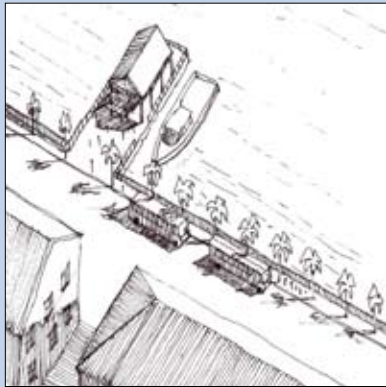
SMARTCODE: Articles 3.5.4b.

TRANSIT-ORIENTED DEVELOPMENT

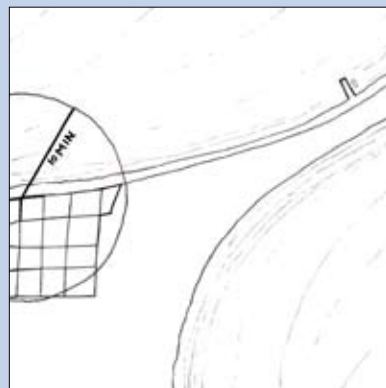
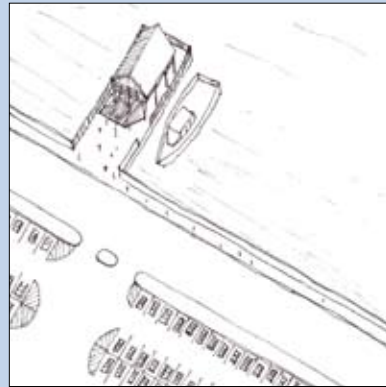
Appropriate building densities and land uses should be provided within walking distance of transit stops.

WE DO THIS BECAUSE: A transit network, populated by an ample number of buildings and land uses within walking distance of transit stops, grants independence to those who cannot drive—especially the elderly and the very young. Transit is more likely to be used if it is within a convenient walking distance from where people live, work, or socialize. Consequently, the popular use of public transit can help improve the environmental, social, and economic health of the entire neighborhood.

DO



DON'T



WHAT MATTERS: People tend to walk mostly in safe areas where pedestrian paths are provided. Walkways and sidewalks should be well planned and maintained to encourage walking and transit use. Locate transit stops where they will be most used.

WHAT DOESN'T: Type or size of transit stop. Conventional transit includes trains and busses, but frequent ferry service can qualify as a form of transit in the Bahamas.

SMARTCODE: Articles 1.3.2c, 1.3.2f, & 3.9; Table 19.

BAHAMIAN EXAMPLES



NEW PLYMOUTH: The ferry dock is located within walking distance of the entire community.



DUNMORE TOWN: The dock provides predictable, frequent, and healthy activity for nearby businesses.

BAHAMIAN EXAMPLES



DUNMORE TOWN: Automobiles, boats, golf carts, bikes and feet provide choices in transportation.



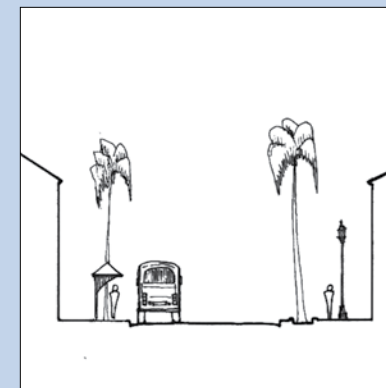
NASSAU: Not all public spaces must serve all transportation types, but pedestrians should always be accommodated with grace.

TRANSPORTATION ALTERNATIVES

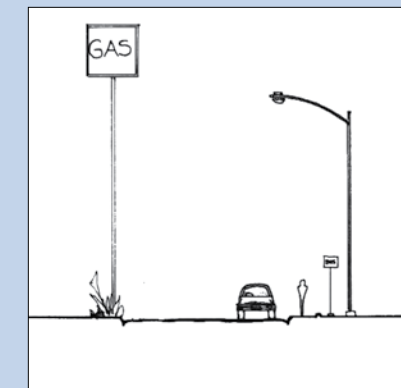
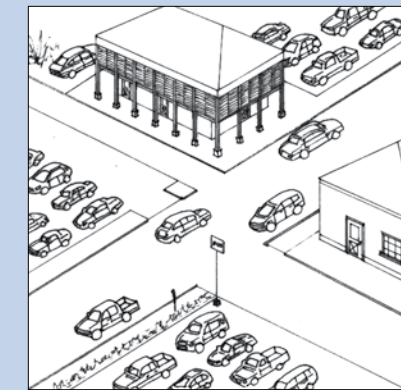
A framework of transit, pedestrian, and bicycle systems should be provided within and between settlements.

WE DO THIS BECAUSE: In the public realm all citizens should be empowered with a choice of transportation options. Thoroughfares should provide a framework of street networks and pedestrian pathways that enable the safe ease of movement over a variety of routes.

DO



DON'T



WHAT MATTERS: Streets with heavier automobile traffic should provide a buffer zone of planted space between pedestrian paths and walkways. Keeping streets relatively narrow causes traffic to slow, creating a safer environment for all.

What Doesn't: Accommodating automobiles at the expense of the pedestrian and cyclist. Reliance on a single form of transportation should be avoided as well.

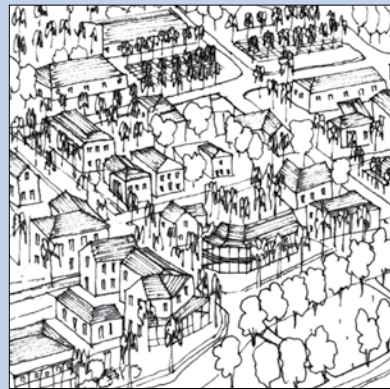
SMARTCODE: Articles 1.3.1h & 3.9.1.

BLOCK SIZE

Urban blocks should generally be small.

WE DO THIS BECAUSE: Compact, interconnected blocks provide a variety of routes, encourage walking, and allow more opportunities for public places. Small urban blocks slow traffic, allow opportunities for neighbors to interact, and afford enjoyable views. Small blocks permit business greater street frontage, yet consume less space. This also grants unique opportunities for buildings to form public spaces in the settlement.

DO



DON'T



WHAT MATTERS: Small blocks are economically appealing and stimulate pedestrian activity. Blocks should respond to the region and topography, as well as connect neighborhoods to one another.

WHAT DOESN'T: The character of the the block, whether formal or informal.

SMARTCODE: Articles 3.9.1e; Table 19c.

BAHAMIAN EXAMPLES



DUNMORE TOWN: Frequent streets meeting the water are evidence of small blocks.



SPANISH WELLS: Small blocks provide frequent access to important places.

BAHAMIAN EXAMPLES



HOPE TOWN: The staggering of buildings helps to take advantages of breezes.



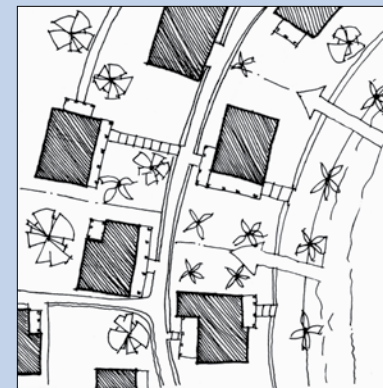
HOPE TOWN: Staggered siting of buildings along a street can help to cool buildings away from the shore.

RESPONSE TO BREEZES

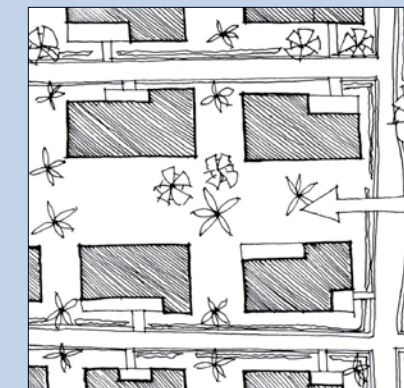
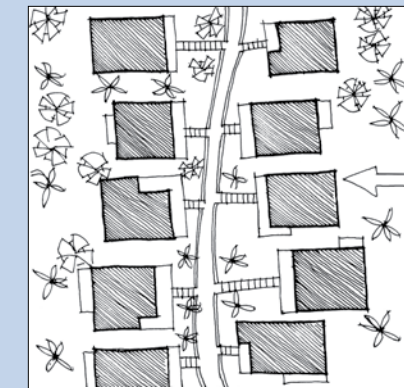
Groups of buildings should be locally arranged to aid in natural cooling and ventilation.

WE DO THIS BECAUSE: Thoughtful positioning of buildings within the urban fabric can help capture natural airflow, thus improving comfort levels and reducing energy costs. With the proper arrangement of dwellings and appropriate building techniques, mechanical air conditioning can be virtually eliminated. Refer to Zbigniew Bromberek’s “Eco-Resorts: Design and Planning for the Tropics”

DO



DON'T



WHAT MATTERS: Buildings should be oriented so openings can capture the breezes. Utilizing natural ventilation will reduce dependence on centralized power stations, thus preserving the environment, and saving money. Even slight adjustments in orientation and relative placement can make enormous differences in capturing breezes. (Please refer to Dunmore Town blocks in Appendix C)

WHAT DOESN'T: Style, size, and inappropriate luxuries that are inconsiderate of long-term economics, culture, or the environment.

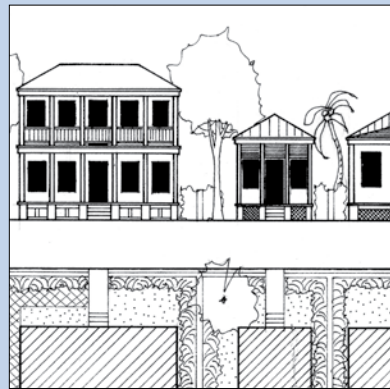
SMARTCODE: Not addressed by the code.

HOUSING DIVERSITY

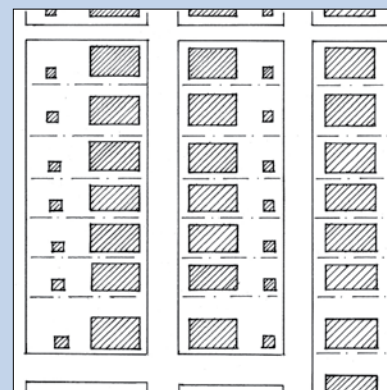
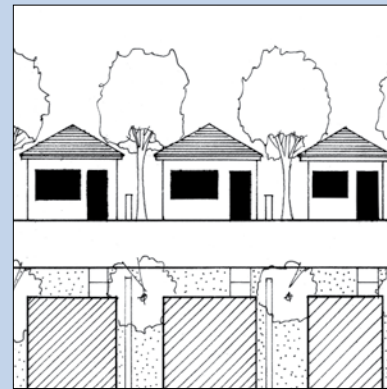
Within neighborhoods a range of housing types and price levels should be provided.

WE DO THIS BECAUSE: Neighborhoods made of diverse housing types and price levels encourage interaction between people of all ages, races, and income levels. Such interactions help strengthen the personal and civic relationships that are at the core of a successful community. This also ensures access to economic opportunities and important services to all people.

DO



DON'T



WHAT MATTERS: A broad range of lot sizes and housing types, such as townhouses, apartment buildings, single and multi-family homes, can be provided. This will help guard the social sustainability of the neighborhood, despite steady changes in demographics and market demands.

WHAT DOESN'T: House style, or particular local building tradition comprising the neighborhood.

SMARTCODE: Articles 1.3.2e.

BAHAMIAN EXAMPLES



NEW PLYMOUTH: Single-family houses can occur near apartments above stores.



DUNMORE TOWN: Large houses, small cottages and live/work units co-exist successfully.



BAHAMIAN EXAMPLES



NASSAU: Buildings and garden walls help to screen parking from the public street.



NASSAU: Garden walls and plantings can help to screen large parking areas.

OFF-STREET PARKING

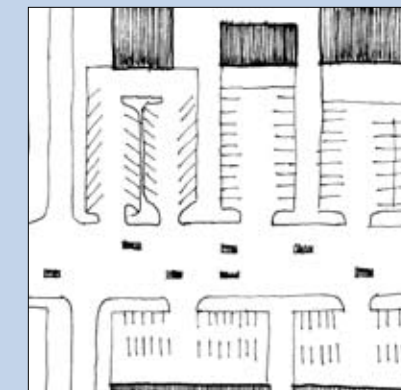
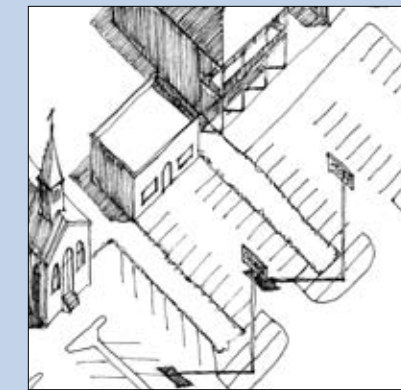
Within settlements, off-street parking should be located behind buildings. Locating parking behind garden walls or fences should be the exception.

WE DO THIS BECAUSE: Removing parking from the street allows for a more pleasing streetscape, and improves pedestrian safety.

DO



DON'T



WHAT MATTERS: Placing parking in the back of buildings encourages shared parking among proprietors. This will diminish the demand for large paved lots, while helping to shape streets that are more pedestrian friendly and pleasing.

WHAT DOESN'T: The need for a certain number of parking lots per building occupant; this number is reduced by sharing parking.

SMARTCODE: Articles 5.9 & 5.10.

SHARED PARKING

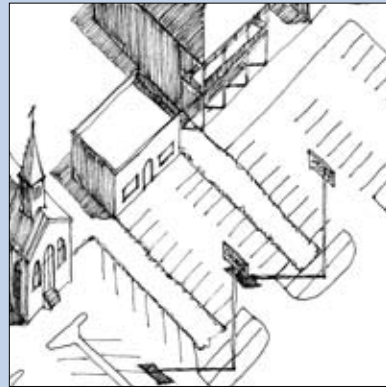
Within settlements, parking should be shared by multiple buildings and uses.

WE DO THIS BECAUSE: Sharing parking lots during different times of the day reduces the demand for large single lots. By taking advantage of “off hours”, less land is unnecessarily claimed for the automobile. This helps reinforce a healthy settlement fabric and reduces the amount of local trips in search for parking. Encouraging shared parking reduces demands on infrastructure.

DO



DON'T



WHAT MATTERS: Shared parking is most effective when destinations either share patrons, so that people park once and visit multiple destinations, or have different periods when parking demand is highest. Planning shared parking opportunities near ferry transit is especially useful in integrating transit within settlement centers.

WHAT DOESN'T: Who shares parking.

SMARTCODE: Articles 5.10; Table 11.

BAHAMIAN EXAMPLES



NASSAU: Parking shared by businesses and government buildings.



HOPE TOWN: Parking shared by the marina and the central business district.

BAHAMIAN EXAMPLES



NASSAU: Diagonal on-street parking co-exists comfortably with gallery-covered sidewalks on East Bay Street.



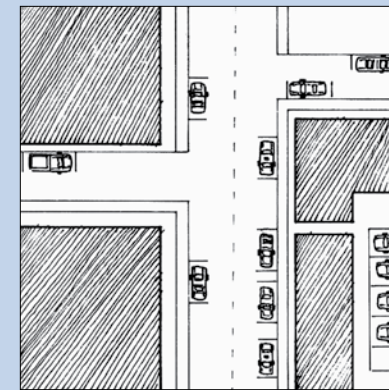
NEW PLYMOUTH: Waterfront streets should limit parking to the street instead of taking up real estate with parking lots.

STREET PARKING

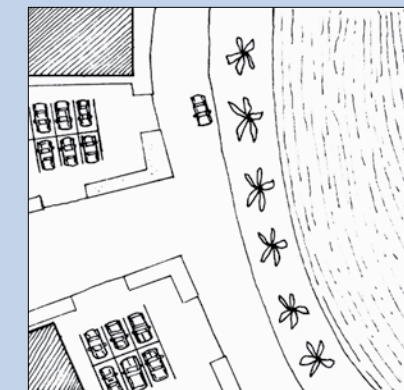
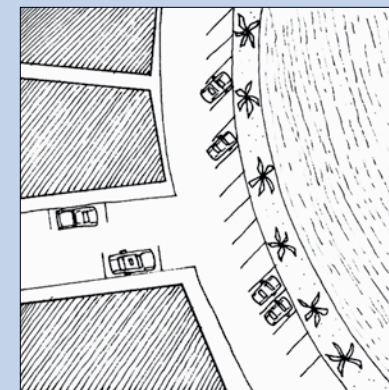
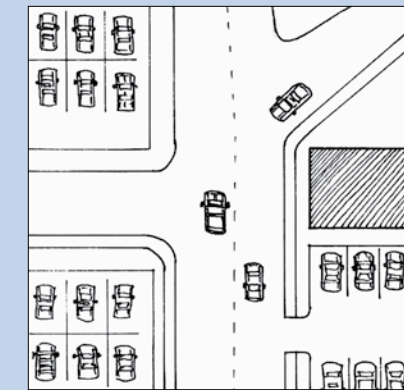
Streets should generally provide multiple parking opportunities.

WE DO THIS BECAUSE: Properly placed parking is good for many businesses, provides a safety barrier between pedestrians and automobile, and eliminates the need for large parking lots. Cars activate the street and can infuse a neighborhood with visitors; street parking helps turn them into pedestrians.

DO



DON'T



WHAT MATTERS: An abundance of parking opportunities within the block, including street parking, mid-block parking, and center-block shared lots. Diffusing parking makes the street more pedestrian friendly and more attractive by allowing buildings to define the street instead of just cars and parking. As streets become increasingly dense, more parking types should be available.

WHAT DOESN'T: Not all streets need to provide parking, especially in small communities. Parking need not be for standard automobiles - many communities can benefit from the primary use of golf carts instead.

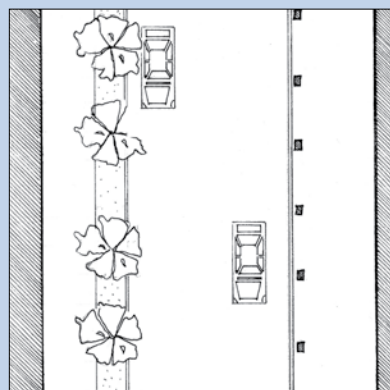
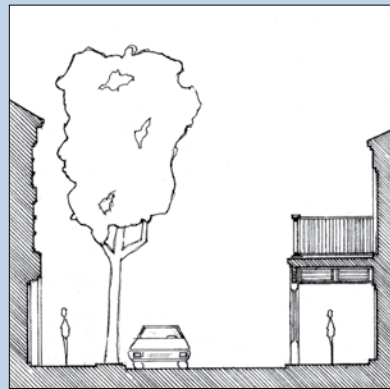
SMARTCODE: Articles 3.9.2; Tables 3 & 4C.

ACCOMMODATING PEDESTRIANS & VEHICLES

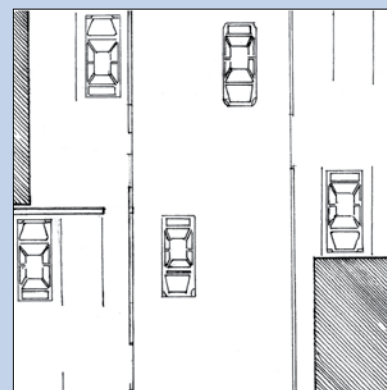
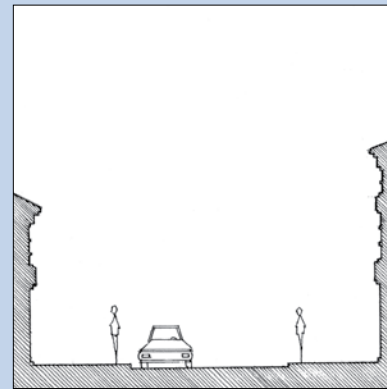
Streets should adequately accommodate vehicles while respecting the pedestrian and the spatial form of public places.

WE DO THIS BECAUSE: Both vehicular and pedestrian activity play significant roles in urban places. Because in most settings it is desirable to have a variety of activities occur in the same place, both vehicles and pedestrians should be accommodated in ways that respect and support each other.

DO



DON'T



WHAT MATTERS: Well-designed streets provide a pleasant experience for pedestrians and efficiently assist vehicular traffic. The pedestrian realm must be agreeable, safe, and interesting. Vehicles must be permitted to move freely through a well-connected network of streets that feature a variety of on- and off-street parking conditions. Some streets might be predominantly for vehicles; others, primarily for pedestrians. Trees, sidewalks and galleries can help to buffer pedestrians from automobile traffic.

WHAT DOESN'T: The ratio of vehicular to pedestrian traffic for individual streets. Vehicles need not be standard automobiles - many communities can benefit from the primary use of golf carts, in which case safety provisions are much less crucial.

SMARTCODE: Articles 1.3.3b & 3.9.1d; Tables 4C.

BAHAMIAN EXAMPLES



NASSAU: Galleries in streets provide safe and comfortable areas for pedestrians.



NASSAU: Settlements with significant automobile traffic should include streets with appropriately sized sidewalks.

BAHAMIAN EXAMPLES



NASSAU: Sidewalks can be designed to decrease crossing distances on major streets, such as on East Bay Street.



HOPE TOWN: Environments with little vehicular traffic should be designed to favor pedestrians.

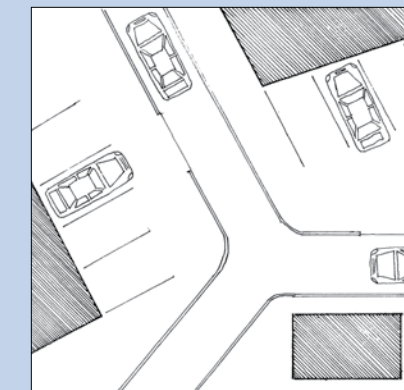
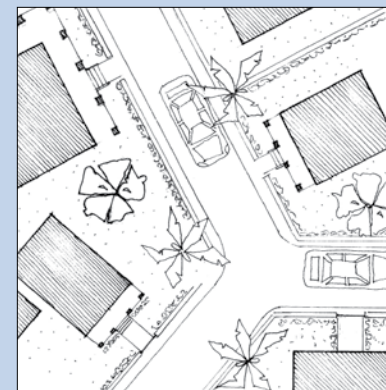
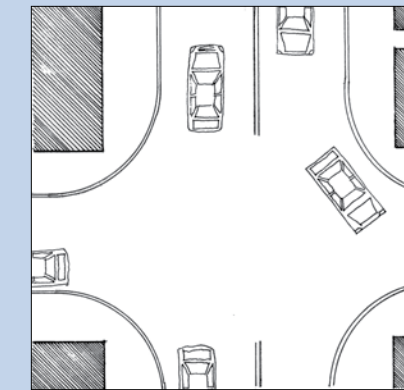
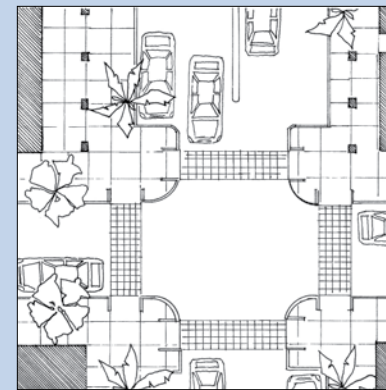
STREET SAFETY AND ACCESS

Streets should reinforce safe environments, and promote accessibility.

WE DO THIS BECAUSE: Safety for both pedestrians and automobiles is essential to a healthy urban environment. When streets are safe for pedestrians, they become enjoyable places to inhabit. But convenient access is equally important to preserve healthy pedestrian environments.

DO

DON'T



WHAT MATTERS: Lane width, crossing distance, lighting, and strategically placed landscaping all provide protection for pedestrians. Use of planter strips, vegetation, or various paving materials help extend the level of safety by clearly designating areas for pedestrian and vehicle traffic. Narrow lane widths help slow traffic while clear visibility and good lighting allow vehicles and pedestrians to see each other and avoid mishap. Protection for pedestrians should be relative to traffic volume.

WHAT DOESN'T: Standard street widths. Street widths should differ in response to pedestrian activity, traffic volumes, and transect zone.

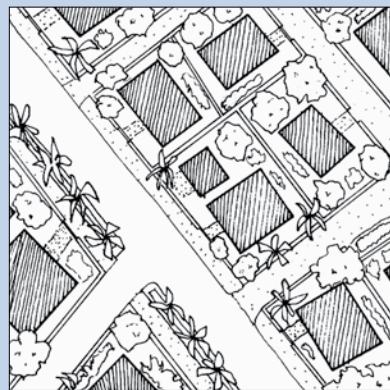
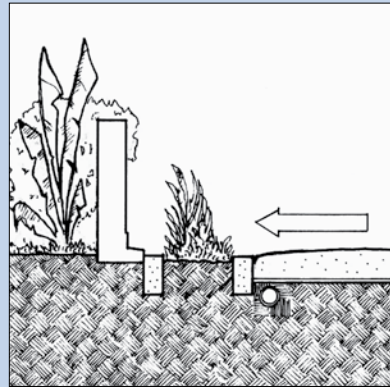
SMARTCODE: Articles 1.3.3c; Tables 4C.

LOCAL STORMWATER MANAGEMENT

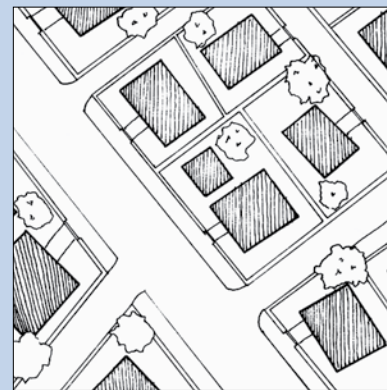
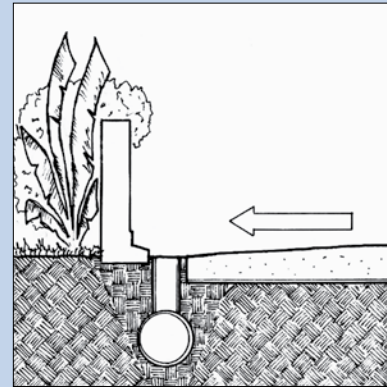
Streets should drain water as locally as possible.

WE DO THIS BECAUSE: Draining water as close as possible to where it rains will help prevent soil erosion and avoid introducing concentrated contaminants to a more distant location. The best way to manage large volumes of water is naturally and locally, rather than through the conventional inlet-pipe-and-pit method. This can also help to recharge the aquifer. This approach to stormwater management is called light imprint and is further discussed in Appendix B of this document.

DO



DON'T



WHAT MATTERS: Allow water to be used or be treated where it falls instead of moving it elsewhere. Water should never stagnate in pools, but be filtered into the ground, or used to irrigate a garden or tree-well, or be contained for later use. Paving should be pervious when possible. Channeling, detention and retention systems should take advantage of natural filtration processes.

WHAT DOESN'T: Transect zone. All transect zones can benefit from light imprint tools.

SMARTCODE: Articles 3.7.3a, 3.7.4ii, & 3.7.4iii.

BAHAMIAN EXAMPLES



DUNMORE TOWN: Planter strips can help to manage stormwater in urban places.

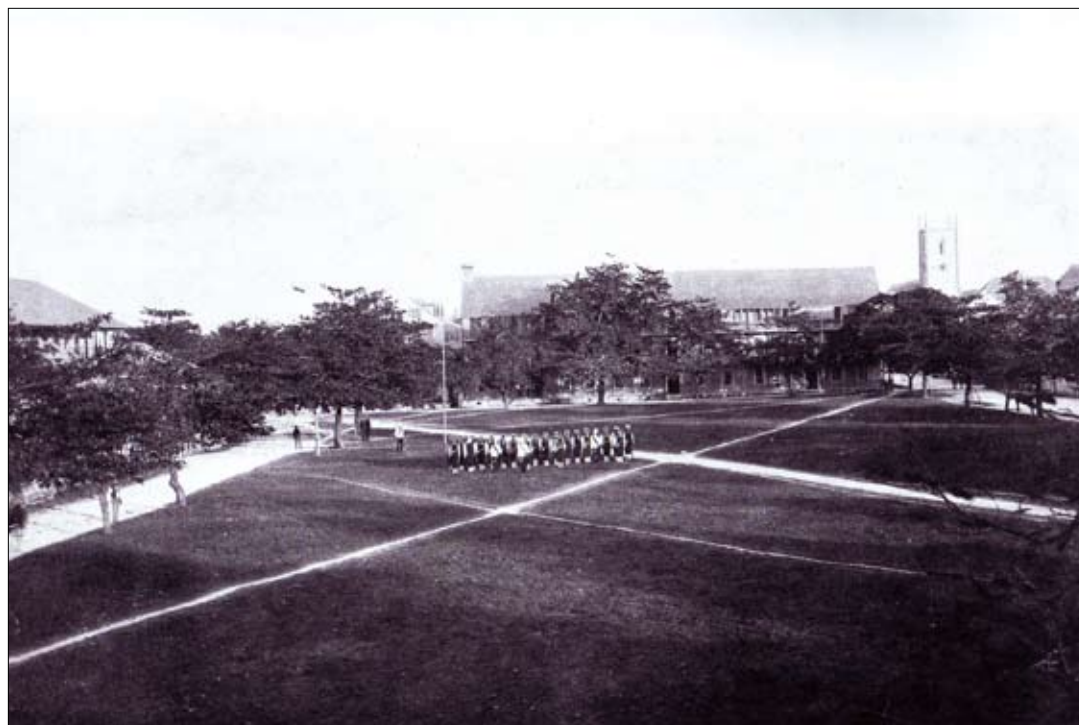


NASSAU: Traditional open gutters can help to channel stormwater to light imprint detention and retention areas.

BAHAMIAN EXAMPLES



NASSAU: The cascading planter beds can be designed as part of a stormwater channeling or detention system.



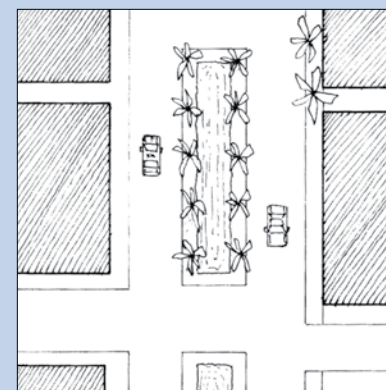
HISTORIC NASSAU: Large green spaces, such as parades, can be designed to act as stormwater detention systems.

STORMWATER SYSTEMS AS CIVIC AMENITIES

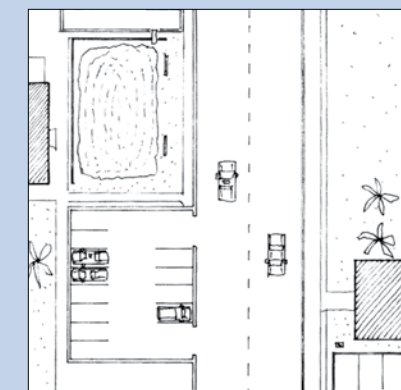
Water retention, detention and conveyance systems should be beautiful civic amenities.

WE DO THIS BECAUSE: Beautifying infrastructure helps to create a beautiful and valuable place. Stormwater systems are common and necessary, and should be given the opportunity to exhibit the special character of the Bahamas. Stormwater systems, including natural mangroves, can be beautiful civic amenities if coordinated with planning and design efforts.

DO



DON'T



WHAT MATTERS: It is important to express a cultural sense of beauty in all civic projects. This adds value to real estate. Stormwater management systems should use light imprint tools. Please refer to Appendix B in this document regarding light imprint.

WHAT DOESN'T: Character can be formal or picturesque. This approach can be used in all transect zones.

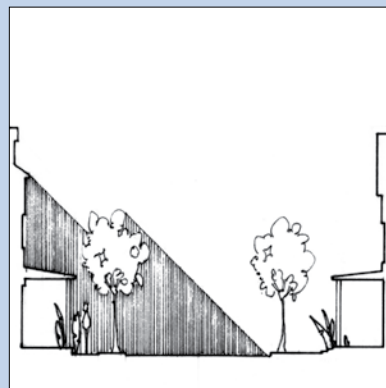
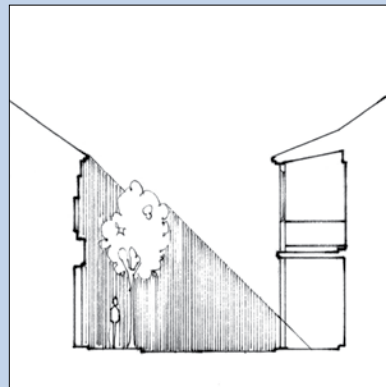
SMARTCODE: Articles 3.1.3; Table 18.

COOLING STREETS

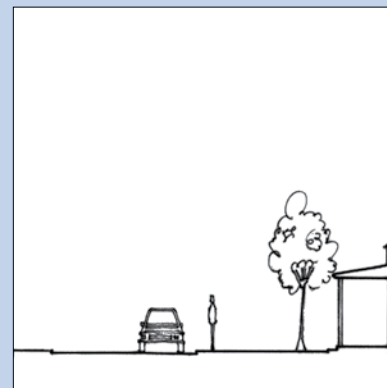
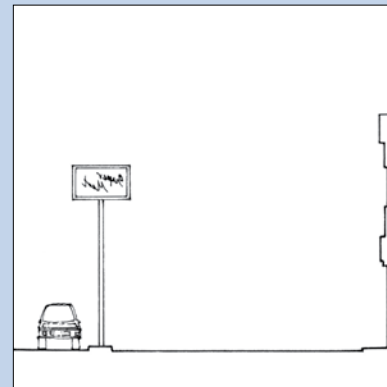
Buildings and landscaping should be placed to help keep streets cool.

WE DO THIS BECAUSE: Trees and other vegetation help create comfortable outdoor places by offering their shade. Buildings and plants near the street can help shade the public realm and buildings from the hot sun; this helps condition people to the ambient temperatures of the region, thus helping reduce energy costs while making outdoor life more comfortable.

DO



DON'T



WHAT MATTERS: Keep dense vegetation near or on streets. Use buildings to block some sunlight and allow breezes to flow through the area. Streets that face the sea will benefit from sea breezes and views.

WHAT DOESN'T: Symmetry and formality of buildings or landscaping.

SMARTCODE: Articles 1.3.3a; Table 4a.

BAHAMIAN EXAMPLES



NASSAU: Queen Street is one of the last streets in historic Nassau to retain its essential cooling devices - abundant plants.



DUNMORE TOWN: Trees can offer needed shade for pedestrians and buildings.

BAHAMIAN EXAMPLES



NASSAU: View corridors in parks and cemeteries can be equally significant to terminated streets.



DUNMORE TOWN: Minor street terminations such as gates to gardens can be equally significant to major terminations

TERMINATED VISTAS

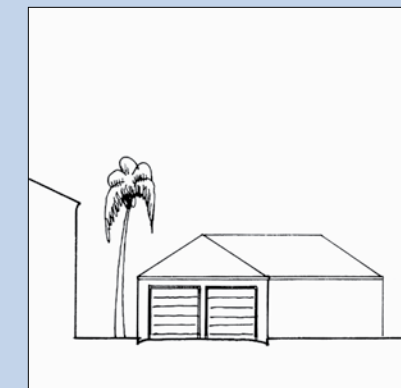
View corridors in streets, squares, and parks should be terminated with structures or landscapes of aesthetic merit.

WE DO THIS BECAUSE: A view ending in something beautiful can be aesthetically pleasing, socially meaningful, and functionally useful. When placed in significant locations elements that terminate a view corridor help people— even first time visitors— find their way through a settlement. Emphasizing view corridors can also give occasion to celebrate shared ideas and values. Terminated view corridors can reveal and enrich the unique identity of a place.

DO



DON'T



WHAT MATTERS: Terminating objects or buildings must be scaled in accordance with the street they terminate. Terminations need not necessarily be directly aligned with the street, as long as they fall within the terminating visual composition.

WHAT DOESN'T: Not all streets and corridors should be terminated with a special feature; doing so would dilute truly significant points in the urban fabric.

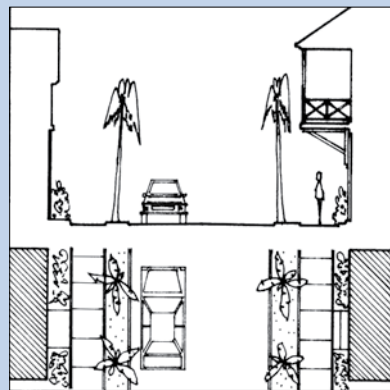
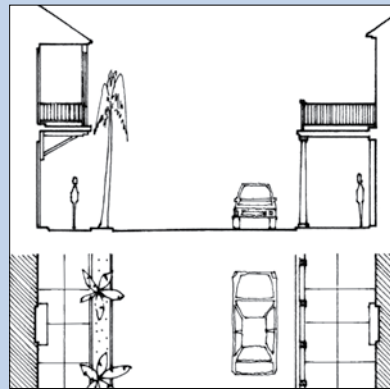
SMARTCODE: Articles 3.11.f.

BUILDING SETBACK

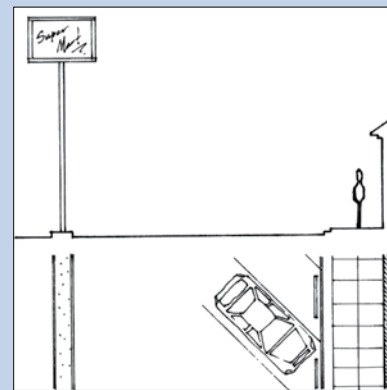
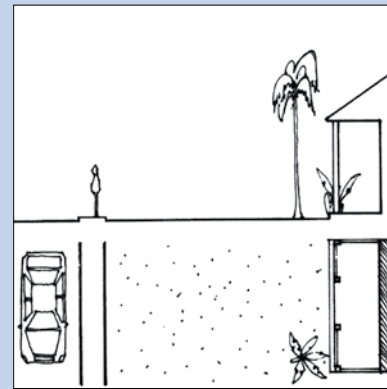
Building fronts should generally be located near the street.

WE DO THIS BECAUSE: Pedestrians who use the street are more likely to approach a building located near the street. Interaction is more likely to take place between building occupants and those on the sidewalk when the buildings are near the street. The closer a business is to the street, the less pedestrians have to walk in order to visit it. Buildings define the street, creating an outdoor room that people feel comfortable in; placing buildings near the street reinforces this definition.

DO



DON'T



WHAT MATTERS: The elevation of entry from the street level - buildings for business typically demand to be level with the street, while residential buildings demand some privacy and benefit from being elevated. Building setbacks generally increase in lower transect zones.

WHAT DOESN'T: Neighboring buildings need not be perfectly aligned with each other.

SMARTCODE: Articles 5.6; Tables 7, 9, & 22.

BAHAMIAN EXAMPLES



DUNMORE TOWN: Houses that are close to the street feature raised porches to provide some privacy for residents.



DUNMORE TOWN: Commercial buildings tend to come closer to the street to invite pedestrians.

BAHAMIAN EXAMPLES



NASSAU: Lots arrange buildings and gardens to take advantage of breezes.



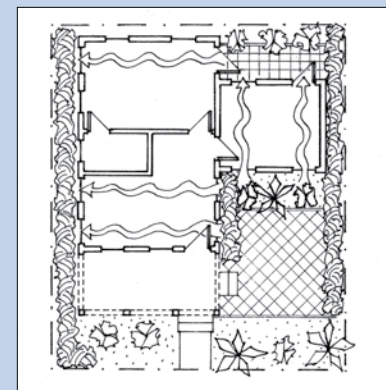
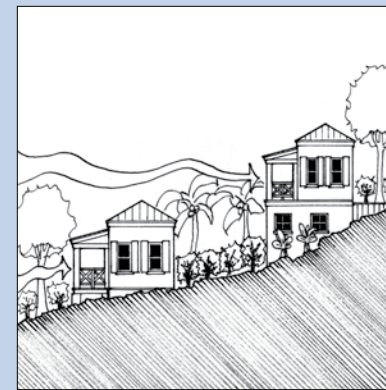
NASSAU: Buildings face their verandahs towards gardens and breezes to keep cool.

SITING BUILDINGS FOR BREEZES

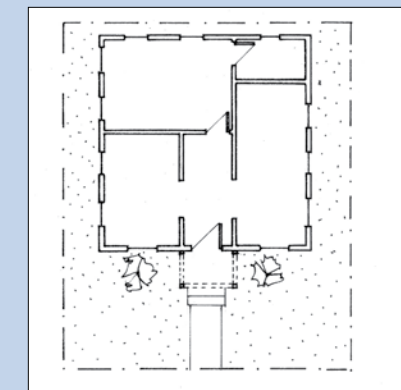
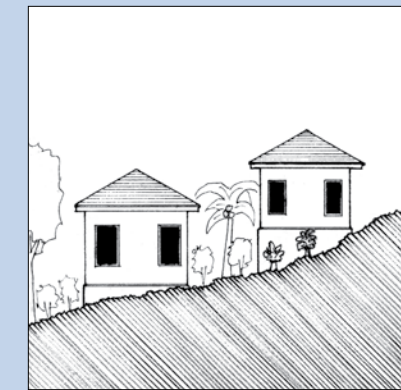
Buildings should be energy efficient by their placement according to climate and geography.

WE DO THIS BECAUSE: Well positioned and designed buildings can take advantage of natural resources such as wind, sunlight, and topography. Buildings that use their natural surroundings rely less on energy-intensive devices such as mechanical air conditioners and electrical lighting. Buildings should also be placed to respond to the benefits of gardens and cross-ventilation through the interior.

DO



DON'T



WHAT MATTERS: Buildings should be staggered or turned to take advantage of breezes. Topography should be exploited so buildings have access to natural breezes. Verandahs should be located to catch breezes while site plans should permit optimal cross-ventilation. Refer to “A Living Tradition”: Sleeping to the East (pg. 50); North Face (pg. 51); Western Wall (pg. 52). Also refer to Section III of this document.

WHAT DOESN'T: Lot and building size. Also, other principles should not be sacrificed to accommodate “optimal” ventilation.

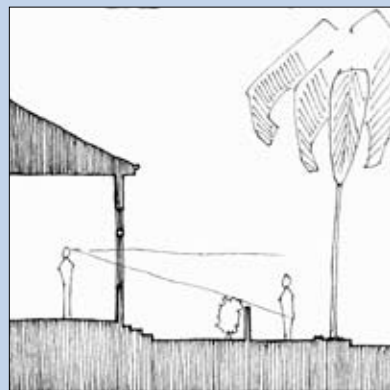
SMARTCODE: Articles 1.3.3e.

BUILDING FRONTS

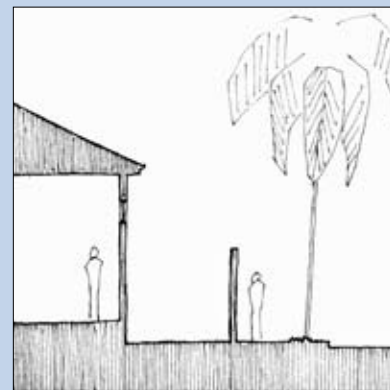
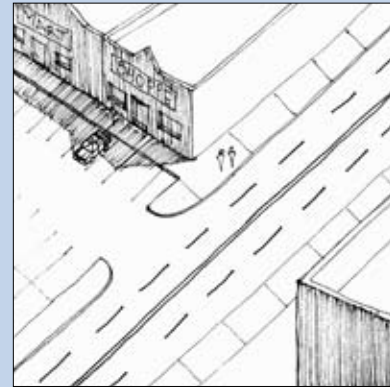
Buildings should reinforce safe environments, but not at the expense of accessibility and approachability.

WE DO THIS BECAUSE: Buildings should form places that are safe, comfortable, walkable, and interesting. Their faces should present “eyes on the street” to reinforce a safe public realm. Configured properly, buildings can encourage neighbors to communicate with each other, and empower them to protect their settlement.

DO



DON'T



WHAT MATTERS: The character of buildings should not isolate or be isolated from human activity, and must present themselves as inviting rather than defensive. Buildings with windows or porches that allow a view to the street encourage interaction between residents and passers by. A building’s design can improve safety by allowing dwellers to be aware of what goes on in the public realm.

WHAT DOESN'T: The mass of the buildings, the number or configuration of windows, or clear spaces for yards.

SMARTCODE: Tables 9 & 20.

BAHAMIAN EXAMPLES



DUNMORE TOWN: Buildings with faces help to maintain a safe and comfortable pedestrian experience.



DUNMORE TOWN: Buildings shape a safe environment without becoming fortresses.



BAHAMIAN EXAMPLES



DUNMORE TOWN: Fences, plants, verandahs and elevation support privacy without turning a back on the public street.



DUNMORE TOWN: Garden walls and gates protect public streets from the distractions of private affairs.

PUBLIC/PRIVATE DEFINITION

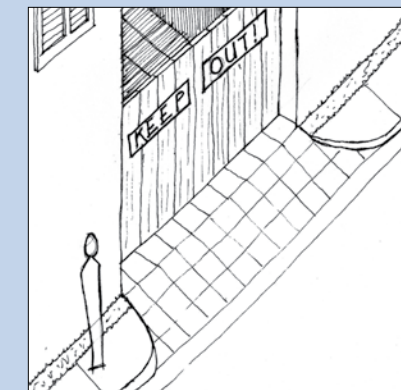
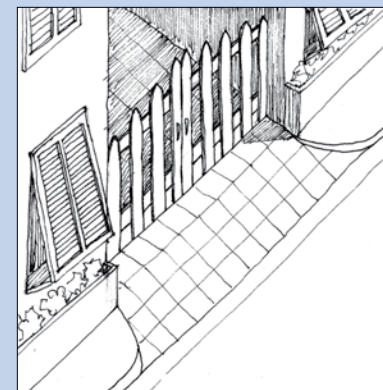
Public and private realms should be defined, and distinguished by buildings, landscaping, or other structures.

WE DO THIS BECAUSE: To avoid confusion there must be a reciprocal respect between that which is public and private. Privacy must be able to take place without neglect of the public realm. Likewise, public life is only possible if it has a place to occur without continuous distractions by private affairs. Both require definition to make settlements truly livable.

DO



DON'T



WHAT MATTERS: Strategic placement of buildings, walls, fences, hedges and landscape visually communicates what is public and what is private. Amenities like surfaced pathways, benches, parks, shrubs, and shade trees may be used to enhance and help define the public and private realms. Boundaries should be clear but should avoid obstructing sight-lines. Walls and gates should be agreeable and attractive rather than unpleasant and inauspicious.

WHAT DOESN'T: Size of lot.

SMARTCODE: Articles 3.9.1e.

CIVIC BUILDINGS

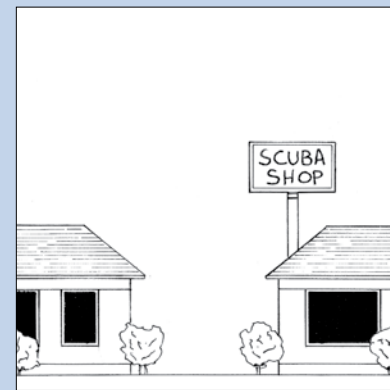
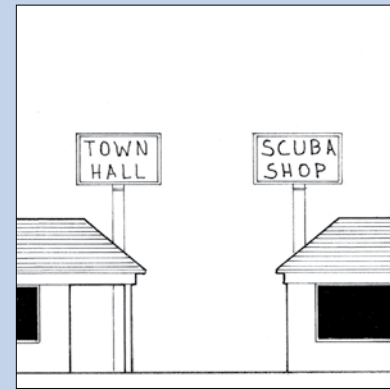
Civic buildings should be distinctive and appropriate to a role more important than the other buildings that constitute the fabric of the city.

WE DO THIS BECAUSE: Civic buildings function to serve all citizens, to reinforce the settlement's identity, and to sustain the culture of democracy. When treated with distinction, civic buildings serve as landmarks and gathering places. Civic buildings add distinction to well planned views throughout the fabric of the city. The resulting hierarchy of buildings can also help to shape landmarks for orientation.

DO



DON'T



WHAT MATTERS: Quality of architecture and details must be strictly Bahamian in nature. Prominent locations should be chosen to reflect the crucial role of the public building that is located there. Such sites should be embedded in the urban fabric and freely accessible by many citizens.

WHAT DOESN'T: Size of civic building or monument. Distinction is more an issue of relative character and placement.

SMARTCODE: Articles 1.3.3g.

BAHAMIAN EXAMPLES



NASSAU: Civic buildings shape memorable places and cultural identity.



NASSAU: Civic buildings can be identified by their scale, material, form and character-giving details.

BAHAMIAN EXAMPLES



DUNMORE TOWN: Eaves, roof forms, and shuttered windows are designed to gracefully resist storms.



NASSAU: Walls and verandahs are designed to naturally cool the building.

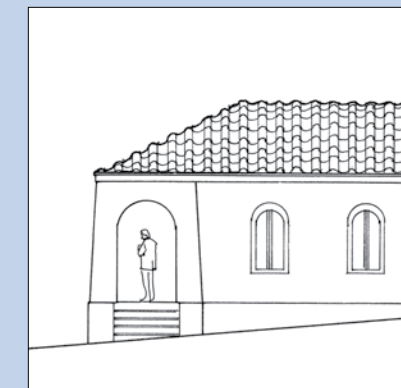
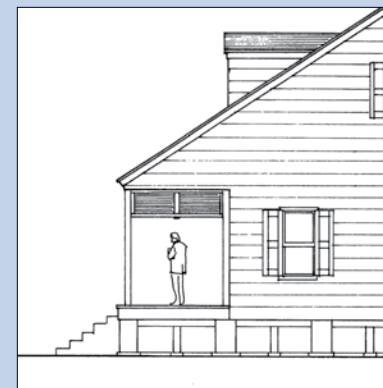
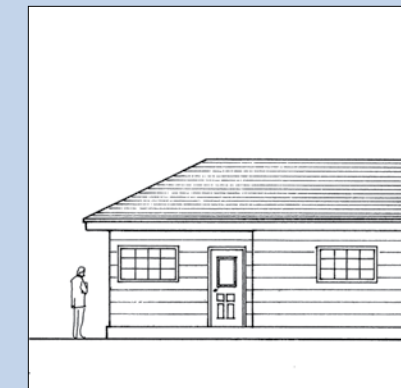
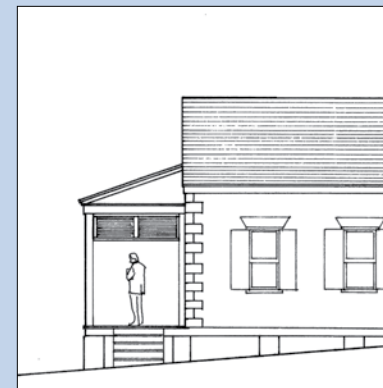
ARCHITECTURE

The architecture of the place should develop from local climate, geography, history, and building practice.

WE DO THIS BECAUSE: Architecture that grows from local climate, geography, history, and building practice will be an agreeable and positive piece of the settlement culture. Architecture distinct to a place helps identify and define what is special about that place. Please refer to Stephen Mouzon’s “A Living Tradition: Architecture of The Bahamas” for a complete discussion on this topic.

DO

DON'T



WHAT MATTERS: Time should help to establish architectural elements and typologies, careful to discard that which makes no sense. Architecture of a region should utilize local materials; this will also limit mounting shipping costs.

WHAT DOESN'T: The latest fashion in architecture, unless it responds to Bahamian climate, geography, history and building culture.

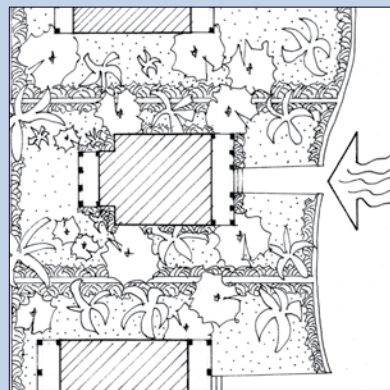
SMARTCODE: Articles 1.3.3d.

LANDSCAPING FOR BREEZES

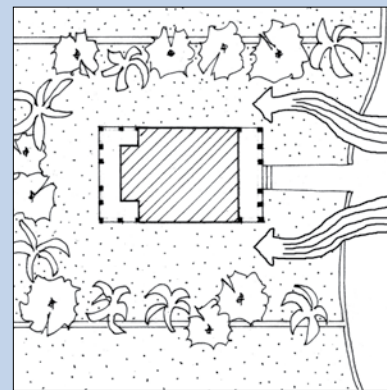
Landscaping should be designed to aid in the natural cooling and ventilation of buildings.

WE DO THIS BECAUSE: Landscape can provide natural cooling that makes people and buildings more comfortable and healthy. Air cooled and filtered through thoughtfully designed landscape is capable of saving energy by supplementing or replacing mechanical air conditioning. Traditional Bahamian settlements harness the inherent efficiency of plant life to provide shade and cooling that is capable of saving energy costs while beautifying the environment. Refer to Zbigniew Bromberek's "Eco-Resorts: Design and Planning for the Tropics"

DO



DON'T



WHAT MATTERS: Prevailing winds should be channeled through vegetation such as trees and shrubs so arranged that air is induced through building openings on both sides. Trees close to the building will channel winds into the building. Low vegetation will cool incoming breezes before reaching the openings of the building.

WHAT DOESN'T: The particular aesthetic quality of the landscaping used to accomplish its environmental functions.

SMARTCODE: Not addressed by the code.

BAHAMIAN EXAMPLES



DUNMORE TOWN: Landscaping helps to channel breezes towards the verandah.



GOVERNOR'S HARBOUR: Landscaping can help to keep trellised areas cool.



MELBOURNE PRINCIPLES

Principle 1: *Provide a long-term vision for cities based on: sustainability; intergenerational, social, economic and political equity; and their individuality.*

A long-term vision is the starting point for catalysing positive change, leading to sustainability. The vision needs to reflect the distinctive nature and characteristics of each city. The vision should also express the shared aspirations of the people for their cities to become more sustainable. It needs to address equity, which means equal access to both natural and human resources, as well as shared responsibility for preserving the value of these resources for future generations. A vision based on sustainability will help align and motivate communities, governments, businesses and others around a common purpose, and will provide a basis for developing a strategy, an action programme and processes to achieve that vision. Provide a long-term vision for cities based on: sustainability; intergenerational, social, economic and political equity; and their individuality.

Principle 2: *Achieve long-term economic and social security.*

Long-term economic and social security are prerequisites for beneficial change and are dependent upon environmentally sound, sustainable development. To achieve triple bottom line sustainability, economic strategies need to increase the value and vitality of human and natural systems, and conserve and renew human, financial and natural resources. Through fair allocation of resources, economic strategies should seek to meet basic human needs in a just and equitable manner. In particular, economic strategies should guarantee the right to potable water, clean air, food security, shelter and safe sanitation. Cities are the locus of human diversity; their policies, structures and institutions can significantly contribute to fostering cohesive, stimulating, safe and fulfilled communities. Achieve long-term economic and social security.

Principle 3: *Recognise the intrinsic value of biodiversity and natural ecosystems, and protect and restore them.*

Nature is more than a commodity for the benefit of humans. We share the Earth with many other life-forms that have their own intrinsic value. They warrant our respect, whether or not they are of immediate benefit to us. It is through people's direct experience with nature that they understand its value and gain a better appreciation of the importance of healthy habitats and ecosystems. This connection provides them with an appreciation of the need to manage our interactions with nature empathetically. Just as humans have the ability to alter the habitat and even to extinguish other species, we can also protect and restore biodiversity. Therefore, we have a responsibility to act as custodians for nature.

Principle 4: *Enable communities to minimise their ecological footprint.*

Cities consume significant quantities of resources and have a major impact on the environment, well beyond what they can handle within their borders. These unsustainable trends need to be substantially curbed and eventually reversed. One way of describing the impact of a city is to measure its ecological footprint. The ecological footprint of a city is a measure of the 'load' on nature imposed by meeting the needs of its population. It represents the land area necessary to sustain current levels of resource consumption and waste discharged by that population. Reducing the ecological footprint of a city is a positive contribution towards sustainability. Like any living system, a community consumes material, water and energy inputs, processes them into useable forms and generates wastes. This is the 'metabolism' of the city and making this metabolism more efficient is essential to reducing the city's ecological footprint. In reducing the footprint, problems should be solved locally where possible, rather than shifting them to other geographic locations or future generations.

Principle 5: *Build on the characteristics of ecosystems in the development and nurturing of healthy and sustainable cities.*

Cities can become more sustainable by modelling urban processes on ecological principles of form and function, by which natural ecosystems operate. The characteristics of ecosystems include diversity, adaptiveness, interconnectedness, resilience, regenerative capacity and symbiosis. These characteristics can be incorporated by cities in the development of strategies to make them more productive and regenerative, resulting in ecological, social and economic benefits.

Principle 6: *Recognise and build on the distinctive characteristics of cities, including their human and cultural values, history and natural systems.*

Each city has a distinctive profile of human, cultural, historic and natural characteristics. This profile provides insights on pathways to sustainability that are both acceptable to their people and compatible with their values, traditions, institutions and ecological realities. Building on existing characteristics helps motivate and mobilise the human and physical resources of cities to achieve sustainable development and regeneration.

Principle 7: *Empower people and foster participation.*

The journey towards sustainability requires broadly based support. Empowering people mobilises local knowledge and resources and enlists the support and active participation of all who need to be involved in all stages, from long-term planning to implementation of sustainable solutions. People have a right to be involved in the decisions that affect them. Attention needs to be given to empowering those whose voices are not always heard, such as the poor.

Principle 8: *Expand and enable cooperative networks to work towards a common, sustainable future.*

Strengthening existing networks and establishing new cooperative networks within cities facilitate the transfer of knowledge and support continual environmental improvement. The people of cities are the key drivers for transforming cities towards sustainability. This can be achieved effectively if the people living in cities are well informed, can easily access knowledge and share learning. Furthermore, the energy and talent of people can be enhanced by people working with one another through such networks. There is also value in cities sharing their learning with other cities, pooling resources to develop sustainability tools, and supporting and mentoring one another through inter-city and regional networks. These networks can serve as vehicles for information exchange and encouraging collective effort.

Principle 9: *Promote sustainable production and consumption, through appropriate use of environmentally sound technologies and effective demand management.*

A range of approaches and tools can be used to promote sustainable practices. Demand management, which includes accurate valuations of natural resources and increasing public awareness, is a valuable strategy to support sustainable consumption. This approach can also provide significant savings in infrastructure investment. Sustainable production can be supported by the adoption and use of environmentally sound technologies which can improve environmental performance significantly. These technologies protect the environment, are less polluting, use resources in a sustainable manner, recycle more of their wastes and products and handle all residual wastes in a more environmentally acceptable way than the technologies for which they are substitutes. Environmentally sound technologies can also be used to drive reduced impacts and enhance value along a supply chain and support businesses embracing product stewardship.

Principle 10: *Enable continual improvement, based on accountability, transparency and good governance.*

Good urban governance requires robust processes directed towards achieving the transformation of cities to sustainability through continual improvement. While in some areas gains will be incremental, there are also opportunities to make substantial improvements through innovative strategies, programmes and technologies. To manage the continual improvement cycle, it is necessary to use relevant indicators, set targets based on benchmarks and monitor progress against milestones to achieving these targets. This facilitates progress and accountability and ensures effective implementation. Transparency and openness to scrutiny are part of good governance.

OTHER RESOURCES

As the selection of principles presented here is only preliminary and incomplete, the reader is advised to refer to the following authoritative sources:

MELBOURNE PRINCIPLES FOR SUSTAINABLE CITIES

Available at www.cidb.org.za/Documents/KnowledgeCentre/melbourne_principles.pdf

The United Nations Environment Program UNEP IETC and the Environment Protection Authority of Victoria held an international charette (3-5 April 2002) in Melbourne, Australia, which was instrumental in developing the Melbourne Principles for Sustainable Cities, now known as the Melbourne Principles. The Melbourne Principles for Sustainable Cities, as endorsed by the participants of the charette, are intended to guide thinking and help build a vision of environmentally healthy and sustainable cities. The principles have been provided on this page.

THE CHARTER OF THE NEW URBANISM

Available at www.cnu.org/charter

The Congress for the New Urbanism is a leading inter-disciplinary movement dedicated to the promotion of the building of sustainable settlements and landscapes. It views "disinvestment in central cities, the spread of placeless sprawl, increasing separation by race and income, environmental deterioration, loss of agricultural lands and wilderness, and the erosion of society's built heritage as one interrelated community-building challenge." New Urbanists "stand for the restoration of existing urban centers and towns within coherent metropolitan regions, the reconfiguration of sprawling suburbs into communities of real neighborhoods and diverse districts, the conservation of natural environments, and the preservation of our built legacy." Recognizing that physical solutions by themselves will not solve social and economic problems, they also propose that economic vitality, community stability, and environmental health cannot be sustained without a coherent and supportive physical framework. New Urbanism "advocates the restructuring of public policy and development practices to support the following principles: neighborhoods should be diverse in use and population; communities should be designed for the pedestrian and transit as well as the car; cities and towns should be shaped by physically defined and universally accessible public spaces and community institutions; urban places should be framed by architecture and landscape design that celebrate local history, climate, ecology, and building practice." Dedicated to "reclaiming our homes, blocks, streets, parks, neighborhoods, districts, towns, cities, regions, and environment," New Urbanism has provided the most significant leadership in town planning theory and practice in our time. The Charter of the congress represents an important first resource for town planning practice.

CANONS OF SUSTAINABLE ARCHITECTURE AND URBANISM

Available at www.cnu.org/canons

The Charter of the New Urbanism is the guiding document of the New Urbanist movement. Although it offers an encompassing vision of sustainable urbanism from the scale of the region to the block and building, three leading CNU members, including two who had a central role in drafting the original Charter, undertook an effort to clarify and detail the relationship between New Urbanism and sustainability.

The resulting document, The Canons of Sustainable Architecture and Urbanism, is designed to serve as a set of operating principles for human settlement that reestablish the relationship between the art of building, the making of community, and the conservation of our natural world.



SECTION II: PROPOSALS FOR GREAT ABACO

THE REGION
ABACO PARK
ECO-SETTLEMENTS
ABACO STATION
SANDY POINT
SANDY POINT
SANDS COVE
MARSH HARBOUR
CENTRAL MARSH HARBOUR
THE MUD
GOOMBAY PARK



PLANNING THE REGION

SOUTH ABACO AS A CASE STUDY

To illustrate the potential of planning at the scale of the region, the team chose the South Abaco administrative district as a case study. This choice offered challenges in dealing with the planning of large expanses of undeveloped land, most of which is crown land. At the core of planning proposal is an investigation into how regional planning can assist conservation efforts and the planning of new communities. The following chapter will outline the existing conditions and a proposed regional planning tool that can help to shape the future of South Abaco.

Most of South Abaco's 120,000 acres is very rural. The existing settlements were not connected by road to Marsh Harbour until the 1990s. They include Cherokee Sound, Crossing Rocks, and Sandy Point. Cherokee, population 160, is the most geographically isolated community in South Abaco and was likely founded in the early 19th century by white Bahamians. The settlement was built within the historic Bahamian settlement tradition and features narrow lanes and modest cottages around a shallow harbor.

Black Bahamians settled Crossing Rocks and Sandy Point informally after emancipation in 1838. Sandy Point was later surveyed for grants by the crown, but some questions of ownership are not clear to this day.

Sandy Point is served by an airstrip and regular ferry service to Nassau. The original settlement of Crossing Rocks was almost completely destroyed by hurricane Floyd in 1999 due to its direct exposure to the Atlantic. Central government has made crown land available to the community further inland on higher ground, and the small settlement has recently been rebuilt according to conventional automobile-dominated practices.

Under construction in South Abaco is Schooner Bay, the Bahamas' first new complete settlement planned within the historic settlement tradition. The settlement will feature a harbor, a mixed-use village center, a school, organic farms, various small resort amenities and a broad range of housing types. Designed and planned by the internationally leading firm of Duany Plater-Zyberk & Company, it promises to become the best example of Bahamian settlement principles applied to a modern community. The region also includes various conventional subdivisions, including Bahama Palm Shores, Casuarina Point, and Sands Cove, among others. Winding Bay, operated by Ritz-Carlton, is the only major conventional resort development in South Abaco and is located near Cherokee.



SOUTH ABACO: Aerial map



HOLE-IN-THE-WALL: View towards the southwest



SOUTH ABACO: Tidewater shoreline



HOLE-IN-THE-WALL: Looking north



SANDY POINT: Looking southeast



CROSSING ROCKS: Looking southeast



SCHOONER BAY: Under construction in July 2008

A PRISTINE AND SENSITIVE ENVIRONMENT

Choices in settlement and infrastructure patterns in South Abaco are likely to have a profound affect on water resources, some of the most substantial coppice and pine stands in the Bahamas, and critical species such as the Abaco Bahama Amazon parrot. In 1994, the Bahamas National Trust established the Abaco National Park for such species and their habitat, although its 20,500 acres only partially protect the much larger foraging and breeding areas of the unique parrot. Additionally, a string of undeveloped private properties are located along the Atlantic coast and have recently been looked at as development opportunities. Especially considering the highly valuable environmental resources in this region, this chapter and the associated code in Appendix A seek to demonstrate the benefits of regional planning for conservation and settlement building purposes.

The following pages are intended to outline the existing resources of South Abaco.

NATURAL INFRASTRUCTURE

Much of the value of the South Abaco region lies in the extraordinary beauty of the natural landscape. The land and the flora give the region a unique biodiversity. Therefore, careful consideration of development in South Abaco is essential. South Abaco is covered by a variety of vegetation types that enhance the beauty and diversity of habitats in the region. In addition to its beauty, the vegetation protects the other natural infrastructure and wildlife of the island. As such, it provides limitations to and opportunities for development. The primary vegetation types include; pine woodlands, dry broad-leaf evergreen formation (coppice), and mangroves.

Pine woodlands are the most extensive foliage in the South Abaco region. The pine woodlands consist of an endemic species to the South Abaco region known as Caribbean Pine. The region contains the greatest concentration of woodlands in the Bahamas. The Abaco National Park protects 5,000 acres of these vital woodlands that serve as the Bahama Parrot nesting area. In addition to a habitat for many winged species, vital fresh water reserves are located beneath the pine woodlands. Dry broadleaf evergreen formation (DBEF) surrounds the perimeter of the pine woodlands.

The dry broadleaf evergreen formation (DBEF) is the first line of defense against erosion. It is the building block of the “topsoil” of the island, which is a critical thin layer of organic matter. DBEF contains a variety of foliage including coppice. Coppice is distinguished by solid clusters of broad leafed trees with a sparse under-story. The DBEF provides a vital habitat and feeding area to the Bahama Parrot as well as to a variety of other species. Keith Bishop of Islands by Design, Ltd. has described the coppice of South Abaco as the most significant stand of coppice in the Bahamas.

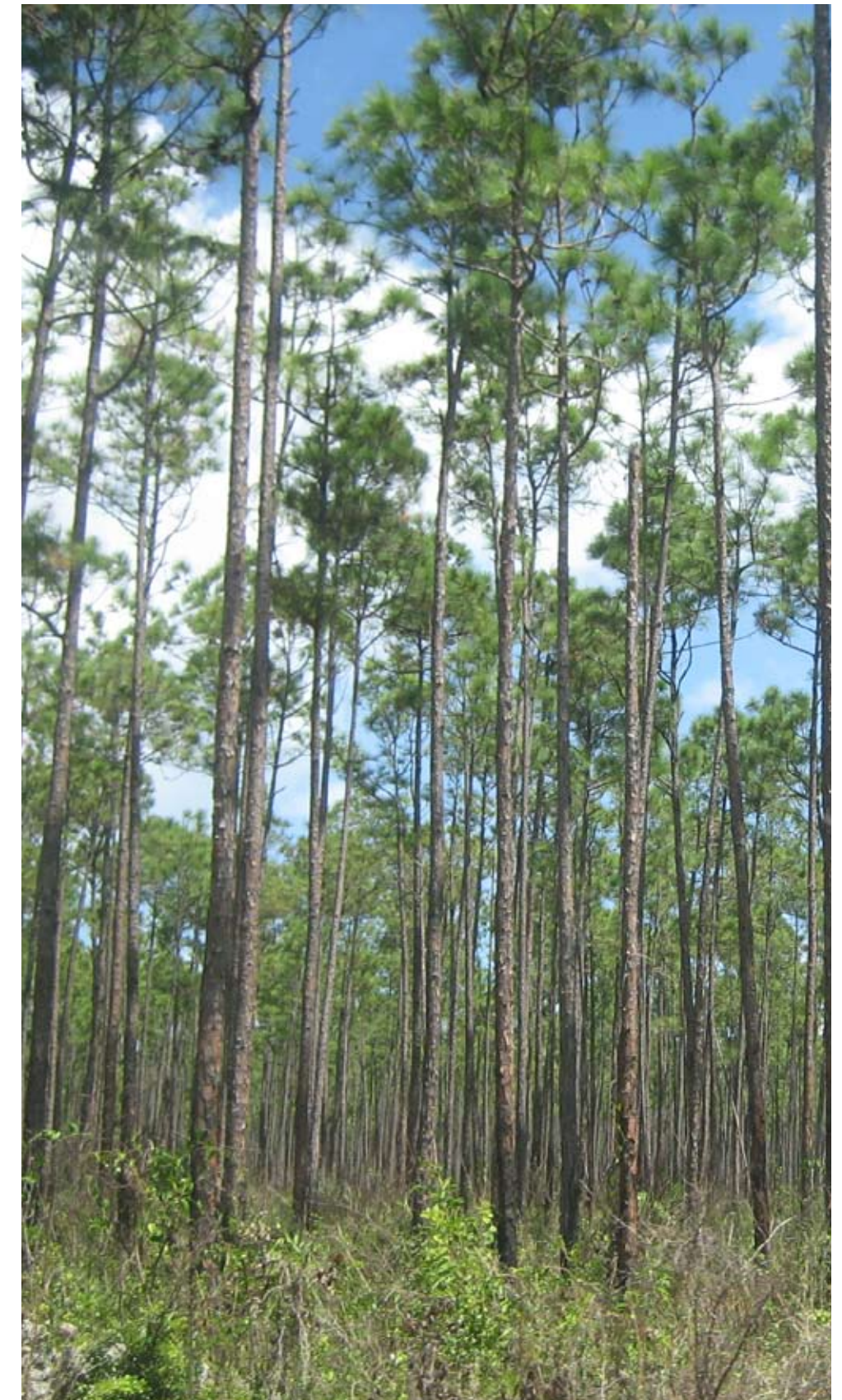
Mangroves stands protect the limestone foundations of the island during the most violent weather, specifically hurricanes. Mangroves are concentrated throughout the coastal wetlands of the region. The specialized root systems allow the vegetation to grow in shallow saltwater with frequent tidal action. Mangroves protect the interior region from hurricanes and tidal waves. The stands provide an essential role in the ecosystem providing water filtration. They protect against erosion and are an essential nursery habitat to a variety of species including fish and turtles. However, mangroves are not the only important habitat for turtles. Turtles also rely upon the sandy beaches of the region for habitat.

The South Abaco region has miles of coastline that are comprised of rocky shoreline and magnificent white sand beaches. The rocky shorelines provides habitat for a variety of marine species that thrive in this harsh environment. Although the rocky shoreline is not prone to erosion by humans, development can harm the rocky shoreline habitat that marine species depend on. The beaches are a vital tourist attraction



SOUTH ABACO: Natural Infrastructure

Source: The Nature Conservancy



PINE FOREST



COPPICE: Dry broadleaf evergreen formation (DBEF)



SANDY BEACH



MANGROVES



ROCKY SHORES

and as such have a high development and high conservation value. The beaches are vulnerable to development because removal of native vegetation from the shoreline can cause erosion of these beautiful beaches.

The variation in landscape and flora on South Abaco provides unique opportunities for environmentally conscious development. The diversity in features provides a range of development opportunities, but development models should be native to the Bahamas and suitable to the natural environment. Development should take full advantage of the natural resources *and* ensure the protection of these resources for generations to come. The following chapters of this document outline proposed development models that are appropriate for South Abaco.

Source: [Taking a Regional Planning Approach To Create Conceptual Futures For Abaco](#), The Bahamas, Utah State University, Bioregional Planning Program, College of Natural Resources, May 2006.

Map based on 2001 data provided courtesy of The Nature Conservancy.

WILDLIFE

The value of the South Abaco region is not only in the vegetation and landscape but also in the variety of wildlife species that inhabit it. The species reside in all parts of the natural environment of South Abaco, including air, land, and sea. Therefore, careful consideration of development in any of these places is essential. The variety of vegetation that covers South Abaco shapes protective habitats where endemic and non-endemic species live. These habitats provide homes for species as well as plentiful nourishment and protection to the species in all stages of development. Prevalence of these habitats in South Abaco provides limitations to and opportunities for development. Protection of these vital habitats is important to the survival of many endemic species of the island. Of these, the most famous and critical species is the Abaco Bahama Amazon Parrot (*A. leucocephala bahamensis*).

South Abaco is home to the endangered Abaco Parrot. The Abaco Parrot is a subspecies of the Bahama Parrot which is a subspecies of the Cuban Amazon. The Abaco Parrot shares the same feather markings as the Bahama Parrot. It is distinguished by green body feathers, a white head, and a colorful swath of red feathers on the inside neck. Although the species are similar in appearance, it is the nesting habits of the Abaco Parrot that distinguish it. The Abaco Parrot is unique amongst its species. Although it spends the majority of its life in the tree canopy, it nests in the naturally occurring hollow limestone cavities found in the ground below the pine woodlands.¹

According to Abaco Parrot researcher and expert Caroline Stahala, the pine woodlands are an essential habitat for the Abaco Parrot. The limestone cavities provide nests for the parrot during the breeding season and the pine seeds provide nourishment to the fledglings.² The Abaco Parrot habitat also reaches beyond the pine woodlands and into the Dry Broadleaf Evergreen Formation (DBEF) of South Abaco. After the breeding season, the parrot relocates to the DBEF where it finds habitation amongst the varieties of coppice. The pine woodlands and DBEF are critical habitats for the less than 3,000 Abaco Parrots that exist. Conventional development in the pine woodlands and DBEF could be detrimental to the survival of the Abaco Parrots. Therefore, sensitivity to the spatial regions the parrot inhabits as well as a variety of other bird species (including the Bahamas Mockingbird, Loggerhead Kingfisher, Kirtland's Warbler, and the West Indian Woodpecker) is critical when considering development in South Abaco.³ The survival of the Abaco Parrot in its natural habitat is particularly important lest the proverbial symbol of Abaco's identity be reduced to a hollow cartoon.

In addition to the birds of South Abaco, the pine woodlands and DBEF are a habitat for land species including the Wild Boar. The Wild Boar is dependent on the vegetation endemic to South Abaco for habitation and nutrition. The Wild Boar is a locally hunted species whose shared habitat with the Bahamas Parrot is vital to its continued survival on Abaco.⁴

South Abaco is known for its world-class fishing sites including the nutrient rich tidal flats providing exceptional bonefishing. The fish species of South Abaco are dependent on the nutrient rich waters and mangrove nursery habitats. Clean water and thick stands of mangroves ensure the continued existence of rich fishing waters for both commercial and sport fishing. Any damage to the waters and mangrove stands of South Abaco threaten fish species dependent on these habitats, including bonefish, grunts, parrot fish, snappers, and tarpon.⁵ Other marine species, including turtles, are dependent on the nutrient rich waters and mangrove nursery habitats of the South Abaco. Several varieties of sea turtles inhabit the waters of South Abaco, including green turtles, hawksbill turtles, leatherback turtles, and loggerhead turtles. The turtles thrive in clean waters, mangrove stands, and sandy beach habitats. Although turtles live at sea for the majority of the year,

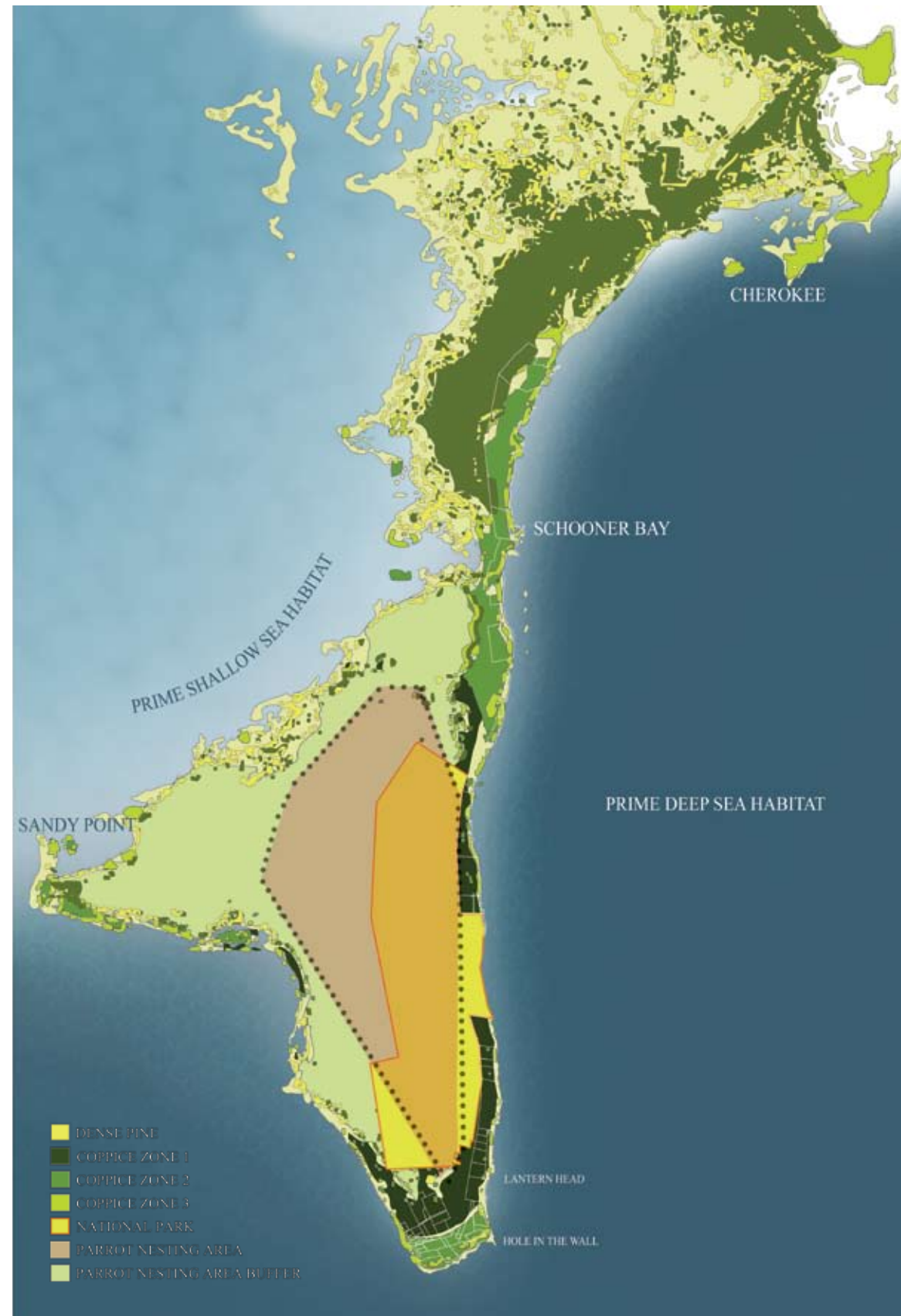
¹ Bahamas National Trust, 2008

² Appendix A: Guidelines for the Development in Parrot Habitat on Abaco, Carolina Stahala, 2008

³ Taking a Regional Planning Approach To Create Conceptual Futures For Abaco, The Bahamas, Utah State University, Bioregional Planning Program, College of Natural Resources, May 2006

⁴ Ibid.

⁵ Ibid.



SOUTH ABACO: Coppice Management Overlay Plan

Source: Caroline Stahala



ABACO PARROT



ABACO PARROT



AN ABACO PARROT'S SUBTERRANEAN NEST



WEST INDIAN WOODPECKER



BONEFISHERS



BONEFISH



KIRTLAND'S WARBLER



FISHERMAN



PARROT FISH



BAHAMA MOCKINGBIRD



WILD BOAR



LOGGERHEAD TURTLE

they utilize the sandy beaches for nesting before returning to the sea. Life, for turtles, begins on the sandy beaches of South Abaco. The mangrove stands are a vital nursery habitat to the juvenile turtles. The mangroves provide protection and nutrients as the turtles mature. Therefore, development sensitivity to the sandy beaches, waters, and mangrove stands are essential to the fish and turtle habitats to ensure the continued existence of the species.

Protection of these species' natural habitats is critical for their future survival. But, the protection of the species and their habitat should also be seen as an asset for appropriate development models that can foster a local tourism economy. The fishing industry, both commercial and sport, as well as opportunities for a growing scuba diving and bird watching market could be irrevocably compromised by irresponsible development. In a world where pristine natural environments are becoming ever fewer, South Abaco offers a unique opportunity for high quality eco-tourism unmatched in the Caribbean. Following the discussion of the South Abaco region, this document contains a proposed development model that addresses this issue.

COPPICE MANAGEMENT OVERLAY PLAN

This document proposes that a legal framework be introduced to protect the critical habitat of the endangered Abaco Parrot. As the current extent of the Abaco National Park does not protect all known nesting areas, it is highly recommended that the boundaries of the existing national park be expanded to include them. For more discussion on this issue, please review the proposed *sector plan* within this document. The sector plan is part of the proposed legal code (SMARTCODE) found in Appendix A that seeks to regulate regional planning issues in South Abaco.

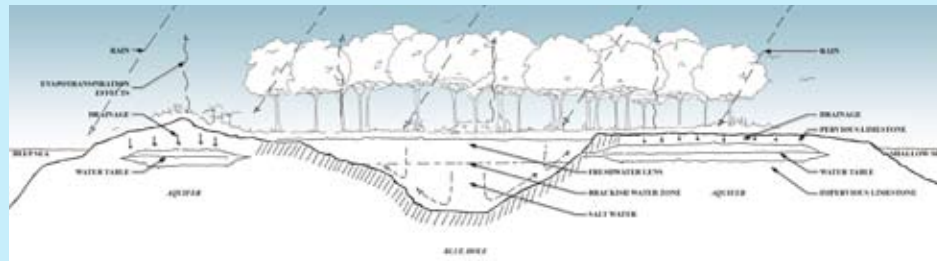
In response to the critical attention demanded by the habitat conservation efforts, this document also proposes a Coppice Management Overlay Plan as part of the code. This management plan is based on extensive work by Abaco Parrot researcher and expert Caroline Stahala of Florida State University and can be found within Appendix A. The requirements of the code in regards to parrot habitat conservation are as follows:

- To ensure known parrot nesting opportunities, ground-disturbing activity that could cause limestone to crack or break should not occur within the Nest Area (excluding existing designated roads).
- To protect undocumented nesting areas, activities within the Nesting Area Buffer that consist of vegetation-clearing or ground disturbance must be preceded by nesting surveys prior to initiation. Newly discovered nests must be surrounded by a min 300 ft buffer where no activity is to occur (excepting when in compliance with the existing Fire Management Plan).
- Properties located within Zone 1 must preserve 90% of 2008 coppice, of which 60% must remain contiguous with a minimum area-to-perimeter ratio of 0.5.
- Properties located within Zone 2 must preserve 70% of 2008 coppice, of which 45% must remain contiguous with a minimum area-to-perimeter ratio of 0.5.
- - Properties located within Zone 3 must preserve 50% of 2008 coppice, of which 35% must remain contiguous with a minimum area-to-perimeter ratio of 0.5.
- Land on which coppice has been removed must undergo parrot conservation mitigation or be traded for land of equal conservation value and quality for preservation.
- Within all coppice zones, clearing shall be limited to the footprint of new structures. Structures should avoid high quality coppice.
- New developments within all coppice zones shall include coppice corridors contiguous with adjacent properties.
- Coppice preservation is preferred to replanting and restoration. Coppice should be preserved in significant clusters. All new plantings shall be native species.

WATER RESOURCES

According to a 2004 report by the U.S. Army Corps of Engineers, Abaco currently possesses good fresh water resources, although they are extremely finite and fragile. Because Abaco's ground water is just below the surface, it is very susceptible to contamination from septic tanks and other pollutants, as well as saltwater inundations from overdriving and storm surges.¹ The diagram on this page illustrates that the freshwater aquifer is primarily concentrated away from the coasts beneath the pine forests. These forests assist in the fresh water collection through absorption, filtration, and water storage. Irresponsible development and deforestation due to development can cause irreversible damage to the fresh water lenses through contamination. This suggests that most new coastal development should be restricted to models characterized by extremely high water conservation efficiency. Potential pollutants such as dumpsites, cemeteries, and golf courses should be prohibited in areas that are part of the aquifer's watershed.

The map also shows the location of known fresh water marshes and blue holes. Inland blue holes are vertical caves that are often part of a larger underground cave system caused by natural erosion processes. They can be thought of as windows into Abaco's aquifer, featuring a freshwater lens floating above layers of seawater, hydrogen sulfide, and anoxic seawater. Because the aquifer is directly exposed to the air in these places, inland blue holes are particularly susceptible to contamination and must be protected with buffers that prohibit possible polluting activity. While many inland blue hole locations have yet to be documented, this plan recommends that known blue holes be protected by law as soon as their location is documented and verified. Among other places, Brian Kakuk of the Bahamas Caves Research Foundation has already identified an extensive network of interconnected blue holes on the west side of Great Abaco Highway near Bahama Palm Shores. A significant number of blue holes are also thought to feature evidence of pre-Columbian cultures, making their protection significant from a historical and cultural preservation perspective. Finally, blue holes' unusually fantastic and beautiful underwater landscapes present a promising market opportunity for local cave diving guides as an increasing number of visitors is looking for unique and authentic Abaconian experiences.



Although South Abaco possesses relatively large amounts of underground freshwater compared to other Bahamian islands, care should be taken to conserve water as much as possible for future generations and the continued health of the natural environment. Islands such as Andros are already shipping water to places like Nassau and future development on Abaco can quickly strain existing water resources if the development model is to remain conventional. This document recommends a number of strategies to conserve water and facilitate effective recharging of the aquifer:

- Rainwater collection in settlements for use in gardening, toilets, and other appropriate uses. Rainwater can also be treated through reverse osmosis to provide drinking water.
- Light imprint development. Light imprint is an approach to storm water management that maximizes the use of pervious settlement infrastructure to help recharge the aquifer naturally. More information on light imprint can be found throughout this document or online at www.lightimprint.org.
- Landscaping standards that require the use of native plants to minimize the need for excessive watering.

¹ Taking a Regional Planning Approach To Create Conceptual Futures For Abaco, The Bahamas, Utah State University, Bioregional Planning Program, College of Natural Resources, May 2006



SOUTH ABACO: Water Resources

Source: US Army Corps of Engineers



AERIAL VIEW OF A BLUE HOLE



BLUE HOLE IN A PINE FOREST



DIVERS IN A BLUE HOLE



DIVER IN A BLUE HOLE



HOLE-IN-THE-WALL: Lighthouse



LANERN HEAD: Bulldozed survey lines



SOUTH ABACO: Logging roads



GREAT ABACO HIGHWAY



SOUTH ABACO: Human Infrastructure

HUMAN INFRASTRUCTURE

While South Abaco includes a significant amount of undeveloped land, several generations of development infrastructure have left their mark on the island and will inform future planning decisions. Among these are a number of pre-loyalist settlement ruins – important and little understood monuments to the history of the Bahamas. This plan recommends that government-sponsored efforts should be made to locate and thoroughly document these antiquities sites, even if many of them have yet to be discovered or studied. Keith Bishop of Islands by Design, Inc. has independently sponsored a preliminary study of such ruins near Lantern Head in South Abaco, and a significant number of remains are known to exist at the abandoned settlement of Alexandria. All historical sites, including the Hole-in-the-Wall lighthouse building group, should be preserved via an appropriate buffer or, when sufficient remains are present, restored and adapted for reuse by an appropriate function.

The 20th century timber industry introduced a regular network of logging roads that are still evident in the South Abaco landscape. Today, many of these unpaved logging roads are used to access the woodlands by hunters, birders and researchers, and fishermen sometimes use them to access valuable bonefishing grounds in the Marls. In keeping with conservation objectives, it is not recommended that they should be paved or disturbed in any other way. In the case that undeveloped private land requires road access, this should only occur within existing roadways, existing disturbed corridors and existing road reservations set aside for access purposes. New corridor cuts, such as the recent imprudent surveying cuts near Lantern Head, will result in an unacceptable level of destruction to vegetation and the fragile layer of topsoil.

Great Abaco Highway is perhaps the most significant infrastructure component of South Abaco. Only recently paved in the 1990s, it provides access to all existing settlements and the Sandy Point airstrip and should be a primary consideration in locating new development. As new roadways through the bush are undesirable for conservation reasons, future compact settlements should be adjacent to existing highway infrastructure rather than require new access routes. At the same time, existing roadways should not be lined with strip development, as discussed on the following page.

Other existing infrastructure considerations include Sandy Point’s water cistern and distribution network, and the golf course at Winding Bay, both of which have some impact on local freshwater resources. All existing developed areas feature conventional septic systems, although the new settlement Schooner Bay intends to use more progressive alternative treatment systems to achieve very high quality effluent levels. As new development occurs in South Abaco, especially near existing coppice and mangroves, existing wastewater standards and associated regulation will need to be improved significantly to prevent the possible contamination of groundwater.

Electric power is generated locally via diesel plants and transmitted from Marsh Harbour. Almost all power is carried on overhead power lines using conventional wooden poles, including along the highway. In some cases, overhead power lines are excessively and inefficiently laid, which raises serious concerns about safe and reliable power supply in the event of a major storm. Especially in settlements, it is recommended that new power lines are buried underground whenever possible.

EXISTING OWNERSHIP

The project team's limited access to maps and public records regarding property ownership has made it difficult for this proposal to verify precise property lines in some cases. The information illustrated here and throughout this book represents a best attempt at summarizing existing property holdings on Abaco.

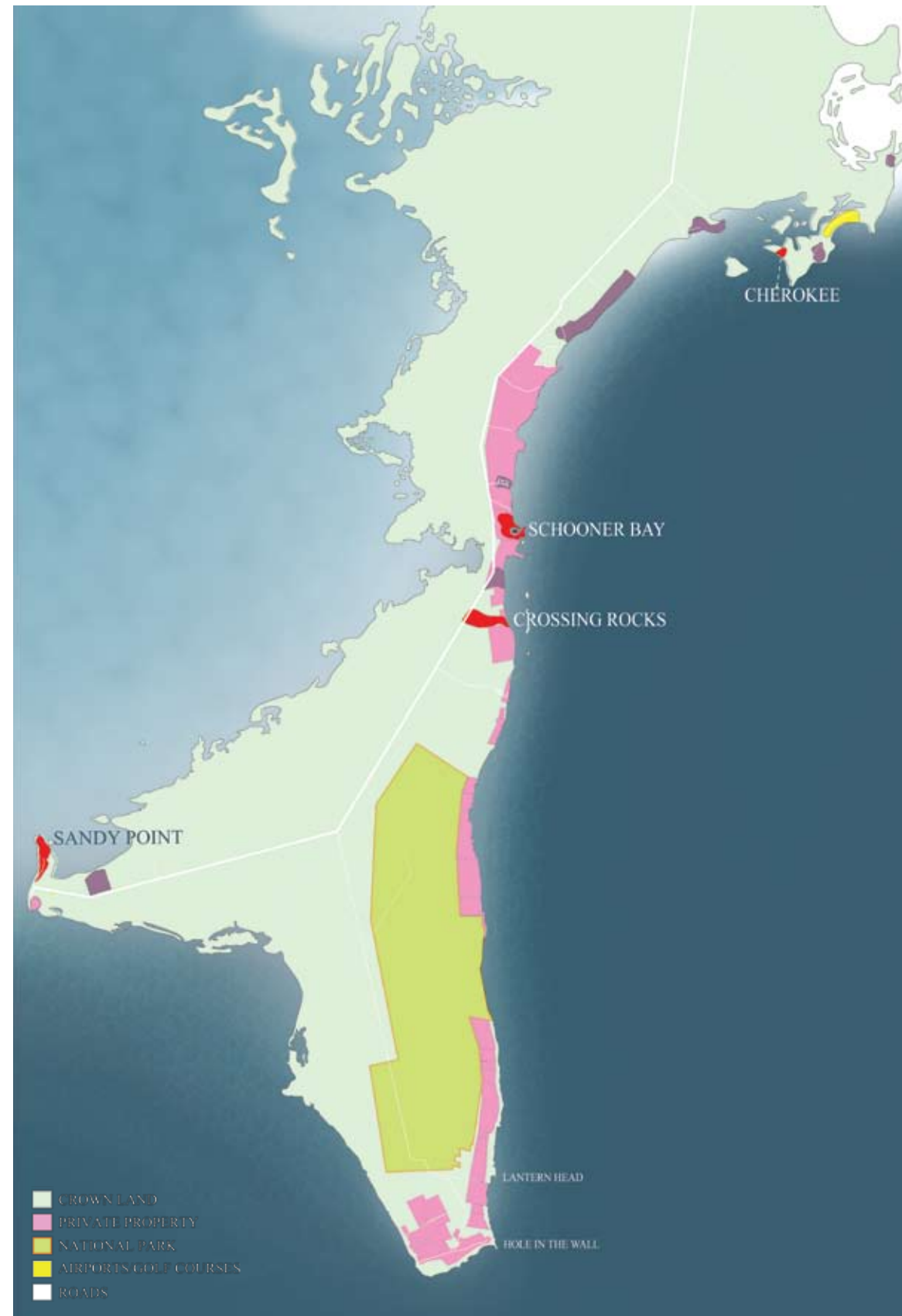
The vast majority of South Abaco is held as crown land by the government. In general, crown land is protected from private development, but the government can sell or grant portions of it to citizens, developers, and special interest groups. The Abaco National Park, the new settlement of Crossing Rocks, and the Sands Cove subdivision are examples of properties that were formerly crown land. At its pleasure, the government can also sell timber rights and coastal sites with tourism potential to private interests. Crown land represents an important asset to Bahamian government, but it has been said that individual transfers of crown land to private interests has often been without consideration of any larger vision or planning strategy. While government must maintain authority over its own assets, it is important that it does so with a view towards long-term sustainability and planning rather than short-term gains.

A variety of settlements and subdivision exist or are under construction throughout South Abaco. Settlement lots are generally privately owned, although some confusion exists regarding ownership in Sandy Point due to uncertainty about historic grants and title. Subdivisions are generally privately developed with the exception of Sands Cove, where the Ministry of Housing is pursuing the development of affordable lots and housing.

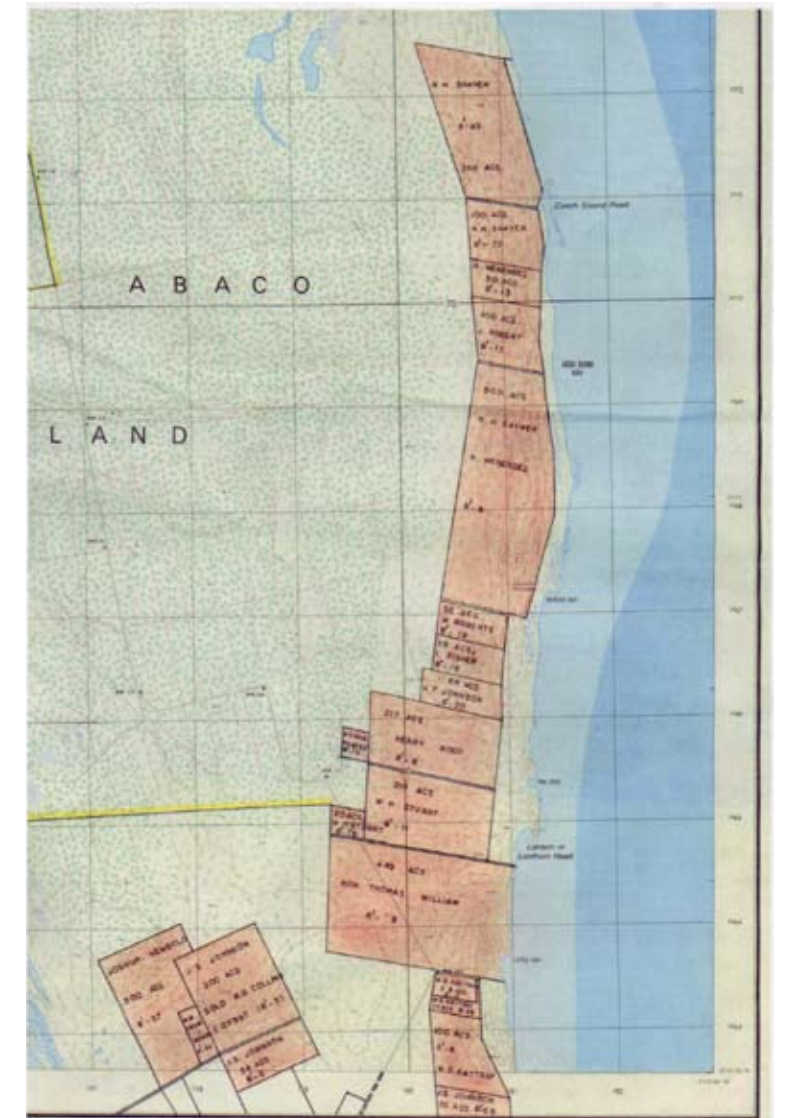
A variety of undeveloped private properties exist, especially on the Atlantic coast adjacent to the Abaco National Park. Many of these properties were inherited from royal grants made to British subjects during colonial times. A number of these properties used to be inhabited by pre-loyalist Bahamians, although all former homesteads and small settlements have now fallen into ruin and relative obscurity. There has been a recent interest in developing some of these properties, including a collection of former grants near Hole-in-the-Wall and Lantern Head. Plans are in the works to develop this area with conventional resort projects and imprudently executed surveying work has caused significant destruction to the critical coppice.

The properties in this area have unique and somewhat challenging characteristics in respect to development. Their remoteness from an adequate road is probably the main reason that development has been absent so far. While an extremely bumpy forestry road exists to the lighthouse at Hole-in-the-Wall, driving time from Marsh Harbour is several hours today. Their adjacency to Abaco Park makes it virtually impossible to introduce new roads, although a 60 ft road reservation exists between them and the park.

As can be seen in the enlarged surveys from the 1970s, almost none of the private properties actually meet the shoreline. The historical reason for this is that the crown reserved the shoreline so that farmers could harvest guano in the shorelines but caves for use as fertilizer, which also explains the occasional crown reservation between granted properties. While this activity does not occur today, it is important for Bahamians to recognize the value of public ownership of this shoreline, especially given its significance as habitat to sea turtles, fish and birds. Because any tourism-related development would depend on shoreline access, public ownership of this land also provides significant leverage in controlling how development is to occur, if at all. This issue should be considered carefully, especially given these properties' intimate proximity to the National Park, the coppice and its watershed, and the Abaco Parrot's critical habitat.



SOUTH ABACO: Ownership patterns



LANTERN HEAD: Private property



HOLE-IN-THE-WALL: Private property



HOLE-IN-THE-WALL, ABACO



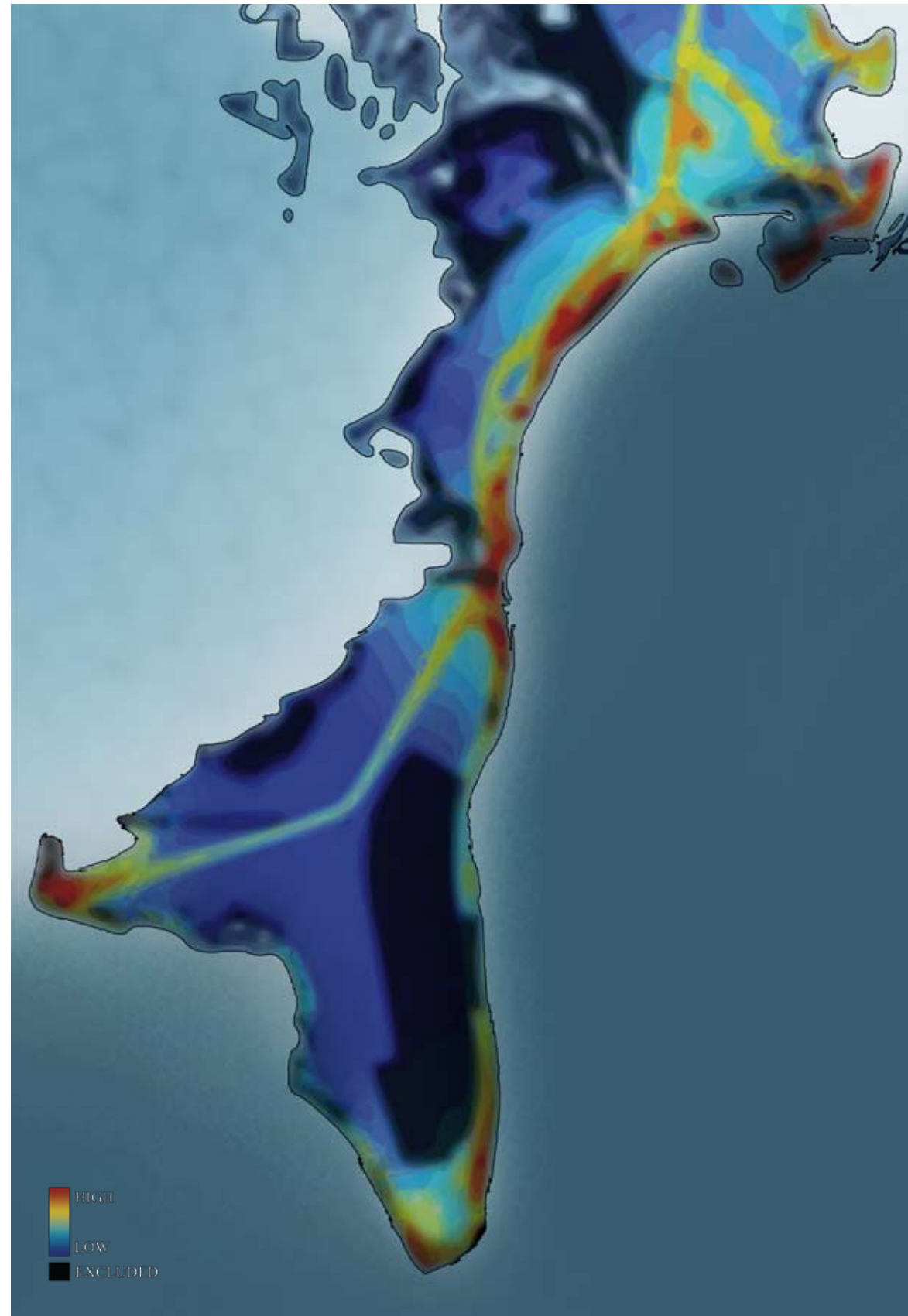
HOLE-IN-THE-WALL: Looking west



GREAT ABACO HIGHWAY: Showing Sandy Point in the distance



CROSSING ROCKS: Looking west



SOUTH ABACO: Development Pressure

Source: Utah State University

DEVELOPMENT PRESSURE

The diagram on this page is based on data and maps assembled by Utah State University's 2006 regional planning assessment. The Utah State team produced a prediction model based on available data to determine which parts of Abaco are likely to experience varying degrees of development pressure. The model's criteria included the proximity to roadways and urban infrastructure, the proximity to sandy beaches, and land ownership. Mangroves, swamps and protected areas were excluded. Population growth on Abaco between 1990 and 2000 was 3.1% per year, mostly due to Haitian migration and second home development.¹

As the diagram illustrates, development pressure is highest near urban infrastructure, the Great Abaco Highway, and the sandy Atlantic coastlines. This diagram is useful in projecting what is likely to occur if no action is taken to prepare a plan or provide alternative regulation to existing policy. Several upcoming developments are certain to increase highway traffic in the near to mid-term future:

- The addition of a terminal with point-of-entry status at the Sandy Point airstrip.
- The construction of a larger ferry port near Rocky Point (south of Sandy Point).
- The growth of settlements and subdivisions.

Existing settlements are likely to sprawl out along the highway in the form of conventional strip development. Pressure will build for government to release crown land for more development, which will be touted as essential to economic development. Nassau and conventional American sprawl already provide the lessons for how short-sighted such development is in terms of fuel dependency, environmental degradation, social and cultural disintegration, as well as aesthetic impact. Protecting the highway corridor from conventional strip development is therefore essential. This document proposes to accomplish this via the sector planning requirements that limit development types in South Abaco. In the event that sector planning or similar planning mechanisms are not employed, it is recommended that a wide conservation buffer be established along the length of this highway.

The diagram also identifies the Atlantic coastal areas as development-prone due to their pristine shoreline locations. A relatively continuous belt of shoreline development is projected from Hole-in-the-Wall to Casuarina Point, raising concerns about the long-term sustainability of South Abaco. Existing planning mechanisms and policy are likely to, at best, be unable to stop the sprawling of South Abaco's coast and at worst, encourage sprawling development. Such projected trends would have a devastating impact on the settlement culture, long-term economic sustainability, environmental health, and beauty of South Abaco.

In particular, many of the development-prone areas do not possess the ability to provide a safe harbor or adequate protection from hurricane wave run-ups. Safe harbors are essential in providing access to much of the Bahamian environment, the local economy and tourism activities, and should be a prerequisite for significantly sized development projects. What is needed is a regional planning approach that can guide future development towards desired, economically sustainable, profitable, environmentally sensitive and beautiful solutions.

¹ Taking a Regional Planning Approach To Create Conceptual Futures For Abaco, The Bahamas, Utah State University, Bioregional Planning Program, College of Natural Resources, May 2006

SECTOR PLAN

Sector Planning is a land-use based coding system that integrates the largest practical geographic region. It overlaps property lines as well as administrative boundaries if necessary. It guides the form of the region in order to protect natural infrastructure while promoting a sustainable development culture. Its purpose is to identify what type of development models are permitted and prohibited in different parts of the region, in this case South Abaco. Sector planning is different from Zoning because it identified land-use at a regional scale, designating general types of development or conservation rather than stipulating specific uses such as residential and commercial activity.

The plan illustrated on this page identifies proposed growth and open space sectors which are regulated in the proposed code (see Appendix A / SMARTCODE). The proposed sector boundaries were identified in collaboration with Abaconian conservation experts and leaders in the development community.

The primary focus of this sector-planning proposal is the identification of appropriate development models and areas, as well as the provision of a Coppice Management Overlay Plan. Although the proposed code could be amended, it does not provide any other bioregional planning and does not seek to override existing management plans such as the Fire Management Plan or Forestry Act. However, it is designed to take precedence over any conflicting planning regulations, such as the Private Roads & Subdivision (Out Islands) Act and any relevant provisions within the existing Bahamian building code (i.e. setbacks, building heights, etc.). Existing regulations that are not addressed by the proposed code would remain in force.

Sector Planning occurs through a two-part sequence of sector determinations. The first step is the designation of open lands into Open Sectors (O-1, O-1-E, and O-2) for their continued preservation or reservation. The code carefully establishes the permitted characteristics of each sector. The second step is the designation of areas where growth is to be promoted or permitted into Growth Sectors (G-1, G-2, G-3 and G-4). These sectors range in permitted development intensity and clearly define their respective permitted types of development. There is also a Special District (SD) designation for areas that do not correspond to generally desirable development types but have been permitted as a special exception to the rule (such as the airstrip and the golf course).

Please review the following three pages for summary definitions of the sectors and the permitted development types. A legal definition of the same can be found in the proposed code (Appendix A).

Source: Duany, Andres; Sandy Sorlien, and William Wright, SmartCode, Version 9.2, Miami, Florida: Duany Plater-Zyberk and Company, May 19, 2008.



SOUTH ABACO: Sector Plan

O-1
PRESERVED OPEN SECTOR



ABACO NATIONAL PARK



ABACO NATIONAL PARK

This sector consists of open space that is already protected from development in perpetuity. The Preserved Open Sector includes areas under environmental protection by law or regulation, as well as land acquired for conservation through purchase, by easement, or by past transfer of development rights (TDR), if applicable.

In South Abaco, this sector is comprised of the Abaco National Park, including pine forest, dry broadleaf evergreen formation (DBEF) or coppice, and a portion of the critical Bahama Parrot habitat. The intent of this sector is the protection of South Abaco open space in perpetuity.

O-1-E
EXPECTED PRESERVED OPEN
SECTOR



COASTS



WETLANDS

This sector consists of open space that is not currently protected from development in perpetuity, but shall be. The Expected Preserved Open Sector includes areas that ought to be under protection by law, as well as land acquired for conservation through purchase, by easement, or by past transfer of development rights (TDR), if applicable.

In South Abaco, this sector is comprised of crown lands that are not currently protected but are of extremely high environmental concern. These crown lands include critical Bahama Parrot habitat, a proposed Abaco National Park expansion, critical wetlands and mangroves, dry broadleaf evergreen forests or coppice, pine forest, known blue holes and their underground cave networks, beaches, rocky shores and historic cultural monuments. It also includes the existing strip of crown lands that separate the private lands from the Atlantic coast. The intent of this sector is the protection of South Abaco open space in perpetuity.

O-2
RESERVED OPEN SECTOR



CROWN LAND: Great Abaco Highway



CROWN LAND: Near Sandy Point

This sector consists of open space that should be, but is not yet, protected from development. Parts of this sector may change their designation to Preserved Open Sector (O-1) or Restricted Growth Sector (G-1).

In South Abaco, this sector is comprised of undeveloped crown lands that include wetlands (mangroves), coppice, pine forest, wildlife habitats, aquifers, undocumented underground cave networks (blue holes), beaches and cliffs, historic/cultural heritage sites, steep slopes, open space to be designated, farmland, viewsheds, and flood plains. The intent of this sector is to reserve lands that should be conserved until parts of it can be preserved as Preserved Open Sector (O-1) or partially preserved as Restricted Growth Sector (G-1). It is important to note that under this scenario, the O-2 crown land could not be designated for any other use.

G-1
RESTRICTED GROWTH SECTOR



CONCORDIA: Example of an existing ECOS



LANTERN HEAD: Proposed ECOS

This sector is assigned to areas that have value as open space but nevertheless are subject to development, either because private development rights have already been granted or because there is no legally defensible reason, in the long term, to deny them.

In South Abaco, this sector permits restricted Eco-Settlements (ECOS) and, in the event that an existing paved roadway is within close proximity, restricted Clustered Land Settlements (CLS). The intent of this sector is to permit a limited number of new settlements with high or very high conservation standards on privately owned lands in South Abaco.

G-2
CONTROLLED GROWTH SECTOR



CHEROKEE: Example of an existing CLS



ABACO STATION: Proposed CLS

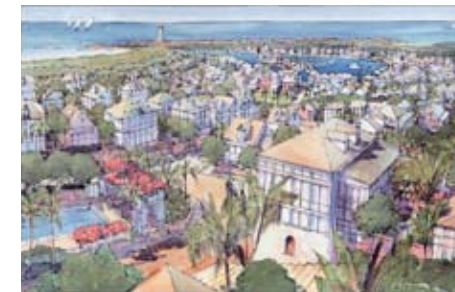
This sector is assigned to those locations that can support some mixed-use activity by virtue of their proximity to an existing or planned thoroughfare. Conservation requirements in this sector are relatively high.

In South Abaco, this sector permits small Clustered Land Settlements (CLS) and Traditional Neighborhood Settlements (TNS). Within this proposal, sector G-2 has only been applied to a limited area at the intersection currently known as "The Y". This has been done to promote the development of a very small settlement that can act as a welcome center, park management and research supply facility for South Abaco. A proposal for this settlement, titled Abaco Station, can be found within this document.

G-3
INTENDED GROWTH SECTOR



NEW PLYMOUTH: Example of an existing TNS



SCHOONER BAY: TNS under construction (Source: DPZ)

This sector is assigned to those locations that can support substantial mixed-use activity by virtue of proximity to an existing or planned regional thoroughfare and/or transit. This sector is a tool to identify areas where new settlements or settlement expansions should take place. Conservation requirements in this sector are limited to critical characteristics.

This sector permits Regional Settlements Centers (RSC) and Traditional Neighborhood Settlements (TNS). Within the South Abaco proposal, it has only been used to allow for the expansion and retrofitting of the conventional subdivision Sands Cove into a complete traditional settlement. A proposal for Sands Cove can be found within this document.

G-4
INFILL GROWTH SECTOR



DUNMORE TOWN: Infill in a historic settlement



SANDY POINT: Proposed infill

This sector is assigned to already developed areas that have the potential to be modified, confirmed, or completed in the pattern of appropriate infill development.

In South Abaco, this sector permits infill Regional Settlements Centers (RSC) and infill Traditional Neighborhood Settlements (TNS). The intent of this sector is to allow for the managed growth of existing urbanized areas, including existing places such as Sandy Point and Crossing Rocks. The new settlement plans for Schooner Bay already meet the proposed code requirements and are therefore in full compliance with the G-4 sector expectations. A proposal for Sandy Point can be found within this document.

PERMITTED SETTLEMENT TYPES

Because the code seeks to prohibit conventional automobile-dominated development patterns, the only permitted models of growth are mixed-use Bahamian settlement types. The code defines which settlement types are permitted in what sectors and stipulates special requirements such as parrot corridors and proximity to existing roadways. Available settlement types are based on the best Bahamian settlement traditions improved for the 21st century. The code also prohibits conventional resort development, instead promoting the building of quality settlements that are simultaneously resorts (such as Hope Town or Dunmore Town, Harbour Island) within which hospitality uses occur.

ECO-SETTLEMENTS (ECOS):

Very small settlements intended for remote areas with very high environmental impact standards and landscape preservation requirements. These settlements are expected to provide their own water, electricity, wastewater treatment, and limited independent food production. A proposed eco-settlement can be found within this document.

CLUSTERED LAND SETTLEMENT (CLS):

A small compact settlement type similar to a hamlet intended for rural areas with high landscape preservation requirements. These settlements are oriented towards a common destination such as a general store, meeting hall, school or church. This settlement type must be within close proximity to existing paved roadways. This settlement type is roughly analogous to the settlement of Cherokee.

TRADITIONAL NEIGHBORHOOD SETTLEMENT (TNS):

A compact settlement type that is roughly structured around a five-minute walk from center to edge. The settlement is oriented towards a common destination consisting of a mixed-use center and is within close proximity to an existing paved roadway. This medium-sized settlement type has some landscape preservation requirements and is roughly analogous to Dunmore Town, Harbour Island.

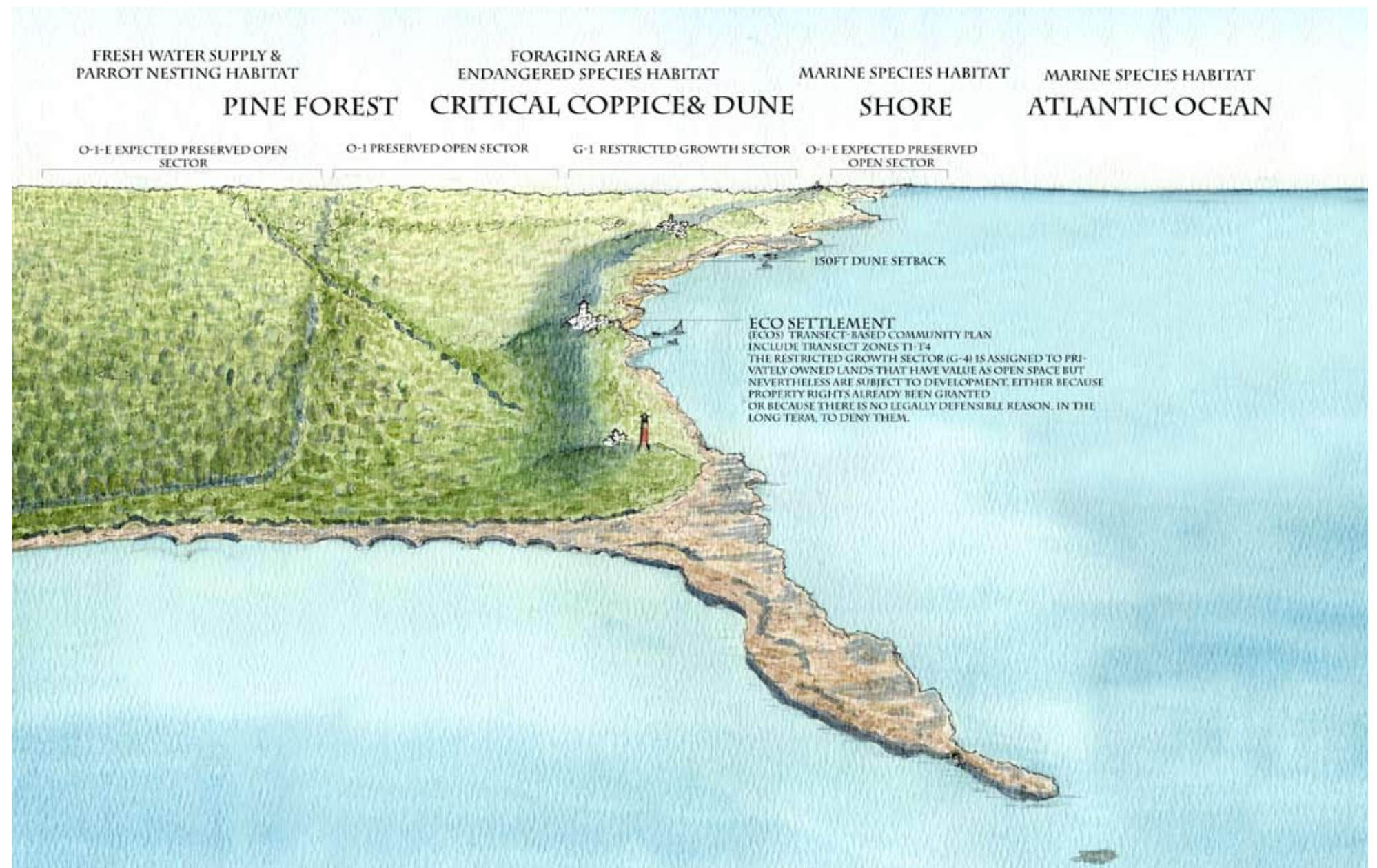
REGIONAL SETTLEMENT CENTER (RSC):

A compact settlement type that is roughly structured around a ten-minute walk from center to edge, possibly immediately adjoining other settlements or neighborhoods. This settlement takes the form of a relatively high-density mixed-use center connected to other centers by transit. Only the most critical landscape elements must be preserved. This type would be roughly analogous to historic Nassau had it not been deconstructed by conventional development models.

TRANSIT ORIENTED SETTLEMENT (TOS):

A transit-oriented settlement is a TNS or RSC that is permitting an increased density to support a thoroughfare, rail or ferry transit network. Marsh Harbour has the opportunity to become a transit-oriented settlement due to its status as the hub for the Abaconian ferry network.

The diagram on this page provides an illustrative description of how the sector plan is intended to synchronize permitted development types, conservation, and natural ecosystems. It uses the area near Hole-in-the-Wall as an example to demonstrate the relationship between the sectors, potential eco-settlements, and the natural landscape.



HOLE-IN-THE-WALL: An illustrative summary of sector planning proposals for South Abaco, focusing on a small area of the region.



SANDY POINT AIRSTRIP



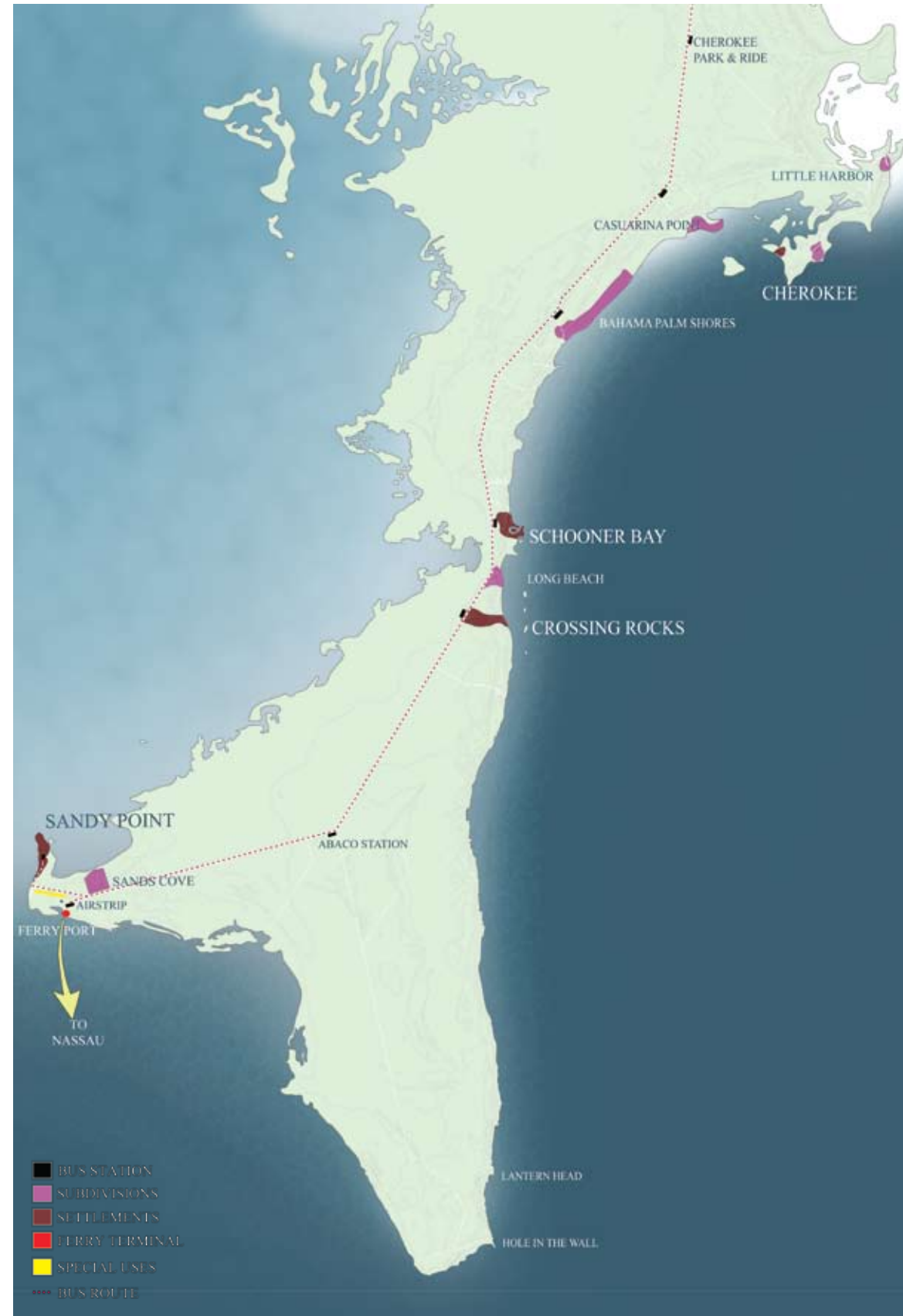
BAHAMAS FAST FERRIES



BICYCLES: Useful for locals and tourists



BUS TRANSIT



SOUTH ABACO: Transportation Network

TRANSPORTATION NETWORK

Beyond the provision of roadways, a growing region such as South Abaco is best served by the long-term planning of a transportation network. This includes the provision of all appropriate transportation modes and scales. Current transportation is limited to independent automobile ownership, limited ferry service from Sandy Point to Nassau, and an airstrip. This document proposes that the following transportation components be integrated into South Abaco planning and settlement culture to allow for diverse options, higher energy efficiency, and improved access for the population.

BUS SYSTEM

This document proposes the establishment of an improved Abaconian bus system that serves commuting residents and visitors interested in moving between various places. Bus service should be comfortable, frequent and on time to promote high ridership. In conventional automobile-dominated environments, bus service is usually thought of as a subsidized program for those who can't afford to drive. The record shows that this perception is changed when service quality is high and, most significantly, network destinations are compact, walkable, mixed-use places of high aesthetic value. Few people choose to ride busses when most destinations are automobile-dominated and unpleasant environments. The diagram on this page illustrates the proposed route and stops. A stop has been introduced at the proposed Abaco Station welcome center (formerly known as "the Y") to serve the national park and the proposed Eco-settlements.

AIRPORT AND FERRY INTERMODAL TRANSPORTATION HUB

The bus system is also proposed to serve an expanded airstrip and a new ferry port. The airstrip is proposed to be expanded with a terminal featuring port-of-entry status. This would allow for international flights to fly directly into South Abaco, reducing the amount of vehicular miles traveled from Marsh Harbour. It would also offer improved employment and development opportunities for the Sandy Point and Crossing Rocks communities. Recent planning efforts have also proposed a relocation of the ferry service from downtown Sandy Point to a new port facility near Rocky Point. This new location promises a faster route to Nassau, more frequent service, and a higher freight capacity. The proximity of this port to the new airport terminal should be coordinated and can result in a powerful transportation ensemble that anchors the area. It is important to note, however, that increased transportation opportunities will likely result in increased development pressure, raising the need for a prescriptive development plan such as the one proposed within this document. A more detailed proposal for this intermodal transportation hub can be found on subsequent pages.

BICYCLE PATH NETWORK

To facilitate improved transportation options at a local level, this document proposes the establishment of a bike path network in the Sandy Point area. The network is proposed to link the Sandy Point settlement with Sands Cove, the airport, the new ferry terminal, and a recently approved project at Rocky Point. Such a network would increase alternatives not only for local commuters, but visitors of Rocky Point might visit Sandy Point via bicycle which can increase the number of local economic opportunities. Precedent for this type of activity and its benefits to the environment and the economy can be found on Mackinac Island (Michigan) and Nantucket Island (Massachusetts). An important prerequisite for the success of such a system is the development of settlements into most-loved places, as described in the introduction of this document. A further important purpose of the bike path is to afford children the opportunity to travel between the various communities, especially to go to school. This can foster responsible independence and reduces their reliance on bussing or chauffeuring by their parents.

THE ABACO PARK AREA

As discussed previously, the area around the Abaco National Park is of extremely high conservation value due to its provision of critical habitat, relationship to the watershed and aquifer, and aesthetic value. The project team was given the opportunity to visit the area south of the park near Hole-in-the-Wall and Lantern Head in order to examine conditions on site.

This area is characterized by an astounding beauty that is surprisingly dramatic due to its, for Bahamian standards, relatively significant topography. The shoreline alternates between sandy beaches and rocky shores, although no natural safe harbor exists nearby. A ridge that runs north to south, parallel to the Atlantic coast, features coppice that has been shaved down by generations of strong prevailing winds. The height of the ridge, which climbs to around 100 ft above sea level in places, afford panoramic views of the open Atlantic, much of South Abaco's coppice and pine forests, and the Northwest Providence Channel to the west. The western side of this ridge then drains into the thick coppice and pine woodlands so essential to the native species.

At Hole-in-the-Wall, long a landmark for sailors, the ridge features a historic lighthouse that operates via an automatic electric light. The lighthouse is in disrepair and its associated building complex has been abandoned. Many of the buildings are built of tabby construction and have a fine aesthetic character that needs to be restored. The lighthouse complex is accessed via a very primitive road and is connected to Hole-in-the-Wall via a small concrete path that leads to the remains of a pier and boat storage rails.

The area is generally undisturbed, although recent imprudent surveying processes near Lantern Head have severely destroyed vegetation and the fragile layer of topsoil/organic matter. Pre-loyalist homestead and settlement ruins can be found at Lantern Head and at High Bank, although documentation on the latter has yet to be undertaken.



HOLE-IN-THE-WALL: Looking northwest



HOLE-IN-THE-WALL: Looking north from the lighthouse



HOLE-IN-THE-WALL: Looking south from the lighthouse



HOLE-IN-THE-WALL: Looking west from the lighthouse



ROAD TO HOLE-IN-THE-WALL: Typical conditions



ROAD TO HOLE-IN-THE-WALL: Near Great Abaco Highway



HOLE-IN-THE-WALL: Looking south



HOLE-IN-THE-WALL: The lighthouse



ROAD TO HOLE-IN-THE-WALL



HOLE-IN-THE-WALL: Looking west



HOLE-IN-THE-WALL: Looking south



HOLE-IN-THE-WALL: The hole in the wall



ROAD TO HOLE-IN-THE-WALL: Traveling through the coppice



HOLE-IN-THE-WALL: Local architecture



HOLE-IN-THE-WALL: Local architecture

RESORT DEVELOPMENT

Conventional resort development typically features relatively large hotels, a closed environment, golf courses, and a conventional utility infrastructure that demands high water use and distant power transmission. The model typically relies on a cheap labor force, high numbers of visitors, and intense access to amenities such as beaches, marinas and nearby transportation (airports). The nature of the construction type and scale often demands a high degree of imported construction labor, materials and maintenance. Visitors of conventional resorts are more likely to expect conventional amenities, which place higher demands on air conditioning and electrical appliances. When systems fail over time, projects can become difficult to maintain because the Bahamas does not provide a sophisticated maintenance industry to sustain such a scale of development. This can mean further reliance on imported labor or the gradual transformation of the project into an obsolete and unmanageable relic.

The scale of such projects typically demands foreign financing that may or may not maintain a responsible relationship to Bahamian interests. As economic conditions change, mismanagement occurs, revenue expectations are found to have been inflated, or tourism preferences alter, conventional resort projects are sometimes abandoned with devastating effects on the local job market and economy (i.e. The Four Seasons on Exuma). Environmentally, such projects can bring irrevocable harm to natural eco-systems, in part because of their sheer physical scale and in part because they often bring with them contaminating elements. Due to the disadvantageous Bahamian soil conditions, golf courses often demand excessive use of fertilizers as well as water. On the Atlantic coast of South Abaco, golf courses are likely to destroy vast areas of critical coppice and shoreline habitat. Increased traffic demands would likely lead to the paving, widening or adding of new roads, which would provide threats to local wildlife. Conventional beach-front development and heavy tourist use is likely to affect the important habitat of sea turtles and other species. In all, conventional resort development is not seen as a benefit to South Abaco's environment, culture or long-term economic interests. Instead, it is highly recommended that Abaco and the Bahamas readopt the model of traditional resort settlements as discussed within the introduction of this document.

Due to the highly sensitive nature of the South Abaco environment and the absence of existing supporting infrastructure, this document suggests that development on private lands in the Abaco Park area should be in the form of small eco-settlements, if at all. As some may prefer the exclusion of any development in this area, existing rights to ownership are likely to demand some form of profitable development opportunity. If the complete preservation of these private lands cannot be achieved through purchase or other means, this document proposes that their development occur in accordance with the following proposals.

The concept of eco-tourism has been around for a while, and many have praised it for its highly sensitive approach towards environmental impact. However, it has also been said that eco-resorts are generally not profitable enough or are too idiosyncratic to be marketed effectively. This proposal intends to illustrate how design and technology can be integrated to provide an exceptional environment for tourism that under good management can be profitable, environmentally sensitive, beneficial to the local economy, and of true cultural value to the Bahamas.

TIAMO, ANDROS, THE BAHAMAS



CONCORDIA ESTATES, ST JOHN, U.S. VIRGIN ISLANDS



AMANYARA, PROVIDENCIALES, TURKS & CAICOS



ECO-RESORTS AND OTHER PRECEDENT

TIAMO, ANDROS, THE BAHAMAS

Precedent for successful eco-resorts exists in many places in the world, including the Bahamas. Tiamo is the name of the Bahamas first eco-resort on South Andros Island. Its core resort program includes eleven bungalows surrounded by 125 acres of preserved natural environment. Highly supportive of and integrated into local community life, Tiamo features construction with very high conservation standards. Because the buildings are based on traditional and historic Bahamian structures, local builders were able to perform most of the work. Learning from historical models and focusing on a small scale also allowed Tiamo to reduce its energy consumption without sacrificing guest comfort. Advanced technology provides solar power, sustainable wastewater management, and water conservation. Building designs can be cooled naturally throughout most of the year, reducing the need for mechanical air conditioning. In all, the Bahamas should be proud to feature such a project, and more should be done to learn how this model can offer expanded development potential in other parts of the nation, including South Abaco. To learn more about Tiamo please visit www.tiamoresorts.com.

ESTATE CONCORDIA, ST JOHN, US VIRGIN ISLANDS

Another nearby example of successful eco-resort development exists on the island of St. John in the US Virgin Islands. Founded in the 1970s, the project has gained international attention for its loyal visitors community that returns regularly and even maintains an active community life away from the resort. Surrounded by extensive nature preserves, Estate Concordia is particularly interesting to South Abaco because the resort is perched high on the hills above the sea, with footpaths leading down to the beach or rocky shores. Given the nature of private properties in South Abaco, vulnerability to wave run-ups and the relatively high ridge will likely demand resort locations that are removed from the shore itself. Estate Concordia provides a good example of how eco-resorts can function profitably over long periods of time even at some distance from the actual shoreline. Beyond this, Estate Concordia and its sister eco-resort Maho Bay feature a wide range of price levels, including tent campsites for a niche market of nature enthusiasts.

BANYAN TREE RESORTS



BANYAN TREE AND AMAN RESORTS

Banyan Tree and Aman Resorts are two examples of international resort companies that specialize in the construction of very small luxury resorts set within pristine natural landscapes. Although neither company currently offers officially identified eco-resorts, their very small footprint and high investment can provide a model that is likely to be adaptable to the needs of South Abaco. Located primarily in southeast Asian countries such as the Maldives and Thailand, both resorts are recently branching out to the Americas and might be good development partners to approach. Seeking pristine and isolated natural environments, this type of resort model thrives on exclusivity, small scale and exceptional quality of environment and resort facilities. Because this model seeks to provide an authentic experience, traditional building methods are preferred and lend themselves to higher energy-efficiency standards. Aman includes the Amanyara Resort on Providenciales in nearby Turks & Caicos. These two companies have been included in this discussion to help suggest that South Abaco might benefit from a similar development model due to its superb natural features and relative isolation. The following proposal suggests that exclusive eco-resort development and authentic Bahamian settlement making need not be mutually exclusive.

PROPOSED ECO-SETTLEMENTS

This page illustrates how the area around Hole-in-the-Wall and Lantern Head might develop if the attached code and sector plan were to be adopted as legal planning mechanisms. The area to the southeast of Abaco National Park is accessed via the existing unimproved roadway that leads to the Hole-in-the-Wall lighthouse. New crushed limestone roadways are only to be constructed within already disturbed corridors or the 60 ft road reservation between the national park and the string of private properties.

Arriving visitors and staff would arrive in the park at a welcome center near the highway, where staff drivers using appropriate vehicles would provide transportation through the park. A proposal for this welcome center is provided following the presentation of the eco-settlements. This low-impact transportation route is intended to help protect the endangered species, minimize vegetation clearing, and shape an arrival experience in keeping with the exclusive, isolated and environmental character of the proposed resort. This proposal does not suggest that access be restricted. Instead, opportunities to access the beaches, the forests, and the public amenities of the resort (restaurant, etc) would be open to the public as a way to integrate the project with the community. Because the proposed resorts are more like settlements, they are envisioned to become minor Abaconian destinations in their own right.

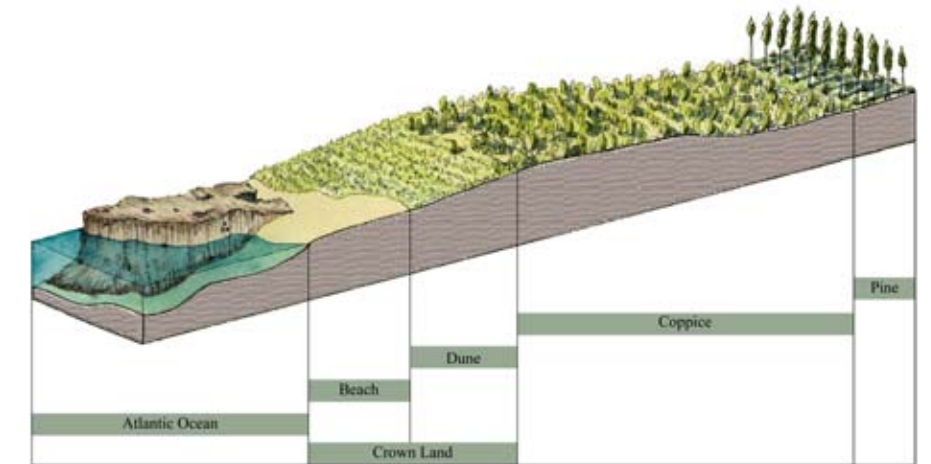
The plan illustrates how various small eco-settlements could be located on the different private properties, especially in the area around Lantern Head. Private properties are colored light yellow, and the red circles indicate the hypothetical location of the settlements high on the ridges. The various resort settlements are connected to each other and the beaches via walking paths. The superimposed red line illustrates that the documented extent of the Abaco Parrot's foraging area overlaps with the coppice on private properties.

The two transect diagrams help to explain the existing and proposed conditions. The natural transect shows how strong predominant winds shave the ocean-side coppice on the dune and continuously blow vegetative matter over the ridge onto the western slope. This process, along with its relationship to the drainage patterns of the dune, is what provides the unusually rich coppice on the dune's western watershed before it slopes into the pine woodlands. Because this natural process enables the survival of the Abaco Parrot, it is essential for it to be allowed to continue indefinitely. This objective calls for an extremely light impact development model that preserves virtually all coppice on the western slope, as illustrated in the proposed transect.

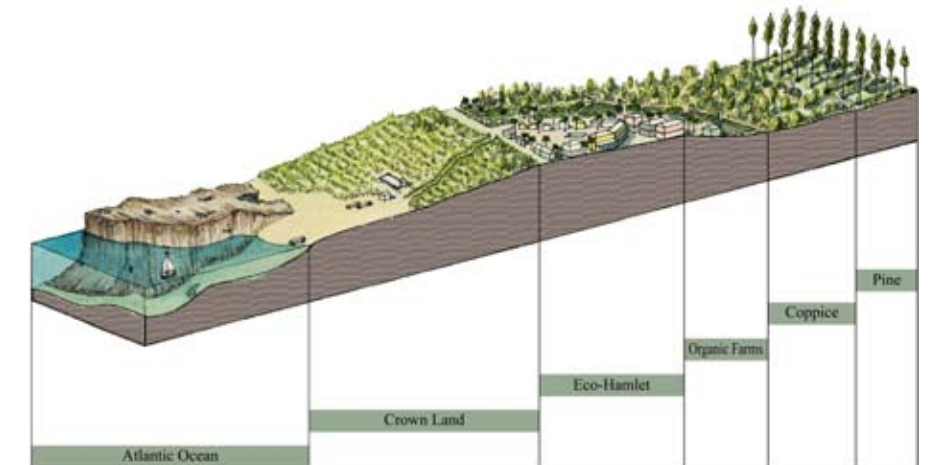
At the same time, wave run-ups on this vulnerably exposed site will require significant shoreline setbacks of at least 150 ft. Add to this that most private lands are separated from the shore by a strip of crown land, this leaves only a very small strip of developable land near the ridge. The resulting proposal advances the idea of a compact Bahamian hill town enjoying a 360 degree panorama of Atlantic and undisturbed woodlands.



PROPOSED SITE PLAN: Lantern Head and Hole-in-the-Wall featuring various eco-settlements.



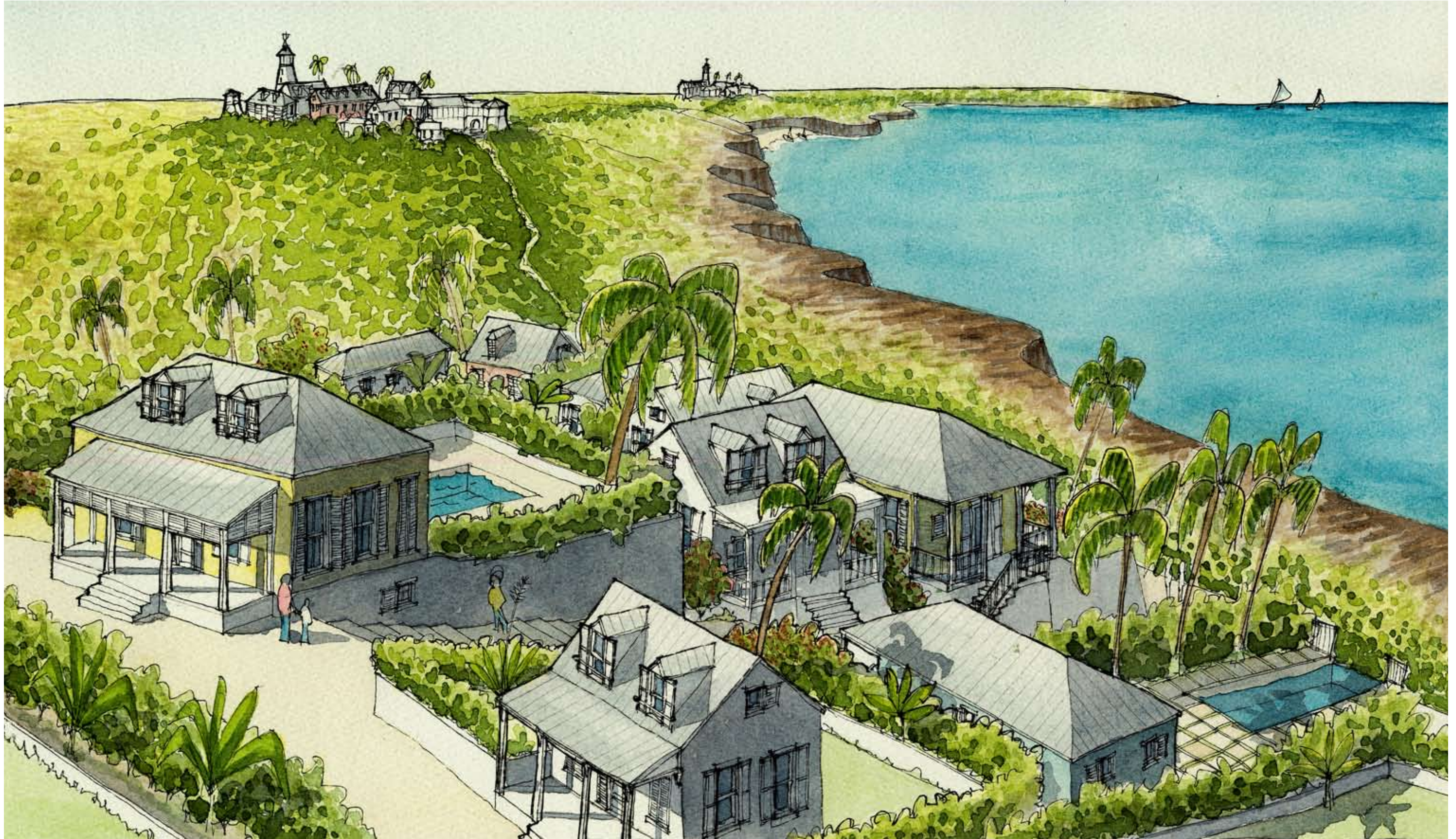
NATURAL TRANSECT: Existing conditions



TRANSECT: Proposed intervention at eco-settlement



LANTERN HEAD: Existing view looking north from the lighthouse




LANTERN HEAD: Proposed view

A MODEL ECO-SETTLEMENT AT LANTERN HEAD

This page illustrates a proposed model eco-settlement located near Lantern Head. It is designed as a Bahamian hill town and perched high up on the ridge overlooking the ocean and the vast expanses of the western woodlands. The access road, which runs through the already disturbed survey lines, leads into a central plaza at the top of the hill. This is where the resort's main lodge, a small café and a small shop are located. The small shop serves multiple functions, including the provision of scuba supplies, birding outfitting, and the sale of some convenience goods. From here, the network of streets and paths is draped on the ridge to align a view towards Lantern Head, the open sea, and the coppice.

The east side of the settlement includes a variety of guest accommodations, including a small inn, cottages, villas, and cabanas. One block features a central pool surrounded by detached resort cottages and cabanas. Other blocks include estates or cottages of various sizes enjoying pristine views over the landscape. The western slope features a collection of organic gardens for limited self-sufficiency and the restaurant's local flavor. This also helps to enrich the runoff into the western coppice with nutrients from the gardens. A path leads through the coppice into a birding trailhead and a campsite for visitors who are seeking an economical and natural experience. This helps to make the eco-resort accessible to a great range of price levels. Birding and the guided exploration of the national park should be seen as a major amenity. It has been demonstrated that birding tourism can yield a much higher than average revenue per guest than conventional resort development, helping to offset the reduced number of guests.

The western slope features a path that leads through preserved crown land to the Lantern Head beach. Light and movable structures help to provide essential supplies for beach activities, including diving, fishing, sunbathing and windsurfing. Traveling around Lantern Head from a safe dry-storage area near the former lighthouse pier, resort-operated powerboats can provide a limited number of other marine-related services. The path to the beach leads along the pre-loyalist ruins of Lantern Head, which have been preserved as a beachside lounge offering drinks overlooking the ocean.

- 
- MAIN ENTRY 1
 - FOOTPATH TO HOLE-IN-THE-WALL 2
 - THE LODGE 3
 - RESTAURANTS 4
 - WIND/WATER TOWER 5
 - ORGANIC FARM LOTS 6
 - BIRDWATCHING PAVILION/CAMP SITES 7
 - ANTIQUITIES SITE & CROWN LAND 8
 - BEACH STANDS 9
 - LANTERN HEAD 10



SITE PLAN: Proposed eco-settlement at Lantern Head

The entire composition is based on a 1/12 mile radius pedestrian shed, roughly requiring a 2.5 minute walk from the central plaza to access almost any part of the settlement. The vision is for the eco-settlement to be built and operated by a single-developer, although public access would be granted to all streets, paths, beaches, restaurants and shops. Because the resort settlement seeks an authentic experience, local artisans and fishermen can supply various goods, and guides can offer their services for birding and sport fishing.

RESPONSE TO PLACE

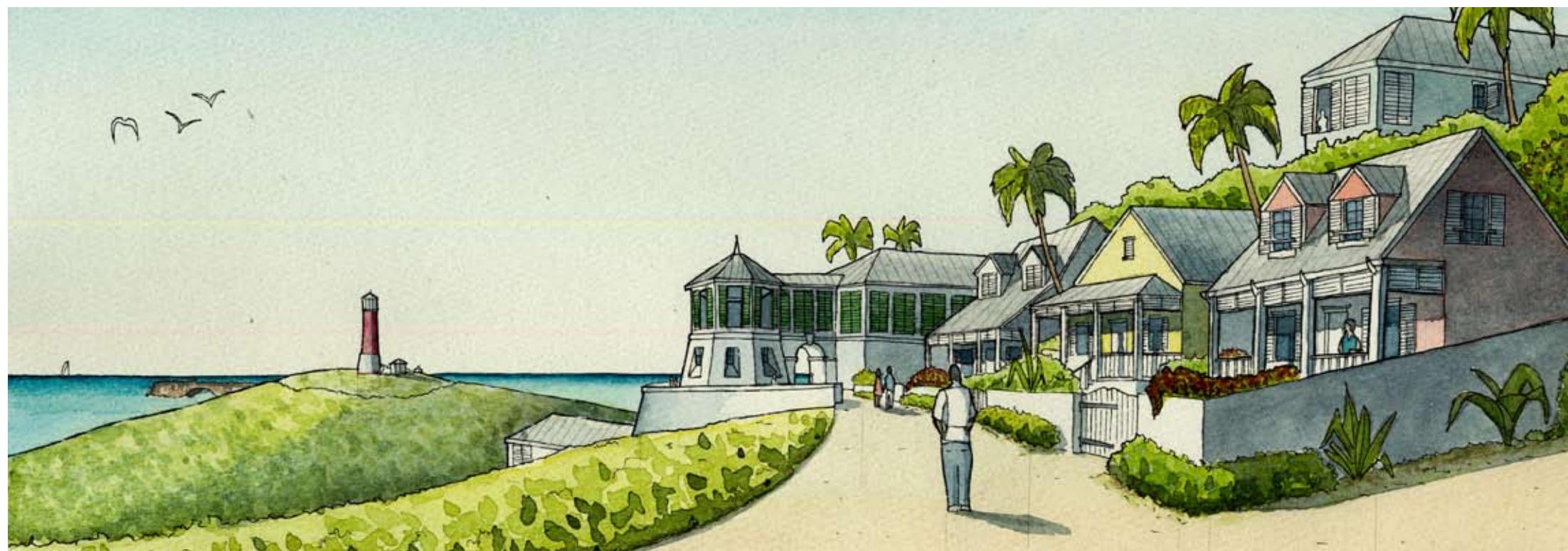
Eco-settlements should respond to the views, prevailing winds, availability of resources, and culture. The settlement is smaller because it cannot sustain a harbor. But instead of waterfront drive, the proposed eco-settlement features a frontage drive high up overlooking the Atlantic. This is envisioned as the promenade for visitors and sets up the place as a public amenity. Buildings stagger and increase in height as they climb the hillside, which enables them to capture views and breezes for natural cooling consistently. Staggered porches and garden courts help to promote outdoor living to minimize the reliance on air-conditioning.

Buildings are constructed of reinforced concrete and finished in stucco, inspired by the historic lighthouse complex at Hole-in-the-Wall. This helps to build hurricane resistant structures, utilizes a common Bahamian resource (crushed limestone) and minimizes the amount of imported wood. Roofs are designed in keeping with historically employed slopes and types to counteract strong winds, but the roofing is covered with thin-film photovoltaics to help produce the needed electricity.

At the top of the hill, a unique hybrid structure helps to store water and provide limited additional electricity generation. The combined water tower and vertical-axis windmill provides water pressure for the settlement, while the windmill helps to pump collected rainwater from the entire settlement to the elevated cistern. Although vertical-axis windmills are already much safer for birds than standard windmills, it is only intended to operate at night for additional safety. Together with the shimmering photovoltaic roofs, the windmills are sure to add unique and meaningful landmarks to this dramatic landscape.



SECTION-ELEVATION: Proposed eco-settlement, illustrating a possible variety of building types and wind-tower.



PROPOSED ECO-SETTLEMENT: View looking south on frontage drive towards Hole-in-the-Wall.

SUSTAINABLE TECHNOLOGY

Out of the necessity for sustainability, as well as their relatively remote locations, the proposed eco-settlements of South Abaco will operate strictly “off the grid”. What these settlements will need is a cost-effective, environmentally friendly alternative to conventional power generation presently available to South Abaco. Such alternative systems would not only avoid the harmful waste of natural resources, but represent responsible economic investment. For example, on average, using conventional Bahamian electricity to power thirty units over three years might cost in excess of \$1 million dollars. Powered by a composite renewable energy system, the same power provision may cost as little as \$200,000 dollars for a cost reduction of \$800,000 dollars.

Such a cost-saving system would glean 90% of its energy from solar photovoltaic thin-film laminates, similar to strips of tape that are adhered to a metal roof. The remaining 10% of this network’s energy would come from a vertical-axis wind turbine placed strategically atop a landmark tower in the settlement’s main plaza. Leading technology in solar power generation can be found at the Island School on Eleuthera.

Further energy imperatives for the proposed eco-settlements include an overall reduction of energy consumption per unit, easily achievable through designed natural cooling and ventilation. By taking advantage of prevailing winds and ocean breezes, a building might never need to rely on mechanical air conditioning. This strategy for sustainable climate control is harnessed by traditional Bahamian settlements at the scales of the town, the block, and the building. For more information on this issue, see Sections I and III of this document, or read Stephen Mouzon’s book *A Living Tradition: Architecture of the Bahamas*, The New Urban Guild Foundation, 2007.

Finally, water collection and conservation will be an essential component to the successful operation of the eco-settlement. Roofs and courtyards can collectively collect rainwater, which can be treated via reverse osmosis technology for use. The exclusive use of native landscaping will further help to minimize the use of water. Collected rainwater is stored in a raised cistern located at the top of the hill to aid in providing pressure. Water is pumped into cistern at night and during rainy days with the help of the vertical-axis windmill located on top of it.



DOUBLE HELIX VERTICAL-AXIS WIND TURBINE



VERTICAL-AXIS WIND TURBINE



PHOTOVOLTAIC THIN-FILM



WATER TOWER: Possible precedent



DOUBLE HELIX VERTICAL-AXIS WIND TURBINE



ROOF INTEGRATED SOLAR PANELS



PHOTOVOLTAIC THIN-FILM



WATER TOWER: Possible precedent



HARBOUR ISLAND: Sand road



HOPE TOWN: Stepping stones



HOPE TOWN: Gravel path



CHEROKEE: Wood path



DUNMORE TOWN: Pervious lane



HOPE TOWN: Pavers



GOVERNOR'S HARBOUR, ELEUTHERA: Crushed limestone street



HOPE TOWN: Stepping stones



HOPE TOWN: Steps



NASSAU: Pavers



HOPE TOWN: Path



HOPE TOWN: Steps

LIGHT IMPRINT DEVELOPMENT

As opposed to conventional low impact development, light imprint development allows the building of compact settlements that manage storm-water via pervious paving, coordinated channeling, and effective detention and retention facilities. Light imprint, recently studied and systematically integrated into professional planning methods by Thomas Low of Duany Plater-Zyberk & Company, is an approach to storm-water management that is finding increased use in sustainable development practice. To minimize the affects of storm-water on erosion near the eco-settlements, the proposed infrastructure is to feature light imprint characteristics.

Streets are to be pervious crushed limestone, pavers, gravel or sand. Planted or shaped open gutters aid in diverting excessive sheet-flow into retention facilities, which are designed to behave as beautiful civic amenities rather than utilitarian engineered components. Bioswales, rain gardens and tree wells are used strategically to assist retention efforts. Especially considering the nature of the resort-based settlement, light imprint infrastructure and design also adds a unique aesthetic and experiential characteristic to the project.

Several Bahamian examples of light imprint tools have been included on this page to help illustrate the settlement characteristics. A more detailed discussion on Light Imprint and existing Bahamian tools can be found in Appendix B of this document.

ABACO STATION

Visitors and staff of the ocean-side eco-settlements would arrive in the park at a welcome center near the highway intersection currently known as “the Y”. This document proposes the construction of a very small settlement at this location, renamed to Abaco Station. The settlement is organized around a central plaza that acts as a forecourt to important buildings and the official park entrance gateway.

Coming from Marsh Harbour, arriving visitors would immediately be presented with the entrance gateway and plaza, which is flanked on the left by a straw market shelter and a two-storey park welcome center. The welcome center is proposed to include a park museum, meeting space for educational events, and park management offices on the second floor. The market structure is designed to allow pick-up trucks to back up underneath the shelter and sell local conch and produce from the eco-settlements’ organic farms. The plaza also features a bus stop shelter for the proposed Abaco bus network. An outdoor chapel, intimate events space or research facility is located within the pines and can be accessed via a path from the main plaza.

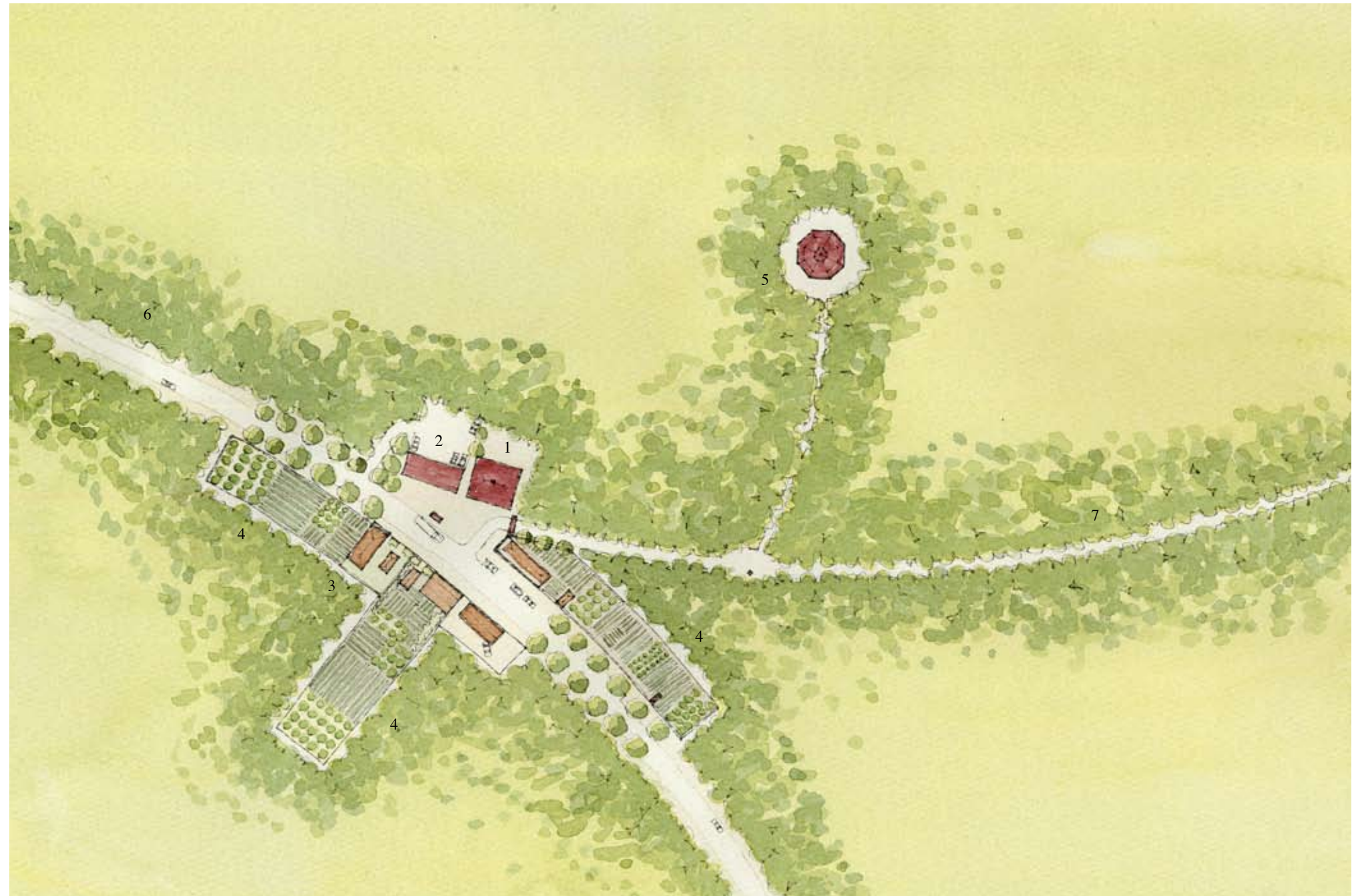
Flanking the right side of the park entrance is a reception office and lounge for the eco-settlements’ resort facilities. Visitors to the park and eco-resorts generally park their vehicles at Abaco Station and continue via appropriate vehicles driven by special chauffeurs. This process helps to maintain the existing low-impact transportation route through the park and is intended to help protect the endangered species, minimize vegetation clearing, and shape an arrival experience in keeping with the exclusive, isolated and environmental character of the proposed resort. This proposal does not suggest that access be restricted. Instead, opportunities to access the beaches, the forests, and the public amenities of the eco-settlements (restaurant, etc) would be open to the public as a way to integrate the project with the community. Because the proposed eco-settlements are more like settlements than conventional resorts, they are envisioned to become minor Abaconian destinations in their own right.

Across the highway, which is designed as a tree-lined urban street to slow traffic at the settlement, one can find a vehicle maintenance shop for the park and eco-settlements. Adjacent to this is a small two-storey live-work building featuring a convenience shop and a small gas station. This is intended to reduce the amount of traveling done by park and resort-related vehicles, but it can also serve as an anchor of activity for the whole settlement. Most buildings feature gardens and second stories that can be used as dwellings for park staff, researchers, and support staff.

Besides its functional characteristics, Abaco Station is intended to serve as a point of arrival and exchange that can facilitate conservation efforts, tourism and limited economic activity in the region.



- WELCOME LODGE 1
- GAS STATION 2
- BUS SERVICE STATION 3
- ORGANIC FARM LOTS 4
- CHAPEL 5
- ABACO HIGHWAY 6
- TO HOLE-IN-THE-WALL 7



SITE PLAN: Abaco Station at “the Y”



SANDY POINT

To illustrate the potential of planning in the instance of existing communities, the team chose the settlement of Sandy Point as a case study. Sandy Point is located on a small peninsula that juts out into the shallow Bahama Bank at the southwestern tip of Great Abaco Island. The Bahama Bank provides excellent habitat for bonefish and other marine species and the local population includes many fishermen who know the fishing grounds like the back of their hands. Simultaneously, the extremely deep waters of the Northwest Providence Channel are only two miles southwest of the settlement. Because many marine species like the proximity of deep-sea habitat to extensive tidal waters, Sandy Point finds itself in a unique position to be surrounded by some of the best fishing grounds in the world. Many of the community's fishermen earn their livelihood in crawfishing and spend a lot of time at the shorelines fixing equipment, maintaining and building boats. Increasingly, Sandy Point fishermen try to supplement their income by providing services as fishing guides. Some bonefishing lodges already exist, but the settlement's leaders are convinced that much more can be done to meaningfully capitalize on Sandy Point's unique culture and location.

Sandy Point was settled informally by emancipated slaves in the 19th century and was later platted on a grid running parallel to the Sandy Point peninsula. Sandy Point is the administrative seat of South Abaco and is home to over five hundred people. While most land within the settlement is in private hands and not officially available for sale, many lots are relatively large and are not fully developed. Although most of the settlement is only six to seven feet above sea level and storm surges are particularly likely to cause damage in low tidal areas, the community has survived a number of devastating hurricanes and most residents are convinced about remaining in Sandy Point. Most existing buildings are one-storey modest masonry ranches, although wooden cottages exist as well.



SANDY POINT: Looking south



SANDY POINT: Looking east



SANDY POINT: Typical streetscape



SANDY POINT: Wood construction



SANDY POINT: The western beach, looking north



SANDY POINT: The harbour, looking south





SANDY POINT: The main north-south street, looking north at the primary school



SANDS COVE: Looking east



SANDY POINT: The main east-west street, looking at government dock



SANDS COVE: Conventional infrastructure



SANDY POINT: Typical ranch houses



SANDY POINT: Some existing ranch houses

A significant portion of the population drives long commutes to work in Marsh Harbour and its outlying cays to supplement household incomes. The intention of this project is to demonstrate how careful infill planning can help an existing community like Sandy Point to foster new development and jobs within the existing settlement. In Sandy Point the hope is that this will allow future generations to engage a meaningful and prosperous life in their hometown.

SANDS COVE

Recently, the ministry of housing has developed a new subdivision nearby to tackle the shortage of available affordable housing in the area. The subdivision is called Sands Cove and is located just over three miles outside of the Sandy Point settlement on Great Abaco Highway. Its location was partly determined due to its relatively higher elevation. Although most of the land in Sands Cove is platted for residential lots based on modern suburban conventions, very few structures have been built and new construction is expected to take place relatively slowly. The project team has also taken on the challenge to demonstrate how automobile-dominated infrastructure can be retrofitted according to traditional Bahamian settlement principles to make them more efficient, sustainable and meaningful to local culture.

ILLUSTRATIVE MASTERPLAN

The purpose of the illustrative masterplan is to summarize the infill proposals for Sandy Point in one drawing. It has been presented together with an aerial photo of existing conditions for comparison purposes. The purpose the masterplan drawing is not to prescribe how development must occur in every detail, but rather to present a summary image of how Sandy Point might develop should the proposed SmartCode be adopted and implemented as a legal planning mechanism. However, even though the plan is speculative in nature, the details are nevertheless worth studying for their individual merit.

The Sandy Point plan is referred to as an infill plan because new development generally fills in voids presently found between existing buildings. Most of the proposal assumes that individual property owners may choose to subdivide their properties for infill development in the future. This can obviously have economic benefits for individuals, but careful planning can also guide individual development projects to help shape a place larger than the sum of its parts. When buildings, streets, plantings, the landscape and people work together, this is called placemaking. Placemaking is an essential building block upon which successful resort communities thrive. Fortunately, Sandy Point is blessed with an exceptional landscape and good people. The purpose of this proposal is to inform how plantings, building and street design can help shape the necessary infrastructure for an economically and environmentally viable Bahamian settlement.

Civic buildings and houses of worship are shown in red, and existing structures are rendered slightly darker than proposed buildings. Among other things, the illustrative masterplan includes:

- An expanded street and path network to access properties and improve pedestrian accessibility.
- Waterfront drives on the sea and the harbor sides.
- Public squares and small parks throughout the settlement.
- Proposals for family compounds and bonefish lodges.
- Midblock parking areas where appropriate.
- General infill development, consisting of broad range of cottages, houses, live-work buildings, multi-family dwellings, hospitality and commercial buildings.
- A restored beach north of an improved government dock.

	ALMOND TREE PLAZA 1
LIBRARY 9	NORTH-SOUTH STREET 2
CHURCH 10	EAST-WEST STREET 3
SCHOOL 11	GOVERNMENT DOCK & PLAZA 4
POLICE STATION 12	BAY STREET 5
ADMINISTRATION BUILDING 13	FISHERMAN'S DOCK & PLAZA 6
GOVERNMENT BUILDING 14	SEASIDE DRIVE 7
CEMETERY 15	MEDICAL CLINIC 8



SANDY POINT: Existing aerial map



SANDY POINT: Illustrative masterplan



SANDY POINT: Existing figure-ground



SANDY POINT: Proposed figure-ground

FIGURE-GROUND COMPARISON

A figure-ground drawing illustrates structures and the residual spaces these structures have created. The brown areas represent buildings and the light color represents the resulting space in between them. Urban designers use this diagrammatic tool to study whether an ensemble of buildings works together to shape “outdoor rooms”. This kind of space is readily recognizable in a figure ground drawing because the individual buildings work together to shape identifiable light-colored figures between them. Great urban streets traditionally shape these kinds of defined spaces because human beings find them to be pleasant and helpful in orientation. In the Bahamas, garden walls and plantings frequently assist the buildings in their role as spatial definers, but buildings must place a primary role. For example, buildings in Hope Town generally work in concert to shape the narrow lanes into pleasant outdoor rooms. If its buildings were always set back at a great distance, especially without the assistance of garden walls and fences, the lanes would lose their room-like character and likely be less comfortable on hot sunny days.

The diagram of existing conditions illustrates that Sandy Point currently shapes very few places that could be identified as outdoor rooms (excepting that trees sometimes provide some definition to streets). Only on a few streets are buildings arranged to an extent that they form a figural place, such as on the street leading to government dock. In contrast, the proposed condition illustrates how existing and proposed buildings work together to shape streets and squares as identifiable “outdoor rooms.” Examples include a proposed square in the settlement’s center fronting the school. In this sense, streets and squares are considered to be more than utilitarian connections for automobiles, but spaces for community life. Such life can be fostered by well-defined and cultivated public spaces.

This diagram also helps to illustrate that waterfronts can be thought of as defined edges, where buildings literally “front” the water and together shape a wall that frames the sea or harbor. Waterfront walls and three-sided “outdoor rooms” in the form of waterfront squares have been arranged in various locations to set up a strong and legible physical relationship to the water. Great settlements such as Dunmore Town, Spanish Wells and New Plymouth do exactly this. This helps to present a face to the sea and the shoreline, an important social and economic center of the community. All of this is in marked contrast to conventional waterfronts that treat their edges in no particularly coherent way, resulting in a sense of the waterfront as a backyard as opposed to a front.

Ultimately, these diagrams also help designers to identify where the greatest opportunities and needs for infill development are, one of the principle goals being to shape outdoor spaces and developable real estate. The varying intensities of development can also be read, illustrating generally denser environments near the harbor and the main streets.

PARKS AND CIVIC PLACES

Bahamian settlements generally provide fewer parks than other western cultures, in part because the beach fulfills many of the roles that traditional parks usually do. Thanks to its geography, Sandy Point enjoys a continuous beach on its western edge within easy walking distance of the entire settlement. Other planted open spaces include the cemetery at the northern point and an informal vacant lot with an almond tree, which functions as a meeting place at the center of the community. Existing mangroves on the eastern shore are not formally planted places but provide an important protective service in preventing erosion, resisting storm surges, providing important habitat for species, and presenting a beautiful backdrop to the tidal waters. Most civic buildings are well located at the center of the community, including a primary school complex, a police station and the administrator's office. Two churches can be found on the settlement's main north-south street.

The proposal builds on the existing conditions in an attempt to strengthen them. A few places have been lined by more-or-less formally planted palms, including the beach, the main north-south street and the main east-west street leading to government dock. As can be seen in the historic example of Victoria Street (see Introduction), palm-lined streets can help to transform mere transportation routes into memorable places and help to provide shade. Governor's Harbor on Eleuthera provides an excellent model of how formally planted beaches can help to define them as front yards to the community, rather than backs. This network of palm-lined streets is also intended to help visitors find significant destinations such as the harbor, the point and the commercial center.

The plan also proposes two central squares. The southern one has been placed opposite the primary school and is proposed to feature surrounding shops and a future library building. It can provide a meaningful place for important events and community gatherings at the heart of the settlement. The plan also formalizes the area around the almond tree into a public square that features a public shelter. A number of planted squares have also been provided on the harbor, the sea, and the point. These help to shape memorable places for activity at the ends of the community's most important routes. All of these spaces are also intended to help to shape an environment that is attractive to tourists seeking a comfortable and authentic experience that is rooted in the best of Bahamian settlement culture.

CIVIC BUILDINGS	■
GREEN SPACES	■
BEACHES	■
EXISTING BUILDINGS	■
PUBLIC PLAZAS	■
INFORMAL COURTS	■
PRIVATE COURTS	■



SANDY POINT: Existing parks and civic places



SANDY POINT: Proposed parks and civic places



SANDY POINT: View of the proposed Almond Tree Square.



SANDY POINT: Existing view of the area around the almond tree

STREET NETWORK

Historic Bahamian settlements generally provide many streets that lead to the water, as well as a more-or-less continuous waterfront street or “bay street.” Well-connected street networks are important because they help to provide access to the water and real estate frontage (i.e.: more streets help to access more addresses). Considering its age, Sandy Point has a unique street network that limits access to the water and real estate considerable, despite its dramatic location on a small peninsula. Blocks are relatively large, which provides fewer options for pedestrians. Almost all streets terminate at the shore, which provides only limited access to waterfront property. Sandy Point residents have intuitively understood this deficiency in their street network, which has led to the unplanned establishment of various informal shortcuts and paths. These informal routes consist of sand or gravel drives that run across private properties or along the shore to help connect parts of the community.

The proposal builds on the existing conditions by formalizing these informal routes into public streets. This significant change helps to make inaccessible real estate available for subdivision and infill development. For private property owner this represents a slight loss of real estate area that is already used as an informal public way, but it also represents a gain in developable real estate frontage. The expanded street network is therefore essential in providing infill development and in promoting a dynamic pedestrian environment for tourism and local citizens. It is important to note that not all proposed streets are equal: the plan includes a range of paved streets, crushed limestone lanes and simple paths.

Perhaps one of the most significant proposals for Sandy Point is the provision of a waterfront drive along most of Sandy Point’s peninsula. This drive is also intended to provide improved access to waterfront property and additional building fronts on the water. The informal drive and paths at Nancy’s Restaurant are a great example of how crucial such drives are to urban waterfront business. Dunmore Town and New Plymouth provide excellent examples of successful waterfront drives, and the variety of forms they may take. This proposal suggests that waterfront drives with coordinated development can be among the most important improvements to the community in its efforts to promote increased tourism.

It is important to note that the beach erosion north of government dock is expected to be restored following demolition or modification of the existing concrete pier.



SANDY POINT: Existing street network and informal paths



SANDY POINT: Proposed street network



SANDY POINT: View of the proposed waterfront drive on the harbor, looking north.



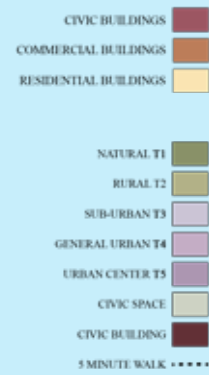
SANDY POINT: View of the existing harbor.

LAND USE

The existing settlement generally features a mix of land use, although most commercial activity is relatively clustered near the government dock. This area includes some basic stores, Nancy's Restaurant and a ferry ticket office. A gas station can be found at the southern entrance to the settlement, and a bonefish lodge exists near the point. Most civic uses are well placed near the center of the peninsula, including a school, a clinic, the police station, administrative offices, and some churches. The remaining community consists of residential dwellings, most of which are for single families. Although the existing uses are distributed relatively well, planning can help to ensure that future development compliments the existing uses. But more importantly, planning infill can help to shape the physical shape of future development by prescribing suitable characteristics in appropriate places.

TRANSECT-BASED ZONING

The fundamental principles of the Transect have been explained in Section I of this document. Transect-based zoning arranges the various elements and characteristics of settlements according to a useful urban-to-rural framework. For example, large two-story buildings might be appropriate at the center of town, but ranches set back far from the street are not desirable in this location if the settlement is to possess a dynamic center complimentary to a local tourism market. Rather than zoning for use, as conventional zoning does, Transect-based zoning allows use to be relatively flexible and instead focuses on the form of permitted and prohibited development. This is why the proposed SmartCode is also known as a form-based code. The significance of form and physical settlement characteristics to the sustainability of culture and a tourism economy has already been discussed in the introduction to this document.



SANDY POINT: Existing Land Use



SANDY POINT: Proposed Transect-based Regulating Plan for the SmartCode (see Appendix A)



PROPOSED HARBOR AREA OF SANDY POINT: This birds-eye view reveals how the proposed SmartCode is designed to guide infill development to build on the best of Bahamian settlement traditions.

The Transect-based regulating plan is essentially a proposed zoning map for Sandy Point. It regulates the geographic extent of the various Sandy Point Transect-zones (T-zones) for the proposed SmartCode, which is to be administered by the South Abaco Administrative district and the Bahamian Department of Physical Planning. In summary, the different colors represent a range of permitted development intensities, each with specific requirements outlined by the code. In this proposal, the most intense development is promoted at the heart of the community, including the main east-west street and the harbor. The least intense development is proposed at the ends of the peninsula. The regulating plan also identifies shared parking reserves, lots reserved for civic functions, and the preservation of mangroves within the T1 zone. The pedestrian shed circle represents a 6th of a mile radius, roughly a Bahamian five minute-walk.

The birds-eye view on this page illustrates the proposed harbor area of Sandy Point as regulated by the SmartCode. It presents a long-term vision for infill development and shows how proper planning can yield an environment attractive to investment, tourism and cultural life. Among other things, this image illustrates how the SmartCode promotes the following traditional Bahamian characteristics:

- A diverse mix of uses in the appropriate location.
- A diverse mix of building types to offer diverse economic opportunities.
- A diverse mix of housing and hospitality choices.
- A diverse network of streets, lanes and paths.
- Relatively small setbacks and the use of porches and galleries.
- The use of garden walls and fences to define public and private property.
- The use of landscape elements and native plantings instead of lawns.
- The appropriate location of parking.
- Building heights and how they front public space.
- The location of civic structures.

The birds-eye view shows the main east-west street running to the harbor dock. A fish market structure has been located here in a public square facing the water. Resort cottages, inns, bonefish lodges and private residents line the streets and lanes of the area. The improved Almond Tree Square can be seen at the top left of the image.

SPECIAL FEATURES

This plan regulates various special requirements that are part of the SmartCode proposal. These features include the required terminated vistas. The black arrows indicate view corridors that must be terminated by deliberately placed building fronts, dignified architectural elements, or monuments. The special features plan also requires certain frontage conditions on important streets, such as required or recommended shop fronts.

- CIVIC BUILDINGS ■
- CIVIC SPACES ■
- REQUIRED SHOPFRONTAGES —
- RECOMMENDED SHOPFRONTAGES - - - -
- REQUIRED TERMINATED VISTAS ▶

- PRIMARY STREETS —
- ST - 25 - 24 —
- ST - 20 - 18 P —
- SECONDARY STREETS —
- ST - 20 - 18 —
- ST - 16 - 15 —
- LANES —
- RL - 12 - 12 —
- PATHS —
- PT - 8 - 8 —



SANDY POINT: Special Features Regulating Plan for the SmartCode

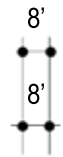


SANDY POINT: Thoroughfare Assemblies Regulating Plan for the SmartCode

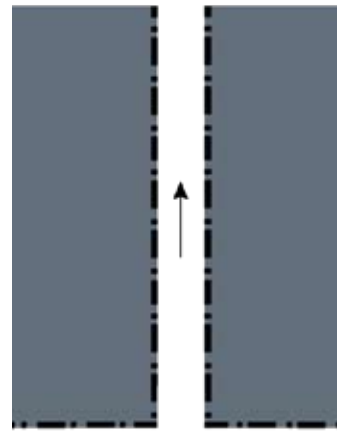
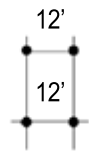
THOROUGHFARE DESIGNATION PLAN

This plan identifies the proposed thoroughfare types which are planned to be assembled for Sandy Point. It indicates the following types: streets, lanes and paths. The SmartCode (Appendix A) includes specific standards of assembly for each thoroughfare.

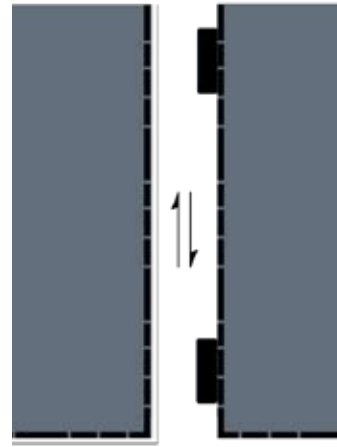
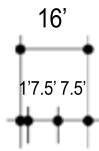
All streets are designed to accommodate adequate vehicular traffic and safe and pleasant pedestrian activity. In many cases, assemblies have been designed to naturally slow vehicular traffic and make pedestrian crossing distances minimal. On street parking should always be provided, except in the case of pedestrian paths and lanes. Only the existing streets are proposed to remain paved, possibly with the exception of the waterfront drive. When necessary, paved streets are coded to make use of traditional open-face gutters as found on Harbour Island. Other streets are lined by continuous planter strips or raised planter beds. All new streets, lanes and paths are proposed to be made of crushed limestone or sand. This will help in maintaining a pervious infrastructure to reduce the reliance on conventional storm water management. Please refer to Appendix B to learn more about Light Imprint infrastructure.



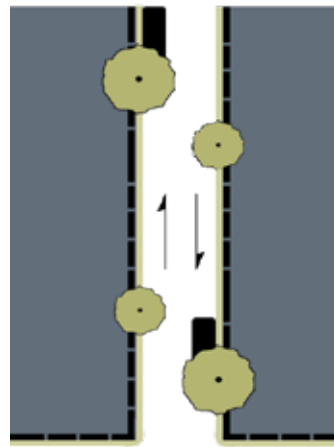
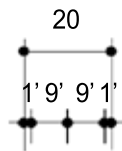
PT-8-8



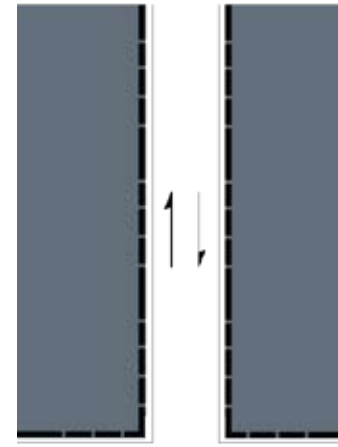
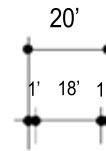
LN-12-12



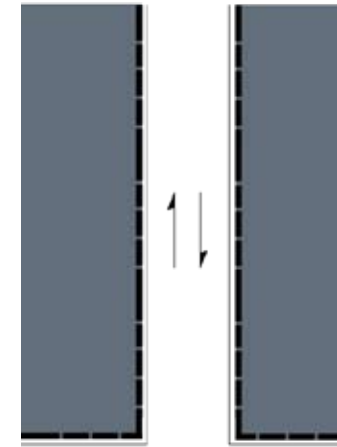
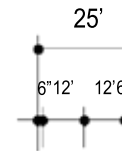
ST-16-15



ST-20-18-P



ST-20-18



ST-25-25



HOPE TOWN: Approximate example of PT-8-8



DUNMORE TOWN: Approximate example of ST-16-15



DUNMORE TOWN: Approximate example of ST-20-18



HOPE TOWN: Approximate example of LN-12-12



DUNMORE TOWN: Approximate example of ST-20-18-P



DUNMORE TOWN: Approximate example of ST-25-25

OTHER PROPOSALS

The proposed plan for Sandy Point also features some uniquely Bahamian settlement conditions, which are described here. The north end of the peninsula has been subdivided as a small neighborhood of cottages that line the waterfront drive as it wraps around the point. Several cottages face into the community and front a small informal green. These cottages are envisioned to be available for local homeowners or as rental cottages for tourists or bonefish lodge guests. The proposal is inspired by a condition found in Spanish Wells for which a photo has been provided as a comparative illustration. A primary difference between the example in Spanish Wells and Sandy Point is that the waterfront drive would continue to feature a beach rather than a hard seawall. This portion of the plan is an example of how a relatively dense environment can be extremely attractive and profitable for development.

The bottom two images focus on a development type sometimes referred to as “family compounds.” In this case, the lot is not legally subdivided for separate ownership. Instead, multiple structures are built on the same lot to provide housing for extended families, multiple lodging units, or to provide a business for the family that owns it and lives on the premises. The compound can also be a useful type for small resorts, bonefish lodges, or fishing communities. Buildings are arranged a common courtyard that faces the sea. The courtyard can be used for working on boats, fixing equipment, gardening, a swimming pool, or simply a quiet place for relaxation. A number of such compounds have been illustrated along the seashore with their courtyards separated from the beach by a small pedestrian path.



SANDY POINT: Illustrative masterplan of the area around the point



SANDY POINT: Illustrative masterplan of the western beach



SANDY POINT: Precedent-setting example of development of a point



SANDY POINT: Example of a compound-type lot



SANDY POINT: View of proposed harbor-front, looking north.



SANDY POINT: View of existing harbor-front.

THE SANDY POINT AREA

The plan on this page illustrates a summary of current planning efforts and proposals around Sandy Point. Besides infill development in Sandy Point, it also shows the following:

- A proposal to retrofit and infill Sands Cove. Sands Cove has recently been developed by the Ministry of Housing to provide affordable housing. It is a conventional automobile-dominated suburb. The plan illustrates how this proposal extends Sands Cove as close as possible to the water, just stopping at the relatively safe 10 ft elevation line. A new secondary school and athletic fields are proposed on the south side of the highway.
- An already approved development at Rocky Point. Although this conventional resort development has already been approved, it is recommended that its design be modified to meet the principles and standards set forth throughout this document. Rocky Point can be thought of more like a small settlement and less like a resort.
- A new airport terminal, featuring a new tarmac and parking court. The terminal must be located on the south side of the existing airstrip because safety requirements demand a structure-free zone as shown on the plan. The airport is intended to act as a point-of-entry into the Bahamas, which is expected to promote increased traffic and visitors.
- A new port for the Bahamas Fast Ferries service, including a larger staging area for freight. This new location requires a shorter travel time to Nassau because ferries must no longer navigate the shallow waters of the Bahama Bank. The enlarged port facility can also accommodate increased truck traffic more readily than the existing government dock in Sandy Point.
- An existing and expanded isolated bonefish lodge complex on the highway. To avoid conventional strip development and its negative effects, this is the only other building group to be located along the highway between settlements.



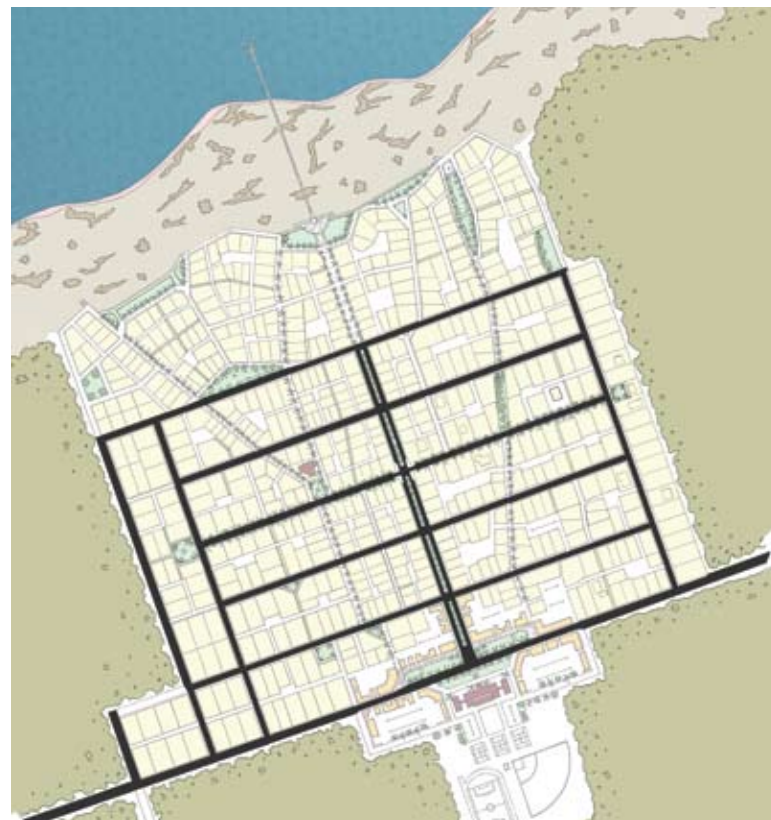
THE SANDY POINT AREA: Site plan showing the various proposed and existing projects and settled areas.



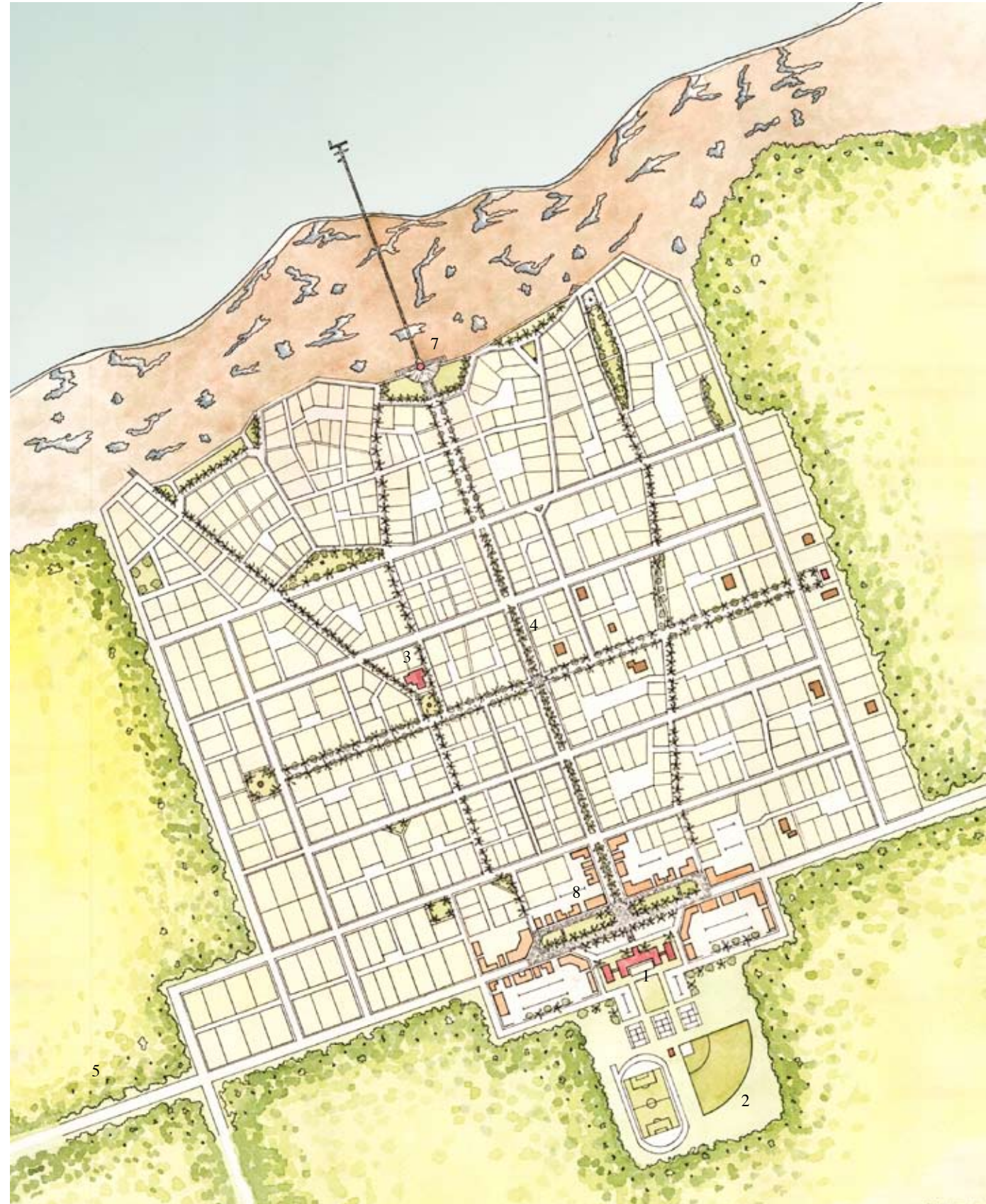
SANDS COVE: Recent aerial map



SANDS COVE: Proposed Transect-based Regulating Plan



SANDS COVE: Diagram illustrating the existing road infrastructure



SANDS COVE: Illustrative Masterplan

- A bike path, shown in a brown color, connects Sandy Point, Sands Cove, Rocky Point, the airport and the port. This is particularly for the benefit of children and those who cannot drive, which may include visiting tourists.
- A duck pond preserve adjacent to the new port facility.

The circles illustrate five-minute pedestrian sheds. This ensemble of compact pedestrian-friendly settlements and regional transportation facilities is expected to help shape the Sandy Point community into a dynamic and important hub for transportation, economic activity, and tourism in South Abaco. For further information on this issue, please see the discussion on transportation within the region.

- T1 NATURAL
 - T2 RURAL
 - T3 SUB-URBAN
 - T4 GENERAL URBAN
 - T5 URBAN CENTER
 - CIVIC SPACES
 - CIVIC BUILDINGS
 - 5 MINUTE WALK
- 1 SCHOOL
 - 2 PLAYING FIELDS
 - 3 RESERVED CIVIC SITE
 - 4 LOBSTER ROAD
 - 5 ABACO HIGHWAY
 - 6 COMMERCIAL DISTRICT
 - 7 PUBLIC DOCK

PLACEMAKING IN A SUBDIVISION

Perhaps the most significant part of the Sands Cove proposal is the extension of the existing subdivision towards the tidal waterfront. Bahamian settlements are fundamentally about their relationship to the water because economic activity and identity tie its citizens to the sea. Building subdivisions or settlements that are removed from the water disconnects their residents from their fundamental economic and cultural asset and makes it difficult to pursue water-related social and economic activities. Given the large percentage of fishermen and guides in the Sandy Point area, such site determinations can have an especially detrimental affect. The proposal therefore seeks to bring the settlement towards the water, even if the tidal nature of the shoreline does not allow for immediate adjacency. A frontage drive at 10 ft above sea level has been proposed to overlook the tidal waters and is connected to a single pier that can be accessed by bonefishing boats during high tide. The plan does not recommend dredging activity as this could compromise the eco-system and fish habitat of the area. Because the proposed street network is designed to lead to the waterfront, views of the horizon would be present deep within the settlement, reconnecting the entire population with the sea.

Another significant feature of the proposal is the redesign of the existing central boulevard Lobster Road. The center-median boulevard is proposed to be landscaped and lined with building fronts of a higher density, creating a strong central promenade that leads to the water. At its southern end, the boulevard is proposed to lead into a mixed-use environment at the highway, which has been designed for easy crossing and business activity. The boulevard is terminated here with a new secondary school that is set back from the highway. The school has been proposed so that South Abaco children must no longer be bussed to Marsh Harbour, but instead can be engaged within the local community that they will help to shape in the future. Behind the school are playing fields and athletic tracks for the benefit of the South Abaco community. It is important to note that schools should be placed within walking and biking distance of settlements.

The combined school and athletic facilities also serve as an important anchor to the proposed commercial center. An important purpose of the proposal is to concentrate expected commercial and residential growth within the settlement rather than allowing it to string out along the highway.



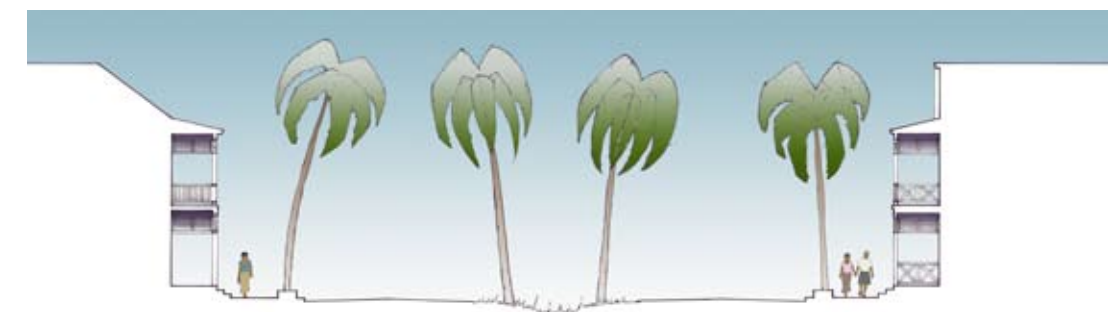
SANDS COVE: Proposed view of the waterfront drive, which is set back to high elevation. Sandy Point can be seen in the distance.



SANDS COVE: Existing view of tidewater shoreline



SANDS COVE: Existing section of Lobster Road



SANDS COVE: Proposed section of Lobster Boulevard



SANDS COVE: View of the proposed secondary school terminating Lobster Boulevard at Great Abaco Highway.

THE MARSH HARBOUR AREA

To illustrate the potential of planning in the instance of existing automobile-dominated settlements, the team chose the center of Marsh Harbour as a case study. The center of Abaco's capital city is almost exclusively dominated by strip shopping centers, warehouses, vacant land, parking lots and automobile-dominated streets – only a handful of formal residential structures can be found near the waterfront, although most historic buildings have vanished or are in disrepair. This plan intends to demonstrate how planning and design can help settlements like this to retrofit its physical composition through careful infill and infrastructure transformations.

During the charrette process, the team realized the importance of looking at the greater Marsh Harbour area before focusing on the center itself. As Abaco's economic and political center, Marsh Harbour has been plagued by significant traffic problems and a perceived lack of developable land for continued commercial growth. Much of this is due to the virtual absence of any planning in regard to the laying out of road networks and activity centers. Marsh Harbour is almost entirely dominated by conventional urban sprawl, featuring strip shopping centers, parking lots and automobile-oriented subdivisions. All of this has made for a very inefficient use of land, and citizens are already pressing government to release more crown land for increased conventional development. Marsh Harbour has fully adopted the growth patterns of Nassau, although its relatively smaller scale currently disguises this.

For reference purposes, this page illustrates existing conditions in the Marsh Harbour area. The natural vegetation includes significant stands of pine forests as well as mangroves and other wetlands. Future development should particularly seek to preserve mangroves because of their vital role in resisting the effects of hurricanes. The other diagram illustrates the presence of a significant limestone and coral ridge that runs along Don McKay Boulevard. This ridge has somewhat slowed development to the east of the highway due its challenging terrain, especially for conventional development models. Don McKay Boulevard is the area's principal roadway and connects central Marsh Harbour with the airport and Great Abaco Highway.



MARSH HARBOUR: Existing pine and mangroves



MARSH HARBOUR: Existing topography, showing the ridge

AREA PROPOSALS

The existing network of roadways has caused significant traffic and circulation problems for the Marsh Harbour area. Besides Don McKay Boulevard, very few other roadways currently allow for north-to-south movement, channeling almost all traffic onto this two-lane road. Conventional strip development dominates the north end of this road, which terminates at the island's only traffic light. Especially on Fridays (payday), Don McKay Boulevard is overburdened with traffic given that it provides virtually the only route into the business center. Because development is not compact or pedestrian friendly, almost all business must be conducted via automobile transportation.

Beyond this, all traffic heading to the ferry docks that connect Marsh Harbour with the outlying cays must travel on this same route. This traffic includes visitors, commuting workers and people doing business on the cays. Because the ferry docks are not within walking distance of much of the community, most transportation must occur via automobile. This also has led to a severe parking problem, especially at Albury's Ferry Dock that services Hope Town and Man-O-War.

This document proposes that a comprehensive plan be prepared for Marsh Harbour to tackle the infrastructure and development pattern problems of the city. Unfortunately, this proposal was only able to engage in a preliminary diagrammatic study of a potential solution, which is represented here. The proposal advocates that future growth in the Marsh Harbour take place in a network of compact mixed-use centers and interconnected street infrastructure. Each small circle represents a five-minute walk from center to edge of a compact and walkable neighborhood. Automobile-dependency can be reduced if Marsh Harbour is planned to grow in this fashion because some uses are within reach of pedestrians. Also, if development patterns are changed in favor of walkable settlement traditions, more visitors of the central business district are likely to park once and go about their business on foot. This document includes a proposal for the transformation of the central business district into just such a place.

The proposal also advocates the planning of an improved interconnected street network that links these various neighborhood centers. Only when the network can disperse traffic will conditions improve on Don McKay Boulevard, which currently must carry almost all local and through-traffic. This will require a significant multiplication of routes, as simple road-widening and occasional bypasses have proven to be ineffective in the long run.

Finally, this plan proposes that ferry docks be considered as transit with the potential of limited transit-oriented development (TOD). Transit-oriented development capitalizes on the traffic generated by transit (usually trains) by increasing building density and coordinated shared parking facilities within a ten-minute walk of the transit stop. Retail can benefit from the concentration in traffic, commuting workers are able to walk to ferry transit, and visitors are presented with a dynamic center of activity worth spending time in rather than a mere parking lot and taxi to the airport. Two transit-oriented developments are proposed on this plan. The following proposals for central Marsh Harbour include a new ferry terminal proposal for Guana Cay near the international port.

Finally, the plan also illustrates a schematic solution to a collection of athletic fields near the Marsh Harbour airport. Efforts are currently underway to build a large auto-dependent facility in this area, including various civic functions. While this would provide important functions to the community, they are entirely disconnected from the city and will exacerbate the problems of automobile-dependency and traffic. This plan proposes that the athletic facilities can be planned in conjunction with new walkable neighborhoods so that the investment will result in an integrated whole. Above all, this document challenges readers to avoid the conventional development patterns of Nassau if Abaco is to remain a sustainable and thriving community.



MARSH HARBOUR: Existing traffic routes, activity center, and ferry docks

MARSH HARBOUR: Proposed network of traffic routes, neighborhood centers and ferry-based transit centers

THE EXISTING CENTER

The existing center of Marsh Harbour is dominated by automobile-dependent conventional development patterns. The old waterfront of this 1784 community has almost entirely disintegrated into vacant lots, storage yards, warehouses, suburban buildings and a handful of historic structures that are in disrepair. The historic waterfront dive has a predominately utilitarian character and has been replaced in significance with Queen Elizabeth Drive. Strip malls, parking lots, suburban retail and office buildings and a handful of other uses such as churches dominate both Queen Elizabeth and Don McKay Boulevard. The island's only traffic light is referred to as the local landmark, in part because little else provides a memorable experience. While the existing center is thriving as a business center, it is unlikely that it will survive in this same form in the long term. Automobile-dominated environments such as this typically decline in prosperity as soon as new development becomes possible further out. Beyond this, the waterfront community makes little use of use of its strategic position to capture the tourist economy. "Restaurant Row", located on a strip to the east of the central business district, provides the only tourist amenities in this community of over five thousand.

Because of all of this, central Marsh Harbour is generally not considered to be a desirable residential community. Most dwellings are located in suburban communities such as Dundas Town and Murphy Town to the west. This residential disconnect exacerbates traffic problems and automobile dependency, yielding a total environment that is simply a place to do business and then move on.

Central Marsh Harbour also boasts the island's largest informal settlements (shanty towns), which are primarily inhabited by undocumented Haitian laborers and descendant families. The Mud and the Pigeon Peas have been inhabited for at least two generations and most residents there have no legal status despite the fact that the younger generations were born in the Bahamas. Land and property is therefore not legally owned and poverty is concentrated in these overcrowded communities. Physical conditions are very poor and crime is relatively high. The informal settlements lack a sewer or septic system, water distribution is illegal and unsafe, and buildings are not built to code and are prone to fires and hurricane destruction. Although no official census exists, the population is estimated to be several thousand.

The size of the shanty towns also provides a significant barrier to local traffic, and surrounding commercial development is continuously threatened by possible fires. It goes without saying that such a concentration of poverty and physical decay discourages investment into market-rate residential and tourism development. This document includes a proposal to improve the unplanned settlement known as the Mud for the benefit of all Marsh Harbour residents.





CENTRAL MARSH HARBOUR: Looking south



MARSH HARBOUR: The Mud, looking east



MARSH HARBOUR: Albury Boulevard on the waterfront



MARSH HARBOUR: The Mud



MARSH HARBOUR: Abaco Shopping Center



MARSH HARBOUR: Don McKay Boulevard, looking north



MARSH HARBOUR: Goombay Park



MARSH HARBOUR: Strip development on Don McKay Boulevard



MARSH HARBOUR: Don McKay Boulevard, looking north



MARSH HARBOUR: Historic building near the waterfront



MARSH HARBOUR: Queen Elizabeth, looking east



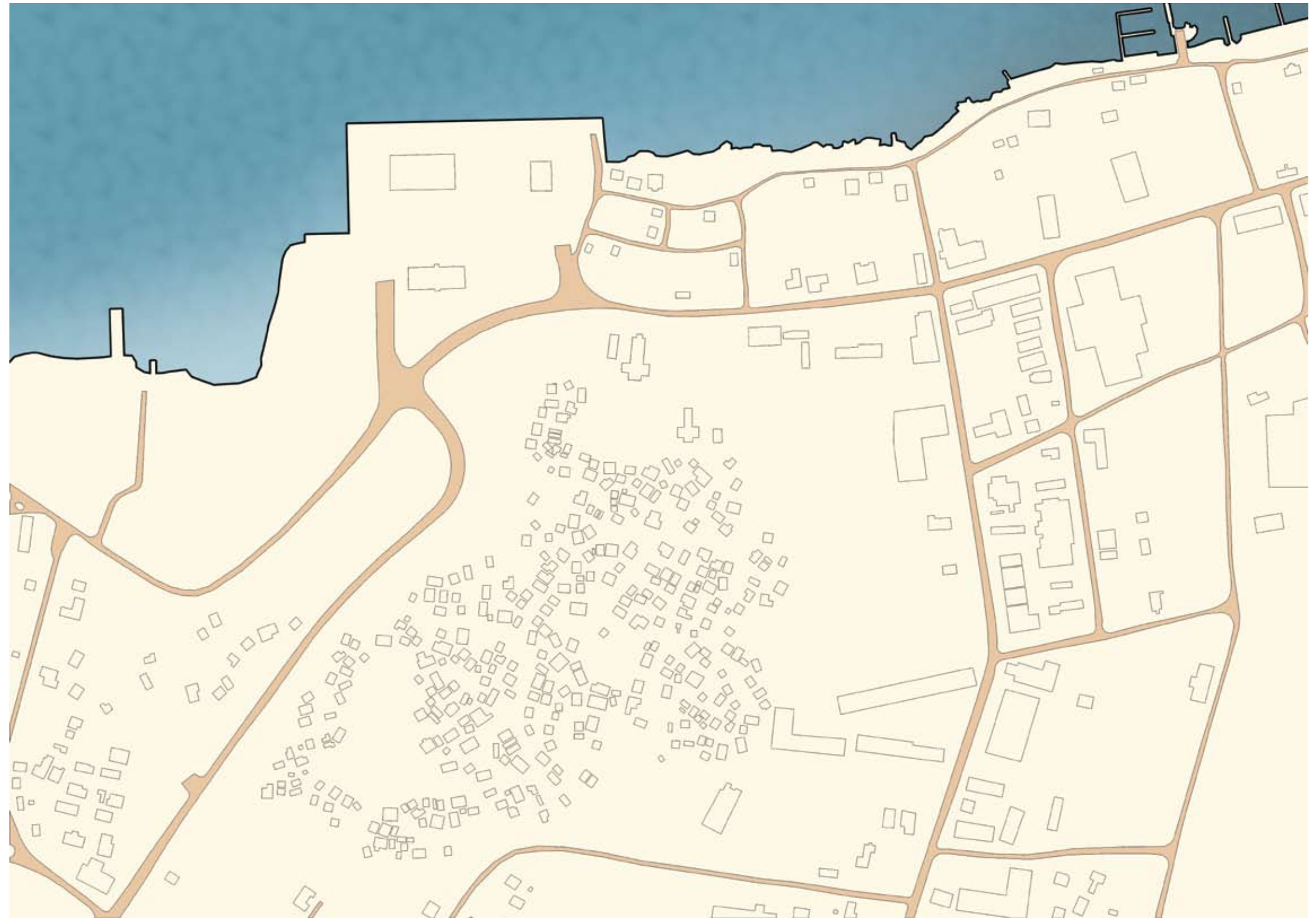
MARSH HARBOUR: The traffic light at Don McKay and Queen Elizabeth

EXISTING STREETS

The existing street network of Marsh Harbour is not suitable to current traffic demands or pedestrian life. Connectivity is very limited, especially on the west side of Don McKay Boulevard due to the presence of The Mud. Most blocks are very large, reducing the possible routes for pedestrians and automobiles. Because the informal streets through the Mud are not conducive to driving, the Mud essentially provides one enormous mega-block around which all traffic must circulate. This puts enormous pressure on Don McKay and Queen Elizabeth. Considering the density and fire-vulnerability of the shantytowns, their existing informal streets are entirely inadequate in providing emergency access, which has led to serious destruction in the past.

Most streets are not suitable for pedestrian activity. Despite the heavy automobile traffic, sidewalks are not provided in most instances. New roads are generally engineered in accordance with conventional suburban standards and feature large drainage swales and curb radii that promote faster turning. On-street parking is rarely available and buildings are generally set back far from the road – both characteristics promote faster travel that can threaten pedestrians. Most pedestrian activity is limited to residents of the shantytowns. Street names are generally not posted.

In general, the street network does not promote access to the water because many waterfront blocks are long and parallel to the coast. Streets in the waterfront district are relatively narrow and cannot provide significant on-street parking. Because the nearby international port generates some truck traffic, some intersections have extremely large turning radii to enable convenient turning movements, but to the detriment of any possible pedestrian life.



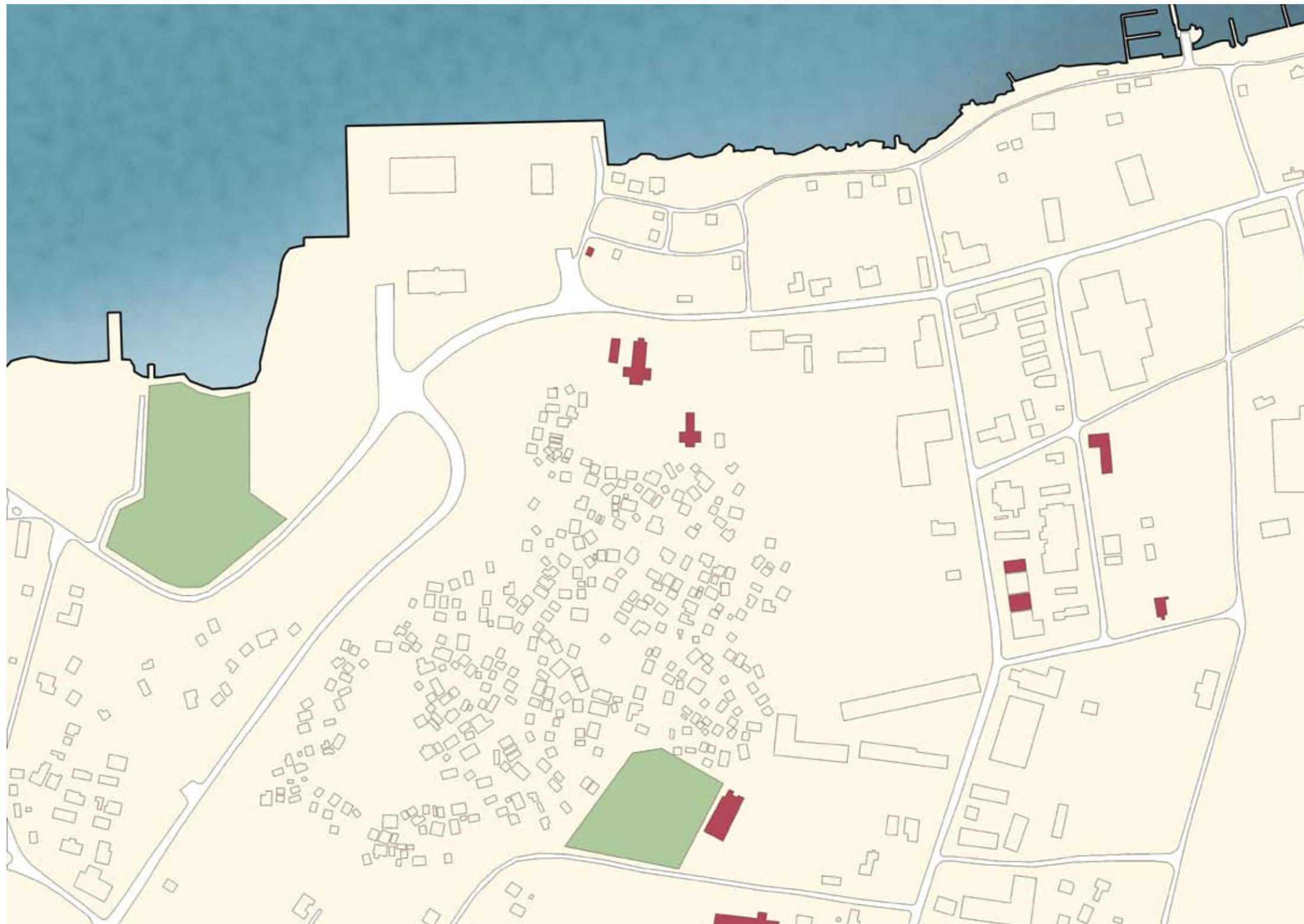
MARSH HARBOUR: Existing Streets

EXISTING PARKS AND CIVIC PLACES

The center of Marsh Harbour features few parks and civic spaces at this time. Goombay Park is located west of the international port and resembles a gravel parking area more so than a park for civic life. Goombay Park, which overlooks the sea of Abaco, features a variety of colorful shacks that serve as stands during the important Junkanoo festival. Due to its relative isolation and poor street connections, Goombay Park is primarily accessed via automobile and fails to act as an amenity that boosts local real estate values.

The only other park within the city center can be found at the end of Poppy's Way adjacent to the Mud. The park consists of an overgrown baseball field and basketball court that used to be part of a primary school facility. The school building still exists but is currently used by a church and features boarded up windows because local residents continue to destroy the glass. This park serves many of the shantytown residents as a meeting place and recreational area, but few other Marsh Harbour residents are willing to use it.

Most civic institutions are housed in conventional strip malls and are not designed to provide any civic identity to the area. A handful of churches also exist north of the Mud and are important social and ministry centers within the greater community. A paramedic facility is located near the international port and a fire station is located further east of the city center. In all, Marsh Harbour's center does not possess physical characteristics that speak of the potential for civic life, despite its civic-minded population.



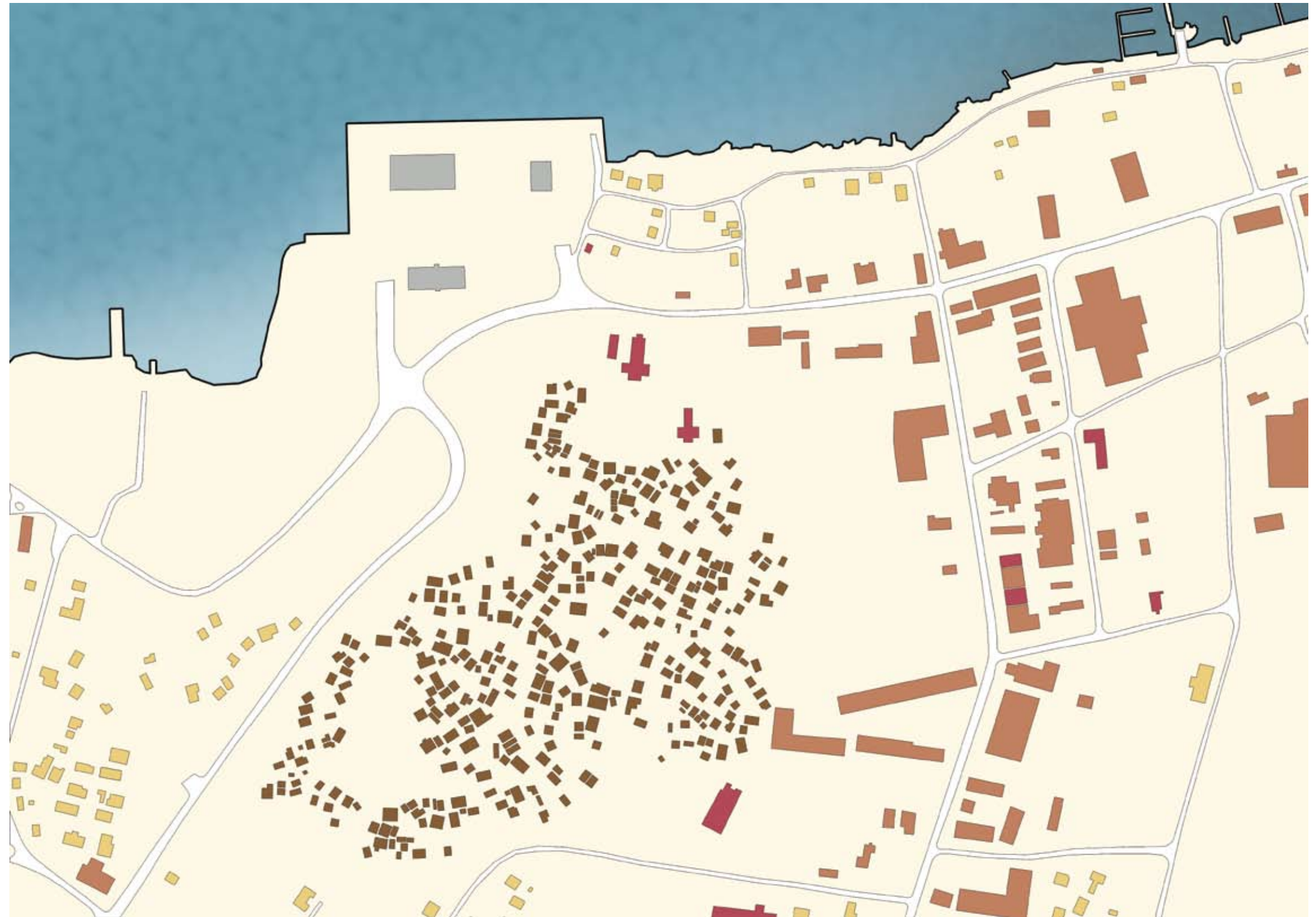
MARSH HARBOUR: Existing parks and civic places

EXISTING LAND USE

The existing land use is dominated by strip commercial development on Don McKay, Queen Elizabeth and its neighboring streets to the east. This is hardly surprising given its automobile-dominated characteristics that would discourage most residential or tourism development. The Abaco Shopping Center and various other strip malls anchor the commercial activity near a bend on Don McKay Boulevard. Banks, various retail stores, and office space complete the commercial landscape. A new supermarket is expected to open soon on the east side of the study area. Almost all tourism-related commercial activity is limited to “Restaurant Row”, which is at least a ten-minute walk east of the traffic light and requires a walk past strip malls, parking lots and seemingly vacant properties.

The waterfront near the city center is dominated by storage yards, residential lots and properties which seem to be abandoned (or at least extremely underutilized). Residences on the western end of the waterfront drive (Albury Boulevard) include a number of historic cottages, most of which are in relative disrepair. The east side of Albury Boulevard includes some ranch buildings that have been maintained but seem out of place in this central and deteriorated location.

The area south of the international port facility is dominated by the informal settlement referred to as the Mud. It is built primarily on fill, which was moved to these former marshes during dredging efforts to build the international port. The Mud has here been identified with a single land-use due to its special informal status, even though various uses occur within the Mud itself. For more information on this area, please refer to the chapter on proposals for the Mud.



MARSH HARBOUR: Existing Land Use

EXISTING INFILL OPPORTUNITIES

The center of Marsh Harbour features extensive areas of parking lots, vacant land and underutilized properties that present numerous infill and retrofit opportunities. Urban designers typically study these areas to understand where potential for new development lies. Most Marsh Harbour residents consider their city center to be “full”, but close examination of existing conditions reveals that land has been used inefficiently and various areas provide significant development opportunities.

A vast amount of undeveloped land lies between the Mud and its surrounding roadways. Much of this land is currently not very accessible and investors are discouraged from developing land adjacent to a shantytown. Some areas trap water or are flood-prone because infrastructure has been located to trap watersheds. Other areas are simply inaccessible because streets do not connect them to the rest of the city.

A significant amount of underutilized land lies near the waterfront, some of which is currently used for haphazard storage. Many lots appear to be abandoned and are overgrown with vegetation. The waterfront district represents an enormous opportunity for the center of Marsh Harbour because of its underdeveloped real estate.

Parking lots also represent a limited infill opportunity. Although parking can be in short supply on certain days (mostly Fridays), many parking lots are generally not used to capacity and are inefficient in their use of land. Parking lots take up valuable real estate that could be developed with profitable buildings, but conventional wisdom assumes that there can never be enough parking. Because streets do not generally accommodate parking, merchants feel compelled to reserve large areas in front of their stores for convenient parking areas. Parking lots are almost always located near the street, which discourages a vibrant pedestrian life and pedestrian-based retail. Because everybody drives everywhere, every store must provide its own parking rather than being able to pool parking areas for shared use.

It is important to note that some vacant areas are currently being used as drain fields for conventional septic systems. As the third largest city of the Bahamas, it is time for Marsh Harbour to fundamentally rethink its wastewater management approach. Efficient densities and use of land cannot take place until gradual change is made away from conventional septic to centralized treatment or shared treatment modules by clusters of buildings.



MARSH HARBOUR: Existing parking lots, vacant land and underutilized real estate

ILLUSTRATIVE MASTERPLAN

The drawing on this page illustrates what central Marsh Harbour might become if it adopted planning mechanisms and principles advocated in this document. Although no legal mechanism such as a SmartCode has been adopted for Marsh Harbour, the team was compelled to put forward a vision that might lead the community to advance a progressive planning process. The ultimate hope is that Marsh Harbour can transform itself into a settlement in keeping with the best of Bahamian settlement traditions, including a vibrant tourism economy, a livable mixed-use environment, and an integrated walkable community that can be sustained for generations.

The plan differentiates between new and existing structures to show how infill development is proposed to occur. New buildings include a range of uses, including residential, commercial and civic. Civic buildings have been drawn in red. New construction is built according to the principles set out within this document and generally comes close to the street. Parking is provided on streets and within mid-block shared parking areas. The street network has been amended to include a fine hierarchy of new streets, lanes and paths to access additional real estate frontages.

The plan shows significant infill development in the waterfront district, which is served by mid-block parking and increased pedestrian paths to encourage movement into the central business area. Extensive new construction is also proposed near an improved Goombay Park, which is envisioned to include a ferry terminal servicing Great Guana Cay. Don McKay Boulevard has been retrofitted into a pedestrian-friendly avenue and includes a straw market at the bend north of Abaco Shopping Center.

The entire composition has been integrated with the Mud, which is proposed to be improved into a stable and valuable neighborhood over time. Surrounding vacant properties have been tied into the existing city with an amended street network, and several parks have been provided for the benefit of all Marsh Harbour residents. The street network now provides multiple routes across the downtown area to help disperse traffic.

The hope of this proposal is that the citizens of Marsh Harbour are compelled to take the next step in advancing the building of their community by launching a planning process dedicated to their city. In the meantime, the following conceptual proposals may help to spark constructive discussion.



MARSH HARBOUR: Illustrative Masterplan

- 1 GOOMBAY PARK
- 2 MARKET AT GOOMBAY PARK
- 3 FERRY TERMINAL
- 4 MARINA BUILDING
- 5 INTERNATIONAL PORT
- 6 THE MUD
- 7 LIBRARY
- 8 RECREATION CENTER
- 9 SCHOOL
- 10 ORGANIC FARM PLOTS
- 11 CHURCH
- 12 STRAW MARKET
- 13 ABACO SHOPPING CENTER
- 14 DON MCKAY BOULEVARD
- 15 QUEEN ELIZABETH HIGHWAY
- 16 PUBLIC DOCKS
- 17 GEORGE ALBURY BOULEVARD



MARSH HARBOUR: Existing view looking southwest



MARSH HARBOUR: Proposed view of the waterfront city

IMPLEMENTATION

The proposal for Marsh Harbour is a radical departure from existing patterns and conditions. The resulting visionary drawings may seem impossible in light of current obstacles and conflicting interests. The following diagrams are intended to help the reader imagine a phased approach to implementation that separates the individual components into more manageable pieces. Implementation does not need to progress in the described sequence, but has been arranged in this manner in light of a preliminary evaluation of possibilities.

The first phase illustrates the improvement in the vicinity of Goombay Park and the waterfront district. Capitalizing on the city's location on a safe harbor, it is estimated that these areas are likely to attract reinvestment if public policy is channeled towards this end. The Goombay Park building group focuses around a new ferry service to Great Guana Cay as well as improved festival grounds for Junkanoo. Buildings have been arranged to screen nearby port facilities and shared parking lots. The waterfront district features general infill development in keeping with historic waterfront settlements such as Dunmore Town, Harbour Island. Historic buildings are proposed to be restored, and new buildings are envisioned to build on the best of Bahamian building traditions. Queen Elizabeth is transformed into a walkable, mixed-use main street featuring two-storey buildings and tree-lined sidewalks.

The second phase shows the transformation of Don McKay Boulevard and its surrounding blocks. New development preserves existing strip malls, which can be given humanizing facelifts through the addition of new galleries. The area surrounding the Marsh Harbour cemetery and Goombay Park has also been expanded.

- NEW ROADS
- EXISTING ROADS
- PROPOSED BUILDINGS
- EXISTING BUILDINGS



MARSH HARBOUR: Existing Figure-Ground



PHASE 1



PHASE 2



MARSH HARBOUR: Final Implementation

The third phase illustrates new development encroaching towards the Mud. New streets have been introduced on these undeveloped properties to help access additional real estate frontage. Especially the provision of additional north-south routes is expected to aid in dispersing traffic and relieving Don McKay.

The fourth phase shows first serious improvements in infrastructure through the Mud. New east-west streets enable more efficient dispersal of traffic and provide emergency access. Development along these corridors is expected to increase in quality as it gains valuable frontage along an improved street.

The final phase illustrates the “completed” ensemble, recognizing that cities are never truly complete but may be characterized by a wholeness that is currently absent Marsh Harbour. The reader may recall the significance of the physical environment and its relationship to tourism, economy, culture and environment. While Marsh Harbour has difficult challenges ahead, this document suggests that a new direction in planning and settlement culture can take place if supported by its citizens. For more information and details regarding the Mud, please refer to subsequent chapters of this document.



PHASE 3



PHASE 4

- NEW ROADS
- EXISTING ROADS
- PROPOSED BUILDINGS
- EXISTING BUILDINGS

DON MCKAY BOULEVARD

The drawing on this page intends to demonstrate how automobile-dominated streets such as Don McKay Boulevard can be transformed into vibrant pedestrian environments with increased retail opportunities. Existing buildings have been improved via simple changes such as paint, new windows, railings and louvers. New buildings have been added in key locations, in part to utilize existing real estate, in part to provide architectural landmarks that can help to shape a memorable experience. A straw market building has been included at the bend and helps visitors to identify the center of the community. The Abaco Shopping Center parking lot has been screened with a bus transit shelter.

Existing roadway conditions are not conducive to pedestrian activity. A current crosswalk ends in pole and appears to lead nowhere. New sidewalk improvements and palm-lined planter strips help to provide safe and comfortable pedestrian amenities and help to screen existing strip mall parking. Visitors arriving in Marsh Harbour for the first time would be welcomed by such an improved environment and may be compelled to spend more time in Marsh Harbour as a result rather than continuing on to the cays. Most importantly, residents of Marsh Harbour would have access to a livable environment that promotes community life and pride.



DON MCKAY BOULEVARD: Proposed view looking north at the proposed straw market.



DON MCKAY BOULEVARD: Existing view looking north

ALBURY WATERFRONT

This drawing intends to suggest how the Marsh Harbour waterfront can be transformed into a first class destination on par with any Bahamian waterfront settlement. Inspired by bay streets across the nation, the Albury Waterfront is lined by mixed-use building fronts with parking in the mid-block areas. Some existing buildings have been improved, but many new structures provide the bulk of development. The waterfront is envisioned to include increased marina activity where visitors are encouraged to stroll through the district and shop in its stores.

Most significantly, however, local residents are able to reclaim their waterfront and nautical identity that has been damaged by conventional development patterns. The waterfront can once again become a place to meet neighbors and pick up fresh food rather than a utilitarian back door and forgotten district. More than any other part of the proposal for Marsh Harbour, this document advocates the reestablishment of the city as a true seaside settlement.



ALBURY WATERFRONT: Proposed view of the waterfront, looking west.



ALBURY BOULEVARD: Existing view looking west

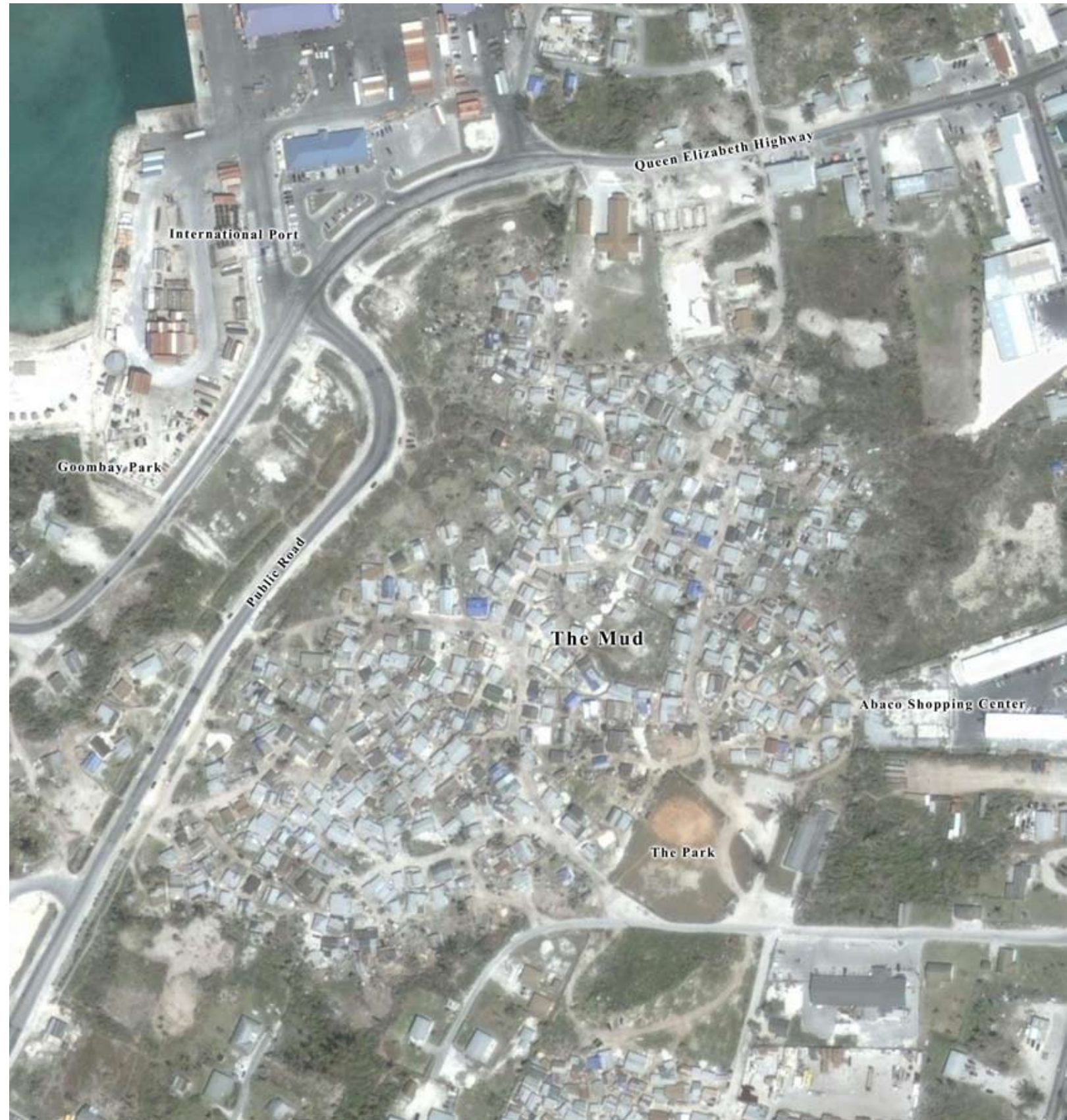
THE MUD

The center of Marsh Harbour features the island's two largest informal settlements (or shantytowns), which are occupied by several thousand Haitians – a precise census for this population does not exist. Most residents of *The Mud* and the *Pigeon Peas* have immigrated illegally and work for very low wages in the Abaconian construction and service industries. Beginning in at least in the 1960s, various Abaconian industries began to hire Haitians for heavy manual labor in the agriculture and timber industries. Most Haitians avoided proper immigration procedures and employers often exploited their illegal status. Living in separate and unplanned communities, the legal status of thousands of Haitians remains unresolved despite the fact that a large number of them were born and raised in the Bahamas. This has resulted in a barrier to legal ownership rights, accountability, social integration and justice, access to certain public services and international travel, among other things. In many cases, it has also led to a concentration of poverty, crime, exploitation, as well as sub-standard living arrangements.

While living standards for Haitians on Abaco are generally far better than in Haiti, the physical condition of the informal settlements are unacceptable in a modern tourism-driven nation such as the Bahamas. Sewer or septic provisions are virtually non-existent, releasing sewage directly into the ground. Water and electrical power is distributed illegally and in unsafe manners. Buildings are not built to code and present safety hazards that have led to severe and uncontrollable fires, which have also threatened nearby Bahamian businesses. The Mud and the Pigeon Peas present perhaps the largest challenge for Abaconians in their efforts to establish a sustainable settlement culture. This project has chosen to focus on The Mud in order to demonstrate how planning and design may help to improve such places for the benefit of Bahamians and Haitians over time. The Mud was chosen in part because much of the land it occupies is crown land and may be more amenable to change.

This project recognizes that planning challenges in The Mud cannot meaningfully be addressed without first tackling questions of political status, ownership, social and economic justice. As such questions are far beyond the expertise of the design team, it does not pretend to be able to provide solutions for these complex Bahamian challenges. During the public charrette process, some advanced the strategy of removing The Mud entirely and relocating the population onto crown land elsewhere on Abaco. In The Mud alone, this would make approximately 35 acres available for immediate development and could help town planning and growth efforts in the Marsh Harbour community.

At the same time, the project team could not reasonably propose such a dramatic relocation effort in light of social responsibility, Bahamian police enforcement limitations, and the lessons of history. The forceful removal of such a large population, already resentful of Bahamian immigration policy, is likely to meet violent resistance uncontrollable by Bahamian police forces. At the same time, the long-term detrimental effects of concentrating unresolved poverty into some sort of peripheral or rural housing project, even if conducted peacefully, have been sufficiently demonstrated by US public housing strategies in the 20th century. Therefore, the design team operated on the assumption that future public processes will hopefully resolve the political challenges in a fashion that permits the population to stay and achieve some type of legal status over time. The proposals for the area known as The Mud are intended to demonstrate how conditions might improve if Bahamians chose to permit such a transition.



THE MUD: Recent aerial map, taken before a large fire destroyed a significant area of structures.



GARBAGE AND LOCAL CHILDREN



BURNING GARBAGE AND A BOARDWALK IN A MARSHY AREA



PVC WATER PIPES LYING ON THE GROUND



UNSAFE ELECTRICAL WIRING



HAZARDOUS CONSTRUCTION



ROUTINE STREET FLOODING

HEALTH AND SAFETY

The community of The Mud faces a wide range of health and safety hazards that pose a serious threat beyond the borders of the informal settlement. Some of the health hazards are capable of spurring disease outbreaks that could have tremendous ramifications on the entire population of Marsh Harbour. The project team visited The Mud several times for documentation purposes and interviewed numerous local residents to learn about processes and details. A summary of the findings is presented here.

Garbage

The streets and outdoor spaces of The Mud are littered with garbage. No dependable or official garbage collection occurs at this time. According to Bahamas Waste Management representatives, a non-profit organization donated the provision of several large dumpsters that are currently stored in the park (the former baseball field located at the western end of Poppy's Way). Various Haitian residents pool their financial resources when possible to pay for the emptying of these dumpsters, but the dumpsters are quickly and routinely overfilled. This causes many residents to burn their garbage in open barrels, but a large amount of garbage can be found lying on the ground throughout the settlement. Some garbage presents serious health risks over time, including car batteries and other polluting agents that leak into the ground. Many children walk within the settlement barefoot and are exposed to possible injury and disease.

Water

Water is provided in a variety of ways. Local entrepreneurs sell drinking water to residents on a regular basis, but illegal water distribution also takes place through PVC and other pipes. A limited number of residents have obtained legal access to city water supply and sell this on to other residents illegally. Pipes can be seen running overhead and on the ground, including across vehicular paths. Because of the unregulated nature of plumbing infrastructure, it is unknown what health risks might be associated with the existing water supply. Some residents collect rainwater to water crops in small gardens or pots.

Sewage

In comparison to the exterior environment, many interiors of the buildings in The Mud are relatively clean, orderly and finished similarly to standard Bahamian housing of comparable income demographics. This often includes the provision of complete bathrooms that feature toilets. Instead of connection to a sewer or septic system, however, the vast majority of sewage is flushed directly into open cesspits, usually located underneath the houses. The cesspits are not emptied, and only a handful of residents operate makeshift septic systems. The long-term consequences of the resulting ground and water contamination are likely to pose serious human health and environmental risks in the future. In the past, firefighting efforts have been hindered by the reluctance of firemen to enter the premises for fear of falling into open cesspits.

Electricity

Electricity is provided mostly illegally in a manner similar to water distribution. A handful of residents obtain legal electrical service or operate diesel generators and sell it on to numerous others. Electrical wires are drawn throughout the settlement in extremely unsafe and exposed conditions. Dead trees serve as utility poles and wires can be seen lying on the ground and across roadways. Current electricity provisions and the unsafe storage of generator fuel are among the most likely reasons for fires. These fires can spread at a rapid pace because wooden buildings are sited very close to each other and Marsh Harbour firefighters are unable to gain quick access due to road conditions.

Construction

Compared to international shantytown characteristics, buildings in The Mud are relatively permanent. Nevertheless, almost all construction fails to meet Bahamian building codes or any acceptable safety standards. Buildings are typically built on concrete slabs, made of light wood-frame construction and sheathed with painted plywood. Much of the material originates from construction sites where many residents work. Buildings are not constructed to resist hurricane forces or fires.

Stormwater

Much of The Mud is constructed on fill that was dumped here during the dredging efforts for the nearby international port. The land was never designed to drain stormwater effectively and is therefore prone to frequent flooding. Also, a roadway on the northwest side of The Mud helps to trap stormwater. Conditions in the unpaved roadways are very wet following rainstorms, and hurricanes can bring devastating floods that could wipe out the entire community (the land is estimated to be very near sea level). Frequent flooding can react with exposed electrical wiring and causes water to mingle with garbage, which further pollutes the ground. Generally moist conditions have caused mold and bear significant health risks for the population.

LEGAL CHALLENGES

The focus of this document is on physical characteristics and their benefits to the people of Abaco. The project team recognizes that physical improvements alone cannot solve the social and economic problems of The Mud. But neither can economic vitality, community stability, and environmental health be sustained without a coherent and supportive physical framework. In an effort to provide a serious contribution towards the physical improvement of The Mud, the following proposals are built on the assumption that Bahamians will resolve the underlying political challenges in the future.

This document suggests that a pathway to legal ownership must be made possible if conditions are to improve within the settlement. The following pages focus on developing a strategy that would enable residents of The Mud to become homeowners over time. A prerequisite for this, of course, is for interested residents to achieve some form of legal status.

BACKGROUND: ILLEGAL IMMIGRATION CHALLENGES

Politicians who might propose steps towards legalizing undocumented immigrants are in danger of committing “political suicide,” according to a member of the Bahamas Human Rights Network. If the government is perceived to favor Haitian homeownership, Bahamians in need of similar government support are likely to feel disenfranchised or offended. Such moves could also be seen as incentive for more illegal immigration to The Bahamas. Many Bahamians are concerned that their culture, identity and population could be overwhelmed by Haitian immigration in the future. On the other hand, a forceful removal of Haitians could result in violent resistance fueled by the stigma, resentment and living standards associated with the place. In addition, the Abaconian economy has grown to become economically dependent on the relatively cheap and unregulated labor provided by Haitian workers. The Marsh Harbour economy could be severely affected if Haitian manual laborers were to suddenly disappear. Removal of The Mud’s residents to another concentrated location would likely lead to the establishment of new shantytowns, possibly with even greater challenges.

One pertinent principle, perhaps the impetus for coming to a solution, is that the constitution of The Bahamas has guarantees for immigrants¹, which the Bahamian government ought to apply with due process. Central government is responsible for controlling illegal immigration but is also responsible for providing an acceptable and humane solution for those who are presently in the Bahamas, especially considering their generational presence. The first step in developing a solution might be to induce action on the part of central government to more closely adhere to its own human rights policies, such as processing legal status applications in a timely manner. As it is now, evidence suggests that due process is often not in practice. Nonetheless, the residents of these shantytowns remain human beings that possess innate inalienable rights, which are guaranteed by the Charter of The United Nations and by constitutions of free countries around the world, including the Bahamas. There is enormous potential for The Bahamas to improve its global image as a progressive and just nation by tackling difficult immigration issues head-on.

Additionally, local government on Abaco is co-responsible for ensuring the health, safety and welfare of the people living in its jurisdiction. While local government might be unable to tackle the physical challenges of The Mud without central government support, it is important that local government remain at the forefront of improving its own community. Remaining engaged in the difficult tasks ahead rather than hoping for central government to provide all solutions will ensure that improvements are truly in the best interest of Abaconians.

If the above passages seem to stress the primary role of Bahamians in this challenge, it is because Bahamians play the only legal role. Only Bahamians can make the difficult choices required to enable due process and legal implementation of solutions. Bahamian citizens have the responsibility to act on behalf of their communities, which includes the undocumented Haitian population. At the same time, this document wants to stress the responsibilities that undocumented Haitians bear in regards to health, safety, lawful conduct and order. The following proposal seeks to hold both Bahamian and Haitian Abaconians accountable for the improvement of conditions in and around The Mud.

¹ Constitution of the Commonwealth of the Bahamas, Chapter II

7. (1) A person born in The Bahamas after 9th July 1973 neither of whose parents is a citizen of The Bahamas shall be entitled, upon making application on his attaining the age of eighteen years or within twelve months thereafter in such manner as may be prescribed, to be registered as a citizen of The Bahamas:



MEN SOCIALIZING UNDER A SHADE-GIVING TREE



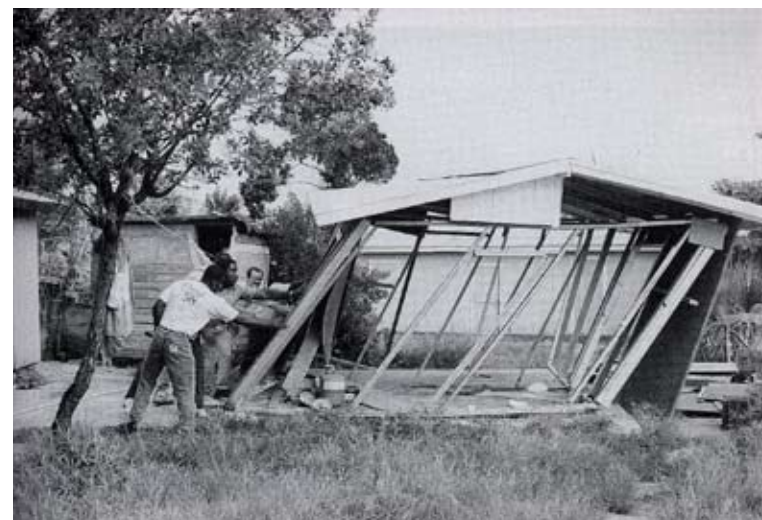
BOYS BORN IN THE BAHAMAS, BUT WITH NO LEGAL STATUS



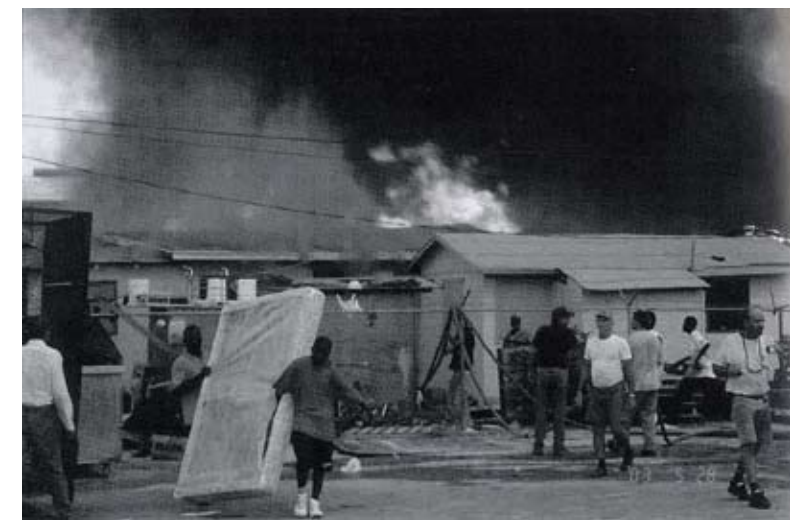
CHILDREN IN THE MUD



ENTERING THE MUD



DEMOLITION OF UNOCCUPIED HAITIAN RESIDENCE BY LOCAL AUTHORITIES IN 1993



A SEVERE FIRE IN THE NEARBY PIGEON PEAS IN 2003 (Source: David Ralph)



TEAM MEMBERS SPEAKING WITH LOCAL RESIDENTS



ONE TEAM MEMBER COULD TRANSLATE CREOLE FOR THE TEAM



A SIGNIFICANT FIRE IN THE MUD

MODEL LEASE-TO-PURCHASE CONTRACT

The parties signed below agree that...

THE GOVERNMENT SHALL:

1. Plat lots and street reservations in accordance with the adopted Marsh Harbour Special District Plan.
2. Provide adequate centralized garbage collection service.
3. Construct and maintain streets and drainage gullies in accordance with the adopted Marsh Harbour Special District Plan.
4. Construct and maintain adequate fire-prevention equipment sub-stations.
5. Construct and maintain underground electric power infrastructure and drinking water supply.
6. Install and maintain advanced wastewater treatment systems, each to be used by up to 20 lots.
7. Provide due process for final purchase of lot by applicant.
8. Provide due process for provision of full legal status.

THE APPLICANT SHALL:

1. Take all necessary steps to obtain and maintain tentative legal immigration status.
2. Keep the lot and its public frontage free of debris and garbage at all times.
3. Grade and maintain vacant lot or vacant parts of lot to drain stormwater towards adjacent street reservations.
4. Make no fires except for cooking.
5. Discontinue illegal power and water consumption and connect to legal electricity and water supply at an agreed service charge.
6. Mitigate existing cesspits and connect household sewer to shared wastewater treatment system at an agreed service charge.
7. Meet minimum compliance standards of the Marsh Harbour Special District Plan, including special building code and environmental standards.
8. Complete final purchase of lot in accordance with the terms and timeframe defined by the Marsh Harbour Special District Plan.

TERMS:

- a. Government and applicant responsibilities are to be fulfilled in tandem with each other, in accordance with the described sequence, and in compliance with the adopted Marsh Harbour Special District Plan.
- b. Tentative legal immigration status is forfeited in the event that the applicant is convicted of a crime in accordance with Bahamian law.
- c. "Lease-to-Purchase" contract is subject to termination if the applicant fails to comply with any of the requirements listed above.

ACCEPTED AND AGREED:

_____ Government Agent

_____ Applicant

_____ Date

_____ Date

A PATHWAY TO OWNERSHIP

The lack of legal ownership and its many associated challenges in The Mud pose many difficult and complex decisions for local and central government, as well as for the citizens and illegal residents of Marsh Harbour. The proposals within this document seek to be useful and beneficial to all people of Abaco and are intended as serious contributions to the ongoing deliberations regarding this complex issue. However, short of clearing the entire site, any proposal to improve its existing conditions is meaningless if legal property ownership remains unresolved. Most of the land in The Mud is currently owned by central government and residents are squatting with no rights to ownership. Bahamians have tolerated this squatting and its associated illegal activities but are frustrated with the lack of effort on the part of Haitians to improve conditions and be accountable for their settlement's problems. At the same time, the opportunities and incentives for Haitians to improve conditions are severely limited because legal title, its associated legal protection, and its potential for building personal wealth and accountability are not available.

This document proposes a strategy intended to enable a pathway to ownership for residents of The Mud. The proposal centers on a so-called "Lease to Purchase" contract, to be mutually agreed to by relevant Bahamian authorities and those residents seeking homeownership in The Mud. This path includes a prerequisite of obtaining some kind of tentative documented legal status as well as a contract describing rights and responsibilities of both parties. The proposed contract includes various stipulations to incentivize a gradual progression of property improvement, building code compliance, and ultimate ownership.

This contract represents only a preliminary conceptual proposal. It is loosely modeled after a similar contract proposal developed for the shantytown of Rose Town in Kingston, Jamaica.¹ The contract refers to a Marsh Harbour Special District Plan, which is envisioned to be prepared through a public participatory process and commissioned by the city of Marsh Harbour. The intent of the special district plan is to determine the intended land use, physical characteristics, infrastructure provisions, and legal terms of improvement efforts for The Mud and its adjacent properties. The contract specifies the sequential and tandem responsibilities of government and the applicant intending on securing legal status and ownership.




The project team recognizes that the presented proposal oversimplifies the complexity of conditions and necessary steps. Any applicable measure would need to be developed via an appropriate political process, including legal counsel from relevant Bahamian government agencies. Nevertheless, the enclosed proposal is intended to cultivate a constructive dialogue that may lead to appropriate solutions in the future. The intent is that a combination of government intervention and homeownership, including all advantages and responsibilities this includes, can help to transform the center of Marsh Harbour into a sustainable and attractive central settlement for all Abaconians.

¹ Report for Rose Town, Kingston, Jamaica, The Prince's Foundation for the Built Environment; in collaboration with Duany Plater-Zyberk & Company, Kingston Restoration Company, and other consultants; May 2007

EXISTING DRAINAGE

The existing informal settlement was constructed on fill, which was used to fill in former marshlands as part of the dredging efforts for the international port. The land was never graded or designed for habitation and the reclaimed terrain retains water until it percolates through to the water table. Streets readily fill with mud puddles during rainstorms – hence the name of the settlement. The absorptive characteristics of the fill are relatively poor and no efforts have been made to coordinate any channeling or mitigating of stormwater.

The diagram illustrates an approximate topographical analysis of the site. Accurate surveys of the area are not available and topographic information was assembled using readily available market-based data sources as well as on-site observation during the charrette. The diagram illustrates the general directional flow of stormwater drainage in The Mud. It also illustrates how the relatively recently constructed roadway to the west-side of The Mud helps to trap stormwater in the event of a significant storm, effectively acting as a dam.

- STREETS 
- BUILDINGS 
- DRAINAGE 
- CONTOUR LINES 



THE MUD: Existing Drainage Summary



THE MUD: Proposed Drainage Concept

PROPOSED DRAINAGE

This diagram illustrates a proposed conceptual solution to drainage challenges in The Mud. Localized grading of lots can shed water towards the street network. The improved street network is designed to channel stormwater towards the central east-west street. This street is intended to include a system of gullies that carry stormwater to the northwest side of The Mud. As a primary system, however, a network of slow-filter drainage wells is gravity fed by minor streets and lanes. The roadway that currently acts as a dam has been redesigned to permit increased drainage towards the northwest, where a large retention system has been integrated with new development.

In the event of an exceptional storm, the retention area is designed to permit controlled overflow into the sea to the north of Goombay Park. Please refer to the proposed street network and Goombay Park details for more information on this drainage proposal.

- STREETS
- BUILDINGS
- DRAINAGE
- CONTOUR LINES

EXISTING INFORMAL STREETS

The existing street network of The Mud is the result of an informal process of accretion and unplanned development. Although the history of the street layout is unknown to this project team, it can be speculated that streets developed in response to subtle topography variations, squatting patterns and their sequence of initiation, as well as informal social agreements to preserve important circulation routes. The overall network composition is reminiscent of medieval European settlements: unplanned yet informally and collectively determined in response to real issues and restrictions.

Another resemblance to medieval settlements is its relative disconnect from the surrounding area: only a few vehicular routes exist to provide access to the surrounding areas. A major east-west route begins at the Poppy's Way near the overgrown baseball park ("the park"), winds through what is known locally as the "West Side", and reconnects with a public road to the west. The park is also where the primary north-south route originates. This route winds through the neighborhood locally known as "Sea Grapes" until it meets Queen Elizabeth Drive to the north.

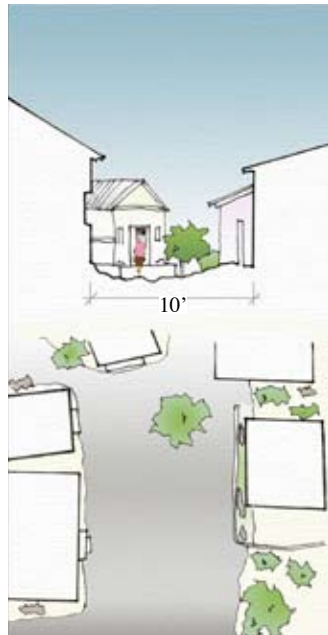
Various other streets and paths radiate from these two major thoroughfares. A selection of typical street sections and their dimensions are presented on the opposite page for reference purposes. Streets that are wide enough to permit vehicular traffic are extremely rough and demand very slow travel. Parking occurs haphazardly wherever there is space, and potholes and trash provide plenty of obstacles. Other streets vary in width and often do not permit vehicular traffic. Many streets are dead ends for vehicles, and the common lack of property definition shapes a landscape of building gaps that is visually disorienting for vehicular use. Not surprisingly, firefighting efforts are significantly hindered by all of these characteristics, especially if conventional large equipment is used.

A significant number of regularly traveled pedestrian paths exist throughout the settlement. Only the main paths have been included in this diagram in green – numerous minor footpaths exist that connect The Mud with the surrounding area. Several areas that are permanently wet include raised boardwalks in place of paths. They have been included in this diagram as hatched paths. Despite their deteriorated condition, the streets are typically full of life. During the day, especially children and women can be seen playing or socializing in the streets, which are regarded as shared space by the community that inhabits them.

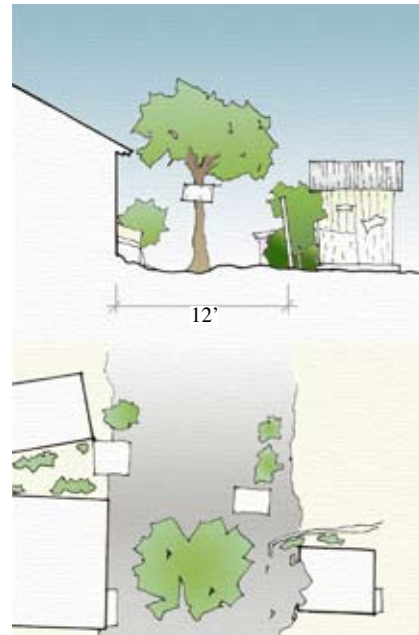


THE MUD: Existing Streets and Paths

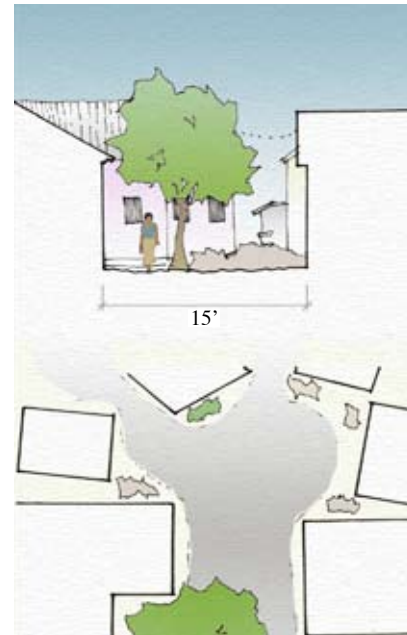
TYPICAL PATH



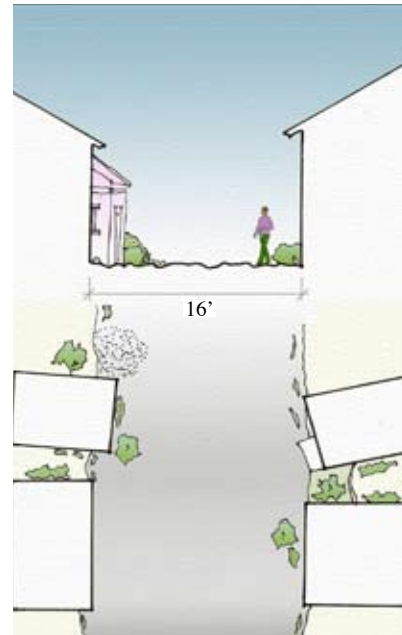
PLANTED LANE



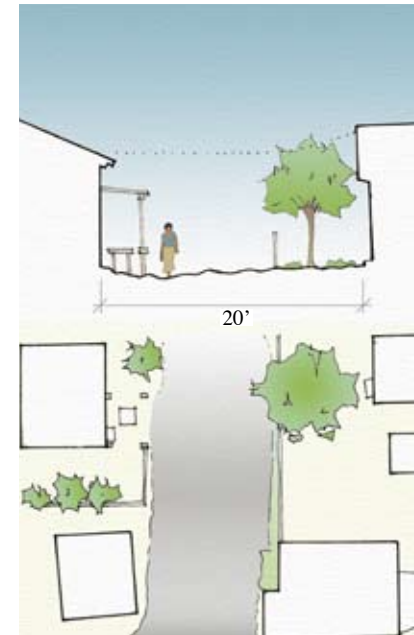
TYPICAL CUL-DE-SAC



TYPICAL STREET



TYPICAL STREET



PRIMARY STREET TERMINATING IN A PATH



TYPICAL PATH



TYPICAL LANE



TYPICAL STREET



PLANTED LANE



CUL-DE-SAC STREET



PRIMARY STREET UPON ENTERING THE MUD

PROPOSED STREETS

The plan on this page illustrates a summary proposal for street infrastructure improvements within The Mud. In order to minimize disruption to existing settlement patterns and informally accepted “ownership” claims, the proposed street network builds on the existing network to improve stormwater management and satisfy access requirements for emergency, utility and garbage service. Existing streets and paths have been amended to allow for increased vehicular and pedestrian access, particularly around the perimeter of the existing settlement. Almost all proposed lots, which are based on existing building locations, are serviced by street or path reservations, although a handful of lots will require an additional easement to access a street. The plan preserves a variety of street types, including primary vehicular thoroughfares, narrow one-way lanes, as well as pedestrian paths.

An important feature to the proposal is that private property is to be defined via garden walls, fences and/or plantings. This will help in visual orientation and improve the relationship between public and private activities in the neighborhood. The provision of property definition is key to successful Bahamian settlement making, especially in denser environments, and can be witnessed in all historic communities.

The plan seeks to integrate the existing street network with surrounding development and is careful to preserve building fronts for public spaces while the backs of buildings are relegated to alleys or mid-block conditions. Parking is expected to occur on private property and streets, as long as emergency routes remain clear.

LIGHT IMPRINT

The plan also reveals a summary of stormwater management techniques that are envisioned for The Mud. Light Imprint is a progressive approach to stormwater management that places emphasis on natural drainage techniques over the conventional “inlet, pipe and pit” approach. Its purpose is to help manage stormwater as locally as possible rather than relying on more expensive infrastructure to carry stormwater to a more distant treatment or disposal site. More discussion can be found in Appendix B of this document or online at www.lightimprint.org. The following light imprint tools have been used for The Mud.

- Streets and paths are generally pervious crushed limestone or gravel. Primary streets are paved in pervious asphalt.
- When possible, streets are designed to shed sheet flow towards planter strips to help manage stormwater.
- Various green spaces act as rain gardens, detention areas or bio-swales to help manage stormwater locally.
- A network of streets featuring shallow open gullies in the center or on one side of the street channels stormwater towards a detention system.
- The central east-west street of The Mud is designed to include a linear detention system and a series of regularly spaced drainage wells.

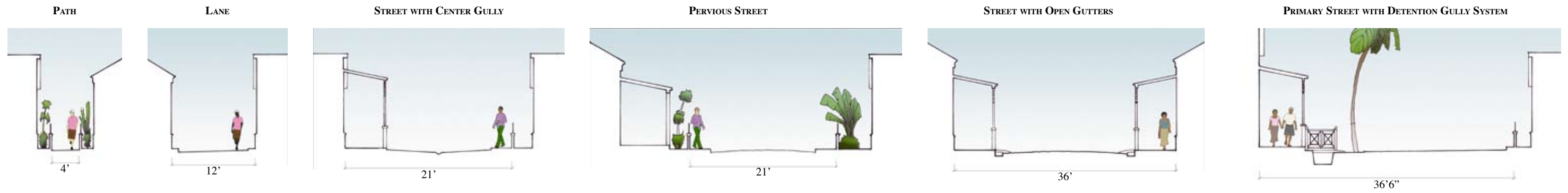
Arranged as a series of stepped, interconnected gullies, this system detains stormwater within a stone-filled trough until it is released into regularly spaced drainage wells. These drainage wells are located underground and consist of large perforated concrete pipes that gradually filter collected water and return it to the soil.

In the event of significant flooding of the area, the gully system carries overflow to towards the larger northwestern Goombay Park retention system. The Goombay Park retention proposal is more thoroughly discussed later within this document.

BLOCKS	
CRUSHED LIMESTONE	
CRUSHED STONE SIDEWALKS	
PERVIOUS CONCRETE	
PERVIOUS ASPHALT	
EXISTING ASPHALT	
LIGHT IMPRINT PAVERS	
WOODEN FOOT BRIDGES	
GREEN SPACES	
MAIN GULLEY	



THE MUD: Proposed Street Network and Light Imprint Overlay



THE MUD: Members of the team studying an existing street.



THE MUD: Proposed view of the same place.

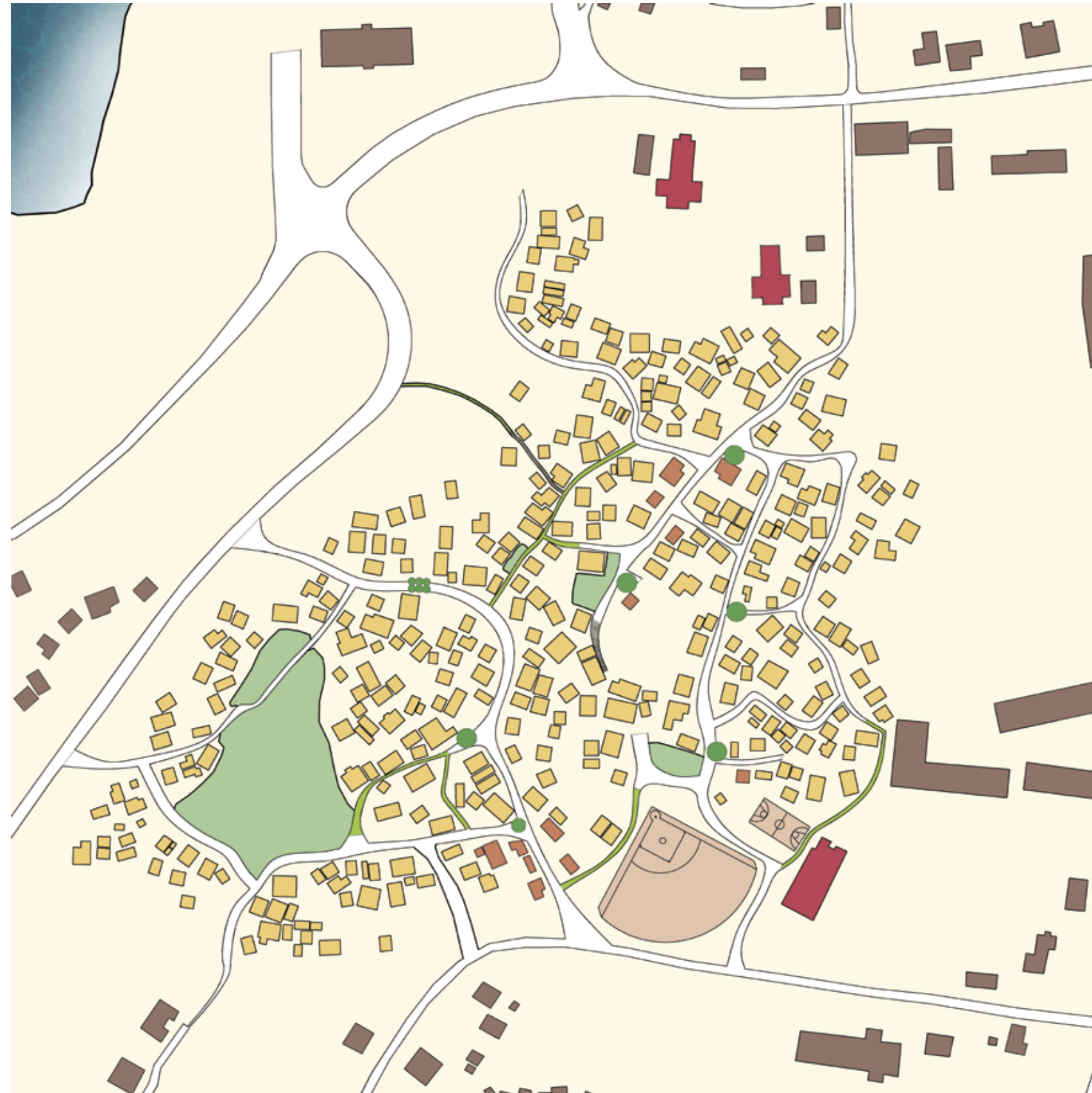
EXISTING LAND USE

Existing land use in The Mud is primarily residential. A variety of informal occupancy arrangements exist, including “owner-occupied” houses, rental houses, and multi-family dwellings that can include several families per unit. Many existing dwellings are very crowded, in part because government has adopted a policy that prevents the construction of new dwellings. All buildings present a large number, which according to local residents have been applied by immigration officers to keep an inventory of existing structures. New structures that appear are demolished upon routine inspection of this inventory.

In recent years, a large area of houses was lost to a severe fire in the southwest corner of The Mud. New construction has been successfully prevented here and some of the area is now informally used to plant crops. Other informal gardens exist throughout the settlement, including several enclosed community gardens that are shared by adjacent residents. Crops include sugar cane, bananas and corn, among others. Many houses include a handful of scattered and unenclosed crops planted adjacent to houses.

Besides the recreational grounds found at the abandoned baseball park and basketball court, the settlement also includes various informal but identifiable meeting places. These places usually occur at prominent shade-giving trees near important intersections. Like public squares, these generally larger areas are often positioned at the entry points to the community. People socialize here, play games, and watch people come and go.

Because these meeting squares are heavily traveled they present numerous opportunities for small, pedestrian-based business. Many local residents operate informal street-side retail establishments, selling a small selection of convenience items and food products. Other vendors sell fresh produce in these areas and yet others operate sophisticated businesses out of finished buildings (barber shops, for example). Most of the community’s retail needs, however, are met by nearby strip shopping centers on Don McKay Boulevard and surrounding areas. This produces a significant amount of foot traffic, including children, on Don McKay, even though the environment is not designed for pedestrians. According to local residents, most children attend a local Catholic school that is located at a significant distance to the west of The Mud. Several churches are located nearby.



THE MUD: Existing land use and special features



THE MUD: Proposed network of parks, gardens and civic places

PROPOSED PARKS AND CIVIC PLACES

The proposed plan features a system of parks, gardens and tree-lined streets that is intended for the long-term improvement of the area. Some existing undeveloped areas are proposed to feature large community gardens to promote self-sufficiency and to assist in stormwater management. It is important to remember the potential for parks to serve this stormwater management purpose throughout the project. Some primary streets are lined with more-or-less regularly planted trees to help provide shade and connect the various park spaces with linear greenways. A few small parks serve as local playgrounds for children.

A number of civic building sites have been reserved in the proposal. Perhaps the most significant addition is a proposed school building in the vicinity of the existing baseball diamond, which has been restored as part of this proposal. Fronting Poppy's Way that leads to Don McKay Boulevard, this school and park ensemble is meant to serve as a shared meeting place for all Marsh Harbour residents. New development has been proposed on all sides of this park and the school terminates the street leading to the Pigeon Peas. Another public building site has been reserved on the main east-west street of The Mud, perhaps to be used as a library or adult learning center. The remaining small civic structures scattered throughout the site represent Public Service Courts. These are small building groups intended to provide clustered wastewater treatment, garbage collection stations, emergency sanitary facilities, fire equipment storage, small efficiency gardens, and various other public services for the benefit of improved health and sanitation. A more detailed description of the Public Service Courts can be found in the following pages.

- CIVIC BUILDINGS
- PUBLIC SERVICE COURTS
- ROADS
- PERVIOUS CONCRETE
- GREEN SPACES
- PUBLIC PLAZAS
- GARDENS

EXISTING BUILDINGS

Compared with the typical characteristics found in informal settlements internationally, the buildings of The Mud are relatively permanent and witness to the generational presence of the population. Buildings are built on concrete slabs or raised on concrete blocks to keep them off the flood-prone ground. Walls are constructed of thin light-frame construction and are sheathed with plywood. Much of the material, including window fixtures, originates from construction sites where residents work as laborers. Roofs are generally not built to withstand hurricane force winds and are roofed with metal or asphalt shingles.

Building construction is relatively efficient in response to a limitation of resources. Windows are often placed in modules that relate to the standard sizes of plywood sheets to reduce the number of necessary cuts. Interiors range in size from single-family dwellings to very crowded multi-family “apartment” buildings. A selected range of common building types has been presented here:

LIVE/WORK

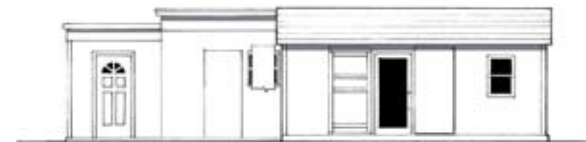
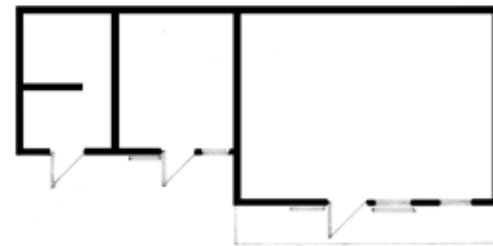
This building type usually consists of a combination of two separate masses that are attached to each other. One mass features the dwelling and the other features a space for business. In this case, one mass typically preceded the other, with the second being an addition. The live/work unit in this photograph is located on a main “public square” and houses a barbershop. The interior of this shop is in excellent condition and resembles any conventional expectations of a professional barbershop.

SINGLE-FAMILY WITH RETAIL PORCH

This building type is quite frequent and consists of a single-family house typical of The Mud, except that it features a special porch for the sale of goods. Chicken wire, chain-link, or a similar material protects the porch to help prevent the easy theft of goods. The vendor sits under the porches and waits for customers as they pass on the street. The house behind it can vary in size, but often includes a defined private garden area.

APARTMENTS

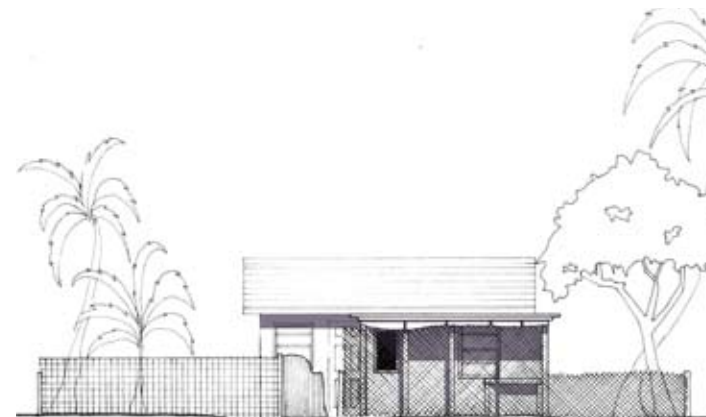
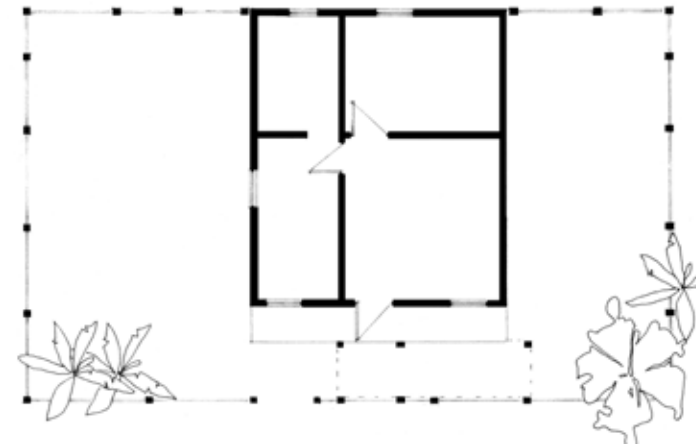
This building type is built for extremely crowded conditions, sometimes featuring up to six rooms with a shared bathroom facility. The various rooms are rented out to families or individuals of lesser means. These appalling multi-family units are a primary reason for the overcrowded conditions within The Mud.



LIVE/WORK: Elevation and Plan



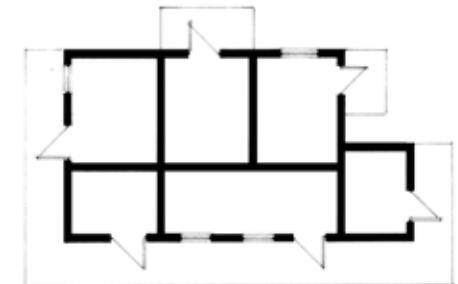
LIVE/WORK: An existing barbershop and dwelling



SINGLE FAMILY WITH RETAIL PORCH: Elevation and Plan



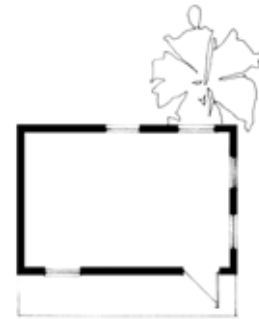
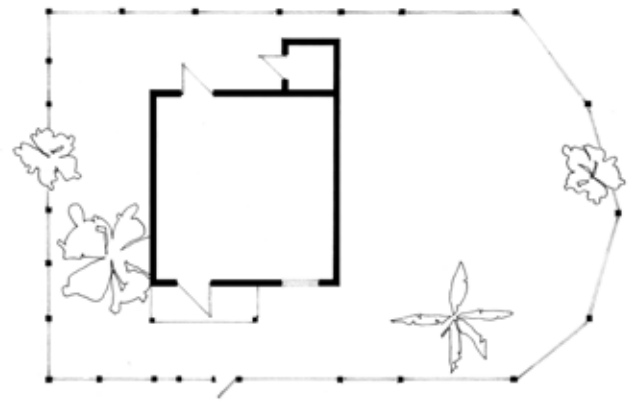
SINGLE FAMILY WITH RETAIL PORCH: An example in the West Side



APARTMENT BUILDING: Elevation and Plan



APARTMENT BUILDING: An example in the West Side



MULTI-ROOM SINGLE FAMILY: Elevation and Plan

SINGLE-ROOM SINGLE FAMILY: Elevation and Plan

SHED: Elevation and Plan



MULTI-ROOM SINGLE FAMILY: A typical example

SINGLE-ROOM SINGLE FAMILY: A typical example

SHED: An example to store crops

MULTI-ROOM SINGLE-FAMILY

A great portion of The Mud consists of single-family units such as the one presented here. These buildings can vary in size and number of rooms and frequently houses extended family. Common elements include a small porch for outdoor living and socializing. Some houses feature defined private garden areas for growing crops, raising chicken, play space for children or storing belongings. Fences are informally assembled of boards, chain-link, chicken wire, pallets, and similar materials.

SINGLE-ROOM SINGLE-FAMILY

The Mud features a significant amount of buildings of this type, which are simple freestanding one-room structures. They are often part of larger compounds where bathroom facilities are shared.

SHED

Various types and sized of sheds exist throughout The Mud. They are sometimes used to house toilet facilities and frequently simply store belongings. They are also used to house generators and various other equipment that keeps the settlement functioning. Some sheds are used to house animals or store crops.

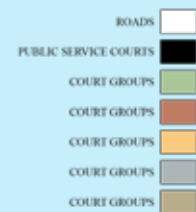
PUBLIC SERVICE COURTS

The proposal for The Mud includes a systematic introduction of essential utility-provision modules that are distributed roughly evenly across the neighborhood. Each module is designed to be an anchor to new electric, water and sewer infrastructure and is intended to serve a cluster of surrounding lots. These modules have been called Public Service Courts and provide a variety of other amenities beyond the standard infrastructure provisions.

For the purpose of this infrastructure system, the entire Mud has been divided into fourteen community quarters of twenty-some lots each, each to receive its own Public Service Court. The various community quarters have been illustrated in different colors for easy identification. Each Public Service Court is located at an intersection and includes the following standard provisions:

- An advanced wastewater treatment module designed for shared use of the whole quarter. This module is provided underground beneath a trellised area and is serviced by a exhaust fan unit housed in the adjacent building.
- An underground electric utility connection to provide central service to lots belonging to the quarter.
- An underground water utility connection to provide central water service to lots belonging to the quarter. A spigot is also provided for public use.
- A garden court designed for the use of square-foot gardening. The garden wall surrounding the area features a built-in bench for public use.
- A trellised area above the wastewater treatment module, intended for vertical gardening.
- A minor building designed to house central garbage containers for the quarter. This building may also feature an elevated water cistern to collect rainwater for use as grey-water.
- A primary building designed to house a variety of optional uses, such as:
 - Fire prevention equipment storage space
 - Emergency sanitary facilities for the event of storm devastation
 - A public meeting space
 This building is designed to collect rainwater for use in gardening.

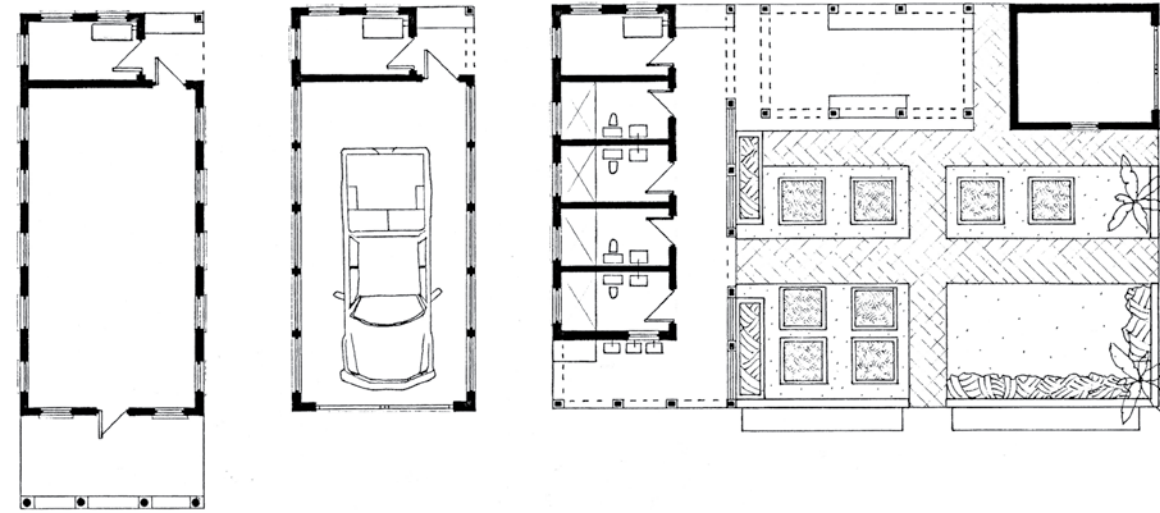
All buildings are proposed to resist hurricane weather and flooding. The Public Service Courts are seen as the essential and visible vehicle that introduces basic public services into this impoverished area. But beyond this, they can also serve as important community anchors that promote positive neighborhood interaction and civic pride.



THE MUD: Community Quarters, illustrating the location of Public Service Courts



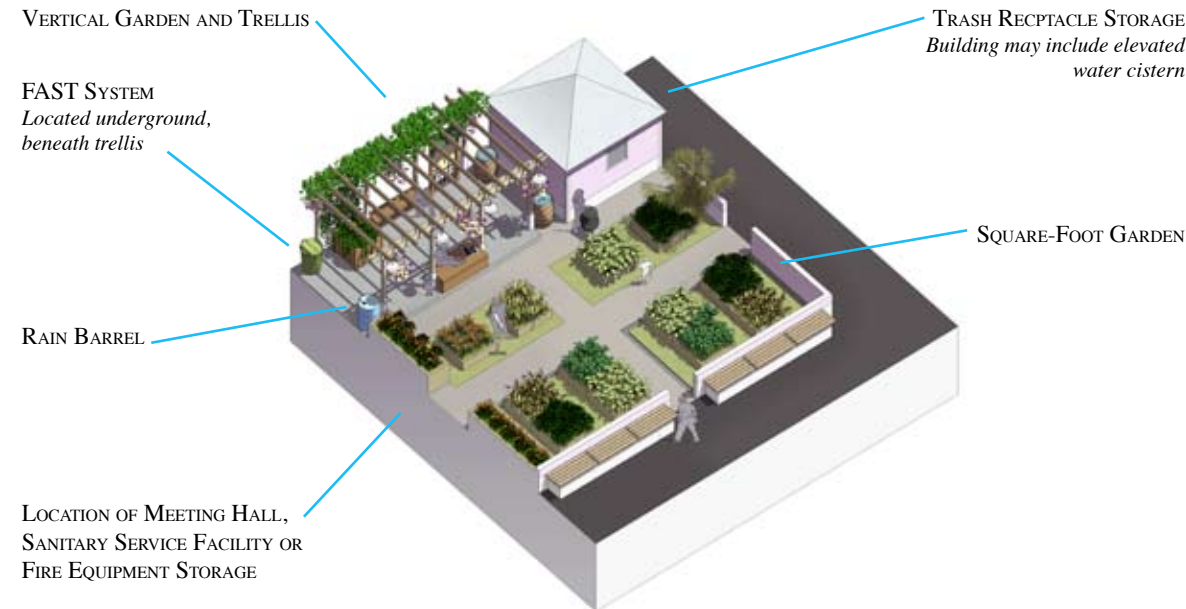
PUBLIC SERVICE COURT: Example illustrating a public meeting hall



PUBLIC SERVICE COURT: Plan featuring various optional uses for the main building



PUBLIC SERVICE COURT: Example illustrating emergency sanitary service facilities



PUBLIC SERVICE COURT: Example illustrating a public meeting hall



PUBLIC SERVICE COURT: Example illustrating fire equipment storage and a water cistern



FAST SYSTEM: Shown during installation



FAST SYSTEM: Shown after installation

WASTEWATER TREATMENT

The proposal described on the opposite page centers around the provision of advanced on-site wastewater treatment modules that are shared by clusters of buildings. The proposed system type is perhaps best exemplified by the Bio-Microbics 9.0 FAST system.

Each underground system provides space for two holding tanks. One of these tanks is a settling tank that receives the sewage from the adjacent buildings. The other tank contains the FAST system (FAST stands for Fixed Activated Sludge Treatment). Each tank can hold up to 45,000 gallons, handling up to 9,000 gallons per day. This assumes an average of 6.5 people per house, using 60-65 gallons per day.

All buildings in the respective community quarter are proposed to connect to a main line that falls directly into the settling tank. The best and least expensive way to handle the water flow is using gravity, although a pump could be used if necessary. After entering the settling tank, liquid wastewater is then designed to flow into the FAST system where it is treated. According to a representative of Bio-Microbics, "the system is NSF (National Sanitation Foundation) approved and also is approved by more than ten worldwide wastewater treatment organizations." The resulting effluent is of high, clear, odorless, and is valued with a Biochemical Oxygen Demand of 30 BOD or less. This means that the water could then be used to irrigate the local gardens and greens, or even flow out to the sea. The systems require little maintenance besides routine emptying approximately every five years. The system is already being used in Bahamian projects in South Eleuthera, Princess Cay, Sky Beach Resort, and Exuma. This wastewater treatment system is the primary system used in the Florida Keys, and has also found application in such places as Honduras and Peru. Its unique advantage, of course, is the absence of a requirement for space-consuming drain fields.

FIRE PROTECTION PLAN

The Mud has a history of severe fires made particularly difficult to fight by overcrowding and a forbidding road network. While neighboring traditional settlements such as Hope Town and New Plymouth have similar building densities, they are not overcrowded. Safety in these historic settlements is also made possible by maintaining a defined road network and safe building standards that help reduce the risk of fires. Furthermore, these settlements utilize firefighting vehicles of a size appropriate for their narrow lanes. The Marsh Harbour Volunteer Fire Department has long served The Mud, but is ill-equipped to be effective from a distance any closer than the perimeter roads.

RECOMMENDED ACTIONS

1. Establish public awareness programs about ways to protect homes from threat of fire, including the benefits of garbage and debris removal.
2. Incentivize and enforce compliance with the Bahamas building code.
3. Store propane tanks in safe and enclosed compartments.
4. Define a network of streets with thoroughfares of no less than 18' wide.
5. Establish and ensure that the following thoroughfare standards of major and minor access routes enable all emergency and support crews sufficient access to threats within the community:
 - a. All Primary Access Routes, as identified in the Fire Engine Accessibility diagram, must have a public right-of-way of no less than 20', and an inside turning radius at intersections of no less than 15'.
 - b. All Secondary Access Routes, as identified in the Fire Engine Accessibility diagram, must have a public right-of-way of no less than 18', and an inside turning radius at intersections of no less than 15'.
 - c. Primary and secondary access routes must be constructed of materials that enable all-weather driving conditions
 - d. Primary access roads must meet fire engine accessibility standards, including weight capacity.
6. Ensure that on-street parking does not limit fire truck access.
 - a. Within Primary Access Routes, the public right-of-way must maintain a minimum of 18' unobstructed width at all times.
 - b. Within Secondary Access Routes, the public right-of-way must maintain a minimum of 15' unobstructed width at all times.
 - c. Absolutely no parking permitted within an intersection
7. Introduce and emphasize open public green spaces to serve as safe meeting grounds for civilians during emergencies.
8. Promote early warning systems, such as smoke detectors, for all buildings.

CONTAINMENT STRATEGIES

1. Provide water cisterns and hydrants in suitable locations within the neighborhood to enhance fire truck presence during fire emergencies. Fire hydrants should be located no more than 600' apart (see engine accessibility route diagram).
2. Acquire fire rescue vehicles sized for the context of The Mud.
 - a. Quick attack vehicle: a good addition to the Marsh Harbour Volunteer Fire and Rescue.
 - b. Skid Units: an alternative to purchasing a full fire rescue vehicle. These portable fire pump units can easily be retrofitted in any similarly sized pickup truck.
 - Mini Fire Truck: an excellent addition to be stored in Public Service Courts and made accessible to trained volunteer firefighters residing in The Mud.
3. Provide at least one mini-fire depot to house a community firefighting hose. If possible, house a fire pump and water tank to be utilized by trained volunteer firefighters residing in The Mud. The water source of such a system can be supplied by community cisterns and backed-up by a city water system. Provide a first-aid station, preferably within a mini-fire depot.
4. Provide at least one handheld fire extinguisher in every garden court to be accessed by authorized local personnel.

It should be remembered that the failure to supply informal settlements with electric power promotes dangerous sources of energy (illegal tapping, kerosene stoves, candles, etc.). Lack of water supply deprives residents of the ability to fight fires independently, and fire-prone conditions in The Mud affect the neighboring business district in many crucial ways (insurance, destruction of property, aesthetics, etc.).

PERIMETER ACCESS ROUTE	■
PRIMARY ACCESS ROUTES	■
SECONDARY ACCESS ROUTES	■
TERTIARY ACCESS ROUTES	■
PUBLIC SERVICE COURTS	■
FIRE EQUIPMENT SUBSTATIONS	■
CIVIC BUILDINGS	■
PUBLIC PLAZAS	■
GREEN SPACES	■



THE MUD: Emergency Access Diagram



SQUARE-FOOT GARDENING



VERTICAL GARDENING



VERTICAL GARDENING



SQUARE-FOOT GARDENING



VERTICAL GARDENING



ALLOTMENT GARDEN



ALLOTMENT GARDEN

AGRICULTURAL URBANISM

Agricultural urbanism is a design and planning strategy that combines sustainable community ideas and design principles, integrated with growing methods of urban agriculture and sustainable food systems, which focus on limited city or community spaces for food production. This idea of agricultural urbanism is not only designated for use within dense city limits and its communities, but also for further implementation in rural areas. An important element of agricultural urbanism is the production of food at a variety of scales, including: how food is grown, processed, transported, distributed, and consumed.¹

According to Stephen Mouzon, it is to our benefit to integrate this type of strategy into our communities for the same reasons mentioned above: we would know exactly what goes or what doesn't go into our food in terms of chemicals and we would get more intense flavors. Also, we would not have to drive far, which would result in sustainability – not relying on car travel to reach food production equals less cost, less travel, less gas.² The proposal for The Mud includes the provision of gardens at various scales, including private gardens, community square-foot gardens and vertical gardens within the Public Service Courts, and larger allotment gardens at the edge of the neighborhoods. The gardens within the Public Service Courts are intended to be operated as community gardens, meaning that each garden court would be managed collectively by the resident association of its respective community quarter.

SQUARE-FOOT GARDENING

Square-foot gardening is based on divided garden beds measuring 4 ft by 4 ft, which are easier to work, take up less space, and save on water and weeding time. Most importantly, as each garden box is filled with new and richer soil, more vegetables can be harvested in less space without relying on existing soil conditions of The Mud. Its benefits have been demonstrated by Mel Bartholomew, inventor of the Square Foot Gardening method: square foot gardening can produce the same yield as a standard garden in just 1/5 of the space.

VERTICAL GARDENING

Using trellises, nets, strings, cages, or poles to support growing plants constitutes vertical gardening. This technique is especially suited to small garden spaces. Sprawling plants, such as cucumbers, tomatoes, melons, and pole beans are the most efficient candidates for this type of gardening. Plants grown vertically occupy much less space on the ground, and though the yield per plant may be low, the yield per square foot of garden space is high. Because vertically growing plants are more exposed than non-staked plants, they dry out quickly and may need to be watered frequently. This fast drying is an advantage to those plants susceptible to fungus diseases, which might be advantageous near The Mud.

ALLOTMENT GARDENING

In allotment gardens, the parcels are cultivated individually, contrary to other community garden types where the entire area is tended collectively by a group of people. Individual size of a parcel ranges between 200 and 400 square feet, and each land containing allotment garden plots might include a shed for tools and shelter, accessed by individual plot owners. The allotment gardens provided within plan might be attractive to all residents of central Marsh Harbour.

¹ H. B. Lanarc, "Agricultural Urbanism: An Introduction." Agricultural Urbanism, 2008
² Mouzon, Stephen A. *A Living Tradition: Architecture of the Bahamas*. Miami: The New Urban Guild Foundation, 2007

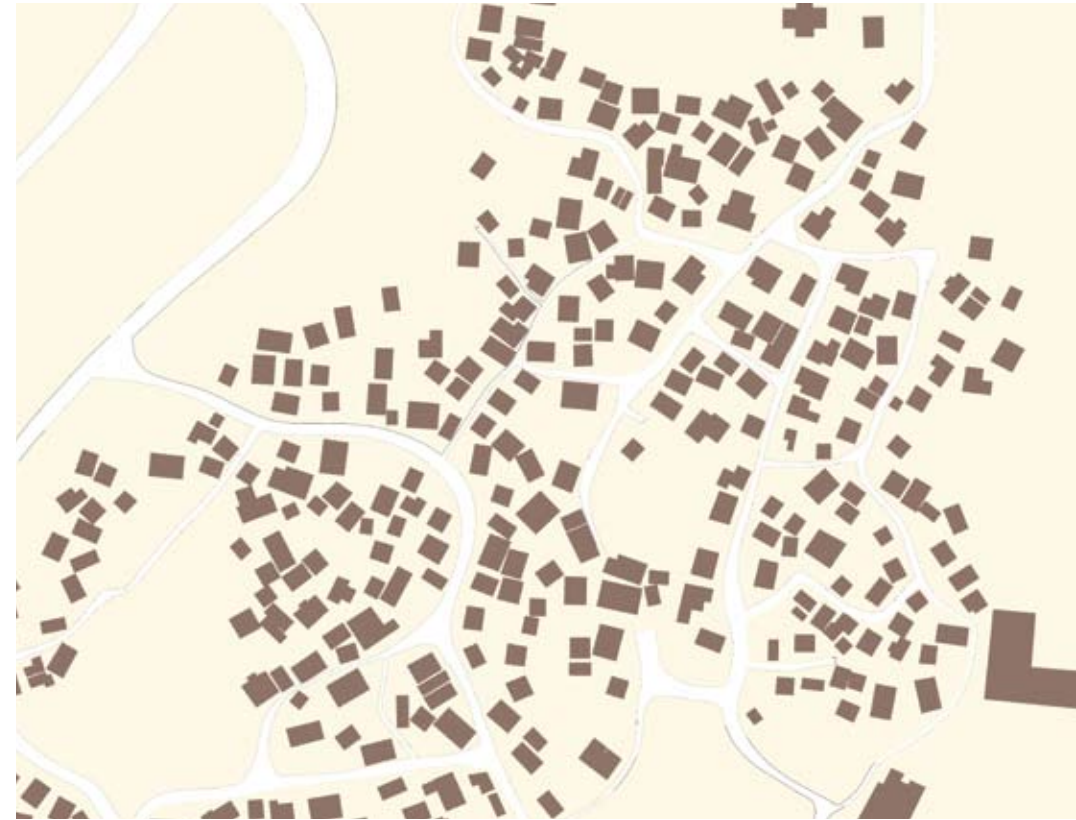
DENSITY VS. CROWDING

The Mud is conventionally thought to be too dense to be sustainable. Buildings are very close to each other and this results in fire safety hazards primarily because of the low construction standards, unsafe electrical provisions, open fires, and overcrowded dwellings. Because this plan proposes the gradual improvement of The Mud in consideration of existing dwellings, a clear distinction must be made here between density and crowding.

Careful study of existing conditions in nearby historic settlements reveals that density in The Mud is not substantially different than some of the most-loved Bahamian places. The following plans have been provided here at the same scale for comparative purposes. Building densities in the densest settlement center areas are as follows:

Hope Town, Elbow Cay	14 buildings / acre
Dunmore Town, Harbour Island	12 buildings / acre
New Plymouth, Green Turtle Cay	12 buildings / acre
Man-O-War, Man-O-War Cay	11 buildings / acre
Cherokee, Great Abaco Island	8 buildings / acre

The average Mud 12 buildings / acre



THE EXISTING MUD, MARSH HARBOUR



THE PROPOSED MUD, MARSH HARBOUR



NEW PLYMOUTH, GREEN TURTLE CAY



MAN-O-WAR, MAN-O-WAR CAY



HOPE TOWN, ELBOW CAY



NORTH DUNMORE TOWN, HARBOUR ISLAND



CHEROKEE, GREAT ABACO ISLAND



CENTRAL DUNMORE TOWN, HARBOUR ISLAND

This comparison helps to illustrate that the true challenges of the mud do not lie in its building density, but rather in its poor safety standards and overcrowded dwellings. This plan promotes the gradual enforcement of safety standards and conditions as well as a pathway to legal status and ownership that is expected to decrease the population density of The Mud over time. Lot density, however, has generally been preserved in the proposal. Understanding the contributing influence of density in urban environments is important: the most-loved Bahamian settlements are loved in part because of their density. Density is not in inherent opposition to quality environments, but in fact can help to shape vibrant and dynamic places of activity and choices.

The following pages have been prepared to help illustrate some of the physical properties that help dense environments to succeed as human environments.

EXISTING CONDITIONS

This birds-eye view shows an existing area surrounding the primary east-west street in The Mud. The drawing illustrates typical conditions in the settlement, including typical building arrangement, lot use, and aesthetic qualities. Buildings are typically freestanding objects, although some have enclosed garden areas. Others back up to overgrown areas of vegetation standing in moist depressions. Potholes and puddles filled with water define the streetscape, and vehicles are parked haphazardly.

Electrical wires are run from generators to numerous buildings, occasionally employing a tree as a pole. Conditions are generally very poor and windows are boarded up because residents cannot afford replacements. Almost all buildings are sub-standard, plywood-enclosed construction.



THE MUD: Existing conditions



THE MUD: Proposed Conditions

PROPOSED CONDITIONS

This image illustrates the same area of The Mud but features proposed improvements. To approximate a partial improvement scenario, the drawing shows a third of the buildings replaced, a third of the buildings improved, and a third of the existing buildings maintained. One can make out the existing buildings by comparing the drawing to the image on the opposite page. New and improved buildings meet acceptable safety standards and apply Bahamian building traditions.

The infrastructure improvements have been carried out as recommended. The main east-west street features a palm-lined planter strip and linear detention system. The street coming from the right includes a center drain. The definition of private property has been addressed via garden walls, fences and plantings. The intersection is also home to a proposed Public Service Court (as described in this document).

The resulting scene may strike the reader as an unrealistic transformation of The Mud. But it is precisely this type of transformation that the plan suggests may be possible. The combined benefits of infrastructure investment, the enabling and motivational powers of homeownership, awareness and understanding of settlement planning principles, as well as community cooperation are the foundations to this bold proposal to rethink the central neighborhood of Marsh Harbour for the benefit of all Abaconians.

Beautiful historic cities across the world began as shantytowns in flood-prone valleys and are now visited by millions. Perhaps The Mud may become a reason for future visitors to come to Marsh Harbour.

GOOMBAY PARK

The drawing on this page presents an overview of proposed conditions at Goombay Park. The planning proposal is anchored around a new ferry terminal servicing Great Guana Cay. The location of a ferry service here is particularly significant because much of the commuting ridership consists of residents from the nearby Mud, who would no longer be dependent on vehicular transportation. This would also reduce the need for parking provisions.

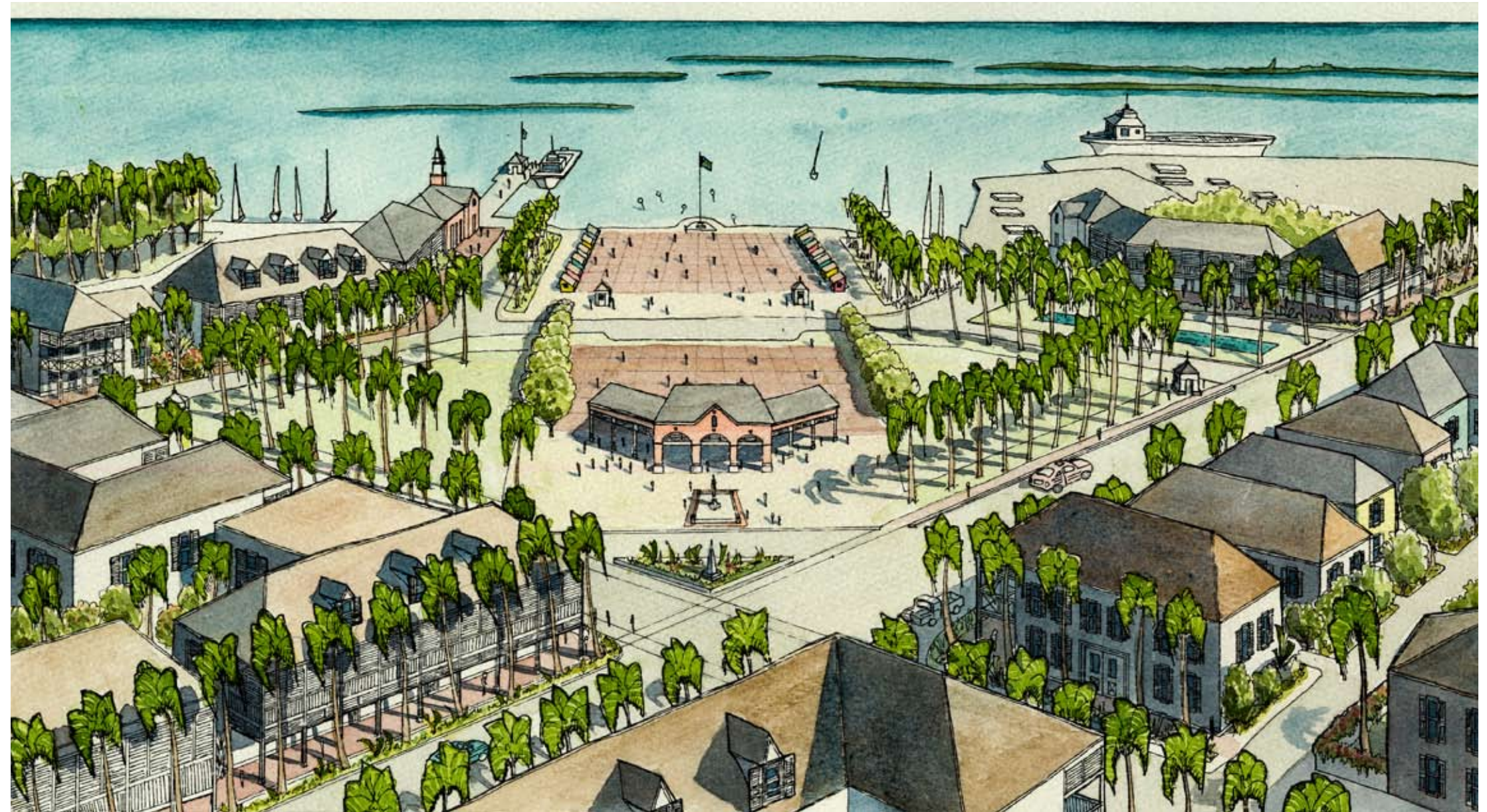
Because of the significant ferry transit ridership, this area is thought of as a transit-oriented development. New real estate takes advantage of the daily commuter traffic to provide convenience retail and housing. The park itself has been designed to provide an appropriate civic backdrop to community events, including Junkanoo festivals. Arriving visitors would be presented with an environment that might provide more metropolitan but nonetheless attractive alternatives to life on the cays.

Density of construction in this area is planned to be relatively high, allowing new residential and office opportunities within the city center rather than in sprawled out suburbs. A market structure and festival pavilion has been provided at the center of the composition, with plenty of grounds to allow for large festival events. Parking is accommodated on street and in large surface lots screened by the surrounding buildings. The staging areas of the international port have also been screened by thin "liner-buildings." The park itself has been designed to function as a pleasant attraction even when festivals are not occurring.



The proposal for Goombay Park is partly inspired by the colonial parade grounds found in historic Nassau. This historic photograph of the Western Parade illustrates a large formal open area that is lined by buildings suitable for mixed use. Within easy reach of the Mud, the business center and the regional road network, Goombay Park is proposed to become an anchor to local transportation systems, economic activity and cultural life.

Photo Source: Mary Moseley Collection, Department of Archives, Nassau, Bahamas



GOOMBAY PARK: Proposed view looking north, showing the new ferry terminal with service to Great Guana Cay

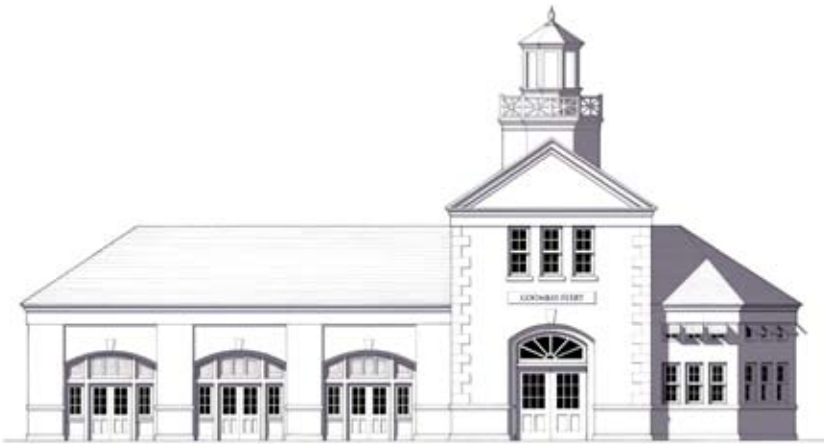


GOOMBAY PARK: Existing Conditions

PUBLIC BUILDINGS

Various public and private buildings have been proposed for the Goombay Park area. All architecture builds on the best of Bahamian traditions and is rooted in response to local climate, geography and culture. For more information on architectural principles, please see section III of this document.

The proposed buildings include a ferry terminal, which has been strategically located to be visible as a landmark upon entering Goombay Park. The terminal includes a restaurant, ticket office and ferry management facilities. A local marina club building has also been proposed at this location. The liner building shown here illustrated how relatively thin buildings can be strategically located to screen parking lots from pedestrian areas and yet provide convenient access.



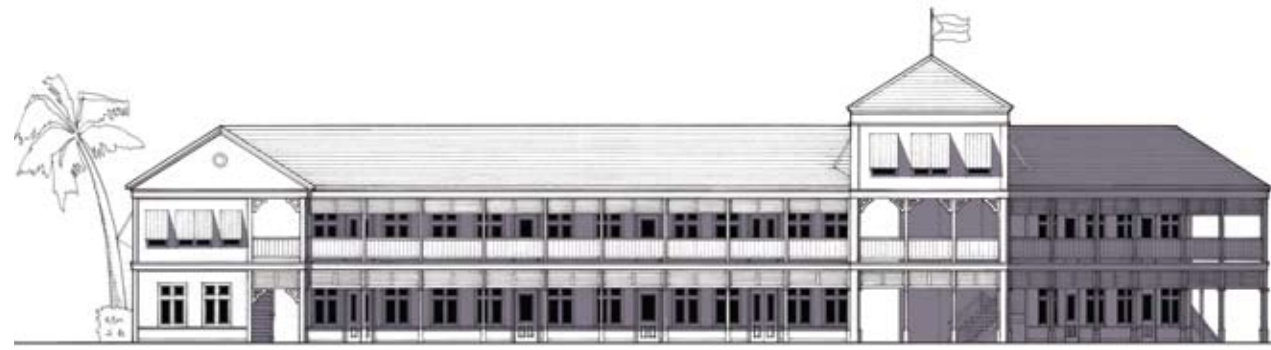
FERRY TERMINAL: Elevation



MARKET STRUCTURE: Elevation



MARINA CLUB: Elevation

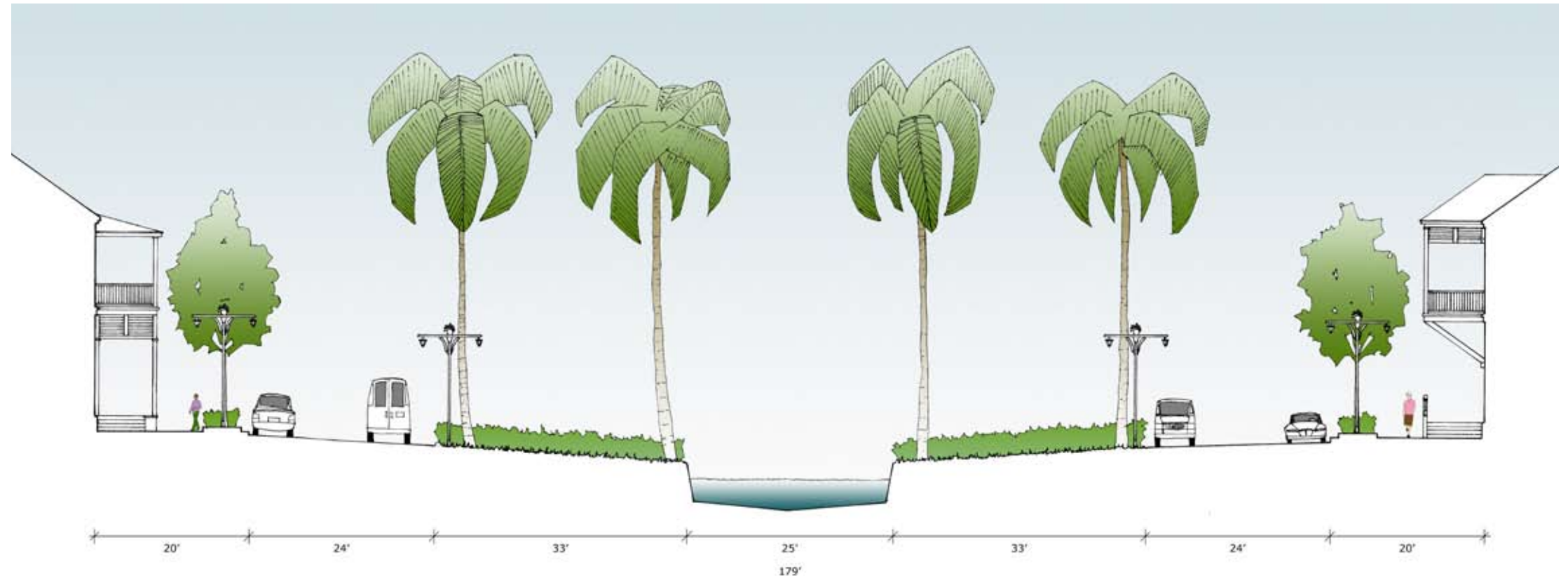


LINER BUILDING: Elevation

GOOMBAY BOULEVARD

Goombay Boulevard is a proposed intervention designed to help connect the city with the park as well as serve as a retention facility for storm-water management. It roughly runs southeast from Goombay Park, past the existing cemetery and across into the Mud, where it connects with a proposed east-west thoroughfare to Don McKay Boulevard. Inspired by the drainage swales of Georgetown, Guyana, this boulevard is designed to combine the virtues of civil engineering with the aesthetic amenity of planted streetscape. Its wide center median is lined by mixed-use buildings, which draw on the activity corridor between the ferry terminal and the city center. The center median is surrounded defined by one-way streets and on-street parking.

The center median is planted formally with palms and features a large basin designed to retain storm-water channeled here from the Mud during storm events. Because of the nature of the runoff, the storm-water is not intended to drain into the sea except during the largest of storms. Landscaping around the retention basin is selected for its ability to help filter storm-water and provide some shade. Overall, this proposal is intended to illustrate how civil engineering projects can be designed to add value to real estate because of their positive integration into the public realm.



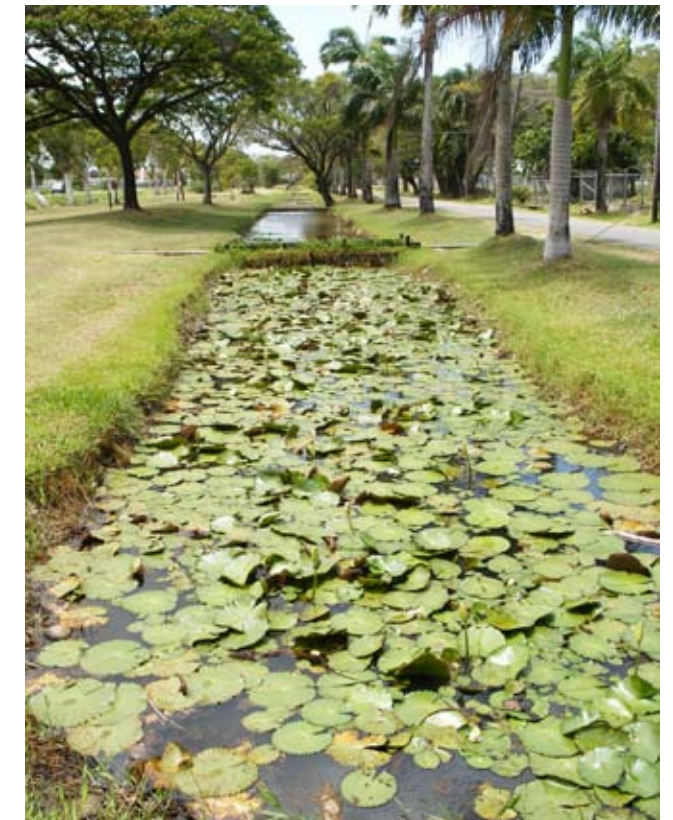
GOOMBAY BOULEVARD: Section illustrating the retention basin



GEORGETOWN, GUYANA: Drainage infrastructure as civic art



GEORGETOWN, GUYANA: Drainage infrastructure as civic art



GEORGETOWN, GUYANA: Drainage infrastructure as civic art



GOOMBAY BOULEVARD: Proposed view looking northwest towards the new ferry terminal.

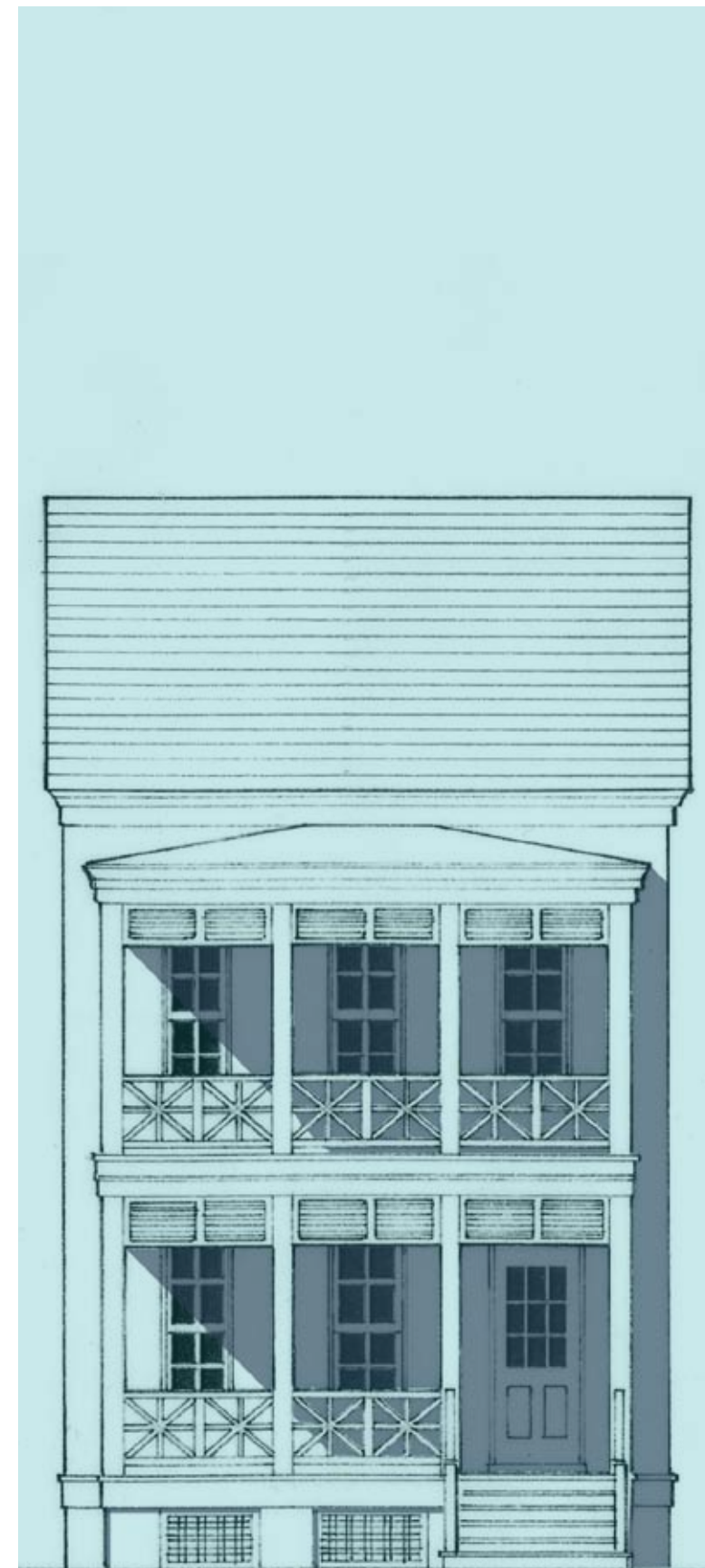
SECTION III:
ARCHITECTURE

BUILDING TYPES

URBAN TO RURAL

MINISTRY OF HOUSING

MINISTRY OF HOUSING & PROPOSALS COMPARED



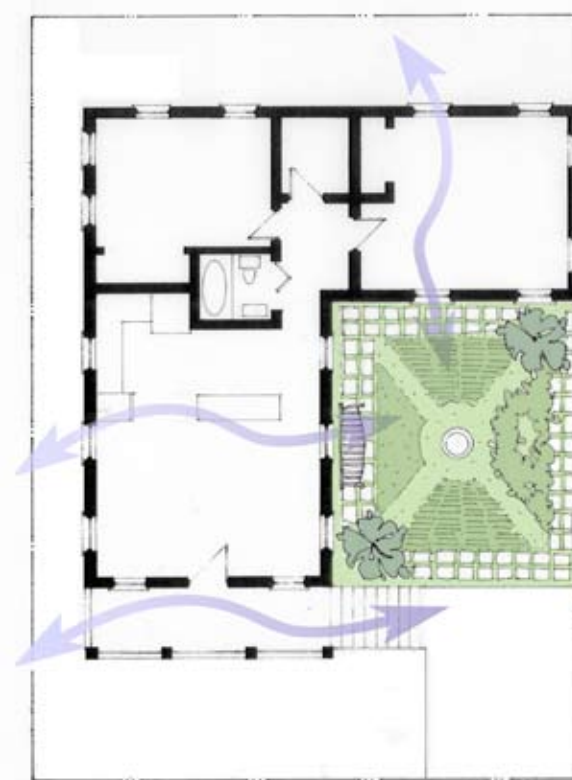
URBAN ARCHITECTURE

This document proposes a range of planning solutions for settlements, each of which relies on the successful integration of architecture. Architecture and town planning can be thought of as two sides of the same coin, interdependent and complimentary of each other. While architecture is not the main thrust of this planning document, it nevertheless plays a vital role in illustrating complete pictures of implementation. Therefore, it is important for readers to understand some aspects of architectural principles and their relationship to successful settlement making.

A main thrust of this document's argument is that conventional development patterns are not suitable to sustain a Bahamian economy, culture and environmental health in the long run. This includes conventional architecture, which has been imported to the Bahamas together with cul-de-sac subdivisions, strip malls and conventional resort development. Especially in the residential market, conventional development typically offers few choices for homeowners in the form of variously sized ranches. Most residential models are relatively low density, feature large lots planted with turf grass, and present automobile-dominated facades towards the street. Commercial spaces are typically isolated from other development, in part because their aesthetic qualities can threaten real estate values if located too closely to homes.

The following pages have been produced by the project team to provide a range of improved building types suitable for Bahamian settlements. This page illustrates a summary composition of various proposed building types arranged in a framework of urban-to-rural. An important part of the architectural proposal focuses on providing building types that are suitable for denser development that may be necessary in cities such as Marsh Harbour. Having experienced most of its boom-years in the post-war automobile-dominated era, Marsh Harbour never developed an inventory of urban building types suitable for a dense mixed-use environment. While historic Nassau provides some models, there is still a lack of apartment building and townhouse solutions to choose from. Because of this, some of the efforts of this project have been directed towards developing such model types for illustrative purposes.

The drawing on these pages is also intended to demonstrate how buildings of various sizes and functions can compliment each other in a single streetscape. Contrary to conventional wisdom, apartment buildings, mixed-use buildings, townhouses and single-family residences can mingle successfully in a single environment without compromising value or function. Dunmore Town, Harbour Island, is perhaps the best example of this condition, although numerous places exist outside of the Bahamas to confirm this as well.



NOT TO SCALE - DIAGRAM ILLUSTRATING THE THIN WING PRINCIPLE

NATURAL VENTILATION

A fundamental virtue of traditional Bahamian building is its response to climate. Historic structures were often sited, oriented, and designed to capture prevailing winds. Historic Bahamian roof pitches, shutters and eave overhangs respond to hurricane-force winds and are still around to tell this story after generations. The design of windows and ceiling heights have helped to naturally cool interiors, while louvers play a key role in keeping out the hot sun while still allowing for the movement of air. In recent times, these features have often been forgotten because conventional Floridian construction conventions have been important without thought to their applicability. One main reason that natural cooling principles have been ignored over time is because mechanical air conditioning has been enabled by relatively cheap energy. In a country that produced much of its electricity with diesel generators, this is unlikely to prove a sustainable solution in the long-term. Many air-conditioning dependent structures have already become obsolete throughout the Bahamas, especially as the nation does not provide a dependable air conditioning service industry.

A key design principle in natural cooling is explained by Stephen Mouzon as the "thin wing" principle. This principle suggests that buildings ought to be constructed as a series of relatively thin wings because this helps in cross-ventilation. Many historic houses attest to the proven application of this principle, which is assisted by the strategic location of garden courts, verandahs and louvered galleries. Proper window placement is also important to aid this process. The following pages all apply the principle of "thin wings" and its associated natural ventilation techniques in order to promote a building culture that need not rely on mechanical air-conditioning.



BAHAMIAN ARCHITECTURE

All proposed buildings build on the best of Bahamian building traditions by intending to respond to climate, geography and availability of resources. Some of the fundamental principles necessary for Bahamian building are discussed here and in other pages of this document. For a complete review of architectural principles and models, the reader is advised to read Stephen Mouzon's ground-breaking book "A Living Tradition: Architecture of the Bahamas" (The New Urban Guild Foundation, 2007). This section of PLANNING ABACO intends to build on his contributions and advice.

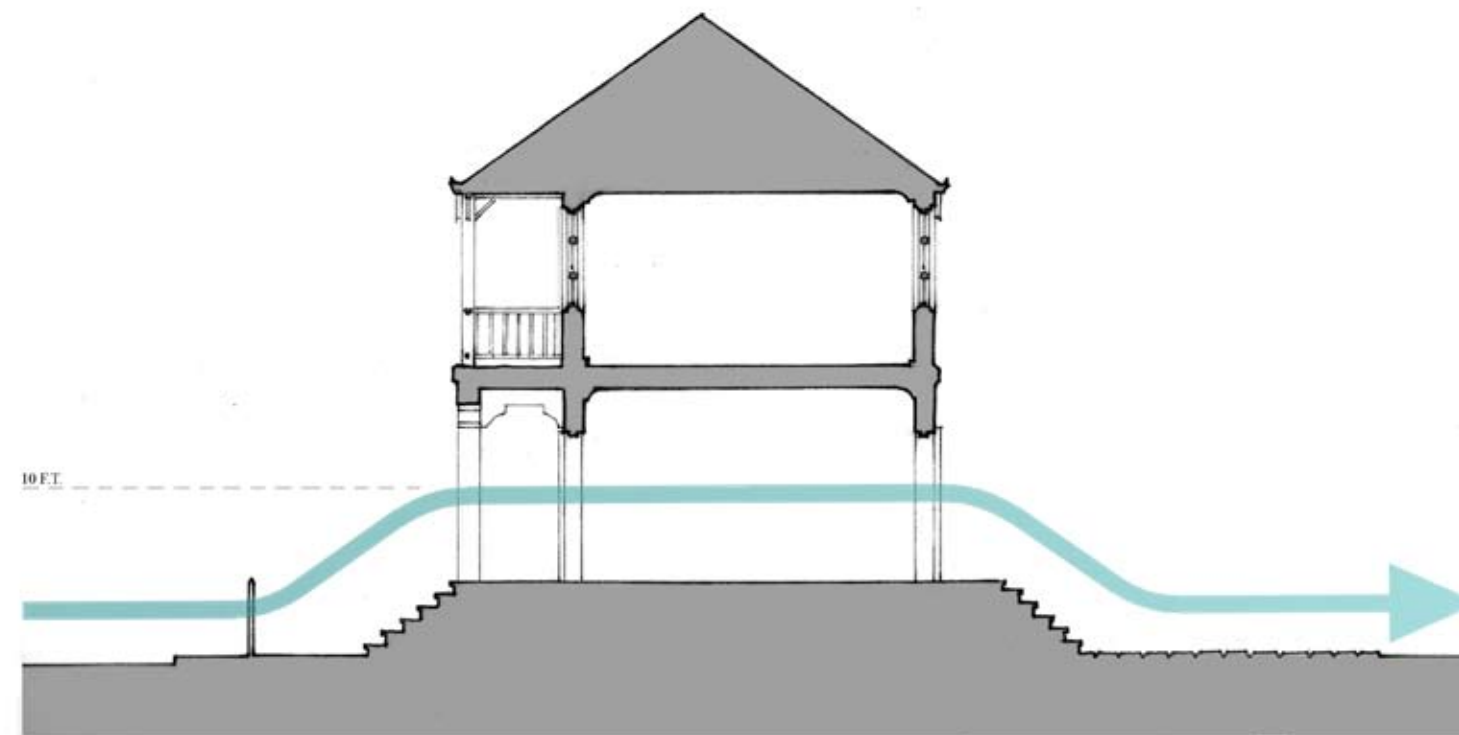
Architecture, as understood by this proposal, plays a key role in energy efficiency, cultural life, and economic opportunity. The most successful Bahamian tourist destinations invariably include Bahamian architecture of high quality, including Hope Town, Dunmore Town, New Plymouth and Spanish Wells. In this sense, Bahamian architecture ought to be thought of as a worthy investment that can help to establish a sustainable visitors culture in the long-term. But beyond its impact on tourism, Bahamians are confronted with the challenge of automobile-dominated architecture to their own culture's survival. For example, the loss of the verandah and its intimate relationship to the public street will likely have a profound impact on the way Bahamians relate to each other over generations.



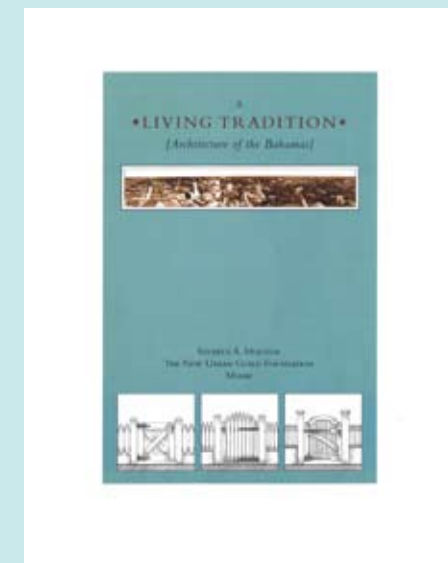
RESTING STORMS IN LOW ELEVATIONS

A common challenge in the Bahamas is the construction of buildings in flood-prone areas. More than two-thirds of the Bahamas are vulnerable to flooding during severe hurricane weather, so consideration of proper building techniques is essential. The settlement of Sandy Point is located 6-7 feet above sea level, and Marsh Harbour's waterfront district is even lower. While American policy is often to gradually remove construction from low-lying areas, in most cases this is simply not feasible in the Bahamas, often because of its fundamental economic and cultural ties to the sea.

A first step towards constructing hurricane-resistant buildings is the use of "fortified" construction techniques and certification processes that can ensure the proper assembly of material. From a design standpoint, however, perhaps the most significant consideration might be the provision of "wash-out" first floors. In this technique, the first floor's primary structure is designed to resist hurricane-force winds and flooding, but walls and louvers are designed to detach in a storm and allow the flood to wash through the building. This means that first floors only include elements that can be moved or resist flooding. This technique also highlights the benefits of multi-story buildings, as furniture and valuables can be moved to the second storey in advance of the hurricane's landing. Beachtown, a recently constructed traditional settlement in Galveston, Texas, demonstrated the effectiveness of this technique when all buildings survived hurricane 2008 Ike structurally unharmed. Promoting or requiring this type of construction has the potential of encouraging investment in areas that are sometimes neglected due to their vulnerability.



NOT TO SCALE - DIAGRAM ILLUSTRATING THE FORTIFIED & WASH-OUT FIRST FLOOR PRINCIPLE

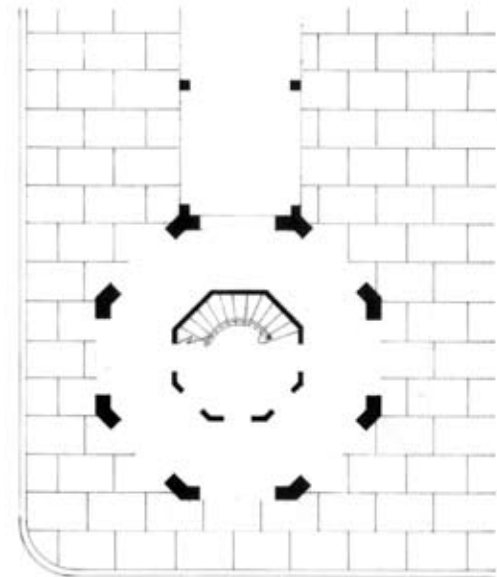


MARKET STRUCTURE

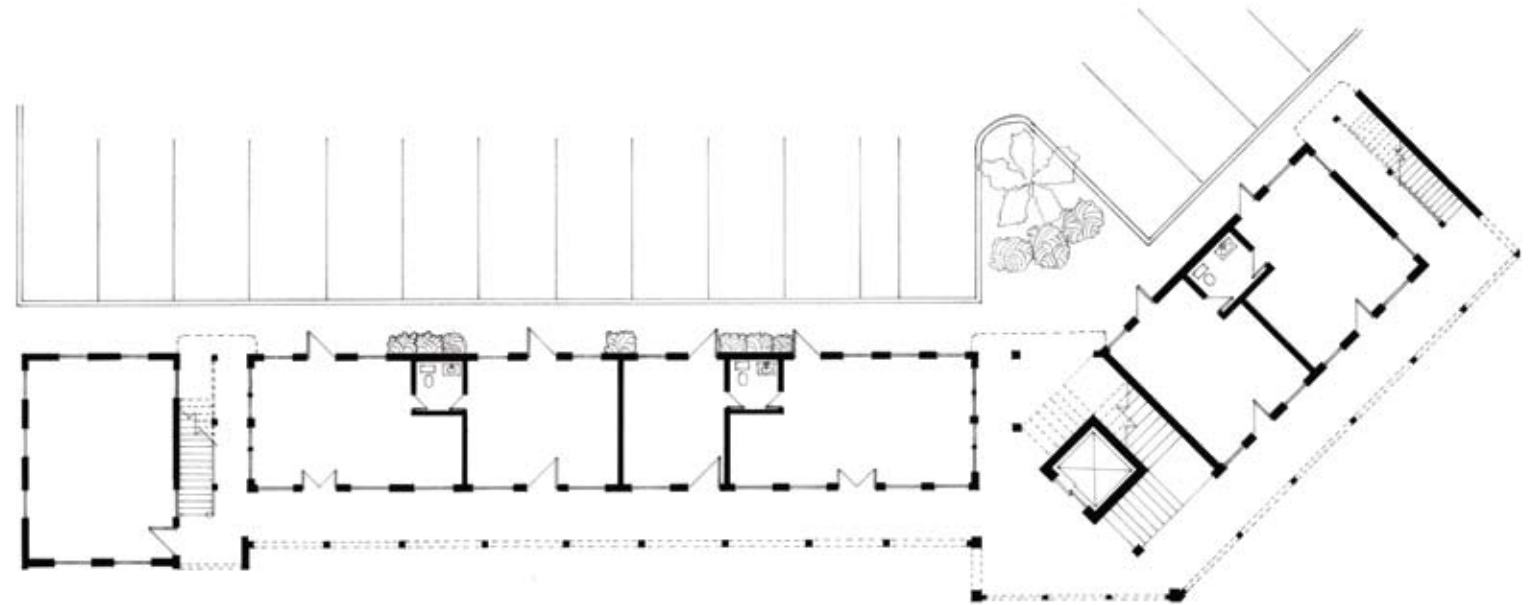
This plan for a Marsh Harbour market structure is inspired by the historic public library in Nassau. Its unique landmark shape is thought to be useful in visually anchoring Don McKay Boulevard at the bend near the Abaco Shopping Center. It is conceived of as a two-storey structure with a visitor platform.

LINER BUILDING

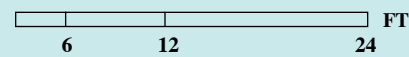
Liner buildings are long and relatively thin buildings that can be useful in “lining” or screening undesirable features in a pedestrian environment. Typical applications of this centuries-old technique include parking lots, industrial areas, port facilities, and big box warehouses. Their use is not simply to make pedestrian spaces prettier, but to utilize valuable real estate frontage that otherwise goes unoccupied by profitable enterprise. Liner buildings can be found in various shapes and can include mixed-use or single-use programs. The example shown here illustrates small shops on the first floor and office space on the second.

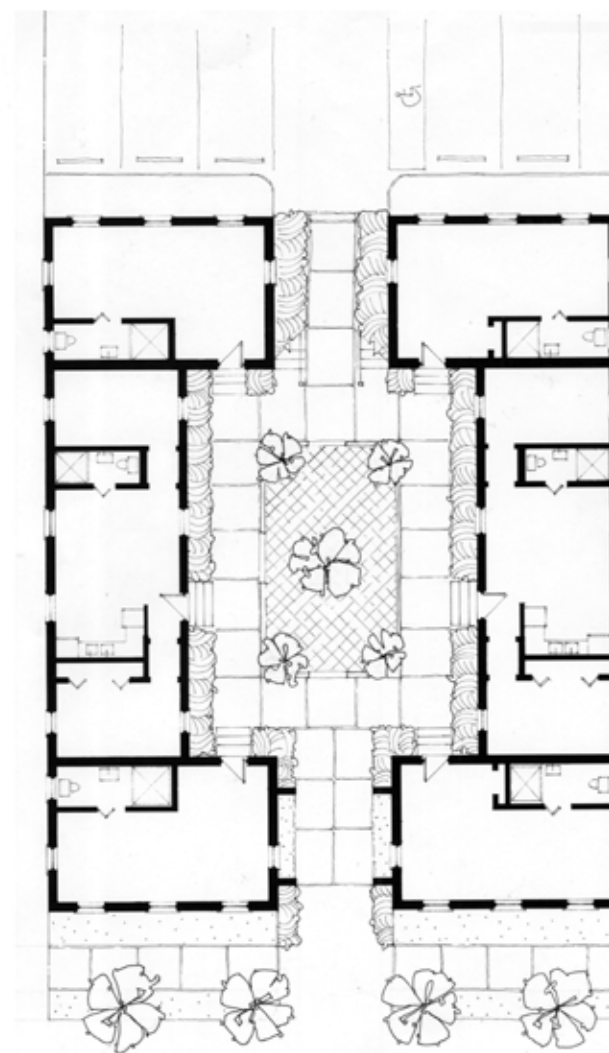
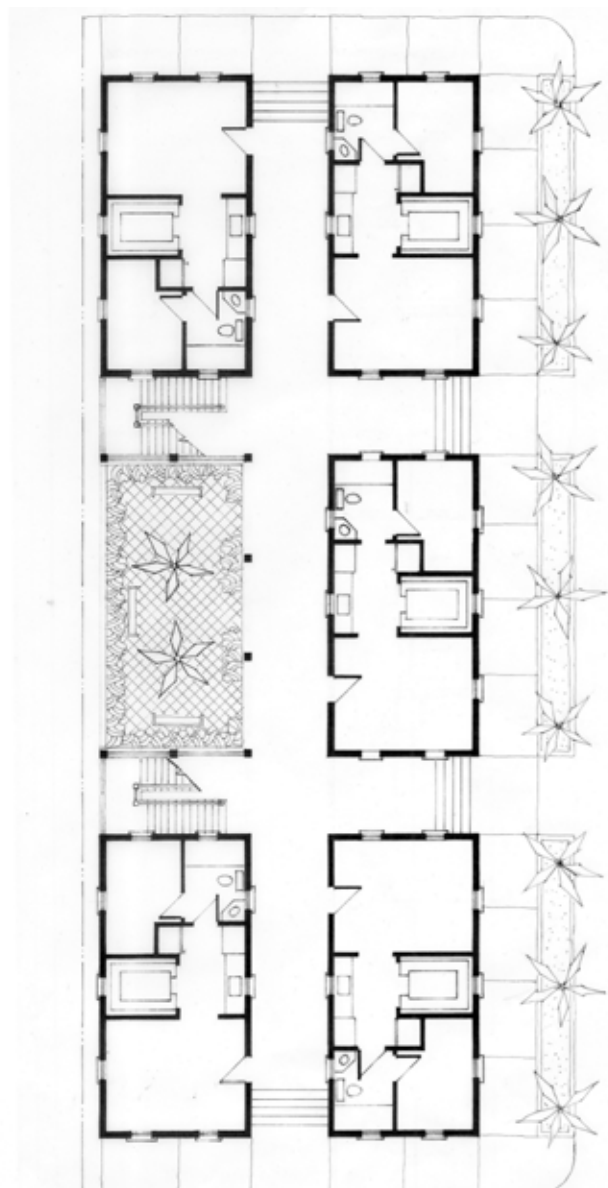
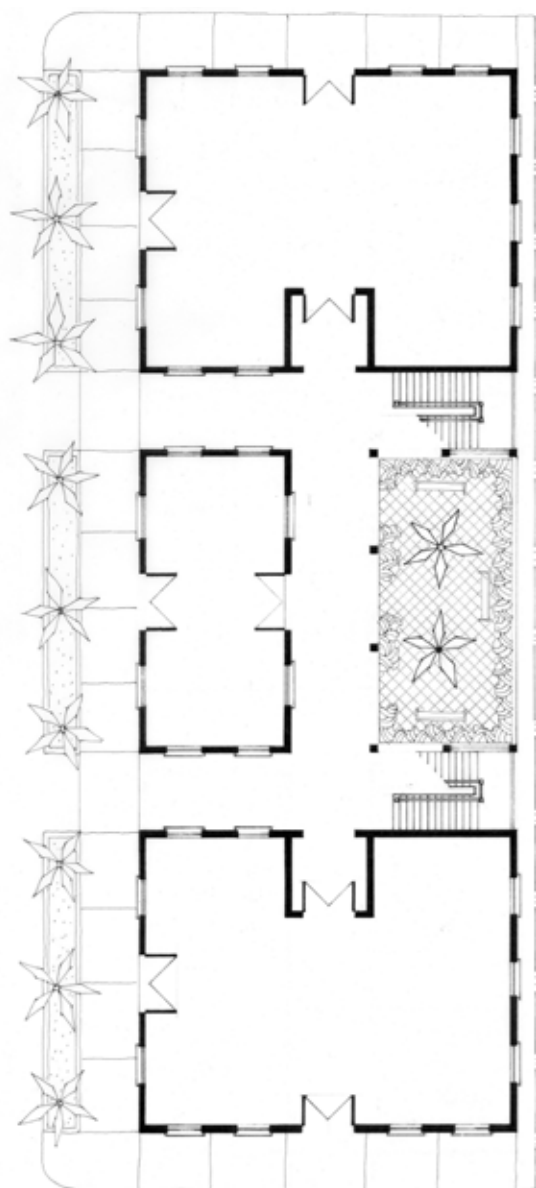


PUBLIC MARKET



LINER BUILDING: 3920 SF COMMERCIAL



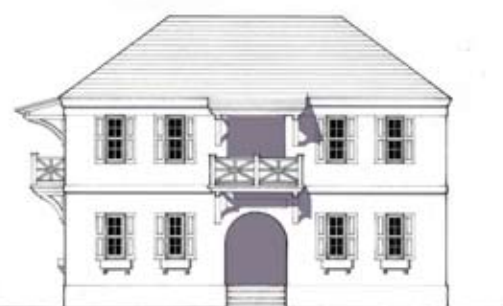


CORNER COURT

This building type can be used as a mixed-use model or as a single-use apartment building. It is designed for use on a corner lot. The various units are arranged around a common colonnaded courtyard that helps to cool the collection of spaces. Individual units are separated from each other by outdoor hallways to help cross-ventilate the interiors, which are designed in keeping with the thin wing technique. This building is a good illustration of how apartment buildings need not be detrimental to the aesthetic value of neighborhoods. This building type was conceived for the use in settlement centers.

THE "LEW OLIVER"

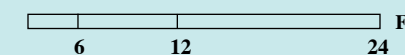
This proposal was inspired by a typology developed by American architect Lew Oliver, but has been adapted to Bahamian climate and geography. The building type features six apartment-type units arranged around a common courtyard, each designed as one-room wide "thin wings." The second storey features a verandah, while the units themselves are accessed via the courtyard. Parking is provided from a rear alley or lane.



CORNER COURT: 640 SF/UNIT, 5 UNITS - 4000 SF COMMERCIAL

10 UNIT ALTERNATE ELEVATION

THE "LEW OLIVER": 308 & 550 SF/UNIT, 6 UNITS - 2736 SF COMMERCIAL



THREE BEDROOM TOWNHOUSE

Because the Bahamas did not significantly urbanize until after WWII, certain common western building types were never adapted to Bahamian conditions. This building type proposes an attached townhouse ensemble in which two buildings mirror each other in an attached fashion. The type is intended for use in dense settlement center environments, such as may be necessary in Marsh Harbour. The two mirrored thin-wing buildings form a common courtyard designed to aid in cross-ventilation. Detached garages are provided in a rear lane or alley.

TWO BEDROOM TOWNHOUSE

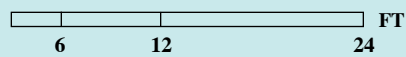
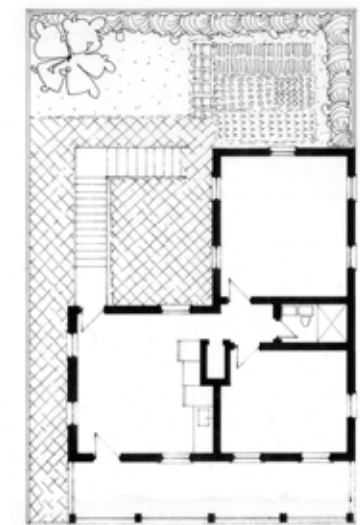
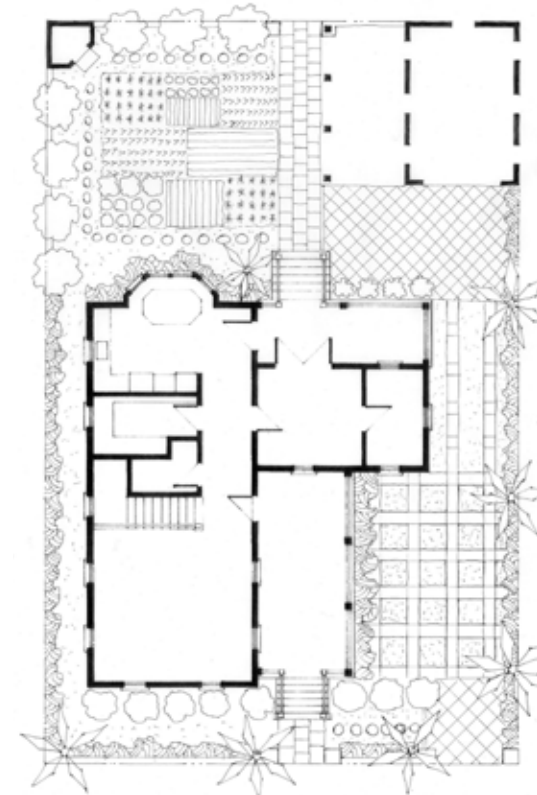
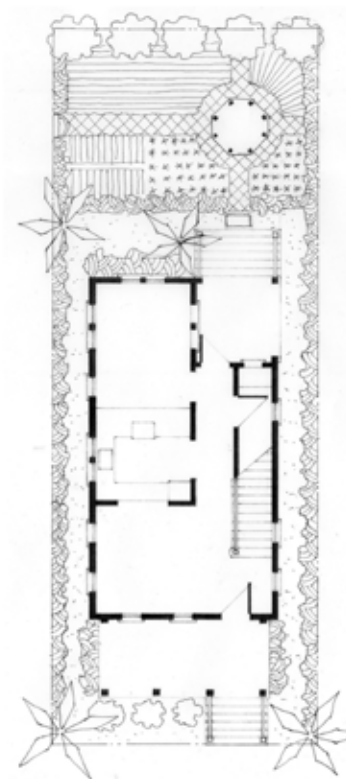
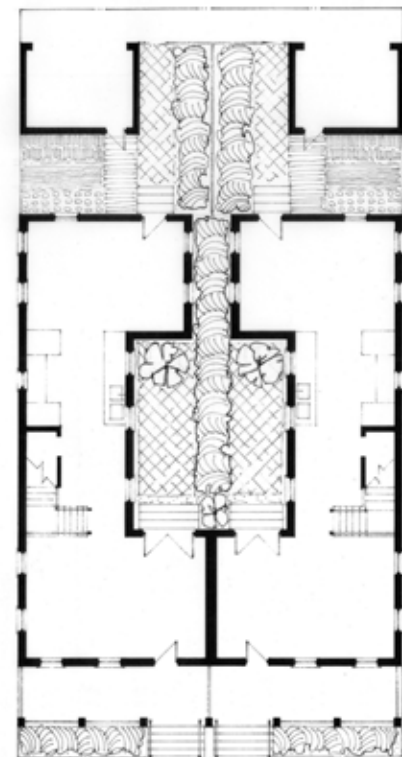
This detached townhouse is intended for use in settlement center locations. Designed for relatively narrow lot conditions, it features a large two-storey verandah and rear access to a garden court.

THREE BEDROOM SIDEYARD

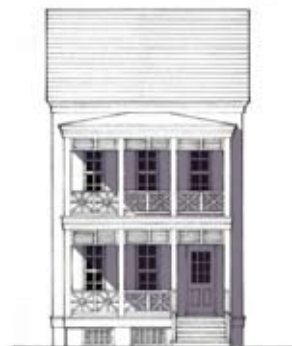
This unit type is modeled on a common building type found in Charleston, South Carolina. It features a side entrance from a side garden, which is intended to help cool the adjoining verandah and house. The building wraps its thin wings around this garden in an L-shaped manner and accesses a rear garden and detached garage by a rear lane or alley. This building type is intended for general neighborhood applications, but can also function in settlement centers.

LIVE/WORK

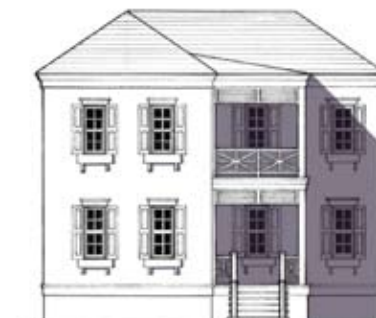
This essential building type allows for a flexibility of uses on the 1st and 2nd floors. The building is designed to accommodate certain commercial functions, dwellings, or both. It is particularly well-suited for business owners who wish to live on the premises.



THREE BEDROOM TOWNHOUSE : 1524 SF/UNIT



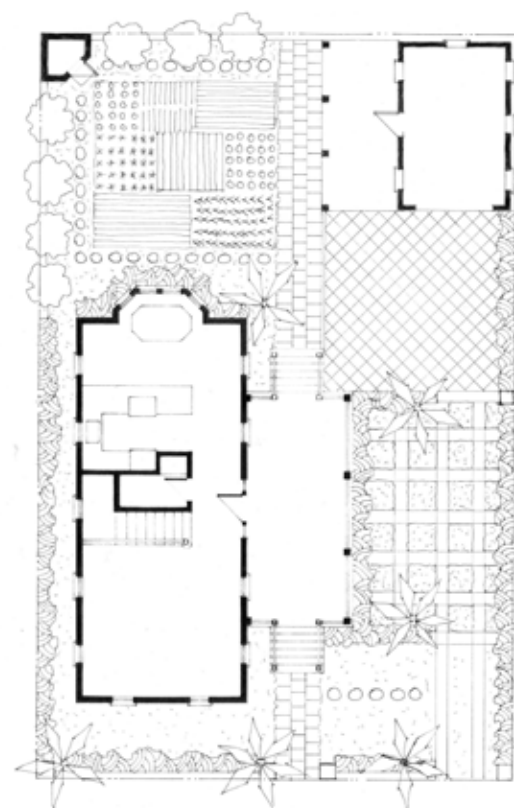
TWO BEDROOM TOWNHOUSE: 1296 SF



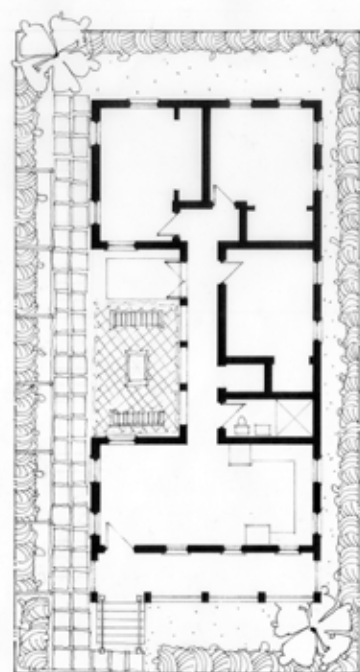
THREE BEDROOM SIDEYARD: 1792 SF



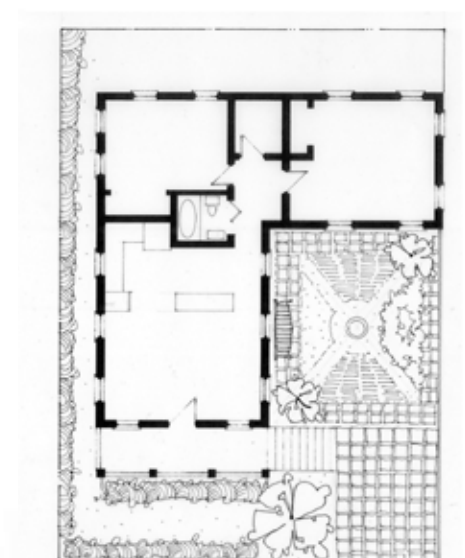
LIVE/WORK: 734 SF LIVING - 734 COMMERCIAL



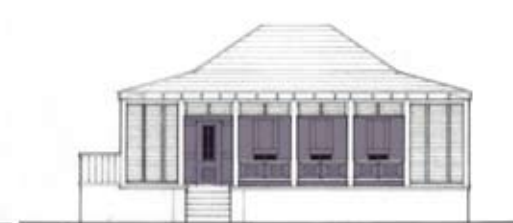
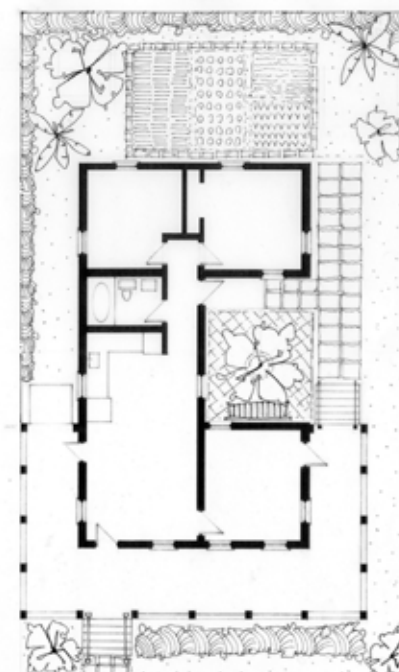
TWO BEDROOM SIDNEYARD: 1440 SF



THREE BEDROOM U-COURT: 1035 SF



TWO BEDROOM L-COURT: 864 SF



TWO BEDROOM U-COURT: 775 SF

TWO BEDROOM SIDNEYARD

This building type is a modified version of the Three Bedroom Sideyard illustrated on the opposite page. This comparison helps to illustrate how traditional thin-wing buildings can easily be added to over time to produce coherent and whole results. This is in stark contrast to conventional suburban housing, where building additions too easily disfigure buildings and make natural cross-ventilation even more difficult.

THREE BEDROOM U-COURT

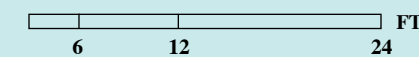
This building type is designed for general neighborhood application. Rooms are arranged around a central garden courtyard that helps in naturally cooling the building. This plan also helps to illustrate how hallways and adjoining rooms can work in concert to naturally cool the interior if openings are aligned.

TWO BEDROOM L-COURT

This building type is designed for general neighborhood use. It is similar to the Three-Bedroom U-Court but features a garden that opens up to the street. This building is inspired by historic Bahamian cottages.

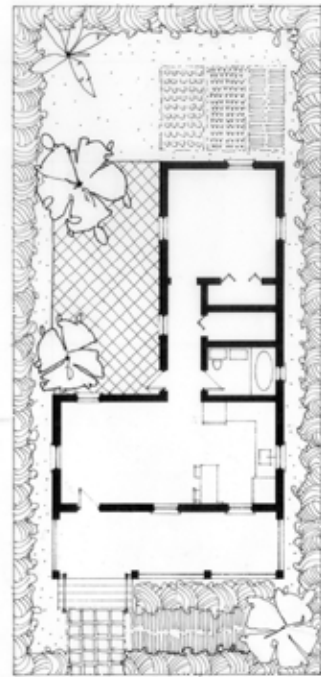
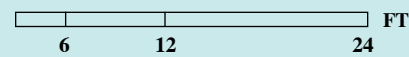
TWO BEDROOM U-COURT

This design builds on the Three-Bedroom U-Court but makes more extensive use of a wrap-around verandah for increased outdoor living space and sociability. Providing outdoor living spaces protected by louvers not only helps in decreasing energy efficiency, but also helps to promote neighborhood interaction.

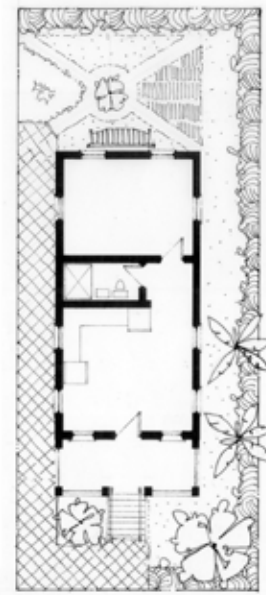


**SMALL HOUSES /
LIVING LARGE**

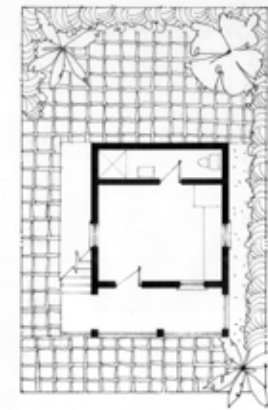
The building types on this page are intended to offer solutions to small building programs that feel more generous than they are because of their efficient design. The use of livable outdoor space also helps to increase the perceived and real size of the units. These units are to be used in conditions that demand significant affordability or simple programs for visitors who do not require generous amenities. While these small building programs may fly in the face of conventional real estate thinking, some of the most progressive projects in the development industry have come to understand their beneficial place in the marketplace, including Schooner Bay on Abaco. Small units and Nano Units can help to fill an essential niche market for young families, single people, artists, and the poor.



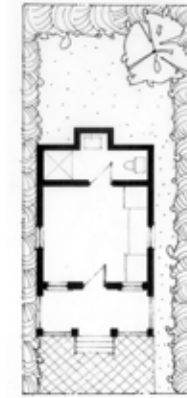
ONE BEDROOM L-COURT: 680 SF



ONE BEDROOM SHOTGUN: 450 SF



NANO UNIT (ELEVATED): 225 SF



NANO UNIT: 225 SF



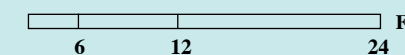
AFFORDABLE HOUSING

The intent of this and the following pages is to offer a constructive critique of conventional housing models currently used by the Bahamian Ministry of Housing. The project team was able to obtain a copy of typical stock plans, of which several have selectively been presented here. These stock models are frequently used in Ministry of Housing development projects throughout the Bahamas. Many of them have also been used, sometimes in modified form, in the relocation efforts of Crossing Rocks. The accompanying photographs are approximate representations of the stock plan model in a real world application.

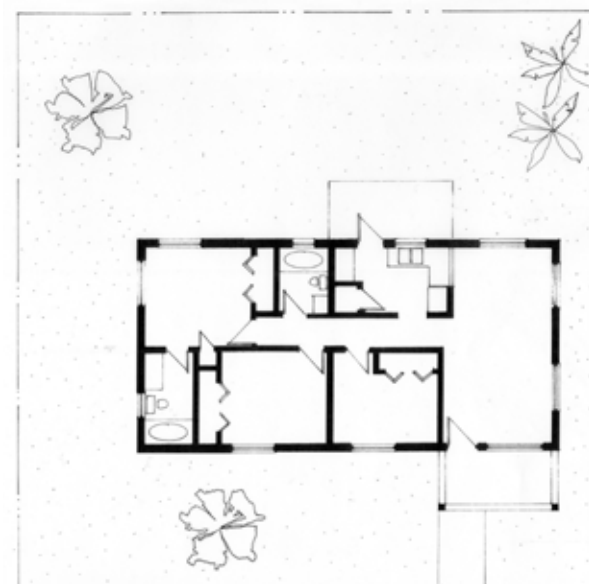
The Ministry of Housing stock plans are compared to counter-proposals offered by the project team for evaluation purposes. In producing the comparative plans, the team sought to maintain a similar program and square footage. The purpose of this exercise is to demonstrate how traditional Bahamian building techniques and principles can be applied to affordable housing products to help generate homes and settlements that are most conducive to local culture, tourism, energy-efficiency and hurricane resistance. All building designs apply the principles of “thin wings” and natural ventilation to assist in providing greater operating affordability.

THREE BEDROOM U-COURT

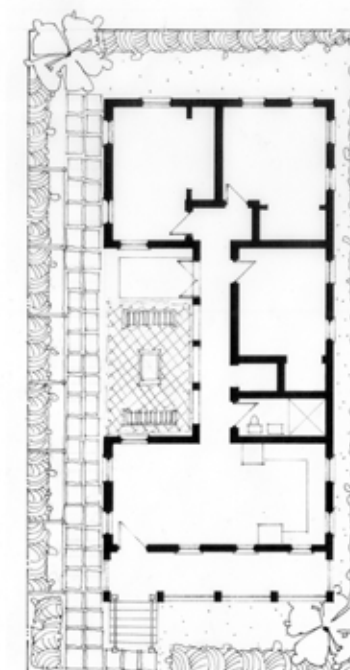
The proposed model shown here is designed to be naturally cooled through the use of these techniques, which is in contrast to the conventional model. Eaves and roof pitches respond to the hurricane climate of the Bahamas. The building is elevated for use in flood-prone areas and to establish an appropriate level of urban privacy for the home.



APPROXIMATE REPRESENTATION OF MINISTRY OF HOUSING UNIT IN CROSSING ROCKS, ABACO



EXISTING THREE BEDROOM: 1175 SF



PROPOSED THREE BR U-COURT: 1035 SF

AFFORDABLE HOUSING

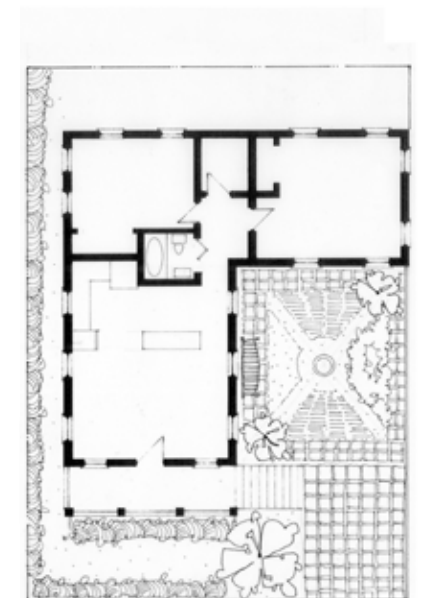
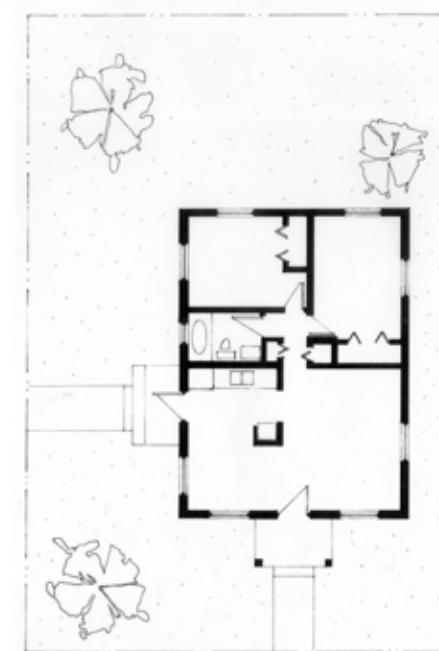
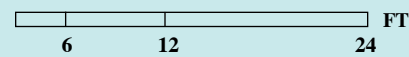
An important point illustrated by the comparisons is the use of the surrounding exterior space. The conventional models provide isolated objects sitting in a relatively large open field. This arrangement does little to help make use of outdoor space, and any potential benefit in capturing breezes is countered by a floor plan that prevents easy cross ventilation. Effective cross-ventilation demands maximum wing dimensions of around 16 ft and a direct flow across the room.

TWO BEDROOM L-COURT

The comparison illustrates some of the key differences in terms of lot use. Large setbacks and vast empty spaces are difficult to use and successfully plant, let alone by people with limited means. The result is a nearly vacant or underutilized effect that some might say tears at the dignity of the home and occupant. In comparison, the smaller lot can be more readily used and landscaped. The building is able to wrap thin wings, which are easily ventilated by natural means, around a garden court. Inspired by traditional Bahamian cottages, this building type exposes a proud gable to the street and speaks of homeownership.



APPROXIMATE REPRESENTATION OF MINISTRY OF HOUSING UNIT IN CROSSING ROCKS, ABACO



EXISTING TWO BEDROOM: 639 SF



PROPOSED TWO BEDROOM L-COURT: 864 SF

AFFORDABLE HOUSING

The challenge of affordable housing is conventionally addressed by providing product-oriented solutions that value-engineer every component down to the lowest possible production cost. In this process, lifecycle costs are not sufficiently considered. Design can drive up operational costs in electricity generated by fans or air-conditioning if buildings cannot easily be ventilated naturally. Insufficient outdoor living space can compound this issue because more activities must remain indoors. Strong winds are more likely to lift deep overhangs and ill-considered roof pitches.

But perhaps the most significant characteristic of sustainable buildings is their ability to be loved by their inhabitants and cultures. While current models may provide a noble service of affordable shelter for people in need, the long-term perspective suggests that the investment is too shortsighted. Buildings that are reduced to the conventions of mere standardized products without response to local climate and culture are much less likely to retain value, enrich their neighborhoods, or be preserved over long periods of time. This results in a vicious cycle of consumption where buildings are thrown up as service products, then thrown out when they are worn out, and replaced with a similar disposable product. Truly sustainable settlement cultures build places and structures worth loving, so that future generations may be compelled to preserve their material, heritage and meanings. This document recommends that the Ministry of Housing replace its current stock plans with new designs built on the principles outlined in Stephen Mouzon's book: "A Living Tradition: Architecture of the Bahamas" (The New Urban Guild Foundation, 2007).



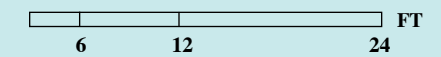
APPROXIMATE REPRESENTATION OF MINISTRY OF HOUSING UNIT IN CROSSING ROCKS, ABACO



EXISTING ONE BEDROOM: 576 SF



PROPOSED ONE BEDROOM L-COURT: 600 SF





APPENDIX A:
SMARTCODE: SOUTH ABACO

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SMARTCODE

SOUTH ABACO ADMINISTRATIVE DISTRICT

**Andrés Duany • Sandy Sorlien
William Wright**

Eusebio Azcue • Chester (Rick) Chellman, P.E. • Ann Daigle
Diane Dorney • Chad Emerson • Francisco Garcia • Laura Hall
Richard A. Hall, P.E. • Gustavo Sanchez Hugalde • Marina Khoury
Rachel Merson • Steve Mouzon • Elizabeth Plater-Zyberk
Daniel Slone • Peter Swift, P.E. • Michael Watkins

with contributions by

John Acken • Eliot Allen • Robert Alminana • Jeffrey K. Bounds
Renée Brutvan • Doug Farr • Susan Henderson
Lauren Koutrelakos • Maria Mercer • Nathan R. Norris
Maximo Rumis • Shannon Tracy • Allison Ude
Chris Ude • Urban Design Associates • Mary Vogel • Brian Wright

calibrated for the South Abaco Administrative District by

Amanda Harrell • Takishah Michel
and the 2008 Urban Design Studio
Andrews University
School of Architecture

“Based on SmartCode Version 9.2.”

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About the SmartCode
Codes and the SmartCode
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Responsibilities for Implementation
Calibrating the SmartCode
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SmartCode

Outline of the SmartCode
Structure of the SmartCode
Adjusting the Structure of the SmartCode
Reading the Annotated SmartCode

Article 1	General to All Plans
Article 2	Regional Scale Plans
Article 3	New Settlement Scale Plans
Article 4	Infill Settlement Scale Plans
Article 5	Building Scale Plans
Article 6	Standards and Tables
Article 7	Definitions of Terms



The SmartCode is a unified development ordinance that incorporates the sustainable transect-based planning principles of Smart Growth and New Urbanism. This volume presents the entire *SmartCode Version 9.2* as a proposal for adoption. A manual and Annotated Code Appendix can be acquired at www.smartcodecentral.com.

The SmartCode, as presented in this volume, is a model ordinance. It is not persuasive and instructive like a guideline, nor is it intentionally general like a vision statement. It is meant to be law, precise and technical, administered by administrative planning departments and interpreted by elected representatives of local government. As a model code to be calibrated, the SmartCode has been customized to regional character by the project team. The code must be adjusted to comply with local law by Bahamaian land use attorneys.

Because the SmartCode envisions intentional outcomes based on known components of urban design, it has always been a more streamlined and efficient document than most conventional codes. This Version 9.2 is even more streamlined than previous versions, based on the advice of experts from using SmartCode v9.0 in the field. While the standards and overall sequence will be familiar to experienced users, the base code is now shorter and simpler.

Consider the most-loved settlements of the Commonwealth of the Bahamas. They were either carefully planned, or they evolved as compact, mixed use places because of their geography and the limits of the transportation and economics of their time. However, over the past forty years, places have evolved in a completely different pattern. They have spread loosely along highways and haphazardly across the countryside, enabled by the widespread ownership of automobiles, by cheap petroleum and cheap land, and by generalized wealth.

In the Bahamas, such patterns are enabled by requirements set forth within various legislative acts, such as the *Town Planning Act* and the *Private Roads and Subdivision Act*. Beyond this, even when requirements are absent, conventional Bahamaian development and surveying usually adopts the same patterns out of industry habit. Most of these requirements and patterns have their origins in conventional zoning practices imported from the United States, which separate dwellings from workplaces, shops, and schools. These code requirements include design standards that favour the automobile over the pedestrian, and are unable to resist the homogenized effects of globalization.

These practices have produced banal housing subdivisions, business parks, strip shopping, big box stores, enormous parking lots, and sadly gutted downtowns. They have caused the proliferation of drive-by eateries and billboards. They have made walking or cycling dangerous or unpleasant. They have made children, the elderly, and the poor utterly dependent on those who can drive, even for ordinary daily needs. They have caused the simultaneous destruction of both towns and open space -- the 20th century phenomenon known as sprawl.

The form of our built environment needs a 21st century correction. But in most places it is actually illegal to build in a traditional neighborhood pattern. In many cases, the existing code requirements prevent it. In most places people do not have a choice between sprawl and traditional urbanism. Current legislative acts favour sprawl and isolated residential subdivisions. It is not a level playing field.

The SmartCode was created to deal with this problem at the point of decisive impact -- the intersection of law and design. It is a form-based code, meaning it envisions and encourages a certain physical outcome -- the form of the region, Settlement, block, and/or building. Form-based codes are fundamentally different from conventional codes that are based primarily on use and statistics -- none of which envision or require any particular physical outcome.

The SmartCode is a tool that guides the form of the built environment in order to create and protect development patterns that are compact, walkable, and mixed use. These traditional neighborhood patterns tend to be stimulating, safe, and ecologically sustainable. The SmartCode requires a mix of uses within walking distance of dwellings, so residents aren't forced to drive everywhere. It supports a connected network to relieve traffic congestion. At the same time, it preserves open lands, as it operates at the scale of the region as well as the settlement.

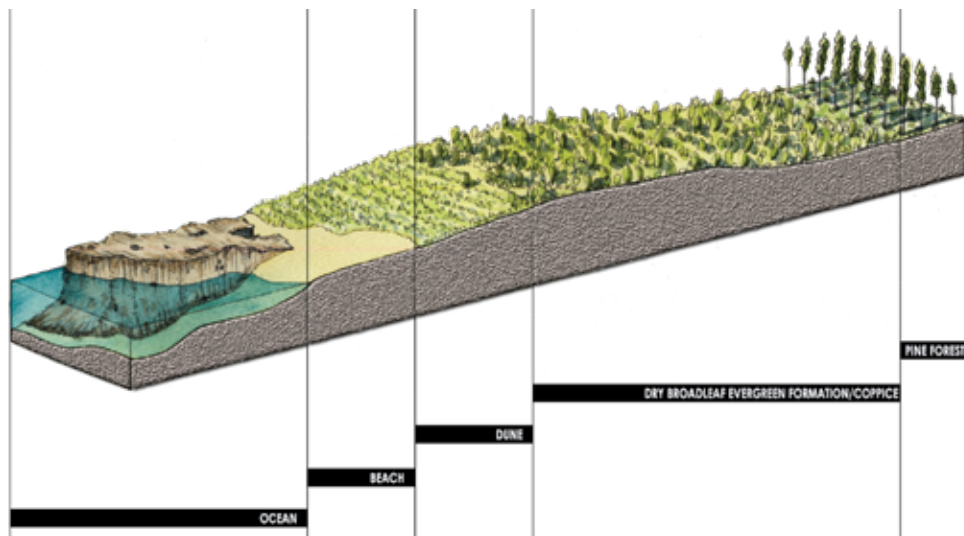


“A town is saved, not more by the righteous men in it than by the woods and swamps that surround it.” -- Henry David Thoreau

The SmartCode is a transect-based code. A transect of nature, first conceived by Alexander Von Humboldt at the close of the 18th century, is a geographical cross-section of a region intended to reveal a sequence of environments. Originally, it was used to analyze natural ecologies, showing varying characteristics through different zones such as shores, wetlands, plains, and uplands. It helps study the many elements that contribute to habitats where certain plants and animals thrive in symbiotic relationship to the minerals and microclimate.

Human beings also thrive in different places. There are those who could never live in an urban Centre; there are those who would wither in a rural hamlet. Humans need a system that preserves and creates meaningful choices in their habitats. Near the close of the 20th century, New Urbanist designers recognized that sprawl was eradicating the pre-war American transect of the built environment. (It is clear that this has also happened in the Bahamas.) They began to analyze it and extract its genetic material for replication. In this way, they extended the natural transect to include the built environment, thus establishing the basis for the SmartCode.

The rural-to-urban Transect is divided into six Transect Zones for application on zoning maps. These six habitats vary by the level and intensity of their physical and social character, providing immersive contexts from rural to urban. SmartCode elements are coordinated by these T-zones at all scales of planning, from the region through the settlement scale down to the individual lot and building.



A TYPICAL NATURAL TRANSECT NEAR HOLE IN THE WALL, ABACO ISLAND
DRAWING BY ANDREWS UNIVERSITY SCHOOL OF ARCHITECTURE

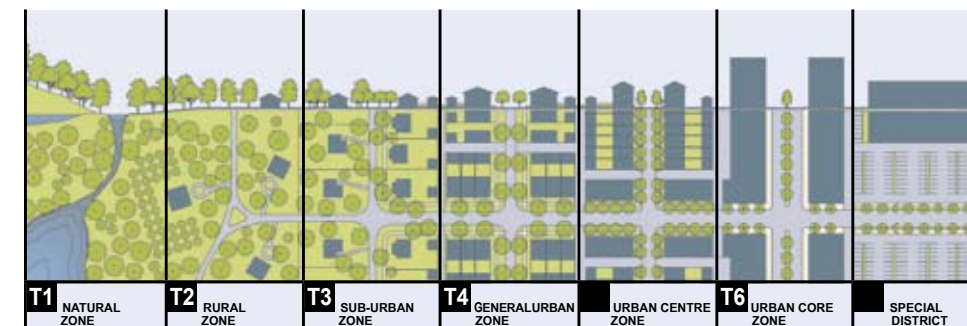
INTRODUCTION

One of the principles of Transect-based planning is that certain forms and elements belong in certain environments. For example, an apartment building belongs in a more urban setting, a ranch house in a more rural setting. Some types of thoroughfares are urban in character, and some are rural. A deep suburban setback destroys the spatial enclosure of an urban street; it is out of context. These distinctions and rules don't limit choices; they expand them. This is the antidote for the one-size-fits-all development of today.

The Transect is evident in two ways. Zones and settlements (1) exist as characteristic places on the Transect and (2) they evolve along the Transect over time. As places, the six Transect Zones display identifiable characteristics, based on normative Bahamian urban patterns. They also increase in complexity, density and intensity over a period of years, until a “climax condition” is reached. This is a growth process analogous to succession in natural environments.

The best urbanism requires the sequential influence of many participants. A code allows buildings to be designed and built by many hands over years, or even generations. The single designer or committee leads to a lack of robustness, similar to vulnerable monocultures in nature. A parametric and successional code like the SmartCode allows experience to feed back and become integrated -- the fourth dimension of time. Once adopted, it stays in place, allowing urbanism to evolve and mature without losing its necessary foundation of order.

It also ensures that a settlement will not have to scrutinize all proposed projects, because the intentions of the citizens will have already been determined in the process that leads to the code. The SmartCode is a comprehensive framework for that process.



A TYPICAL RURAL-URBAN TRANSECT, WITH TRANSECT ZONES

- It utilizes a type of zoning category that ranges systematically from the wilderness to the urban core.
- It enables and qualifies Smart Growth settlement patterns that include Eco-Settlements (ECOS), Clustered Land Settlement (CLS), Traditional Neighborhood Settlement (TNS), Regional Settlement Centre (RSC), and Transit-Oriented Settlement (TOS).
- It integrates the scale of planning concern from the regional through the settlement scale, on down to the individual lot and, if desired, its architectural elements.
- It integrates the design process across professional disciplines.
- It integrates methods of environmental protection, open space conservation and water quality control.
- It integrates subdivision, public works and Transfer of Development Rights (TDR) standards.
- It provides a set of zoning categories common to new settlements and to the infill of existing urbanized areas.
- It is compatible with architectural, environmental, signage, lighting, hazard mitigation, and visitability standards.
- It establishes parity of process for existing and new urban areas.
- It integrates protocols for the preparation and processing of plans.
- It encourages the efficiency of administrative approvals when appropriate, rather than decision by public hearing.
- It encourages specific outcomes through incentives, rather than through prohibitions.
- It specifies standards parametrically (by range) in order to minimize the need for variances.
- It generally increases the range of the options over those allowed by conventional zoning codes.

	ARTICLE 2 REGIONAL SCALE	ARTICLE 3 & 4 SETTLEMENT SCALE PLANS	ARTICLE 5 BUILDING SCALE
	A. Sector Type	B. Settlement Type	C. Transect Zones
Open Lands	01 Preserved and Expected Preserved Open Sector	None	T1 Natural Zone
	02 Reserved Open Sector	None	T2 Rural Zone
New Development	G1 Restricted Growth Sector	ECOS Eco-Settlement	T2 Rural Zone
		CLS Clustered Land Settlement	T3 Sub-Urban Zone
	G2 Controlled Growth Sector	CLS Clustered Land Settlement	T4 General Urban Zone
			T2 Rural Zone
	G3 Intended Growth Sector	TNS Traditional Neighborhood Settlement	T3 Sub-Urban Zone
			T4 General Urban Zone
T5 Urban Centre Zone			
Existing Development	G4 Infill Growth Sector	TNS Traditional Neighborhood Settlement	T4 General Urban Zone
			T5 Urban Centre Zone
		RSC Regional Settlement Centre	T4 General Urban Zone
			T5 Urban Centre Zone
Other		Civic Zones	CB Civic Building
			CS Civic Space
	SD Special Districts		

Standards
Building Disposition
Building Configuration
Building Function
Density and Parking
Parking Standards
Landscape Standards
Signage Standards
Warrants & Variances

Article 1 contains the general instructions pertaining to all other Articles.

Article 2 prescribes how Regional Plans designate the Open Sectors intended for open lands and the Growth Sectors intended for development and redevelopment. It also prescribes what Settlement types belong in each Sector.

Article 3 prescribes the requirements for New Settlements, including the Transect Zones that make up each type.

Article 4 prescribes the Infill requirements for areas already urbanized.

Article 5 prescribes lot and building standards within each Transect Zone.

Article 6 contains diagrams and tables supporting the other Articles.

Article 7 contains terms and definitions supporting the other Articles.

The SmartCode is a unified planning ordinance that applies to three scales of land use. The three patterns are in a nesting relationship.

A. Regional Sectors contain designated types of Settlements (Article 2).

B. Settlements contain designated ratios of Transect Zones (Articles 3 and 4).

C. Transect Zones contain the building elements appropriate to them (Articles 5 and 6).

A. Regional Scale:

“Sector” is a neutral term for a geographic area. In the SmartCode, seven Sectors establish the locations where certain patterns of development are allowed. This system addresses preservation and development at the Regional scale. The Sectors are assigned as follows:

- **O-1 Preserved Open Sector, O-1-E Expected Preserved Open Sector, and O-2 Reserved Open Sector** for protection of open lands.
- **G-1 Restricted Growth Sector, G-2 Controlled Growth Sector, and G-3 Intended Growth Sector** for New Settlements.
- **G-4 Infill Growth Sector** for managed growth of existing urbanized areas.

B. Settlement Scale:

The regional Sectors each contain one or more of the four basic Settlement types (ECOS, CLS, TNS, RSC).

- **ECOS - Eco-Settlement** (small Hamlet, small cluster) permitted in Growth Sectors G1
- **CLS - Clustered Land Settlement** (Hamlet, cluster) permitted in Growth Sectors G1, G2
- **TNS - Traditional Neighborhood Settlement** (Village, neighborhood) – permitted in Growth Sectors G2, G3, G4
- **RSC - Regional Settlement Centre** (Regional Centre, town Centre, downtown) – permitted in Growth Sectors G3, G4

C. Transect Zone Scale:

The Transect, as a framework, identifies a range of habitats from the most natural to the most urban. Its continuum, when subdivided, lends itself to the creation of zoning categories. These categories include standards that encourage diversity similar to that of organically evolved settlements. The standards overlap (they are parametric), reflecting the successional ecotones of natural and human settlements. The Transect thereby integrates environmental and zoning methodologies, enabling environmentalists to assess the design of social habitats and urbanists to support the viability of natural ones.

- **T-1 Natural Zone** consists of lands approximating or reverting to a wilderness condition, including lands unsuitable for settlement due to topography, hydrology or vegetation.
- **T-2 Rural Zone** consists of sparsely settled lands in open or cultivated states. These include woodland, agricultural land, grassland, and irrigable desert. Typical buildings are farmhouses, agricultural buildings, cabins, and villas.
- **T-3 Sub-Urban Zone** consists of low density residential areas, adjacent to higher zones that some mixed use. Home occupations and outbuildings are allowed. Planting is naturalistic and setbacks are relatively deep. Blocks may be large and the roads irregular to accommodate natural conditions.
- **T-4 General Urban Zone** consists of a mixed use but primarily residential urban fabric. It may have a wide range of building types: single, sideyard, and rowhouses. Setbacks and landscaping are variable. Streets with curbs and sidewalks define medium-sized blocks.
- **T-5 Urban Centre Zone** consists of higher density mixed use building that accommodate retail, offices, rowhouses and apartments. It has a tight network of streets, with wide sidewalks, steady street tree planting and buildings set close to the sidewalks.
- **T-6 Urban Core Zone** consists of the highest density and height, with the greatest variety of uses, and civic buildings of regional importance. It may have larger blocks; streets have steady street tree planting and buildings are set close to wide sidewalks. Typically only large towns and cities have an Urban Core Zone.
- **Special Districts** consist of areas with buildings that by their Function, Disposition, or Configuration cannot, or shouldn't, conform to one or more of the six normative Transect Zones.



T1



T2



T3



T4



T5



T6

RIGHT: AN ILLUSTRATION OF A TYPICAL BAHAMIAN TRANSECT

To create SmartCodes for different purposes, certain Articles may be discarded and the code reassembled.

- All codes will require inclusion of **Article 1 General To All Plans, Article 6 Standards & Tables** and **Article 7 Definitions of Terms**.
- If a Regional Scale Plan has already been prepared, or if the code will be used entirely for Infill situations, **Article 2 Regional Scale Plans** may be eliminated.
- If a Settlement Scale plan has already been prepared, or if there is no prospect of Greenfield development, **Article 3 New Settlement Scale Plans** may be adjusted or eliminated. (Note: Article 4 depends on Article 3 for larger Infill parcels.)
- If an Infill Settlement Plan already has been prepared or if there is no prospect of Infill development, **Article 4 Infill Settlement Scale Plans** may be eliminated.
- If and when all plans have been prepared, **Article 5 Building Scale Plans** becomes the de facto code for builders and architects. This Article may be used by developers as the guidelines for their private property owners association.
- In **Article 6**, tables may be individually dropped or modified as necessary.
- In **Article 7**, definitions that do not apply should be deleted, and any necessary new ones added.
- **Optional Modules** may be added as needed. See the following page for information.

Responsibilities for Implementation

The SmartCode requires the preparation of plans that allocate the Sectors, lay out the Settlements, and show lot and building design.

- **Article 2. Regional Scale Plans** shall be prepared by or on behalf of the Municipal Planning Department.
- **Article 3. New Settlement Scale Plans** shall be prepared on behalf of the land owner, the developer, or the Municipal Planning Department.
- **Article 4. Infill Settlement Scale Plans** shall be prepared by or on behalf of the Municipal Planning Department.
- **Article 5. Building Scale Plans** shall be prepared on behalf of the builder or the property owner.

ARTICLE 1. GENERAL TO ALL PLANS	5.5	SPECIFIC TO T1 NATURAL ZONE
1.1 AUTHORITY	5.6	BUILDING DISPOSITION
1.2 APPLICABILITY	5.7	BUILDING CONFIGURATION
1.3 INTENT	5.8	BUILDING FUNCTION
1.4 PROCESS	5.9	PARKING AND DENSITY CALCULATIONS
1.5 WARRANTS AND VARIANCES	5.10	PARKING LOCATION STANDARDS
1.6 SUCCESSION	5.11	LANDSCAPE STANDARDS
	5.12	SIGNAGE STANDARDS
ARTICLE 2. REGIONAL SCALE PLANS	5.13	NATURAL DRAINAGE STANDARDS
2.1 INSTRUCTIONS	5.14	ARCHITECTURAL STANDARDS
2.2 SEQUENCE OF SECTOR DETERMINATION	5.15	LIGHTING STANDARDS
2.3 (O-1) PRESERVED OPEN SECTOR		
2.4 (O-1-E) EXPECTED PRESERVED OPEN SECTOR	TABLE 1	ARTICLE 6. STANDARDS AND TABLES
	TABLE 2	TRANSECT ZONE DESCRIPTIONS
2.5 (O-2) RESERVED OPEN SECTOR	TABLE 3A	SECTOR/SETTLEMENT ALLOCATION
2.6 (G-1) RESTRICTED GROWTH SECTOR	TABLE 3B	VEHICULAR LANE DIMENSIONS
2.7 (G-2) CONTROLLED GROWTH SECTOR	TABLE 3B	VEHICULAR LANE & PARKING ASSEMBLIES
2.8 (G-3) INTENDED GROWTH SECTOR	TABLE 4A	PUBLIC FRONTAGES - GENERAL
2.9 (G-4) INFILL GROWTH SECTOR	TABLE 4B	PUBLIC FRONTAGES - SPECIFIC
2.10 (SD) SPECIAL DISTRICTS	TABLE 4C	THOROUGHFARE ASSEMBLIES
	TABLE 5	PUBLIC LIGHTING
ARTICLE 3. NEW SETTLEMENT SCALE PLANS	TABLE 6	PUBLIC PLANTING
	TABLE 7	PRIVATE FRONTAGES
3.1 INSTRUCTIONS	TABLE 8	BUILDING CONFIGURATION
3.2 SEQUENCE OF SETTLEMENT DESIGN	TABLE 9	BUILDING DISPOSITION
3.3 SETTLEMENT UNIT TYPES	TABLE 10	BUILDING FUNCTION & PARKING
3.4 TRANSECT ZONES	TABLE 11	PARKING CALCULATIONS
3.5 CIVIC ZONES	TABLE 12	SPECIFIC FUNCTION & USE
3.6 SPECIAL DISTRICTS	TABLE 13	CIVIC SPACE
3.7 ENVIRONMENTAL STANDARDS	TABLE 14	SUSTAINABILITY - WIND POWER
3.8 COPPICE MANAGEMENT OVERLAY PLAN	TABLE 15	SUSTAINABILITY - SOLAR ENERGY
3.9 THOROUGHFARE STANDARDS	TABLE 16	SUSTAINABILITY - COMPOSTING
3.10 DENSITY CALCULATIONS	TABLE 17	SUSTAINABILITY - FOOD PRODUCTION
3.11 SPECIAL REQUIREMENTS	TABLE 18	SUSTAINABILITY - LIGHT IMPRINT
	TABLE 19	STORM DRAINAGE MATRIX
ARTICLE 4. INFILL SETTLEMENT SCALE PLANS	TABLE 20A	SMARTCODE SUMMARY
4.1 INSTRUCTIONS	TABLE 20B	FORM-BASED CODE GRAPHICS - T3
4.2 SETTLEMENT UNIT TYPES	TABLE 20C	FORM-BASED CODE GRAPHICS - T4
4.3 TRANSECT ZONES	TABLE 20C	FORM-BASED CODE GRAPHICS - T5
4.4 CIVIC ZONES	TABLE 20D	[RESERVED FOR FORM-BASED CODE GRAPHICS - T6]
4.5 SPECIAL DISTRICTS	TABLE 21	[RESERVED FOR SPECIAL DISTRICT STANDARDS]
4.6 PRE-EXISTING CONDITIONS	TABLE 22	DEFINITIONS ILLUSTRATED
4.7 SPECIAL REQUIREMENTS		
		ARTICLE 7. DEFINITIONS OF TERMS
ARTICLE 5. BUILDING SCALE PLANS		
5.1 INSTRUCTIONS		
5.2 PRE-EXISTING CONDITIONS		
5.3 SPECIAL REQUIREMENTS		
5.4 CIVIC ZONES		

1.1 AUTHORITY

- 1.1.1 The action of the South Abaco Administrative District, Great Abaco Island in the adoption of this Code is authorized under Bahamian statute law.
Appropriate enabling legislation language to be included by Bahamian authorities.
- 1.1.2 This Code was adopted as one of the instruments of implementation of the public purposes and objectives of the Town Planning Act. This Code is declared to be in accord with the Town Planning Act, as required by Bahamian statute law.
Appropriate enabling legislation language to be included by Bahamian authorities.
- 1.1.3 This Code was adopted to promote the health, safety and general welfare of the South Abaco Administrative District, Great Abaco Island and its citizens, including protection of the environment, conservation of land, energy and natural resources, reduction in vehicular traffic congestion, more efficient use of public funds, health benefits of a pedestrian environment, historic preservation, education and recreation, reduction in sprawl development, and improvement of the built environment.
- 1.1.4 This Code was adopted and may be amended by vote of the Town Planning Committee (TPC) and The Government of the Bahamas House of Assembly.

1.2 APPLICABILITY

- 1.2.1 Provisions of this Code are activated by “shall” when required; “should” when recommended; and “may” when optional.
- 1.2.2 The provisions of this Code, when in conflict, shall take precedence over those of other codes, ordinances, regulations and standards except those established by The Government of the Bahamas Ministry of Health.
- 1.2.3 The existing Town Planning Act including the Private Roads and Subdivision Act of the Out Islands (“Existing Local Codes”), shall continue to be applicable to issues not covered by this Code except where the Existing Local Codes would be in conflict with Section 1.3 Intent.
- 1.2.4 Capitalized terms used throughout this Code may be defined in Article 7 Definitions of Terms. Article 7 contains regulatory language that is integral to this Code. Those terms not defined in Article 7 shall be accorded their commonly accepted meanings. In the event of conflicts between these definitions and those of the Existing Local Codes, those of this Code shall take precedence.
- 1.2.5 The metrics of Article 6 Standards and Tables are an integral part of this Code. However, the diagrams and illustrations that accompany them should be considered guidelines, with the exception of those on Table 20 Form-Based Code Graphics, which are also legally binding.
- 1.2.6 Where in conflict, numerical metrics shall take precedence over graphic metrics.

1.3 INTENT

The intent and purpose of this Code is to enable, encourage and qualify the implementation of the following policies:

1.3.1 THE REGION

- a. That the region shall retain its natural infrastructure and visual character derived from topography, woodlands, farmlands, riparian corridors and coastlines.
- b. That growth strategies shall encourage Infill and redevelopment in parity with New Settlements.
- c. That development contiguous to urban areas shall be structured in the pattern

- d. of Infill TNS or Infill RSC and be integrated with the existing urban pattern.
- d. That development non-contiguous to urban areas should be organized in the pattern of ECOS, CLS, TNS, or RSC.
- e. That Affordable Housing should be distributed throughout the region to match job opportunities and to avoid concentrations of poverty.
- f. That transportation Corridors should be planned and reserved in coordination with land use.
- g. That green corridors shall be used to define and connect the urbanized areas.
- h. That the region should include a framework of transit, pedestrian, and bicycle systems that provide alternatives to the automobile.

1.3.2 THE SETTLEMENT

- a. That neighborhoods and Regional Centres shall be compact, pedestrian-oriented and Mixed Use.
- b. That neighborhoods and Regional Centres shall be the preferred pattern of development and that Districts specializing in a single use should be the exception.
- c. That ordinary activities of daily living should occur within walking distance of most dwellings, allowing independence to those who do not drive.
- d. That interconnected networks of Thoroughfares shall be designed to disperse traffic and reduce the length of automobile trips.
- e. That within neighborhoods, a range of housing types and price levels should be provided to accommodate diverse ages and incomes.
- f. That appropriate building Densities and land uses should be provided within walking distance of transit stops.
- g. That Civic, institutional, and Commercial activity shall be embedded in downtowns, not isolated in remote single-use complexes.
- h. That schools should be sized and located to enable children to walk or bicycle to them.
- i. That a range of Open Space including Parks, Squares, and playgrounds should be distributed within neighborhoods and downtowns.

1.3.3 THE BLOCK AND THE BUILDING

- a. That buildings and landscaping should contribute to the physical definition of Thoroughfares as Civic places.
- b. That development should adequately accommodate automobiles while respecting the pedestrian and the spatial form of public areas.
- c. That the design of streets and buildings should reinforce safe environments, but not at the expense of accessibility.
- d. That architecture and landscape design shall grow from local climate, topography, history, and building practice.
- e. That buildings shall provide their inhabitants with a clear sense of geography and climate through energy efficient methods.
- f. That Civic Buildings and public gathering places should be provided as locations that reinforce Settlement identity and support self-government.
- g. That Civic Buildings should be distinctive and appropriate to a role more important than the other buildings that constitute the fabric of the city.
- h. That the preservation and renewal of historic buildings should be facilitated, to affirm the continuity and evolution of society.
- i. That the harmonious and orderly evolution of urban areas shall be secured through form-based codes.

1.3.4 THE TRANSECT

- a. That Settlements should provide meaningful choices in living arrangements as manifested by distinct physical environments.
- b. That the Transect Zone descriptions on Table 1 shall constitute the Intent of this Code with regard to the general character of each of these environments.

1.4 PROCESS

- 1.4.1 South Abaco Administrative District, Great Abaco Island hereby reorganizes the Town Planning Committee (TPC) to be comprised of the existing members of the TPC including a member from each regulatory agency having jurisdiction over the permitting of a project, and a representative of the Development and Design Centre to process administratively applications and plans for proposed projects.
- 1.4.2 The geographic locations of the Sectors and the standards for the Transect Zones shall be determined as set forth in Article 2, Article 3, Article 4, and Article 5 through a process of public consultation with approval by the The Government of the Bahamas House of Assembly. Once these determinations have been incorporated into this Code and its associated plans, then projects that require no Variances or Warrants, or only Warrants, shall be processed administratively without further recourse to public consultation.
- 1.4.3 An owner may appeal a decision of the TPC to the Government of the Bahamas House of Assembly.
- 1.4.4 Should a violation of an approved Regulating Plan occur during construction, or should any construction, site work, or development be commenced without an approved Regulating Plan or Building Scale Plan, the TPC has the right to require the owner to stop, remove, and/or mitigate the violation, or to secure a Variance to cover the violation.

1.5 WARRANTS AND VARIANCES

- 1.5.1 There shall be two types of deviation from the requirements of this Code: Warrants and Variances. Whether a deviation requires a Warrant or Variance shall be determined by the Town Planning Committee (TPC).
- 1.5.2 A Warrant is a ruling that would permit a practice that is not consistent with a specific provision of this Code but is justified by the provisions of Section 1.3 Intent. The TPC shall have the authority to approve or disapprove administratively a request for a Warrant pursuant to regulations established by the TPC.
- 1.5.3 A Variance is any ruling on a deviation other than a Warrant. Variances shall be granted only in accordance with Section 1.3 Intent, as amended.
- 1.5.4 The request for a Warrant or Variance shall not subject the entire application to public hearing, but only that portion necessary to rule on the specific issue requiring the relief.
- 1.5.5 The following standards and requirements shall not be available for Warrants or Variances:
 - a. The maximum dimensions of traffic lanes. (See Table 3a.)
 - b. The required provision of Rear Alleys and Rear Lanes.
 - c. The minimum Base Residential Densities. (See Table 19b.)
 - d. The permission to build Accessory Buildings.
 - e. The minimum requirements for parking. (See Table 10.)

1.6 SUCCESSION

- 1.6.1 Twenty years after the approval of a Regulating Plan, each Transect Zone, except the T1 Natural and T2 Rural Zones, shall be automatically rezoned to the successional (next higher) Transect Zone, unless denied in public hearing by the Town Planning Committee (TPC).

2.1 INSTRUCTIONS

2.1.1 This Article governs the preparation of Regional Scale Plans ("Regional Plans") that have been mapped pursuant to this Article, allocating Sectors for lands within the South Abaco Administrative District. This Article also guides any future adjustments of Sectors within these areas as Expected Preserved Open Sector (O-1-E) and/or Reserved Open Sector (O-2) become Preserved Open Sector (O-1). If Transfer of Development Rights (TDR) are impossible, O-2 may become Restricted Growth Sector (G-1). Sections 2.5 et seq. prescribe the Settlement Unit types permitted in each Growth Sector. Articles 3 and 4 regulate the standards of those Settlement Unit types.

2.2 SEQUENCE OF SECTOR DETERMINATION

Determination of Sector designations shall be made in the following sequence:

- 2.2.1 The areas to be designated Preserved Open Sector (O-1) shall be mapped using the criteria listed in Section 2.3. The outline of this Sector is effectively the Abaco National Park Boundary, which is permanent.
- 2.2.2 The areas designated Expected Preserved Open Sector (O-1-E) have been mapped using the criteria listed under Section 2.4. The outline of this Sector is effectively Crown Land of significant environmental value.
- 2.2.3 The areas to be designated Reserved Open Sector (O-2) shall be mapped using the criteria listed under Section 2.5. The outline of this Sector is effectively Crown Lands that are not designated O-1 or O-1-E outside urban areas which is to be adjusted by the ongoing permitting of New Settlement Plans or Infill Settlement Plans in accordance with this Code.
- 2.2.4 The areas; Sandy Point, Sands Cove, and Crossing Rocks, designated Infill Growth Sectors (G-4) were mapped as described in Section 2.9. These areas may be redeveloped according to Article 3 and Article 4 of this Code.
- 2.2.5 All remaining areas are available for new development pursuant to New Settlement Plans submitted and approved in accordance with Article 3 of this Code. These areas were assigned to the Restricted Growth Sector, the Controlled Growth Sector, or the Intended Growth Sector using the criteria listed in this Article. Within these Sectors, the Settlement Unit types of ECOS (Eco-Settlement), CLS (Clustered Land Settlement), TNS (Traditional Neighborhood Settlement), and RSC (Regional Settlement Centre), shall be permitted to the extent set forth in Table 2.
- 2.2.6 South Abaco Airport and Winding Bay Golf Course, which do not conform to one of the Settlement Unit types are allocated to Special Districts. See Section 2.10.
- 2.2.7 A system for the gradual Transfer of Development Rights (TDR) should be established and administered for the purpose of transferring development rights from the Reserved Open Sector (O-2) to the Growth Sectors as set forth in Section 2.4.3.

2.3 (O-1) PRESERVED OPEN SECTOR

- 2.3.1 The Preserved Open Sector consists of Open Space that is protected from development in perpetuity. The Preserved Open Sector includes areas under environmental protection by law or regulation, as well as land acquired for conservation through purchase, by easement, or by past Transfer of Development Rights.
- 2.3.2 The Preserved Open Sector consists of the aggregate of the following categories:
- a. Abaco National Park
- 2.3.3 Development and construction within the Preserved Open Sector and the

specifications required to do so shall be determined on an individual project basis by public hearing of the Government of the Bahamas House of Assembly.

2.4 (O-1-E) EXPECTED PRESERVED OPEN SECTOR

- 2.4.1 The Expected Preserved Open Sector consists of Crown Lands that are not currently protected from development in perpetuity, but shall be. The Expected Preserved Open Sector includes areas that should be under environmental protection by law or regulation, as well as land acquired for conservation through purchase, by easement, or by Transfer of Development Rights (TDR).
- 2.4.2 The Expected Preserved Open Sector consists of the aggregate of Crown Lands of the following categories:
- a. wetlands and mangroves stands
 - b. dry broadleaf evergreen formation (Coppice)
 - c. critical species habitats
 - d. aquifers and underground cave networks (Blue Holes)
 - e. sandy beaches and rocky shores
 - f. antiquities including historic/cultural heritage sites
 - g. purchased Open Space
 - h. conservation easements
 - i. transportation Corridors
 - j. areas residual to Eco-Settlements (ECOSs) and Clustered Land Settlements (CLSs)
- 2.4.3 Development and construction within the Expected Preserved Open Sector and the specifications required to do so shall be determined on an individual project basis by public hearing of the Government of the Bahamas House of Assembly.

2.5 (O-2) RESERVED OPEN SECTOR

- 2.5.1 The Reserved Open Sector consists of Open Space that should be, but is not yet, protected from development.
- 2.5.2 The Reserved Open Sector shall consist of the aggregate of the following categories:
- a. wetlands and mangrove stands
 - b. dry broadleaf evergreen formation (Coppice)
 - c. animal habitats
 - d. aquifers and underground cave networks (Blue Holes)
 - e. sandy beaches and rocky shores
 - f. antiquities including, historic/cultural heritage sites
 - g. steep slopes
 - h. Open Space to be acquired
 - i. Corridors to be acquired
 - j. buffers to be acquired
 - k. legacy woodlands
 - l. legacy farmland
 - m. legacy viewsheds
 - n. flood plains including lands less than 5 feet above sea level
- 2.5.3 The Reserved Open Sector is a Transfer of Development Rights (TDR) sending area, for the gradual sale of rights for development in the Controlled Growth Sector and the Intended Growth Sector. An owner who has purchased such development rights may exceed the allocated Densities of New Settlements as set forth in Section 3.8 and Table 19b. Areas from where development rights have been transferred

- shall be designated Preserved Open Sector. The Government of the Bahamas Department of Physical Planning shall maintain a record of such transfers, updating the regional map accordingly.
- 2.5.4 Any activities which consist of vegetation clearing or ground disturbance within the Parrot Nesting Area shall be preceded by nesting surveys prior to initiation of activity. If a nest is found during the survey or by other means, a 300 foot Buffer shall be placed around the nest where no activity is to occur.
- 2.6 (G-1) RESTRICTED GROWTH SECTOR**
- 2.6.1 The Restricted Growth Sector is assigned to privately owned lands that have value as Open Space but nevertheless are subject to development, either because the zoning has already been granted or because there is no legally defensible reason, in the long term, to deny it.
- 2.6.2 Within the Restricted Growth Sector, Eco-Settlement (ECOS) shall be permitted By Right. Clustered Land Settlement (CLS) shall be permitted By Right by virtue of proximity to an existing Thoroughfare.
- 2.6.3 Within the Restricted Growth Sector, development shall abide by the Coppice Management Overlay Plan as set forth in Article 3.
- 2.7 (G-2) CONTROLLED GROWTH SECTOR**
- 2.7.1 The Controlled Growth Sector is assigned to those locations that can support Mixed Use by virtue of proximity to an existing or planned Thoroughfare.
- 2.7.2 Within the Controlled Growth Sector, CLS and Traditional Neighborhood Settlement (TNS) shall be permitted By Right.
- 2.7.3 Within the Controlled Growth Sector, development shall abide by the Coppice Management Overlay Plan as set forth in Article 3.
- 2.8 (G-3) INTENDED GROWTH SECTOR**
- 2.8.1 The Intended Growth Sector is assigned to those locations that can support substantial Mixed Use by virtue of proximity to an existing or planned regional Thoroughfare and/or transit.
- 2.8.2 Within the Intended Growth Sector, Settlements in the pattern of Regional Settlement Centres (RSCs), as well as TNSs, shall be permitted By Right.
- 2.9 (G-4) INFILL GROWTH SECTOR**
- 2.9.1 The Infill Growth Sector is assigned to areas already developed, having the potential to be modified, confirmed or completed in the pattern of Infill TNSs or Infill RSCs.
- 2.10 (SD) SPECIAL DISTRICTS**
- 2.10.1 Special District designations is assigned to areas that, by their intrinsic size, Function, or Configuration, cannot conform to the requirements of an ECOS, CLS, a TNS, or an RSC as set forth in Article 3.
- 2.10.2 Conditions of development for Special Districts shall be determined in public hearing of the Government of the Bahamas House of Assembly and recorded on Table 21.

3.1 INSTRUCTIONS

- 3.1.1 Within the Growth Sectors as shown on the Regional Scale Plan ("Regional Plan"), the provisions of Article 3 and this Code in general shall be available By Right, upon request by the owner.
- 3.1.2 New Settlement Plans may be prepared in the absence of a Regional Plan or Comprehensive Plan by approval of the Town Planning Committee (TPC). New Settlement Plans may contain more than one Settlement Unit and/or more than one Settlement Unit type.
- 3.1.3 Once the TPC or the Government of the Bahamas House of Assembly approves a New Settlement Plan, the parcel shall become a Settlement Planning Area and should be filed as such with the South Abaco Administrative District and the Government of the Bahamas Department of Physical Planning. Within the Settlement Planning Area, this Code shall be the exclusive and mandatory zoning regulation, and its provisions shall be applied in their entirety.
- 3.1.4 New Settlement Plans submitted in accordance with the provisions of this Code, for the appropriate Sector of the Regional Plan and requiring no Variances, shall be approved administratively by the TPC.
- 3.1.5 New Settlement Plans may be prepared by an owner or by the TPC.
- 3.1.6 New Settlement Plans shall include a Regulating Plan consisting of one or more maps showing the following for each Settlement Unit in the plan area, in compliance with the standards described in this Article:
- Transect Zones
 - Civic Zones
 - Thoroughfare network
 - Special Districts, if any
 - Special Requirements, if any
 - numbers of Warrants or Variances, if any
- 3.1.7 New Settlement Plans shall include one set of preliminary site plans for each Transect Zone, as provided by Table 20 and Section 5.1.3a.
- 3.1.8 New Settlement Plans shall include Parrot Corridors in the preliminary site plans.

3.2 SEQUENCE OF SETTLEMENT DESIGN

- 3.2.1 The site shall be structured using one or several Pedestrian Sheds, which should be located according to existing conditions, such as traffic intersections, adjacent developments, and natural features. The site or any Settlement Unit within it may be smaller or larger than its Pedestrian Shed.
- 3.2.2 The Pedestrian Sheds may be adjusted to include land falling between or outside them, but the extent of each shall not exceed the acreage limit specified in Section 3.3 for the applicable Settlement Unit type. An Adjusted Pedestrian Shed becomes the boundary of a Settlement Unit.
- 3.2.3 Areas of Transect Zones (Section 3.4) shall be allocated within the boundaries of each Settlement Unit as appropriate to its type. See Section 3.3 and Table 19a.
- 3.2.4 Civic Zones shall be assigned according to Section 3.5.
- 3.2.5 Special Districts, if any, shall be assigned according to Section 3.6.
- 3.2.6 Environmental Standards shall be according to Section 3.7
- 3.2.7 Coppice Management Overlay Plan shall be according to Section 3.8
- 3.2.8 The Thoroughfare network shall be laid out according to Section 3.9.
- 3.2.9 Density shall be calculated according to Section 3.10.
- 3.2.10 Remnants of the site outside the Adjusted Pedestrian Shed(s) shall be assigned

to Transect Zones or Civic Space by Warrant or Special District by Variance.

3.3 SETTLEMENT UNIT TYPES

3.3.1 Eco-SETTLEMENT (ECOS)

- a. An Eco-Settlement (ECOS) shall be permitted within the G-1 Restricted Growth Sector.
- b. An ECOS shall be structured by one half a Standard Pedestrian Shed and shall consist of no fewer than 15 acres and no more than 80 acres.
- c. An ECOS shall include Transect Zones as allocated on Table 2 and Table 19a. A minimum of 60% of the Settlement Unit shall be permanently allocated to a T1 Natural Zone and/or T2 Rural Zone.

3.3.2 CLUSTERED LAND SETTLEMENT (CLS)

- a. A Clustered Land Settlement (CLS) shall be permitted within the G-1 Restricted Growth Sector and the G-2 Controlled Growth Sector as allocated in Section 2.6.
- b. A CLS shall be structured by one Standard Pedestrian Shed and shall consist of no fewer than 30 acres and no more than 80 acres.
- c. A CLS shall include Transect Zones as allocated on Table 2 and Table 19a. A minimum of 50% of the Settlement Unit shall be permanently allocated to a T1 Natural Zone and/or T2 Rural Zone.

3.3.3 TRADITIONAL NEIGHBORHOOD SETTLEMENT (TNS)

- a. A Traditional Neighborhood Settlement (TNS) shall be permitted within the G-2 Controlled Growth Sector, the G-3 Intended Growth Sector, and the G-4 Infill Growth Sector.
- b. A TNS within the G-2 Controlled Growth Sector and the G-3 Intended Growth Sector shall be structured by one Standard or Linear Pedestrian Shed and shall be no fewer than 80 acres and no more than 160 acres. See Article 4 for Infill TNS acreage requirements in the G-4 Infill Growth Sector.
- c. A TNS shall include Transect Zones as allocated on Table 2 and Table 19a.
- d. Larger sites shall be designed and developed as multiple Settlements, each subject to the individual Transect Zone requirements for its type as allocated on Table 2 and Table 19a. The simultaneous planning of adjacent parcels is encouraged.
- e. In the T-4 General Urban Zone, a minimum Residential mix of three Building Disposition types (none less than 20%) shall be required, selected from Table 9.

3.3.4 REGIONAL SETTLEMENT CENTRES (RSC)

- a. A Regional Settlement Centre (RSC) shall be permitted within the G-3 Intended Growth Sector and the G-4 Infill Growth Sector.
- b. An RCS within the G-3 Intended Growth Sector shall be structured by one Long Pedestrian Shed or Linear Pedestrian Shed and shall consist of no fewer than 80 acres and no more than 640 acres. See Article 4 for Infill RSC acreage requirements in the G-4 Infill Growth Sector.
- c. An RSC shall include Transect Zones as allocated on Table 2 and Table 19a.
- d. For larger sites, an RSC may be adjoined without buffer by one or more TNSs, each subject to the individual Transect Zone requirements for TNS as allocated on Table 2 and Table 19a. The simultaneous planning of adjacent parcels is encouraged.

3.3.5 TRANSIT ORIENTED SETTLEMENT (TOS)

- a. Any TNS or RSC on an existing Thoroughfare and/or Ferry Transit Network (FTN) may be redesignated in whole or in part as TOS and permitted the higher

Density represented by the Effective Parking allowance in Section 5.9.2d.

b. The use of a TOS overlay requires approval by Variance.

3.4 TRANSECT ZONES

3.4.1 Transect Zones shall be assigned and mapped on each New Settlement Plan according to the percentages allocated on Tables 2 and 19a.

3.4.2 A Transect Zone may include any of the elements indicated for its T-zone number throughout this Code, in accordance with Intent described in Table 1 and the metric standards summarized in Table 19.

3.5 CIVIC ZONES

3.5.1 GENERAL

a. Civic Zones dedicated for public use shall be required for each Settlement Unit and designated on the New Settlement Plan as Civic Space (CS) and Civic Building (CB).

b. Civic Space Zones are public sites permanently dedicated to Open Space.

c. Civic Building Zones are sites dedicated for buildings generally operated by not-for-profit organizations dedicated to culture, education, religion, government, transit and municipal parking, or for a use approved by the Town Planning Committee (TPC).

d. A Civic Zone may be permitted by Warrant if it does not occupy more than 20% of a Pedestrian Shed, otherwise it is subject to the creation of a Special District. See Section 3.6.

e. Parking for Civic Zones shall be determined by Warrant. Civic parking lots may remain unpaved if graded, compacted and landscaped.

3.5.2 CIVIC ZONES SPECIFIC TO T1 & T2 ZONES

a. Civic Buildings and Civic Spaces within T1 Natural and T2 Rural Zones shall be permitted only by Variance.

3.5.3 CIVIC SPACE (CS) SPECIFIC TO T3-T6 ZONES

a. Each Pedestrian Shed shall assign at least 5% of its Urbanized area to Civic Space.

b. Civic Spaces shall be designed as generally described in Table 13, approved by Warrant, and distributed throughout Transect Zones as described in Table 19e.

c. Those portions of the T1 Natural Zone that occur within a development parcel shall be part of the Civic Space allocation and should conform to the Civic Space types specified in Table 13a or 13b.

d. Each Pedestrian Shed shall contain at least one Main Civic Space. The Main Civic Space shall be within 500 feet of the geographic Centre of each Pedestrian Shed, unless topographic conditions, pre-existing Thoroughfare alignments or other circumstances prevent such location. A Main Civic Space shall conform to one of the types specified in Table 13b, 13c, or 13d.

e. Within 700 feet of every Lot in Residential use, a Civic Space designed and equipped as a playground shall be provided. A playground shall conform to Table 13e.

f. Each Civic Space shall have a minimum of 50% of its perimeter fronting a Thoroughfare, except for playgrounds.

g. Civic Spaces may be permitted within Special Districts by Warrant.

h. Parks may be permitted in Transect Zones T4, T5 and T6 by Warrant.

3.5.4 CIVIC BUILDINGS (CB) SPECIFIC TO T3-T6 ZONES

a. The owner shall covenant to construct a Meeting Hall or a Third Place in

- proximity to the Main Civic Space of each Pedestrian Shed. Its corresponding Public Frontage shall be equipped with a shelter and bench for a transit stop.
- b. One Civic Building Lot shall be reserved for an elementary school. Its area shall be one (1) acre for each increment of 100 dwelling units provided by the Settlement Plan, with a minimum of three (3) acres. The school site may be within any Transect Zone. Any playing fields should be outside the Pedestrian Shed.
 - c. One Civic Building Lot suitable for a childcare building shall be reserved within each Pedestrian Shed. The owner or a homeowners' association or other Settlement council may organize, fund and construct an appropriate building as the need arises.
 - d. Civic Building sites shall not occupy more than 20% of the area of each Pedestrian Shed.
 - e. Civic Building sites should be located within or adjacent to a Civic Space, or at the axial termination of a significant Thoroughfare.
 - f. Civic Buildings shall not be subject to the standards of Article 5. The particulars of their design shall be determined by Warrant.
 - g. Civic Buildings may be permitted within Special Districts by Warrant.

3.6 SPECIAL DISTRICTS

- 3.6.1 Special District designations shall be assigned to areas that, by their intrinsic size, Function, or Configuration, cannot conform to the requirements of any Transect Zone or combination of zones. Conditions of development for Special Districts shall be determined in public hearing of the Town Planning Committee (TPC) and recorded on Table 21.

3.7 ENVIRONMENTAL STANDARDS

3.7.1 GENERAL

- a. Transect Zones manifest a range of natural and urban conditions. In case of conflict, the natural environment shall have priority in the more rural zones (T1-T3) and the built environment shall have priority in the more urban zones (T4-T6).
- b. Classified Wetlands are each subject to a standard of restoration, retention, and mitigation as specified below for each Transect Zone as specified in Table 18.
- c. Blue Holes shall be retained. Additional Buffers shall be maintained at 300 feet for Blue Hole sites in all Transect Zones. Buffers shall be maintained free of structures or other modifications to the natural landscape, including agriculture. Thoroughfare crossings shall not be permitted.

3.7.2 SPECIFIC TO ZONES T1, T2

- a. Within T1 Zones and T2 Zones, the encroachment and modification of natural conditions listed in Sections 2.3.2, 2.4.2, and 2.5.2 shall be limited according to applicable local, state and federal law.
- b. Classified Wetlands shall be retained (and restored if in degraded condition). Additional Buffers shall be maintained at 100 feet for critical Wetlands. Wetland Buffers shall be maintained free of structures or other modifications to the natural landscape, including agriculture. Thoroughfare crossings shall be permitted only by Warrant.

3.7.3 SPECIFIC TO ZONES T1, T2, T3

- a. Stormwater management on Thoroughfares shall be primarily through retention and percolation, channeled by curbside Swales.

3.7.4 a. GENERAL TO ALL ZONES T1, T2, T3, T4, T5, T6

- i. Trees should be planted below the grade of the sidewalk and the street in structural cells with sufficient root space.
- ii. Rain Gardens and Bioswales should be installed to infiltrate runoff from parking lots, Thoroughfares, Plazas and other impervious surfaces.
- iii. Where vegetative solutions are not feasible, porous concrete or porous asphalt should be specified for Sidewalks, parking lots, and Plazas to infiltrate stormwater.

3.7.4 b. SPECIFIC TO ZONES T3, T4

- i. Native plant perennial landscapes shall replace turf grass where possible and be very diverse. They should be placed lower than walkways, not mounded up.

3.7.5 SPECIFIC TO ZONE T3

- a. Within T3 Zones, the continuity of the urbanized areas shall be subject to the precedence of the natural environmental conditions listed in Sections 2.3.2, 2.4.2, and 2.5.2. The alteration of such conditions shall be limited according to local and federal law.
- b. Classified Wetlands shall be retained (and restored if in degraded condition). Additional Buffers shall be maintained at 50 feet for critical and non-critical Wetlands. Buffers shall be free of structures or other modifications to the natural landscape. Thoroughfare crossings shall be permitted only by Warrant.

3.7.6 SPECIFIC TO ZONE T4

- a. Within T4 Zones, the continuity of the urbanized areas shall take precedence over the natural environmental conditions listed in Sections 2.3.2, 2.4.2, and 2.5.2. The alteration of such conditions shall be mitigated off-site, and the determination for modification and mitigation shall be made by Warrant.
- b. Critical Wetlands shall be retained and maintained free of structures or other modifications to the natural landscape [and restored if in degraded condition]. Thoroughfare crossings may be permitted by Warrant.

3.7.7 SPECIFIC TO ZONE T5

- a. Within T5 Zones, the continuity of the urbanized areas shall take precedence over the natural environmental conditions listed in Sections 2.3.2, 2.4.2, and 2.5.2. The alteration of such conditions should be mitigated off-site, and the determination for modification and mitigation shall be made by Warrant.
- b. Critical Wetlands may be modified if mitigated off-site at a two to one ratio. Non-critical Wetlands may be modified, not requiring off-site mitigation. Thoroughfare crossings shall be permitted by Warrant.

3.7.8 SPECIFIC TO ZONE T6

- a. Within T6 Zones, the continuity of the urbanized areas shall take precedence over the natural environmental conditions listed in Sections 2.3.2, 2.4.2, and 2.5.2. The alteration of such conditions shall not require off-site mitigation, and the determination for alteration of such conditions shall be made by Warrant.
- b. Classified Wetlands may be modified, not requiring off-site mitigation. Thoroughfare crossings shall be permitted by Warrant.

3.7.9 SPECIFIC TO ZONES T4, T5, T6

- a. Stormwater management on Thoroughfares and Lots shall be primarily through either underground storm drainage channeled by raised curbs or according to the Light Imprint Storm Drainage Matrix on Table 18. There shall be no retention or detention required on the individual Lot.

3.8 COPPICE MANAGEMENT OVERLAY PLAN**3.8.1 GENERAL**

- a. Within Coppice areas only the footprint of the house/structure shall be cleared.
- b. High quality Coppice shall have precedence over structure placement or clearing.
- c. Existing vegetation shall be retained in favour of clearing and replanting.
- d. Existing vegetation shall be preserved in large tracts.

3.8.2 SPECIFIC TO COPPICE ZONE 1

- a. 90% of existing Coppice shall be retained in Coppice Zone 1.
- b. 60% of existing Coppice shall remain contiguous with the lowest Area-to-Perimeter Ratio (0.5-0.75).
- c. 30% of non-contiguous existing Coppice shall be preserved in large tracts.
- d. Mitigation shall be permitted within the remaining 10% through support of parrot conservation activities or of land of equal conservation value and quality.

3.8.3 SPECIFIC TO COPPICE ZONE 2

- a. A minimum of 70% of existing Coppice shall be retained in Coppice Zone 2.
- b. 45% of existing Coppice shall remain contiguous with the lowest Area-to-Perimeter Ratio (0.5-0.75).
- c. 25% of non-contiguous existing Coppice shall be preserved in large tracts.
- d. Mitigation shall be permitted within the remaining 30% through support of parrot conservation activities or of land of equal conservation value and quality.

3.8.3 SPECIFIC TO COPPICE ZONE 3

- a. A minimum of 50% of existing Coppice shall be retained in Coppice Zone 3.
- b. 35% of Existing Coppice shall remain contiguous with the lowest Area-to-Perimeter Ratio (0.5-0.75).
- c. 15% of non-contiguous Existing Coppice shall be preserved in large tracts.
- d. Mitigation shall be permitted within the remaining 50% through support of parrot conservation activities or of land of equal conservation value and quality.

3.9 THOROUGHFARE STANDARDS**3.9.1 GENERAL**

- a. Thoroughfares are intended for use by vehicular and pedestrian traffic and to provide access to Lots and Open Spaces.
- b. Thoroughfares shall generally consist of vehicular lanes and Public Frontages.
- c. Thoroughfares shall be designed in context with the urban form and desired design speed of the Transect Zones through which they pass. The Public Frontages of Thoroughfares that pass from one Transect Zone to another shall be adjusted accordingly or, alternatively, the Transect Zone may follow the alignment of the Thoroughfare to the depth of one Lot, retaining a single Public Frontage throughout its trajectory.
- d. Within the most rural Zones (T1 and T2) pedestrian comfort shall be a secondary consideration of the Thoroughfare. Design conflict between vehicular and pedestrian generally shall be decided in favour of the vehicle. Within the more urban Transect Zones (T3 through T6) pedestrian comfort shall be a primary consideration of the Thoroughfare. Design conflict between vehicular and pedestrian movement generally shall be decided in favour of the pedestrian.

- e. The Thoroughfare network shall be designed to define Blocks not exceeding the size prescribed in Table 19c. The perimeter shall be measured as the sum of Lot Frontage Lines. Block perimeter at the edge of the development parcel shall be subject to approval by Warrant.
- f. All Thoroughfares shall terminate at other Thoroughfares, forming a network. Internal Thoroughfares shall connect wherever possible to those on adjacent sites. Cul-de-sacs shall be subject to approval by Warrant to accommodate specific site conditions only.
- g. Each Lot shall Enfront a vehicular Thoroughfare, except that 20% of the Lots within each Transect Zone may Enfront a Passage.
- h. Thoroughfares along a designated B-Grid may be exempted by Warrant from one or more of the specified Public Frontage or Private Frontage requirements. See Table 7.
- i. Standards for Paths and Bicycle Trails shall be approved by Warrant.
- j. The standards for Thoroughfares within Special Districts shall be determined by Variance.

3.9.2 VEHICULAR LANES

- a. Thoroughfares may include vehicular lanes in a variety of widths for parked and for moving vehicles, including bicycles. The standards for vehicular lanes shall be as shown in Table 3A.
- b. A bicycle network consisting of Bicycle Trails, Bicycle Routes and Bicycle Lanes should be provided throughout as defined in Article 7 Definitions of Terms and allocated as specified in Table 19d. Bicycle Routes should be marked with Sharrows. The settlement bicycle network shall be connected to existing or proposed regional networks wherever possible.

3.9.3 PUBLIC FRONTAGES**a. GENERAL TO ALL ZONES T1, T2, T3, T4, T5, T6**

- i. The Public Frontage contributes to the character of the Transect Zone, and includes the types of Sidewalk, Curb, planter, bicycle facility, and street trees.
- ii. Public Frontages shall be designed as shown in Table 4A and Table 4B and allocated within Transect Zones as specified in Table 19d.
- iii. Within the Public Frontages, the prescribed types of Public Planting and Public Lighting shall be as shown in Table 4A, Table 4B, Table 5 and Table 6. The spacing may be adjusted by Warrant to accommodate specific site conditions.

b. SPECIFIC TO ZONES T1, T2, T3

- i. The Public Frontage shall include trees of various species, naturalistically clustered, as well as understory.
- ii. The introduced landscape shall consist primarily of native species requiring minimal irrigation, fertilization and maintenance. Lawn shall be permitted only by Warrant.

c. SPECIFIC TO ZONE T4, T5, T6

- i. The introduced landscape shall consist primarily of durable species tolerant of soil compaction.

d. SPECIFIC TO ZONE T4

- i. The Public Frontage shall include trees planted in a regularly-spaced Allee pattern of single or alternated specie shade canopies of a height that, at maturity, clears at least one Story.

- e. Specific to zones T5, T6
- i. The Public Frontage shall include trees planted in a regularly-spaced Allee pattern of a single species with shade canopies of a height that, at maturity, clears at least one Story. At Retail Frontages, the spacing of the trees may be irregular, to avoid visually obscuring the shopfronts.
- ii. Streets with a Right-of-Way width of 12 feet or less shall be exempt from the tree requirement.

3.10 DENSITY CALCULATIONS

- 3.10.1 All areas of the New Settlement Plan site that are not part of the O-1 Preserved Sector shall be considered cumulatively the Net Site Area. The Net Site Area shall be allocated to the various Transect Zones according to the parameters specified in Table 19a.
- 3.10.2 Density shall be expressed in terms of housing units per acre as specified for the area of each Transect Zone by Table 19b. For purposes of Density calculation, the Transect Zones include the Thoroughfares but not land assigned to Civic Zones. Ten percent (10%) shall be in the Affordable Housing range.
- 3.10.3 The Base Density of the Settlement Unit may be increased by the Transfer of Development Rights (TDR) up to the amount specified for each Zone by Table 19b. Fifteen percent (15%) of the increase in housing units by TDR shall be in the Affordable Housing range.
- 3.10.4 Within the percentage range shown on Table 19b for Other Functions, the housing units specified on Table 19b shall be exchanged at the following rates:
 - a. For Lodging: 2 bedrooms for each unit of Net Site Area Density.
 - b. For Office or Retail: 1000 square feet for each unit of Net Site Area Density.
 - c. The number of units exchanged shall be subject to approval by Warrant.
- 3.9.5 The housing and other Functions for each Transect Zone shall be subject to further adjustment at the building scale as limited by Table 10, Table 11 and Section 5.9.

3.11 SPECIAL REQUIREMENTS

- 3.11.1 A New Settlement Plan may designate any of the following Special Requirements:
 - a. A differentiation of the Thoroughfares as A-Grid and B-Grid. Buildings along the A-Grid shall be held to the highest standard of this Code in support of pedestrian activity. Buildings along the B-Grid may be more readily considered for Warrants allowing automobile-oriented standards. The Frontages assigned to the B-Grid shall not exceed 40% of the total length of Frontages within a Pedestrian Shed.
 - b. Designations for Mandatory and/or Recommended Retail Frontage requiring or advising that a building provide a Shopfront at Sidewalk level along the entire length of its Private Frontage. The Shopfront shall be no less than 50% glazed in clear glass and shaded by an awning or gallery overlapping the Sidewalk as generally illustrated in Table 7 and specified in Article 5. The first floor shall be confined to Retail use through the depth of the second Layer. (Table 22d)
 - c. Designations for Mandatory and/or Recommended Gallery Frontage, requiring or advising that a building provide a permanent cover over the Sidewalk, either cantilevered or supported by columns. The Gallery Frontage designation may be combined with a Retail Frontage designation.
 - d. Designations for Mandatory and/or Recommended Arcade Frontage, requiring

or advising that a building overlap the Sidewalk such that the first floor Facade is a colonnade. The Arcade Frontage designation may be combined with a Retail Frontage designation.

- e. A designation for Coordinated Frontage, requiring that the Public Frontage (Table 4A) and Private Frontage (Table 7) be coordinated as a single, coherent landscape and paving design.
- f. Designations for Mandatory and/or Recommended Terminated Vista locations, requiring or advising that the building be provided with architectural articulation of a type and character that responds visually to the location, as approved by the Town Planning Committee (TPC).
- g. A designation for Cross Block Passages, requiring that a minimum 4-foot-wide pedestrian access be reserved between buildings.
- h. A designation for Buildings of Value, requiring that such buildings and structures may be altered or demolished only in accordance with the South Abaco Preservation Committee (SAPC) Standards and Protocols.

4.1 INSTRUCTIONS

- 4.1.1 Within the G-4 Infill Growth Sector of the Regional Plan (Article 2), or other areas designated as Infill, the Town Planning Committee (TPC) shall prepare, or have prepared on its behalf, Infill Regulating Plans to guide further development. Infill Regulating Plans shall be prepared in a process of public consultation subject to approval by the TPC.
- 4.1.2 Infill Regulating Plans shall regulate, at minimum, an area the size of the Pedestrian Shed commensurate with its Settlement Unit type as listed in Section 4.2. The TPC shall determine a Settlement Unit type based on existing conditions and intended evolution in the plan area.
- 4.1.3 Infill Regulating Plans shall consist of one or more maps showing the following:
- The outline(s) of the Pedestrian Shed(s) and the boundaries of the Settlement Unit(s).
 - Transect Zones and any Civic Zones within each Pedestrian Shed, assigned according to an analysis of existing conditions and future needs
 - a Thoroughfare network, existing or planned (Table 3A, Table 3B, Table 4A, Table 4B, and Table 4C).
 - any Special Districts (Section 4.5).
 - any Special Requirements (Section 4.7).
 - a record of any Warrants or Variances.
- 4.1.4 Within any area subject to an approved Infill Regulating Plan, this Code becomes the exclusive and mandatory regulation. Property owners within the plan area may submit Building Scale Plans under Article 5 in accordance with the provisions of this Code. Building Scale Plans requiring no Variances shall be approved administratively by the TPC.
- 4.1.5 The owner of a parcel, or abutting parcels, consisting of 10 acres or more of contiguous lots within an area subject to an Infill Regulating Plan may apply to prepare a Special Area Plan. In consultation with the TPC, a Special Area Plan may assign new Transect Zones, Civic Zones, Thoroughfares, Special Districts and/or Special Requirements as provided in this Code, with appropriate transitions to abutting areas. Special Area Plans may be approved by Warrant.
- 4.1.6 The owner of a parcel, or abutting parcels, consisting of 30 acres or more of contiguous lots, whether inside or outside an area already subject to an Infill Regulating Plan, may initiate the preparation of a New Settlement Plan. New Settlement Plans for the G-4 Sector, or other areas designated as Infill by the TPC, shall regulate, at minimum, an area the size of the Pedestrian Shed commensurate with its Settlement Unit type as listed in Section 4.2, even if it overlaps adjacent parcels. Both the site and plan area should connect and blend with surrounding urbanism.

4.2 SETTLEMENT UNIT TYPES

- 4.2.1 Infill Regulating Plans shall encompass one or more of the following Settlement Unit types. The allocation percentages of Table 19a do not apply.
- 4.2.2 **INFILL TNS (TRADITIONAL NEIGHBORHOOD SETTLEMENT)**
- An Infill TNS should be assigned to neighborhood areas that are predominantly residential with one or more Mixed Use Corridors or Centres. An Infill TNS shall be mapped as at least one complete Standard Pedestrian Shed, which may be adjusted as a Network Pedestrian Shed, oriented around one or more existing or planned Common Destinations.

- The edges of an Infill TNS should blend into adjacent neighborhoods and/or a downtown without buffers.

4.2.3 INFILL RSC (REGIONAL SETTLEMENT CENTRE)

- An Infill RSC should be assigned to downtown areas that include significant Office and Retail uses as well as government and other Civic institutions of regional importance. An Infill RSC shall be mapped as at least one complete Long or Linear Pedestrian Shed, which may be adjusted as a Network Pedestrian Shed, oriented around an important Mixed Use Corridor or Centre.
- The edges of an Infill RSC should blend into adjacent neighborhoods without buffers.

4.2.4 INFILL TOS (TRANSIT ORIENTED SETTLEMENT)

- Any Infill TNS or Infill RSC on an existing Thoroughfare and/or Ferry Transit Network (FTN) may be redesignated in whole or in part as TOS and permitted the higher Density represented by the Effective Parking allowance in Section 5.9.2d.
- The use of a TOS overlay shall be approved by Variance.

4.3 TRANSECT ZONES

- 4.3.1 Transect Zone standards for Infill Regulating Plans should be calibrated by means of a survey of exemplary existing and intended conditions, as identified in a process of public consultation and subject to the approval of the Town Planning Committee (TPC). Metrics shall be recorded on Table 19 and Table 20.
- 4.3.2 A Transect Zone shall include elements indicated by Article 3, Article 5, and Article 6.

4.4 CIVIC ZONES**4.4.1 GENERAL**

- Infill Plans should designate Civic Space Zones (CS) and Civic Building Zones (CB).
- A Civic Zone may be permitted by Warrant if it does not occupy more than 20% of a Pedestrian Shed, otherwise it is subject to the creation of a Special District. See Section 4.5.
- Parking provisions for Civic Zones shall be determined by Warrant.

4.4.2 CIVIC SPACE ZONES (CS)

- Civic Spaces shall be generally designed as described in Table 13, their type determined by the surrounding or adjacent Transect Zone in a process of public consultation subject to the approval of the Town Planning Committee (TPC).

4.4.3 CIVIC BUILDING ZONES (CB)

- Civic Buildings shall be permitted by Variance in any Transect Zone or by Warrant on Civic Zones reserved in the Infill Regulating Plan.
- Civic Buildings shall not be subject to the Requirements of Article 5. The particulars of their design shall be determined by Warrant.

4.5 SPECIAL DISTRICTS

- 4.5.1 Areas that, by their intrinsic size, Function, or Configuration, cannot conform to the requirements of any Transect Zone or combination of zones shall be designated as Special Districts by the Town Planning Committee (TPC) in the process of preparing an Infill Plan. Conditions of development for Special Districts shall be determined in public hearing of the Legislative Body and recorded on Table 21.

4.6 PRE-EXISTING CONDITIONS

- 4.6.1 Existing buildings and appurtenances that do not conform to the provisions of this Code may continue in the same use and form until a Substantial Modification occurs or is requested, at which time the Town Planning Committee (TPC) shall determine the provisions of this Section that shall apply.
- 4.6.2 Existing buildings that have at any time received a certificated of occupancy shall not require upgrade to the current Building Code and when renovated may meet the standards of the Code under which they were originally permitted.
- 4.6.3 The modification of existing buildings is permitted By Right if such changes result in greater conformance with the specifications of this Code.
- 4.6.4 Where buildings exist on adjacent Lots, the TPC may require that a proposed building match one or the other of the adjacent Setbacks and heights rather than the provisions of this Code.
- 4.6.5 Any addition to or modification of a Building of Value that has been designated as such by the South Abaco Preservation Committee (SAPC) or to a building actually or potentially eligible for inclusion on a local or national historic register, shall be subject to approval by the SAPC.
- 4.6.6 The restoration or rehabilitation of an existing building shall not require the provision of (a) parking in addition to that existing or (b) on-site stormwater retention/detention in addition to that existing. Existing parking requirements that exceed those for this Code may be reduced as provided by Tables 10 and 11.

4.7 SPECIAL REQUIREMENTS

- 4.7.1 An Infill Settlement Plan may designate any of the following Special Requirements:
- a. A differentiation of the Thoroughfares as A-Grid and B-Grid. Buildings along the A-Grid shall be held to the highest standard of this Code in support of pedestrian activity. Buildings along the B-Grid may be more readily considered for Warrants allowing automobile-oriented standards. The Frontages assigned to the B-Grid shall not exceed 30% of the total length of Frontages within a Pedestrian Shed.
 - b. Designations for Mandatory and/or Recommended Retail Frontage requiring or advising that a building provide a Shopfront at Sidewalk level along the entire length of its Private Frontage. The Shopfront shall be no less than 50% glazed in clear glass and shaded by an awning or gallery overlapping the Sidewalk as generally illustrated in Table 7 and specified in Article 5. The first floor shall be confined to Retail use through the depth of the second Layer. (Table 22d.)
 - c. Designations for Mandatory and/or Recommended Gallery Frontage, requiring or advising that a building provide a permanent cover over the Sidewalk, either cantilevered or supported by columns. The Gallery Frontage designation may be combined with a Retail Frontage designation.
 - d. Designations for Mandatory and/or Recommended Arcade Frontage, requiring or advising that a building overlap the Sidewalk such that the first floor Facade is a colonnade. The Arcade Frontage designation may be combined with a Retail Frontage designation.
 - e. A designation for Coordinated Frontage, requiring that the Public Frontage (Table 4A) and Private Frontage (Table 7) be coordinated as a single, coherent landscape and paving design.
 - f. Designations for Mandatory and/or Recommended Terminated Vista locations,

- requiring or advising that the building be provided with architectural articulation of a type and character that responds visually to the location, as approved by the TPC
- g. A designation for Cross Block Passages, requiring that a minimum 4-foot-wide pedestrian access be reserved between buildings.
 - h. A designation for Buildings of Value, requiring that such buildings and structures may be altered or demolished only in accordance with South Abaco Preservation Committee (SAPC) Standards and Protocols.



5.1 INSTRUCTIONS

- 5.1.1 Lots and buildings located within a New Settlement Plan or Infill Settlement Plan governed by this Code and previously approved by the Town Planning Committee (TPC) shall be subject to the requirements of this Article.
- 5.1.2 Owners and developers may have the design plans required under this Article prepared on their behalf. Such plans require administrative approval by the TPC.
- 5.1.3 Building and site plans submitted under this Article shall show the following, in compliance with the standards described in this Article:
- a. For preliminary site and building approval:
 - Building Disposition
 - Building Configuration
 - Building Function
 - Parking Location Standards
 - b. For final approval, in addition to the above:
 - Landscape Standards
 - Signage Standards
 - Special Requirements, if any
 - Natural Drainage Standards
 - Architectural Standards
 - Lighting Standards

5.2 PRE-EXISTING CONDITIONS

- 5.2.1 Existing buildings and appurtenances that do not conform to the provisions of this Code may continue in use as they are until a Substantial Modification is requested, at which time the TPC shall determine the provisions of this section that shall apply.
- 5.2.2 Existing buildings that have at any time received a certificate of occupancy shall not require upgrade to the current Building Code and when renovated may meet the standards of the code under which they were originally permitted.
- 5.2.3 The modification of existing buildings is permitted By Right if such changes result in greater conformance with the specifications of this Code.
- 5.2.4 Where buildings exist on adjacent Lots, the TPC may require that a proposed building match one or the other of the adjacent Setbacks and heights rather than the provisions of this Code.
- 5.2.5 Any addition to or modification of a Building of Value that has been designated as such by the South Abaco Preservation Committee (SAPC), or to a building actually or potentially eligible for inclusion on a state, local or national historic register, shall be subject to approval by the SAPC.
- 5.2.6 The restoration or rehabilitation of an existing building shall not require the provision of (a) parking in addition to that existing nor (b) on-site stormwater retention/detention in addition to that existing. Existing parking requirements that exceed those for this Code may be reduced as provided by Table 10 and Table 11.

5.3 SPECIAL REQUIREMENTS

- 5.3.1 To the extent that a Regulating Plan for either a New Settlement Plan or an Infill Settlement Plan designates any of the following Special Requirements, standards shall be applied as follows:
- a. Buildings along the A-Grid shall be held to the highest standard of this Code in support of pedestrian activity. Buildings along the B-Grid may be more readily considered for Warrants allowing automobile-oriented standards.

- b. a Mandatory or Recommended Retail Frontage designation requires or advises that a building provide a Shopfront at Sidewalk level along the entire length of its Private Frontage. The Shopfront shall be no less than 50% glazed in clear glass and shaded by an awning or gallery overlapping the Sidewalk as generally illustrated in Table 7. The first floor shall be confined to Retail use through the depth of the second Layer. (Table 22d.)
- c. a Mandatory or Recommended Gallery Frontage designation requires or advises that a building provide a permanent cover over the Sidewalk, either cantilevered or supported by columns (as generally illustrated in Table 7). A Gallery Frontage may be combined with a Retail Frontage.
- d. a Mandatory or Recommended Arcade Frontage designation requires or advises that a building overlap the Sidewalk such that the first floor Facade is a colonnade (as generally illustrated in Table 7 and Table 8). The Arcade Frontage may be combined with a Retail Frontage.
- e. a Coordinated Frontage designation requires that the Public Frontage (Table 4A) and Private Frontage (Table 7) be coordinated as a single, coherent landscape and paving design.
- f. a Mandatory or Recommended Terminated Vista designation requires or advises that the building be provided with architectural articulation of a type and character that responds visually to its axial location, as approved by the TPC.
- g. a Cross Block Passage designation requires that a minimum 4-foot-wide pedestrian access be reserved between buildings.
- h. a Building of Value designation requires that the building or structure may be altered or demolished only in accordance with South Abaco Preservation Committee (SAPC) Standards and Protocols.

5.4 CIVIC ZONES**5.4.1 GENERAL**

- a. Civic Zones are designated on Settlement Plans as Civic Space (CS) or Civic Building (CB).
- b. Parking provisions for Civic Zones shall be determined by Warrant.

5.4.2 CIVIC SPACES (CS)

- a. Civic Spaces shall be generally designed as described in Table 13.

5.4.3 CIVIC BUILDINGS (CB)

- a. Civic Buildings shall not be subject to the requirements of this Article. The particulars of their design shall be determined by Warrant.

5.5 SPECIFIC TO T1 NATURAL ZONE

- 5.5.1 Buildings in the T1 Natural Zone are permitted only by Variance. Permission to build in T1 and the standards for Article 5 shall be determined concurrently as Variances, in public hearing of the Town Planning Committee (TPC).

5.6 BUILDING DISPOSITION**5.6.1 SPECIFIC TO ZONE T2**

- a. Building Disposition shall be determined by Warrant.

5.6.2 SPECIFIC TO ZONES T3, T4, T5, T6

- a. Newly platted Lots shall be dimensioned according to Table 19f and Table 20.
- b. Building Disposition types shall be as shown in Table 9 and Table 19i.
- c. Buildings shall be disposed in relation to the boundaries of their Lots according

to Table 19g, Table 19h, and Table 20.

- d. One Principal Building at the Frontage, and one Outbuilding to the rear of the Principal Building, may be built on each Lot as shown in Table 22c.
- e. Lot coverage by building shall not exceed that recorded in Table 19f and Table 20.
- f. Facades shall be built more or less parallel to a rectilinear Principal Frontage Line or to the tangent of a curved Principal Frontage Line, and along a minimum percentage of the Frontage width at the Setback, as specified as Frontage Buildout on Table 19g and Table 20.
- g. Setbacks for Principal Buildings shall be as shown in Table 19g and Table 20. In the case of an Infill Lot, Setbacks may match one of the existing adjacent Setbacks.
- h. Rear Setbacks for Outbuildings shall be a minimum of 6 feet measured from the Centreline of the Rear Alley or Rear Lane easement. In the absence of Rear Alley or Rear Lane, the rear Setback shall be as shown in Table 19h and Table 20.
- i. To accommodate slopes over ten percent, relief from front Setback requirements is available by Warrant.

5.6.3 SPECIFIC TO ZONE T6

- a. The Principal Entrance shall be on a Frontage Line.

5.7 BUILDING CONFIGURATION

5.7.1 GENERAL TO ZONES T2, T3, T4, T5, T6

- a. The Private Frontage of buildings shall conform to and be allocated in accordance with Table 7 and Table 19j.
- b. Buildings on corner Lots shall have two Private Frontages as shown in Table 22. Prescriptions for the second and third Layers pertain only to the Principal Frontage. Prescriptions for the first Layer pertain to both Frontages.
- c. All Facades shall be glazed with clear glass no less than 30% of the first Story.
- d. Building heights, Stepbacks, and Extension Lines shall conform to Table 8 and Table 19j.
- e. Stories may not exceed 12 feet in height from finished floor to finished ceiling, except for a first floor Commercial Function, which shall be a minimum of 11 feet with a maximum of 15 feet. A single floor level exceeding 15 feet, or 20 feet at ground level, shall be counted as two (2) stories. Mezzanines extending beyond 33% of the floor area shall be counted as an additional Story.
- f. In a Parking Structure or garage, each above-ground level counts as a single Story regardless of its relationship to habitable Stories.
- g. Height limits do not apply to raised basements, masts, belfries, clock towers, flues, water tanks, or elevator bulkheads. Attics shall not exceed 10 feet in height.

5.7.2 SPECIFIC TO ZONES T2, T3, T4, T5

- a. The habitable area of an Accessory Unit within a Principal Building or an Outbuilding shall not exceed 440 square feet, excluding the parking area.

5.7.3 SPECIFIC TO ZONE T3

- a. No portion of the Private Frontage may Encroach the Sidewalk.
- b. Open verandahs may Encroach the first Layer 50% of its depth. (Table 22d)
- c. Balconies and bay windows may Encroach the first Layer 25% of its depth except that balconies on verandah roofs may Encroach as does the verandah.
- d. Frontage lines shall include Streetscreens between 4 and 8 feet in height.

5.7.4 Specific to zone T4

- a. Balconies, open verandahs and bay windows may Encroach the first Layer 50% of its depth. (Table 22d)
- b. Frontage lines shall include Streetscreens between 4 and 8 feet in height.

5.7.5 SPECIFIC TO ZONES T5, T6

- a. Awnings, Arcades, and Galleries may Encroach the Sidewalk to within 2 feet of the Curb but must clear the Sidewalk vertically by at least 8 feet.
- b. Maximum Encroachment heights (Extension Lines) for Arcades shall be as shown on Table 8.
- c. Stoops, Lightwells, balconies, bay windows, and terraces may Encroach the first Layer 100% of its depth. (Table 22d)
- d. Loading docks and service areas shall be permitted on Frontages only by Warrant.
- e. In the absence of a building Facade along any part of a Frontage Line, a Streetscreen shall be built co-planar with the Facade.
- f. Streetscreens should be between 4 and 8 feet in height. The Streetscreen may be replaced by a hedge or fence by Warrant. Streetscreens shall have openings no larger than necessary to allow automobile and pedestrian access.
- g. A first level Residential or Lodging Function shall be raised a minimum of 2 feet from average Sidewalk grade.

5.8 BUILDING FUNCTION

5.8.1 GENERAL TO ZONES T2, T3, T4, T5, T6

- a. Buildings in each Transect Zone shall conform to the Functions on Table 10, Table 12 and Table 19l. Functions that do not conform shall require approval by Warrant or Variance as specified on Table 12.

5.8.2 SPECIFIC TO ZONES T2, T3

- a. Accessory Functions of Restricted Lodging or Restricted Office shall be permitted within an Accessory Building. See Table 10.

5.8.3 SPECIFIC TO ZONES T4, T5

- a. Accessory Functions of Limited Lodging or Limited Office shall be permitted within an Accessory Building. See Table 10.

5.8.4 SPECIFIC TO ZONES T5, T6

- a. First Story Commercial Functions shall be permitted.
- b. Manufacturing Functions within the first Story may be permitted by Variance.

5.9 PARKING AND DENSITY CALCULATIONS

5.9.1 SPECIFIC TO ZONES T2, T3

- a. Buildable Density on a Lot shall be determined by the actual parking provided within the Lot as applied to the Functions permitted in Table 10 and Table 11.

5.9.2 SPECIFIC TO ZONES T4, T5, T6

- a. Buildable Density on a Lot shall be determined by the sum of the actual parking calculated as that provided (1) within the Lot (2) along the parking lane corresponding to the Lot Frontage, and (3) by purchase or lease from a Civic Parking Reserve within the Pedestrian Shed, if available.
- b. The actual parking may be adjusted upward according to the Shared Parking Factor of Table 11 to determine the Effective Parking. The Shared Parking Factor is available for any two Functions within any pair of adjacent Blocks.
- c. Based on the Effective Parking available, the Density of the projected Function may be determined according to Table 10.

- d. Within the overlay area of a Transit Oriented Settlement (TOS) the Effective Parking may be further adjusted upward by 30%.
- e. The total Density within each Transect Zone shall not exceed that specified by an approved Regulating Plan based on Article 3 or Article 4.
- f. Accessory Units do not count toward Density calculations.
- g. Liner Buildings less than 30 feet deep and no more than two Stories shall be exempt from parking requirements.

5.10 PARKING LOCATION STANDARDS

5.10.1 GENERAL TO ZONES T2, T3, T4, T5, T6

- a. Parking shall be accessed by Rear Alleys or Rear Lanes, when such are available on the Regulating Plan.
- b. Open parking areas shall be masked from the Frontage by a Building or Streetscreen.
- c. For buildings on B-Grids, open parking areas may be allowed unmasked on the Frontage by Warrant, except for corner lots at intersections with the A-Grid.

5.10.2 SPECIFIC TO ZONES T2, T3

- a. Open parking areas shall be located at the second and third Lot Layers, except that Driveways, drop-offs and unpaved parking areas may be located at the first Lot Layer. (Table 22d)
- b. Garages shall be located at the third Layer except that side- or rear-entry types may be allowed in the first or second Layer by Warrant.

5.10.3 SPECIFIC TO ZONES T3, T4

- a. Driveways at Frontages shall be no wider than 10 feet in the first Layer. (Table 3B.f)

5.10.4 SPECIFIC TO ZONE T4

- a. All parking areas and garages shall be located at the second or third Layer. (Table 22d)

5.10.5 SPECIFIC TO ZONES T5, T6

- a. All parking lots, garages, and Parking Structures shall be located at the second or third Layer. (Table 22d)
- b. Vehicular entrances to parking lots, garages, and Parking Structures shall be no wider than 24 feet at the Frontage. (Table 3B.f)
- c. Pedestrian exits from all parking lots, garages, and Parking Structures shall be directly to a Frontage Line (i.e., not directly into a building) except underground levels which may be exited by pedestrians directly into a building.
- d. Parking Structures on the A-Grid shall have Liner Buildings lining the first and second Stories.
- e. A minimum of one bicycle rack place shall be provided within the Public or Private Frontage for every ten vehicular parking spaces.

5.11 LANDSCAPE STANDARDS

5.11.1 GENERAL TO ZONES T2, T3, T4, T5, T6

- a. Impermeable surface shall be confined to the ratio of Lot coverage specified in Table 19f.

5.11.2 SPECIFIC TO ZONES T2, T3, T4

- a. The first Layer may not be paved, with the exception of Driveways as specified in Section 5.10.2 and Section 5.10.3. (Table 22d)

5.11.3 SPECIFIC TO ZONE T3

- a. A minimum of three trees shall be planted within the first Layer for each 30 feet of Frontage Line or portion thereof. (Table 22d)
- b. Trees may be of single or multiple species as shown on Table 6.
- c. Trees shall be naturalistically clustered.
- d. Lawn shall be permitted By Right.

5.11.4 SPECIFIC TO ZONE T4

- a. A minimum of one tree shall be planted within the first Layer for each 30 feet of Frontage Line or portion thereof. (Table 22d)
- b. Trees shall be a single species to match the species of Street Trees on the Public Frontage, or as shown on Table 6.

5.11.5 SPECIFIC TO ZONES T5, T6

- a. Trees shall not be required in the first Layer.
- b. The first Layer may be paved to match the pavement of the Public Frontage.

5.12 SIGNAGE STANDARDS

5.12.1 GENERAL TO ZONES T2, T3, T4, T5, T6

- a. There shall be no signage permitted additional to that specified in this section.
- b. The address number, no more than 6 inches measured vertically, shall be attached to the building in proximity to the Principal Entrance or at a mailbox.

5.12.2 SPECIFIC TO ZONES T2, T3

- a. Signage shall not be illuminated.

5.12.3 SPECIFIC TO ZONES T4, T5, T6

- a. Signage shall be externally illuminated, except that signage within the Shopfront glazing may be neon lit.

5.12.4 SPECIFIC TO ZONES T2, T3, T4

- a. One blade sign for each business may be permanently installed perpendicular to the Facade within the first Layer. Such a sign shall not exceed a total of 4 square feet and shall clear 8 feet above the Sidewalk.

5.12.5 SPECIFIC TO ZONES T5, T6

- a. Blade signs, not to exceed 6 square ft. for each separate business entrance, may be attached to and should be perpendicular to the Facade, and shall clear 8 feet above the Sidewalk.
- b. A single external permanent sign band may be applied to the Facade of each building, providing that such sign not exceed 3 feet in height by any length.

5.13 NATURAL DRAINAGE STANDARDS

5.13.1 GENERAL TO ZONES T3, T4, T5, T6

- a. Buildings may be equipped with roofs of shallow 4-inch soils and drought-tolerant plants. Buildings approved for Intensive Green Roofs may hold soils deeper than 4" and larger plants and trees.
- b. Balconies should be equipped with planter boxes designed to capture runoff from the balcony.
- c. Green walls, if provided, shall be restricted to non-invasive species.
- d. Cisterns shall be used to capture and recirculate stormwater from buildings.

5.13.2 SPECIFIC TO ZONE T3




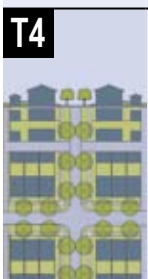
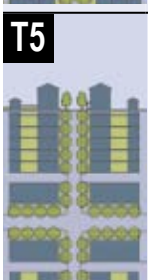
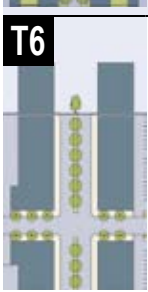
- a. The landscape installed shall consist primarily of native species requiring minimal irrigation, fertilization, and maintenance.

- 5.13.3 **SPECIFIC TO ZONES T3, T4**
 - a. Native plant perennial landscapes shall replace turf grass wherever possible and be highly diverse. These should be placed lower than walkways, not mounded up.
- 5.13.4 **SPECIFIC TO ZONES T4, T5, T6**
 - a. The landscape installed shall consist primarily of durable species tolerant of soil compaction.
 - b. Planter boxes should be bottomless, flow-through boxes with native plants, placed next to buildings and designed to capture building runoff. They may be placed in courtyards or adjacent sidewalks with runoff sent to them via French drains or hidden pipes.
- 5.14 ARCHITECTURAL STANDARDS**
 - 5.14.1 **GENERAL TO ZONES T3, T4, T5, T6**
 - a. Building wall materials may be combined on each Facade only horizontally, with the heavier below the lighter.
 - b. Streetscreens should be constructed of a material matching the adjacent building Facade.
 - c. All openings, including verandahs, Galleries, Arcades and windows, with the exception of Shopfronts, shall be square or vertical in proportion.
 - d. Openings above the first Story shall not exceed 50% of the total building wall area, with each Facade being calculated independently.
 - e. Doors and windows that operate as sliders are prohibited along Frontages.
 - f. Pitched roofs, if provided, shall be symmetrically sloped no less than 5:12, except that roofs for verandahs and attached sheds may be no less than 2:12.
 - g. The exterior finish material on all Facades shall be limited to wood siding, cementitious siding, and/or stucco.
 - h. Flat roofs shall be enclosed by parapets a minimum of 42 inches high, or as required to conceal mechanical equipment to the satisfaction of the Town Planning Committee (TPC).
 - i. Eaves shall not extend six inches beyond the building in hurricane prone settlements.
 - j. Balconies and verandahs shall be made of painted wood.
 - k. Fences at the first Lot Layer shall be painted. Fences at other Layers may be of wood board or chain link.
 - 5.15 LIGHTING STANDARDS**
 - 5.15.1 **GENERAL TO ALL ZONES T1, T2, T3, T4, T5, T6**
 - a. Streetlights shall be of a general type illustrated in Table 5.
 - 5.15.2 **SPECIFIC TO ZONE T1**
 - a. No lighting level measured at the building Frontage Line shall exceed 0.5 fc.
 - 5.15.3 **SPECIFIC TO ZONES T2, T3, T4**
 - a. No lighting level measured at the building Frontage Line shall exceed 1.0 fc.
 - 5.15.4 **SPECIFIC TO ZONE T5**
 - a. No lighting level measured at the building Frontage Line shall exceed 2.0 fc.
 - 5.15.5 **SPECIFIC TO ZONE T6**
 - a. No lighting level measured at the building Frontage Line shall exceed 5.0 fc.

Article 6: Standards and Tables

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TABLE 3B	VEHICULAR LANE & PARKING ASSEMBLIES
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TABLE 4B	PUBLIC FRONTAGES - SPECIFIC
TABLE 4C	THOROUGHFARE ASSEMBLIES
TABLE 5	PUBLIC LIGHTING
TABLE 6	PUBLIC PLANTING
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TABLE 8	BUILDING CONFIGURATION
TABLE 9	BUILDING DISPOSITION
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TABLE 22	[RESERVED FOR SPECIAL DISTRICT STANDARDS]
	DEFINITIONS ILLUSTRATED

TABLE 1: Transect Zone Descriptions. This table provides descriptions of the character of each T-zone.

	<p>T1 T-1 NATURAL T-1 Natural Zone consists of lands approximating or reverting to a wilderness condition, including lands unsuitable for settlement due to topography, hydrology or vegetation.</p>	<p>General Character: Natural landscape with some agricultural use Building Placement: Not applicable Frontage Types: Not applicable Typical Building Height: Not applicable Type of Civic Space: Parks, Greenways</p>
	<p>T2 T-2 RURAL T-2 Rural Zone consists of sparsely settled lands in open or cultivated states. These include woodland, agricultural land, grassland, and irrigable desert. Typical buildings are farmhouses, agricultural buildings, cabins, and villas.</p>	<p>General Character: Primarily agricultural with woodland & wetland and scattered buildings Building Placement: Variable Setbacks Frontage Types: Not applicable Typical Building Height: 1- to 2-Story Type of Civic Space: Parks, Greenways</p>
	<p>T3 T-3 SUB-URBAN T-3 Sub-Urban Zone consists of low density residential areas, adjacent to higher zones that some mixed use. Home occupations and outbuildings are allowed. Planting is naturalistic and setbacks are relatively deep. Blocks may be large and the roads irregular to accommodate natural conditions.</p>	<p>General Character: Lawns, and landscaped yards surrounding detached single-family houses; pedestrians occasionally Building Placement: Large and variable front and side yard Setbacks Frontage Types: Verandahs, fences, naturalistic tree planting Typical Building Height: 1- to 2-Story Type of Civic Space: Parks, Greenways</p>
	<p>T4 T-4 GENERAL URBAN T-4 General Urban Zone consists of a mixed use but primarily residential urban fabric. It may have a wide range of building types: single, sideyard, and rowhouses. Setbacks and landscaping are variable. Streets with curbs and sidewalks define medium-sized blocks.</p>	<p>General Character: Mix of Houses, Townhouses & small Apartment buildings, with scattered Commercial activity; balance between landscape and buildings; presence of pedestrians Building Placement: Shallow to medium front and side yard Setbacks Frontage Types: Verandahs, fences, Dooryards Typical Building Height: 2-Story with a few Mixed Use buildings Type of Civic Space: Squares, Greens</p>
	<p>T5 T-5 URBAN CENTRE T-5 Urban Centre Zone consists of higher density mixed use building that accommodate detail, offices, rowhouses and apartments. It has a tight network of streets, with wide sidewalks, steady street tree planting and buildings set close to the sidewalks.</p>	<p>General Character: Shops mixed with Townhouses, larger Apartment houses, Offices, workplace, and Civic buildings; predominantly attached buildings; trees within the public right-of-way; substantial pedestrian activity Building Placement: Shallow Setbacks or none; buildings oriented to street defining a street wall Frontage Types: Stoops, Shopfronts, Galleries Typical Building Height: 1- to 2-Story with some variation Type of Civic Space: Parks, Plazas and Squares, median landscaping</p>
	<p>T6 T-6 URBAN CORE T-6 Urban Core Zone consists of the highest density and height, with the greatest variety of uses, and civic buildings of regional importance. It may have larger blocks; streets have steady street tree planting and buildings are set close to wide sidewalks. Typically only large towns and cities have an Urban Core Zone.</p>	<p>General Character: Medium to high-Density Mixed Use buildings, entertainment, Civic and cultural uses. Attached buildings forming a continuous street wall; trees within the public right-of-way; highest pedestrian and transit activity Building Placement: Shallow Setbacks or none; buildings oriented to street, defining a street wall Frontage Types: Stoops, Dooryards, Forecourts, Shopfronts, Galleries, and Arcades Typical Building Height: 4-plus Story with a few shorter buildings Type of Civic Space: Parks, Plazas and Squares; median landscaping</p>

SMARTCODE: SOUTH ABACO ADMINISTRATIVE DISTRICT

TABLE 2: Sector/Settlement Allocation. Table 2 defines the geography, including both natural and infrastructure elements, determining areas that are or are not suitable for development. Specific Settlement Types of various intensities are allowable in specific Sectors. This table also allocates the proportions of Transect Zones within each Settlement Type.

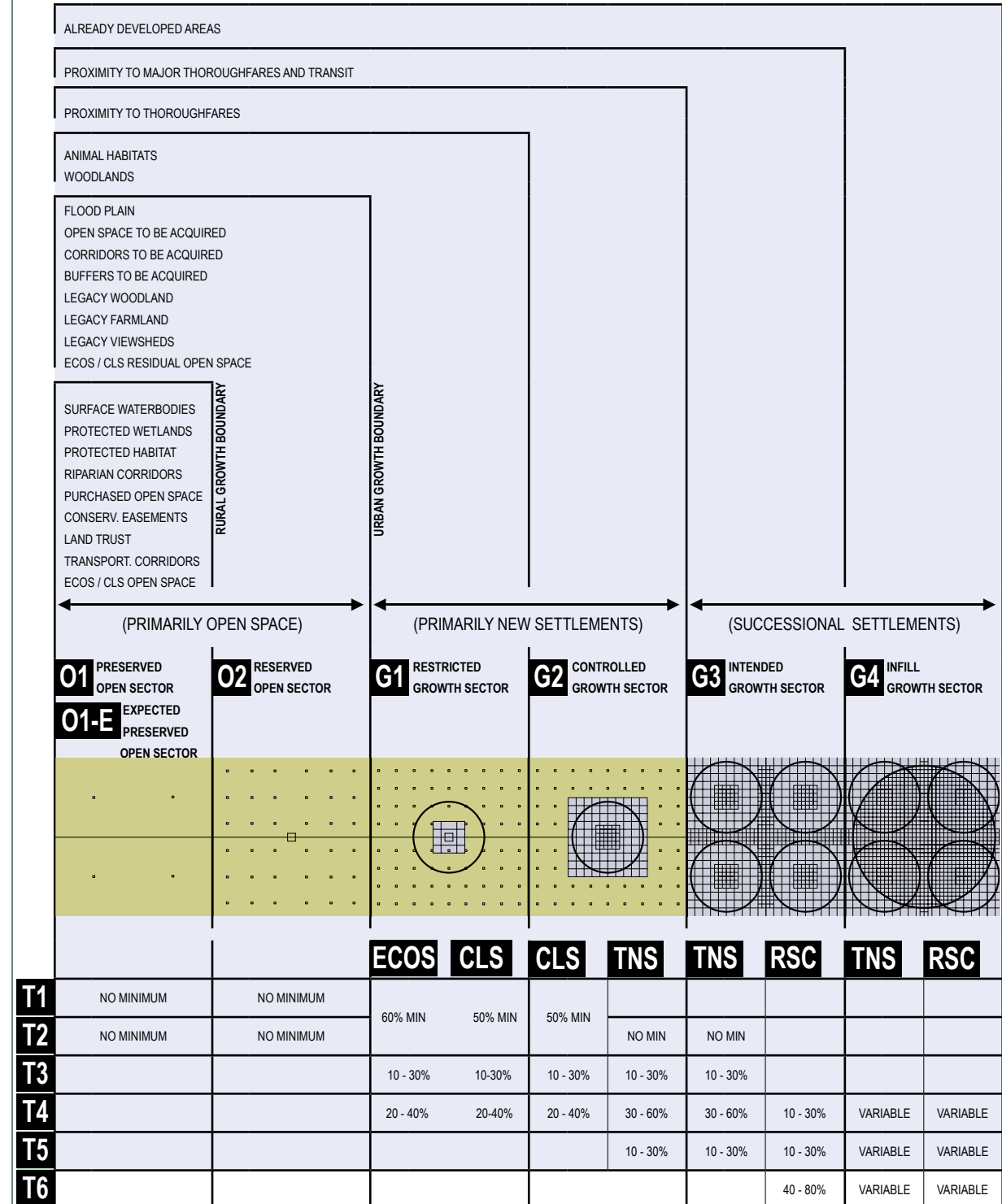


TABLE 3A: Vehicular Lane Dimensions. This table assigns lane widths to Transect Zones. The Design ADT (Average Daily Traffic) is the determinant for each of these sections. The most typical assemblies are shown in Table 3B. Specific requirements for truck and transit bus routes and truck loading shall be decided by Warrant.

DESIGN SPEED	TRAVEL LANE WIDTH	T1	T2	T3	T4	T5	T6
Below 20 mph	8 feet	■	■	■	□		
20-25 mph	9 feet	■	■	■	■	□	□
25-35 mph	10 feet	■	■	■	■	■	■
25-35 mph	11 feet	■	■			■	■
Above 35 mph	12 feet	■	■			■	■

DESIGN SPEED	PARKING LANE WIDTH	T1	T2	T3	T4	T5	T6
20-25 mph	(Angle) 18 feet					■	■
20-25 mph	(Parallel) 7 feet				■		
25-35 mph	(Parallel) 8 feet			■	■	■	■
Above 35 mph	(Parallel) 9 feet					■	■

DESIGN SPEED	EFFECTIVE TURNING RADIUS	T1	T2	T3	T4	T5	T6
Below 20 mph	5-10 feet			■	■	■	■
20-25 mph	10-15 feet	■	■	■	■	■	■
25-35 mph	15-20 feet	■	■	■	■	■	■
Above 35 mph	20-30 feet	■	■			□	□

■ BY RIGHT
□ BY WARRANT

TABLE 3B: Vehicular Lane/Parking Assemblies. The projected design speeds determine the dimensions of the vehicular lanes and Turning Radii assembled for Thoroughfares.

	ONE WAY MOVEMENT	TWO WAY MOVEMENT		
a. NO PARKING	T1 T2 T3 300 VPD 3 Seconds 20 - 30 MPH	T1 T2 T3 600 VPD 5 Seconds Below 20 MPH	T1 T2 T3 2,500 VPD 5 Seconds 20-25 MPH	
b. YIELD PARKING	T3 T4 1,000 VPD 5 Seconds	T3 T4 1,000 VPD 7 Seconds		
c. PARKING ONE SIDE PARALLEL	T3 T4 5,000 VPD 5 Seconds 20-30 MPH	T3 T4 T5 18,000 VPD 8 Seconds	T4 T5 16,000 VPD 8 Seconds 25-30 MPH	T4 T5 T6 15,000 VPD 11 Seconds 25-30 MPH
d. PARKING BOTH SIDES PARALLEL	T4 8,000 VPD 7 Seconds Below 20 MPH	T4 T5 T6 20,000 VPD 10 Seconds 25-30 MPH	T4 T5 T6 15,000 VPD 10 Seconds 25-30 MPH	T5 T6 22,000 VPD 13 Seconds 25-30 MPH
e. PARKING BOTH SIDES DIAGONAL	T5 T6 18,000 VPD 15 Seconds Below 20 MPH	T5 T6 20,000 VPD 22 Seconds 20-25 MPH	T5 T6 15,000 VPD 22 Seconds 20-25 MPH	T5 T6 22,000 VPD 20 Seconds 25-30 MPH
f. PARKING ACCESS		T3 T4 3 Seconds	T5 T6 6 Seconds	

Table 4A: Public Frontages - General. The Public is the area between the private Lot line and the edge of the vehicular lanes. Dimensions are given in Table 4B.

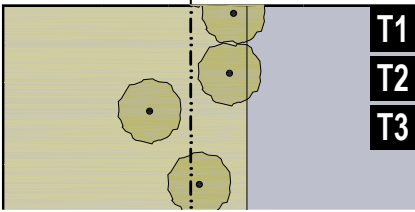
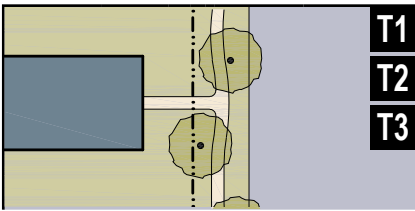
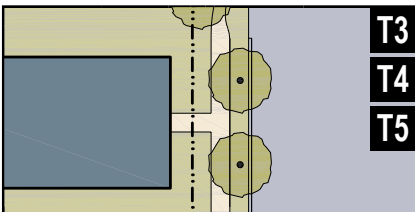
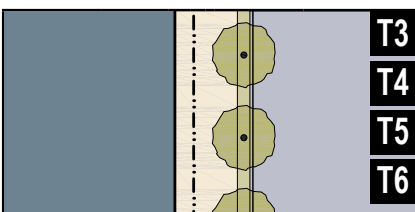
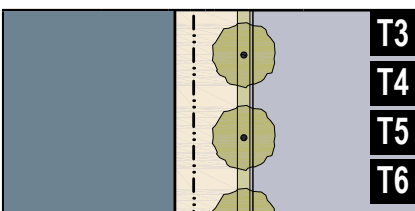
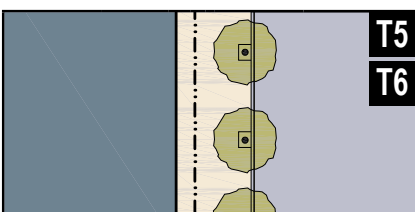
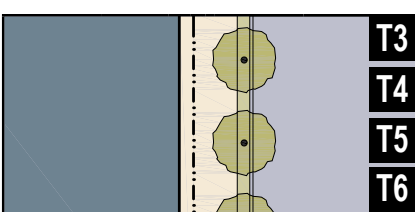
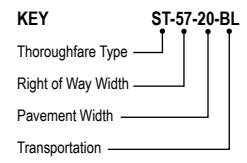
	PLAN		
	LOT	R.O.W.	
	PRIVATE FRONTAGE	PUBLIC FRONTAGE	
a. (HW) For Highway: This Frontage has open Swales drained by percolation, Bicycle Trails and no parking. The landscaping consists of the natural condition or multiple species arrayed in naturalistic clusters. Buildings are buffered by distance or berms.		T1 T2 T3	
b. (RD) For Road: This Frontage has open Swales drained by percolation and a walking Path or Bicycle Trail along one or both sides and Yield parking. The landscaping consists of multiple species arrayed in naturalistic clusters.		T1 T2 T3	
c. (ST) For Street: This Frontage has open Swales drained by percolation, with or without a Curb and gutter, and a walking Path separated from the vehicular lanes by individual or continuous Planters, with parking on one or both sides. The landscaping may consist of street trees of a single or alternating species, with the exception that Streets with a right-of-way (R.O.W.) width of 20 feet or less are exempt from tree requirements.		T3 T4 T5	
d. (DR) For Drive: This Frontage has raised Curbs drained by inlets and a wide walking Path, open Swales drained by percolation and a wide walking Path or paved Path along one side, related to a Greenway or waterfront. It is separated from the vehicular lanes by individual or continuous Planters. The landscaping consists of street trees of a single or alternating species aligned in a regularly spaced Allee.		T3 T4 T5 T6	
e. (AV) For Avenue: This Frontage has raised Curbs with gutter drained by inlets and wide Sidewalks separated from the vehicular lanes by a narrow continuous Planter with parking on both sides. The landscaping consists of a single tree species aligned in a regularly spaced Allee.		T3 T4 T5 T6	
f. (CS) (AV) For Commercial Street or Avenue: This Frontage has raised Curbs drained by inlets and very wide Sidewalks along both sides separated from the vehicular lanes by separate tree wells with grates and parking on both sides. The landscaping consists of a single tree species aligned with regular spacing where possible, but clears the storefront entrances.		T5 T6	
g. (BV) For Boulevard: This Frontage has Slip Roads on both sides. It consists of raised Curbs drained by inlets and Sidewalks along both sides, separated from the vehicular lanes by Planters. The landscaping consists of double rows of a single tree species aligned in a regularly spaced Allee.		T3 T4 T5 T6	

Table 4B: Public Frontages - Specific. This table assembles prescriptions and dimensions for the Public Frontage elements - Curbs, walkways and Planters - relative to specific Thoroughfare types within Transect Zones. Table 4B-a assembles all of the elements for the various street types. Use locally appropriate planting species in the corresponding Transect.

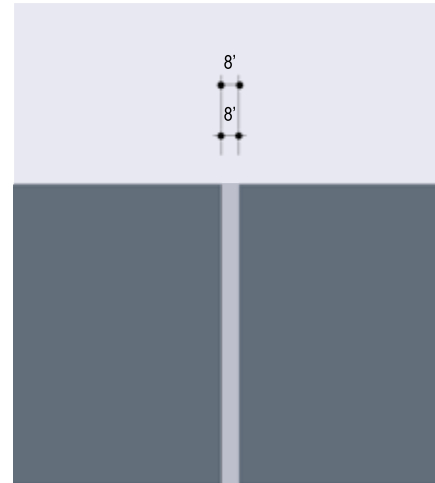
TRANSECT ZONE Public Frontage Type	R U R A L						T R A N S E C T				U R B A N			
	T1	T2	T3	T1	T2	T3	T3	T4	T4	T5	T5	T6	T5	T6
a. Assembly: The principal variables are the type and dimension of Curbs, walkways, Planters and landscape.														
Total Width	16-24 feet	12-24 feet	12-18 feet	12-18 feet	18-24 feet	18-30 feet								
b. Curb: The detailing of the edge of the vehicular pavement, incorporating drainage.														
Type	Open Swale	Open Swale	Garden Wall, Open Swale, or Curb & Gutter	Garden Wall, Open Swale, or Curb & Gutter	Curb	Curb								
Radius	10-30 feet	10-30 feet	5-20 feet	5-20 feet	5-20 feet	5-20 feet								
c. Walkway: The pavement dedicated exclusively to pedestrian activity.														
Type	Path Optional	Path	Path or Sidewalk	Sidewalk	Sidewalk	Sidewalk								
Width	n/a	4-6 feet	4-6 feet	4-6 feet	12-15 feet	12-20 feet								
d. Planter: The layer which accommodates street trees and other landscape.														
Arrangement	Clustered	Clustered	Regular	Regular	Regular	Regular							Opportunistic	Opportunistic
Species	Multiple	Multiple	Alternating	Single	Single	Single							Single	Single
Planter Type	Continuous Swale	Continuous Swale	Continuous Planter	Continuous Planter	Continuous Planter	Continuous Planter							Tree Well	Tree Well
Planter Width	8 feet-16 feet	8 feet-16 feet	8 feet-12 feet	1 feet-12 feet	4 feet-6 feet	4 feet-6 feet							4 feet-6 feet	4 feet-6 feet
e. Landscape: The recommended plant species. (See Table 6)	Cocunt Palm, Pigeon Plum, Yellow Pine, Dogwood, Sapadilla, Tamarind, & Poinciana						Cocunt Palm, Sabal Palm, Pigeon Plum, Dogwood, Sapadilla, Tamarind, & Poinciana				Royal Palm, Sabal Palm, Pigeon Plum, Tamarind, & Poinciana			
f. Lighting: The recommended Public Lighting. (See Table 5)														

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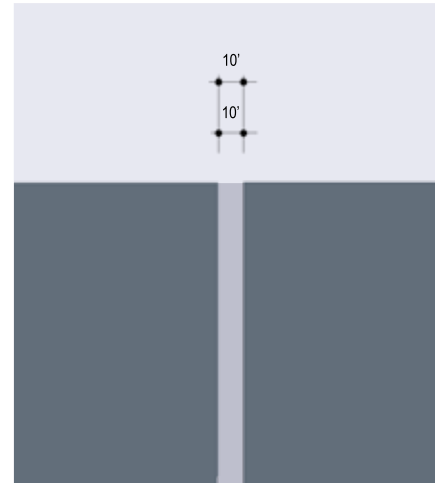
THOROUGHFARE TYPES

- Highway: HW
- Boulevard: BV
- Avenue: AV
- Commercial Street: CS
- Drive: DR
- Street: ST
- Road: RD
- Rear Alley: RA
- Rear Lane: RL
- Bicycle Trail: BT
- Bicycle Lane: BL
- Bicycle Route: BR
- Path: PT
- Passage: PS
- Transit Route: TR



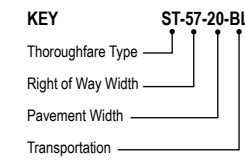
PT-8-8

Thoroughfare Type	Path
Transect Zone Assignment	T3
Right-of-Way Width	8 feet
Pavement Width	8 feet
Movement	Pedestrian Movement
Design Speed	n/a
Pedestrian Crossing Time	n/a
Traffic Lanes	None
Parking Lanes	None
Curb Radius	0 feet
Walkway Type	None
Planter Type	None
Curb Type	None
Landscape Type	None
Transportation Provision	None



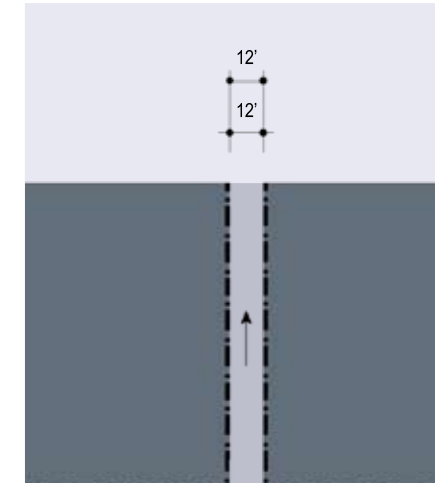
PT-10-10

Thoroughfare Type	Path
Transect Zone Assignment	T3
Right-of-Way Width	10 feet
Pavement Width	10 feet
Movement	Pedestrian Movement
Design Speed	n/a
Pedestrian Crossing Time	n/a
Traffic Lanes	None
Parking Lanes	None
Curb Radius	0 feet
Walkway Type	None
Planter Type	None
Curb Type	None
Landscape Type	None
Transportation Provision	None



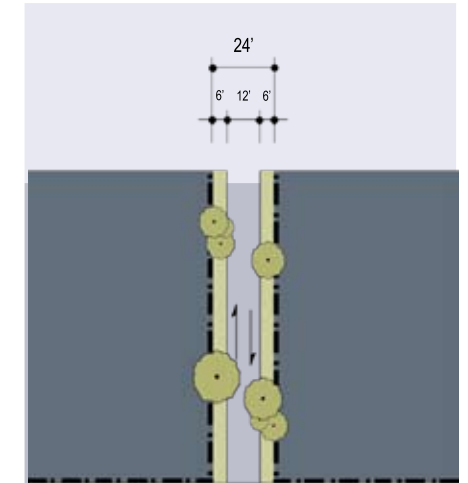
THOROUGHFARE TYPES

- Highway: HW
- Boulevard: BV
- Avenue: AV
- Commercial Street: CS
- Drive: DR
- Street: ST
- Road: RD
- Rear Alley: RA
- Rear Lane: RL
- Bicycle Trail: BT
- Bicycle Lane: BL
- Bicycle Route: BR
- Path: PT
- Passage: PS
- Transit Route: TR



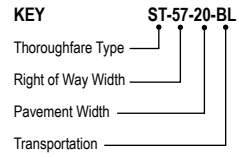
RL-12-12

Thoroughfare Type	Rear Lane
Transect Zone Assignment	T3, T4
Right-of-Way Width	12 feet
Pavement Width	12 feet
Movement	Yield Movement
Design Speed	10 MPH
Pedestrian Crossing Time	3 seconds
Traffic Lanes	1 lane
Parking Lanes	None
Curb Radius	10 feet
Walkway Type	None
Planter Type	None
Curb Type	None
Landscape Type	None
Transportation Provision	None



RL-24-12

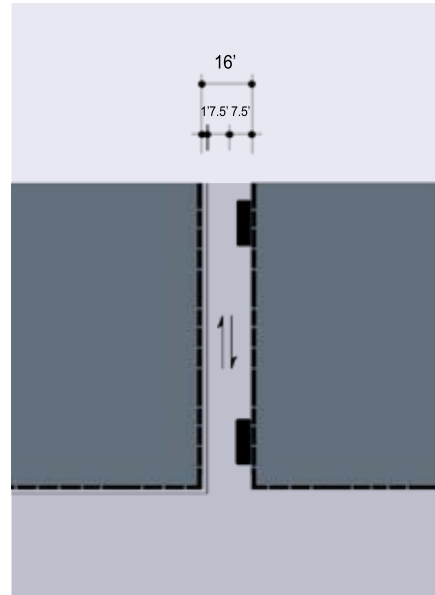
Thoroughfare Type	Rear Lane
Transect Zone Assignment	T3, T4
Right-of-Way Width	24 feet
Pavement Width	12 feet
Movement	Yield Movement
Design Speed	10 MPH
Pedestrian Crossing Time	3.5 seconds
Traffic Lanes	n/a
Parking Lanes	None
Curb Radius	10 feet
Walkway Type	None
Planter Type	None
Curb Type	Inverted Crown
Landscape Type	Clustered Trees
Transportation Provision	None



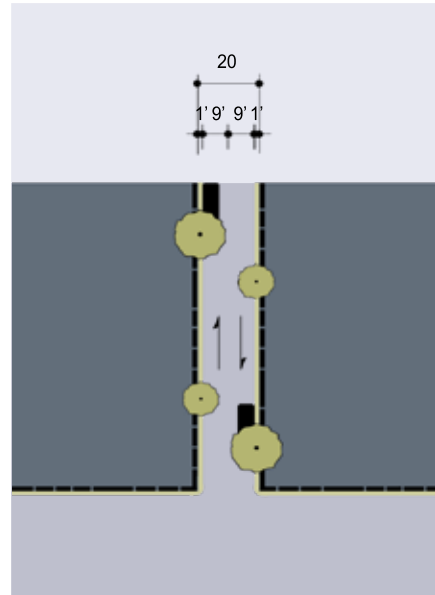
THOROUGHFARE TYPES

- Highway: HW
- Boulevard: BV
- Avenue: AV
- Commercial Street: CS
- Drive: DR
- Street: ST
- Road: RD
- Rear Alley: RA
- Rear Lane: RL
- Bicycle Trail: BT
- Bicycle Lane: BL
- Bicycle Route: BR
- Path: PT
- Passage: PS
- Transit Route: TR

Thoroughfare Type	Street
Transect Zone Assignment	T3, T4
Right-of-Way Width	16 feet
Pavement Width	15 feet
Movement	Slow Movement
Design Speed	15 MPH
Pedestrian Crossing Time	5 seconds
Traffic Lanes	2 lanes
Parking Lanes	None
Curb Radius	5 feet
Walkway Type	None
Planter Type	None
Curb Type	Curb and Gutter
Landscape Type	None
Transportation Provision	None

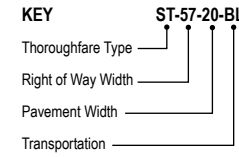


ST-16-15



ST-20-18

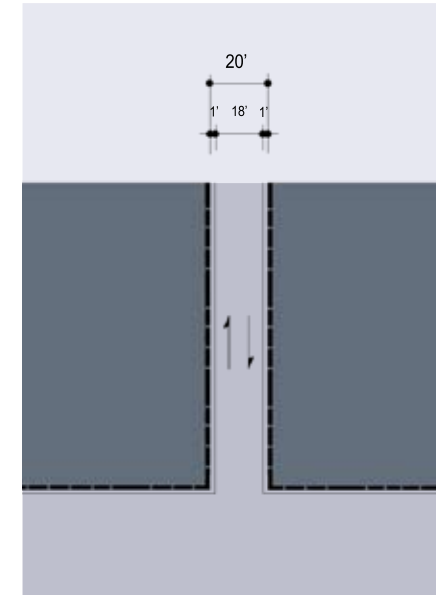
Thoroughfare Type	Street
Transect Zone Assignment	T3, T4
Right-of-Way Width	20 feet
Pavement Width	18 feet
Movement	Slow Movement
Design Speed	20-25 MPH
Pedestrian Crossing Time	5 seconds
Traffic Lanes	2 lanes
Parking Lanes	None
Curb Radius	5 feet
Walkway Type	None
Planter Type	Continuous Swale
Curb Type	None
Landscape Type	Trees at 20' o.c. Avg.
Transportation Provision	None



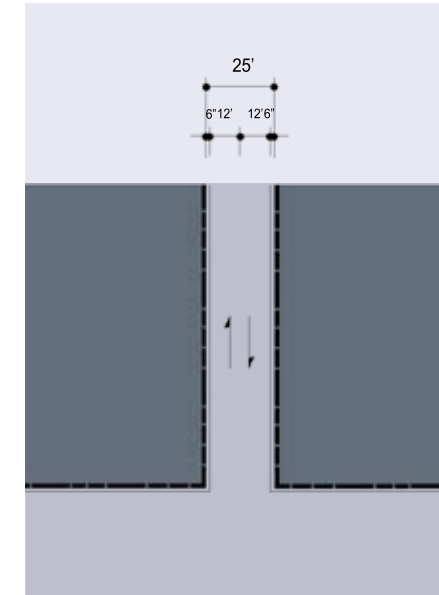
THOROUGHFARE TYPES

- Highway: HW
- Boulevard: BV
- Avenue: AV
- Commercial Street: CS
- Drive: DR
- Street: ST
- Road: RD
- Rear Alley: RA
- Rear Lane: RL
- Bicycle Trail: BT
- Bicycle Lane: BL
- Bicycle Route: BR
- Path: PT
- Passage: PS
- Transit Route: TR

Thoroughfare Type	Street
Transect Zone Assignment	T3, T4
Right-of-Way Width	20 feet
Pavement Width	18 feet
Movement	Slow Movement
Design Speed	20-25 MPH
Pedestrian Crossing Time	4 seconds
Traffic Lanes	2 lanes
Parking Lanes	None
Curb Radius	5-30 feet
Walkway Type	None
Planter Type	None
Curb Type	Curb and Gutter
Landscape Type	None
Transportation Provision	None

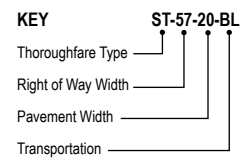


ST-20-18

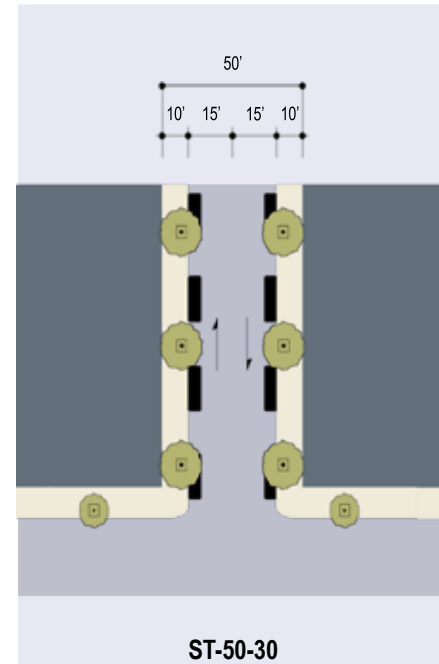


ST-25-24

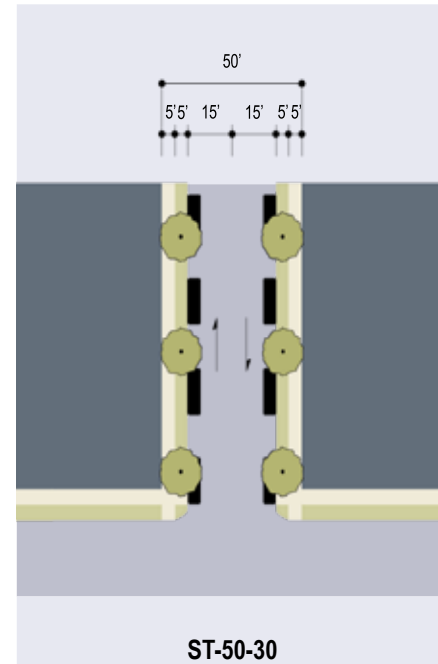
Thoroughfare Type	Street
Transect Zone Assignment	T3, T4
Right-of-Way Width	25 feet
Pavement Width	24 feet
Movement	Slow Movement
Design Speed	20-25 MPH
Pedestrian Crossing Time	5seconds
Traffic Lanes	2 lanes
Parking Lanes	None
Curb Radius	5-30 feet
Walkway Type	None
Planter Type	None
Curb Type	Curb and Gutter
Landscape Type	None
Transportation Provision	None



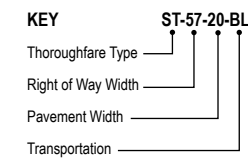
- THOROUGHFARE TYPES**
- Highway: HW
 - Boulevard: BV
 - Avenue: AV
 - Commercial Street: CS
 - Drive: DR
 - Street: ST
 - Road: RD
 - Rear Alley: RA
 - Rear Lane: RL
 - Bicycle Trail: BT
 - Bicycle Lane: BL
 - Bicycle Route: BR
 - Path: PT
 - Passage: PS
 - Transit Route: TR



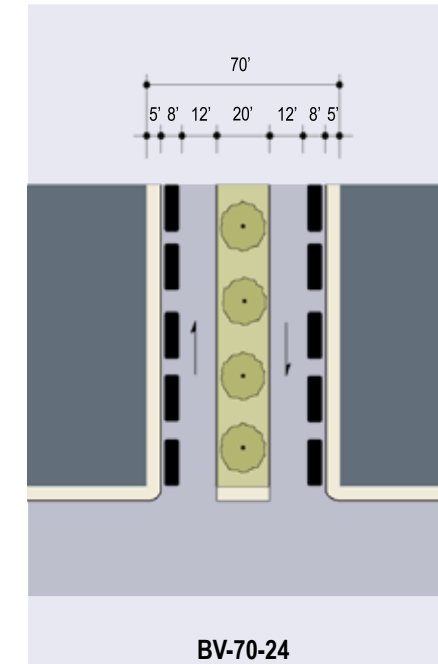
Thoroughfare Type	Street
Transect Zone Assignment	T3, T4
Right-of-Way Width	50 feet
Pavement Width	30 feet
Movement	Slow Movement
Design Speed	20-25 MPH
Pedestrian Crossing Time	9 seconds
Traffic Lanes	2 lanes
Parking Lanes	None
Curb Radius	20 feet
Walkway Type	10 foot Sidewalk
Planter Type	4x4" Tree Well
Curb Type	Curb and Gutter
Landscape Type	Trees at 20' o.c. Avg.
Transportation Provision	None



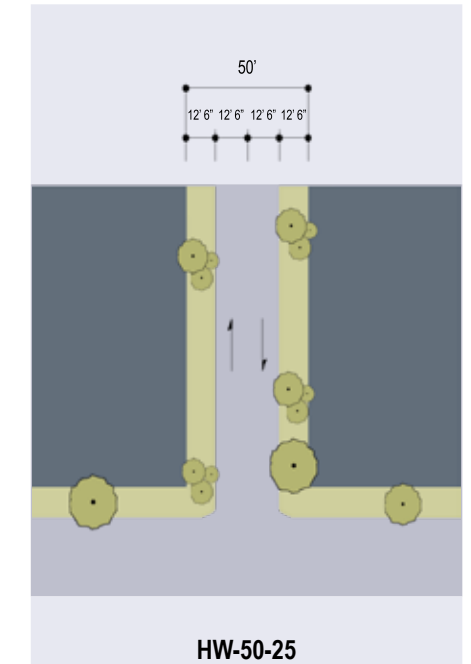
Thoroughfare Type	Street
Transect Zone Assignment	T5, T6
Right-of-Way Width	50 feet
Pavement Width	30 feet
Movement	Slow Movement
Design Speed	20-25 MPH
Pedestrian Crossing Time	9 seconds
Traffic Lanes	2 lanes
Parking Lanes	None
Curb Radius	20 feet
Walkway Type	5 foot Sidewalk
Planter Type	5 foot Continuous Planter
Curb Type	Curb and Gutter
Landscape Type	Trees at 20' o.c. Avg.
Transportation Provision	None



- THOROUGHFARE TYPES**
- Highway: HW
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 - Avenue: AV
 - Commercial Street: CS
 - Drive: DR
 - Street: ST
 - Road: RD
 - Rear Alley: RA
 - Rear Lane: RL
 - Bicycle Trail: BT
 - Bicycle Lane: BL
 - Bicycle Route: BR
 - Path: PT
 - Passage: PS
 - Transit Route: TR








Thoroughfare Type	Boulevard
Transect Zone Assignment	T3, T4
Right-of-Way Width	70 feet
Pavement Width	24 feet
Movement	Slow Movement
Design Speed	30 MPH
Pedestrian Crossing Time	12 seconds
Traffic Lanes	2 lane
Parking Lanes	Both sides @ 8 feet marked
Curb Radius	20 feet
Walkway Type	5 foot Sidewalk
Planter Type	None
Curb Type	Curb
Landscape Type	Trees at 20' o.c. Avg.
Transportation Provision	None



Thoroughfare Type	Highway
Transect Zone Assignment	T1, T2
Right-of-Way Width	50 feet
Pavement Width	25 feet
Movement	Free Movement
Design Speed	Above 35 MPH
Pedestrian Crossing Time	5 seconds
Traffic Lanes	2 lanes
Parking Lanes	None
Curb Radius	10 feet
Walkway Type	None
Planter Type	None
Curb Type	Swale
Landscape Type	Clustered Trees
Transportation Provision	None

TABLE 5: Public Lighting. Lighting varies in brightness and also in the character of the fixture according to the Transect. The table shows five common types. A listed set of streetlights corresponding to these types would be approved by the utility company and listed on the page.

	T1	T2	T3	T4	T5	T6	SD	Specifications
Cobra Head 	■						■	_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
Pipe 	■	■	■	■	■			_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
Post 		■	■	■	■			_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
Column 			■	■	■			_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
Double Column 					■	■		_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

SMARTCODE: SOUTH ABACO ADMINISTRATIVE DISTRICT

TABLE 6: Public Planting. This table shows six common types of street tree shapes and their appropriateness within the Transect Zones. The local planning office selects species appropriate for the bioregion.







	T1	T2	T3	T4	T5	T6	SD	Specifications
Pole 	■	■	■	■	■	■		Coconut Palm Royal Palm Tall Sabal Palm Lancewood _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
Oval 	■	■	■	■	■	■		Spanish Stopper Sabal Palm _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
Ball 	■	■	■	■	■	■		Pigeon Palm Jamaica Walnut Mahogany Mahoe _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
Pyramid 	■	■	■	■				Yellow Pine Slash Pine Black Calabash Cuban Holly _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
Umbrella 	■	■	■	■				Dogwood Small Leaf Fig Poinciana Jamaica Thatch Palm Wild Tamarind Brasiletto _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
Vase 	■	■	■	■				Sapadilla Paradise Tree Acacia _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____

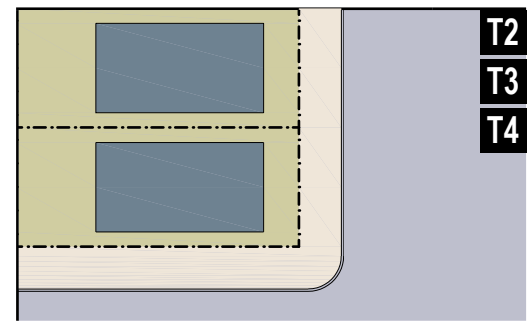
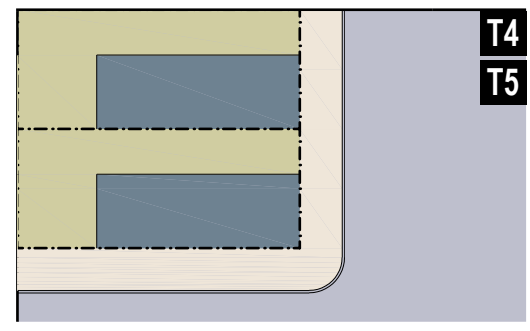
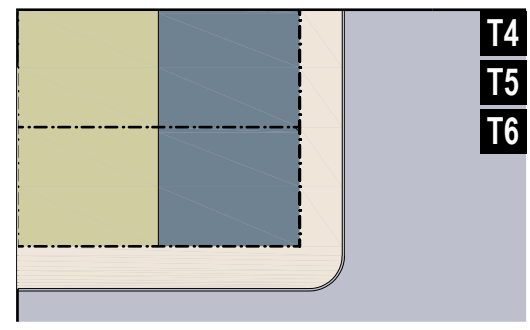
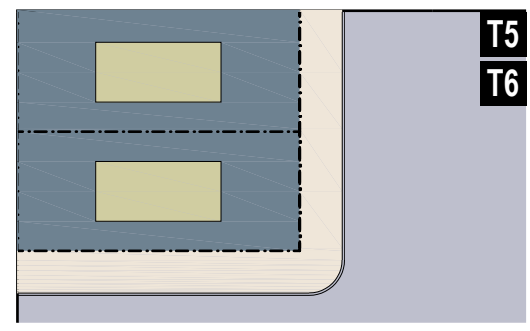
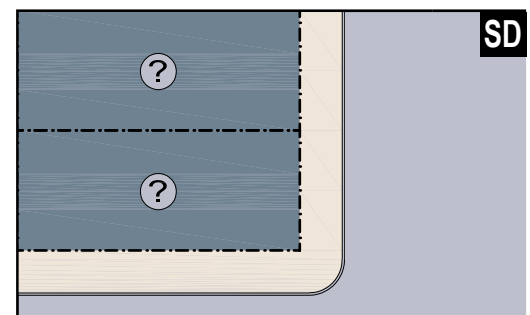
TABLE 7: Private Frontages. The Private Frontage is the area between the building Facades and the Lot lines.

	SECTION	PLAN	
	LOT PRIVATE FRONTAGE R.O.W. PUBLIC FRONTAGE	LOT PRIVATE FRONTAGE R.O.W. PUBLIC FRONTAGE	
<p>a. Common Yard: a planted Frontage wherein the Facade is set back substantially from the Frontage Line. The front yard created remains unfenced and is visually continuous with adjacent yards, supporting a common landscape. The deep Setback provides a buffer from the higher speed Thoroughfares.</p>			T2 T3
<p>b. Verandah & Fence: a planted Frontage wherein the Facade is set back from the Frontage Line with an attached verandah permitted to Encroach. A fence at the Frontage Line maintains street spatial definition. Verandahs shall be no less than 8 feet deep.</p>			T3 T4
<p>c. Terrace or Lightwell: a Frontage wherein the Facade is set back from the Frontage line by an elevated terrace or a sunken Lightwell. This type buffers Residential use from urban Sidewalks and removes the private yard from public Encroachment. Terraces are suitable for conversion to outdoor cafes. Syn: Dooryard.</p>			T4 T5
<p>d. Forecourt: a Frontage wherein a portion of the Facade is close to the Frontage Line and the central portion is set back. The Forecourt created is suitable for vehicular drop-offs. This type should be allocated in conjunction with other Frontage types. Large trees within the Forecourts may overhang the Sidewalks.</p>			T4 T5 T6
<p>e. Stoop: a Frontage wherein the Facade is aligned close to the Frontage Line with the first Story elevated from the Sidewalk sufficiently to secure privacy for the windows. The entrance is usually an exterior stair and landing. This type is recommended for ground-floor Residential use.</p>			T4 T5 T6
<p>f. Shopfront: a Frontage wherein the Facade is aligned close to the Frontage Line with the building entrance at Sidewalk grade. This type is conventional for Retail use. It has a substantial glazing on the Sidewalk level and an awning that should overlap the Sidewalk to within 2 feet of the Curb. Syn: Retail Frontage.</p>			T4 T5 T6
<p>g. Gallery: a Frontage wherein the Facade is aligned close to the Frontage line with an attached cantilevered shed or a lightweight colonnade overlapping the Sidewalk. This type is conventional for Retail use. The Gallery shall be no less than 10 feet wide and should overlap the Sidewalk to within 2 feet of the Curb.</p>			T4 T5 T6
<p>h. Arcade: a colonnade supporting habitable space that overlaps the Sidewalk, while the Facade at Sidewalk level remains at or behind the Frontage Line. This type is conventional for Retail use. The Arcade shall be no less than 12 feet wide and should overlap the Sidewalk to within 2 feet of the Curb. See Table 8.</p>			T5 T6

TABLE 8: Building Configuration. This table shows the Configurations for different building heights for each Transect Zone. It must be modified to show actual calibrated heights for local conditions. Recess Lines and Expression Lines shall occur on higher buildings as shown. N = maximum height as specified in Table 19k.

T2 T3	T4	T5
<p>T6</p> <p>[RESERVED]</p>		

TABLE 9: Building Disposition. This table approximates the location of the structure relative to the boundaries of each individual Lot, establishing suitable basic building types for each Transect Zone.

<p>a. Frontage Garden: Specific Types - single family House, cottage, villa, estate house, urban villa. A building that occupies the Centre of its Lot with Setbacks on all sides. This is the least urban of types as the front yard sets it back from the Frontage, while the side yards weaken the spatial definition of the public Thoroughfare space. The front yard is intended to be visually continuous with the yards of adjacent buildings. The rear yard can be secured for privacy by fences and a well-placed Backbuilding and/or Outbuilding.</p>	 <p>T2 T3 T4</p>
<p>b. Side Garden: Specific Types - Charleston single house, double house, zero lot line house, twin. A building that occupies one side of the Lot with the Setback to the other side. A shallow Frontage Setback defines a more urban condition. If the adjacent building is similar with a blank side wall, the yard can be quite private. This type permits systematic climatic orientation in response to the sun or the breeze. If a Side Garden House abuts a neighboring Side Garden House, the type is known as a twin or double House. Energy costs, and sometimes noise, are reduced by sharing a party wall in this Disposition.</p>	 <p>T4 T5</p>
<p>c. Rear Garden: Specific Types - Townhouse, Rowhouse, Live-Work unit, loft building, Apartment House, Mixed Use Block, Flex Building, perimeter Block. A building that occupies the full Frontage, leaving the rear of the Lot as the sole yard. This is a very urban type as the continuous Facade steadily defines the public Thoroughfare. The rear Elevations may be articulated for functional purposes. In its Residential form, this type is the Rowhouse. For its Commercial form, the rear yard can accommodate substantial parking.</p>	 <p>T4 T5 T6</p>
<p>d. Courtyard Garden: Specific Types - patio House. A building that occupies the boundaries of its Lot while internally defining one or more private patios. This is the most urban of types, as it is able to shield the private realm from all sides while strongly defining the public Thoroughfare. Because of its ability to accommodate incompatible activities, masking them from all sides, it is recommended for workshops, Lodging and schools. The high security provided by the continuous enclosure is useful for crime-prone areas.</p>	 <p>T5 T6</p>
<p>e. Specialized: A building that is not subject to categorization. Buildings dedicated to manufacturing and transportation are often distorted by the trajectories of machinery. Civic buildings, which may express the aspirations of institutions, may be included.</p>	 <p>SD</p>

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TABLE 10: Building Function. This table categorizes Building Functions within Transect Zones. Parking requirements are correlated to functional intensity. For Specific Function and Use permitted By Right or by Warrant, see Table 12.

	T2 T3	T4	T5 T6
a. RESIDENTIAL	Restricted Residential: The number of dwellings on each Lot is restricted to one within a Principal Building and one within an Accessory Building, with 2.0 parking places for each. Both dwellings shall be under single ownership. The habitable area of the Accessory Unit shall not exceed 440 sf, excluding the parking area.	Limited Residential: The number of dwellings on each Lot is limited by the requirement of 1.0 parking places for each dwelling, a ratio which may be reduced according to the shared parking standards (See Table 11).	Open Residential: The number of dwellings on each Lot is limited by the requirement of 1.0 parking places for each dwelling, a ratio which may be reduced according to the shared parking standards (See Table 11).
b. LODGING	Restricted Lodging: The number of bedrooms available on each Lot for lodging is limited by the requirement of 1.0 assigned parking place for each bedroom, up to five, in addition to the parking requirement for the dwelling. The Lodging must be owner occupied. Food service may be provided in the a.m. The maximum length of stay shall not exceed fourteen days.	Limited Lodging: The number of bedrooms available on each Lot for lodging is limited by the requirement of 1.0 assigned parking places for each bedroom, up to twelve, in addition to the parking requirement for the dwelling. The Lodging must be owner occupied. Food service may be provided in the a.m. The maximum length of stay shall not exceed fourteen days.	Open Lodging: The number of bedrooms available on each Lot for lodging is limited by the requirement of 1.0 assigned parking places for each bedroom. Food service may be provided at all times. The area allocated for food service shall be calculated and provided with parking according to Retail Function.
c. OFFICE	Restricted Office: The building area available for office use on each Lot is restricted to the first Story of the Principal or the Accessory Building and by the requirement of 2.0 assigned parking places per 1000 square feet of net office space in addition to the parking requirement for each dwelling.	Limited Office: The building area available for office use on each Lot is limited to the first Story of the principal building and/or to the Accessory building, and by the requirement of 1.0 assigned parking places per 1000 square feet of net office space in addition to the parking requirement for each dwelling.	Open Office: The building area available for office use on each Lot is limited by the requirement of 1.0 assigned parking places per 1000 square feet of net office space.
d. RETAIL	Restricted Retail: The building area available for Retail use is restricted to one Block corner location at the first Story for each 300 dwelling units and by the requirement of 2.0 assigned parking places per 1000 square feet of net Retail space in addition to the parking requirement of each dwelling. The specific use shall be further limited to neighborhood store, or food service seating no more than 20.	Limited Retail: The building area available for Retail use is limited to the first Story of buildings and by the requirement of 1.0 assigned parking places per 1000 square feet of net Retail space in addition to the parking requirement of each dwelling. The specific use shall be further limited to live/work shop, neighborhood store, or food service seating no more than 40.	Open Retail: The building area available for Retail use is limited by the requirement of 1.0 assigned parking places per 1000 square feet of net Retail space. Retail spaces under 1000 square feet are exempt from parking requirements.
e. CIVIC	See Table 12	See Table 12	See Table 12
f. OTHER	See Table 12	See Table 12	See Table 12

TABLE 11: Parking Calculations. The Shared Parking Factor for two Functions, when divided into the sum of the two amounts as listed on the Required Parking table below, produces the Effective Parking needed for each site involved in sharing. Conversely, if the Sharing Factor is used as a multiplier, it indicates the amount of building allowed on each site given the parking available.

REQUIRED PARKING (See Table 10)

	T2 T3	T4	T5 T6
RESIDENTIAL	2.0 / dwelling	1.0 / dwelling	1.0 / dwelling
LODGING	1.0 / bedroom	1.0 / bedroom	1.0 / bedroom
OFFICE	2.0 / 1000 sq. ft.	1.0 / 1000 sq. ft.	1.0 / 1000 sq. ft.
RETAIL	2.0 / 1000 sq. ft.	1.0 / 1000 sq. ft.	1.0 / 1000 sq. ft.
CIVIC	To be determined by Warrant		
OTHER	To be determined by Warrant		

SHARED PARKING FACTOR

Function	with	Function
RESIDENTIAL		RESIDENTIAL
LODGING		LODGING
OFFICE		OFFICE
RETAIL		RETAIL

Diagram showing Shared Parking Factors for combinations of functions:

- RESIDENTIAL with RESIDENTIAL: 1
- LODGING with LODGING: 1
- OFFICE with OFFICE: 1
- RETAIL with RETAIL: 1
- RESIDENTIAL with LODGING: 1.1
- LODGING with RESIDENTIAL: 1.1
- RESIDENTIAL with OFFICE: 1.4
- OFFICE with RESIDENTIAL: 1.4
- LODGING with OFFICE: 1.7
- OFFICE with LODGING: 1.7
- RESIDENTIAL with RETAIL: 1.2
- RETAIL with RESIDENTIAL: 1.2
- LODGING with RETAIL: 1.3
- RETAIL with LODGING: 1.3
- OFFICE with RETAIL: 1.2
- RETAIL with OFFICE: 1.2

	T1	T2	T3	T4	T5	T6	SD
a. RESIDENTIAL							
Mixed Use Block					■	■	
Flex Building				■	■	■	
Apartment Building				■	■	■	
Live/Work Unit	□	■	■	■	■	■	□
Row House				■	■		
Duplex House				■	■		
Courtyard House				■	■		
Sideyard House			■	■	■		
Cottage	■	■	■	■			
House	■	■	■	■	□		
Villa	■	□					
Accessory Unit	■	■	■	■	■		
b. LODGING							
Hotel (no room limit)					■	■	□
Inn (up to 12 rooms)	□	■	■	■	■		
Bed & Breakfast (up to 5 rooms)	□	■	■	■	■		
S.R.O. hostel		□	□	□	□	□	□
School Dormitory			■	■	■	■	■
c. office							
Office Building				■	■	■	□
Live-Work Unit	□	■	■	■	■	■	□
d. RETAIL							
Open-Market Building		■	■	■	■	■	■
Retail Building				■	■	■	□
Display Gallery				■	■	■	□
Restaurant		□	■	■	■	■	□
Kiosk		□	■	■	■	■	□
Push Cart					□	□	□
Liquor Selling Establishment					□	□	□
Adult Entertainment						□	□
e. CIVIC							
Bus Shelter			■	■	■	■	■
Convention Centre					□	■	
Conference Centre					□	■	
Exhibition Centre					□	■	
Fountain or Public Art	■	■	■	■	■	■	■
Library		□	■	■	■	■	
Live Theater					■	■	
Movie Theater					■	■	
Museum			□	□	■	■	
Outdoor Auditorium	□	■		■	■	■	
Parking Structure					■	■	
Passenger Terminal					□	□	■
Playground	■	■	■	■	■	■	■
Sports Stadium					□	■	
Surface Parking Lot		□	□	□	□	■	
Religious Assembly	■	■	■	■	■	■	■

	T1	T2	T3	T4	T5	T6	SD
f. OTHER: AGRICULTURE							
Grain Storage	■	■	□				□
Livestock Pen	□	□					□
Greenhouse	■	■	□				□
Stable	■	■	□				□
kennel	■	■	□	□	□	□	□
f. OTHER: AUTOMOTIVE							
Gasoline		□	□		□	□	■
Automobile Service			□	□	□		■
Truck Maintenance							■
Drive -Through Facility					□	□	■
Rest Stop	■	■	■				□
Roadside Stand	■	■	■				□
Billboard						□	□
Shopping Centre							□
Shopping Mall							□
f. OTHER: CIVIL SUPPORT							
Fire Station			■	■	■	■	■
Police Station				■	■	■	■
Cemetery	■	□	□	□			■
Funeral Home				■	■	■	■
Hospital					□	□	■
Medical Clinic			■	■	■	■	■
f. OTHER: EDUCATION							
College					□	□	■
High School				□	□	□	■
Trade School					□	□	■
Elementary School			□	■	■	■	■
Other- Childcare Centre		■	■	■	■	■	□
f. OTHER: INDUSTRIAL							
Heavy Industrial Facility							■
Light Industrial Facility						□	■
Truck Depot				□			■
Laboratory Facility					□	□	■
Water Supply Facility	□	□	□				■
Sewer and Waste Facility							■
Electric Substation	□	□	□	□	□	□	■
Wireless Transmitter	□	□					■
Cremation Facility							■
Warehouse					□	□	■
Produce Storage						□	■
Mini-Storage				□	□	□	■

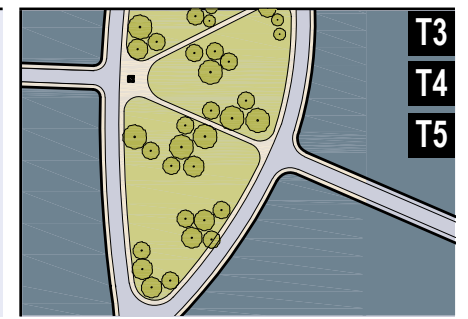
■ BY RIGHT
□ BY WARRANT

TABLE 12: Specific Function & Use. This table expands the categories of Table 10 to delegate specific Functions and uses within Transect Zones.

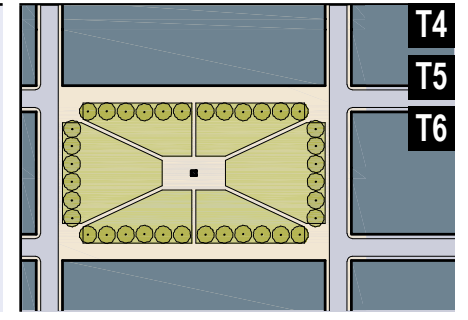
a. Park: A natural preserve available for unstructured recreation. A park may be independent of surrounding building Frontages. Its landscape shall consist of Paths and trails, meadows, waterbodies, woodland and open shelters, all naturalistically disposed. Parks may be lineal, following the trajectories of natural corridors. The minimum size shall be 8 acres. Larger parks may be approved by Warrant as Special Districts in all zones.



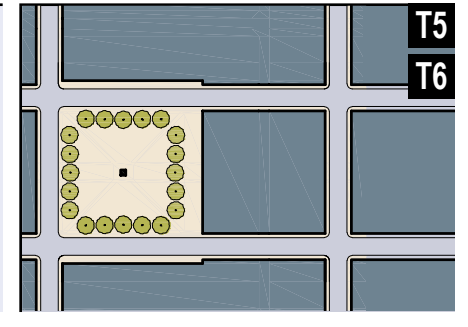
b. Green: An Open Space, available for unstructured recreation. A Green may be spatially defined by landscaping rather than building Frontages. Its landscape shall consist of lawn and trees, naturalistically disposed. The minimum size shall be 1/2 acre and the maximum shall be 8 acres.



c. Square: An Open Space available for unstructured recreation and Civic purposes. A Square is spatially defined by building Frontages. Its landscape shall consist of paths, lawns and trees, formally disposed. Squares shall be located at the intersection of important Thoroughfares. The minimum size shall be 1/2 acre and the maximum shall be 5 acres.



d. Plaza: An Open Space available for Civic purposes and Commercial activities. A Plaza shall be spatially defined by building Frontages. Its landscape shall consist primarily of pavement. Trees are optional. Plazas should be located at the intersection of important streets. The minimum size shall be 1/2 acre and the maximum shall be 2 acres.



e. Playground: An Open Space designed and equipped for the recreation of children. A playground should be fenced and may include an open shelter. Playgrounds shall be interspersed within Residential areas and may be placed within a Block. Playgrounds may be included within parks and greens. There shall be no minimum or maximum size.

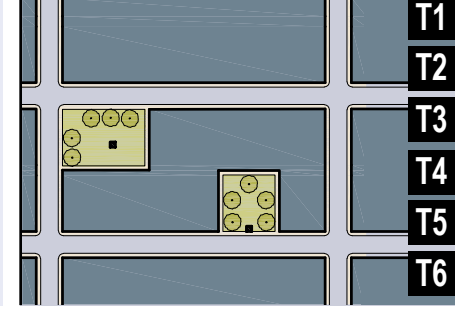









Table 19: Sustainability - Wind Power. This table prescribes opportunities for the placement of types of wind-powered devices within the Transect.

	T1	T2	T3	T4	T5	T6	SD	Specifics
Wind Farm 	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	
Horizontal Axis 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	
Vertical Axis 			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Public Furniture 			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

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Table 15: Sustainability - Solar Energy. This table shows opportunities for the placement of types of solar-powered devices within the Transect.

	T1	T2	T3	T4	T5	T6	SD	Specifics
Solar Farm 	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>	
Roof Mounted Solar Panels 		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Public Furniture 			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



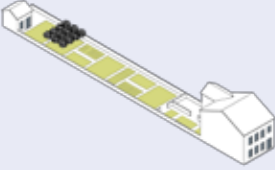
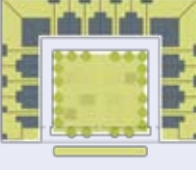
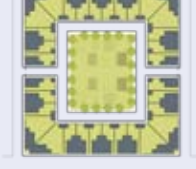
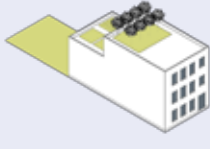
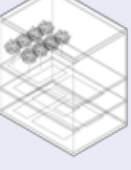
Note: A solar dish/engine system also utilizes collectors tracking the sun on two axes, but it concentrates the energy at the focal point of a separate dish.

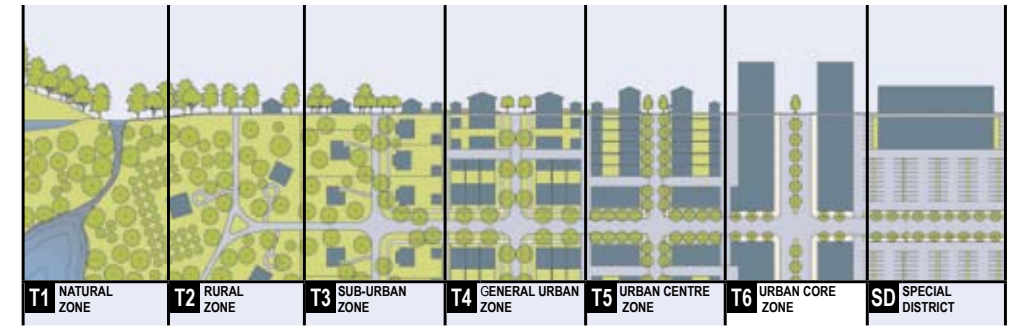
Table 16: Sustainability - Composting & Recycling.

	T1	T2	T3	T4	T5	T6	SD
On-Site Organics Processing		<input type="checkbox"/>					<input type="checkbox"/>
Self-Drop Collection Systems		<input type="checkbox"/>					
Optional/Competitive Collection		<input type="checkbox"/>	<input type="checkbox"/>				
Mandatory Curbside Collection				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Centralized Composting Systems				<input type="checkbox"/>			<input type="checkbox"/>
Smaller Regional Composting		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
On-Site Processing		<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>
Re-Use Centres		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recycling Processing Centres		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Once-Used Materials Storage		<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>
Transfer Stations		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Disposal Facilities	Prohibited Across The Transect						

BY RIGHT
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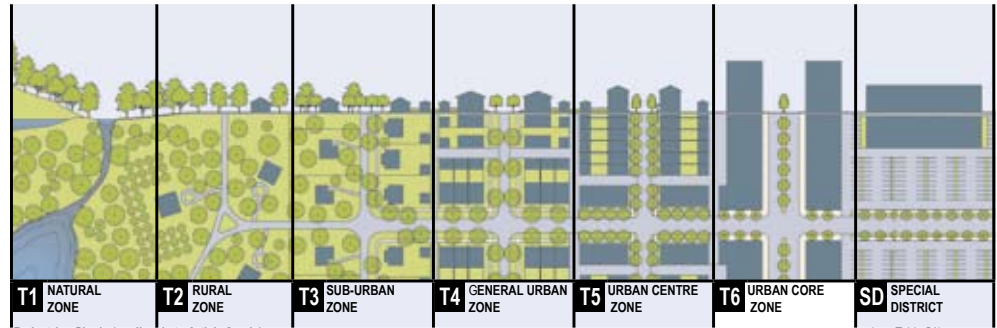
Table 17: Sustainability - Food Production. This table shows ways of incorporating types of food production along the Transect.

	T1	T2	T3	T4	T5	T6	SD	Specific
Farm 								
Agricultural Plots 								
Vegetable Garden 								
Urban Farm 								
Settlement Garden 								
Green Roof - Extensive - Semi Intensive - Intensive 								
Vertical Farm 								



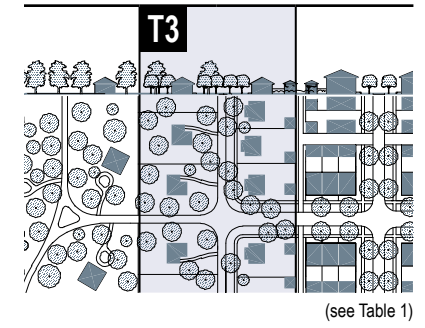
	T1	T2	T3	T4	T5	T6	SD	Maint. Cost
a. PAVING								
Compacted Earth								L \$
Wood Planks								H \$\$\$
Plastic Mesh/Geomat								L \$
Crushed Stone/Shell								M \$
Cast/Pressed Concrete Paver Block								L \$\$
Grassed Cellular Plastic								M \$\$\$
Grassed Cellular Concrete								M \$\$\$
Pervious Asphalt								L \$\$
Asphalt								L \$
Concrete								L \$\$
Pervious Concrete								L \$\$
Stamped Asphalt								L \$\$\$
Stamped Concrete								L \$\$\$
Pea Gravel								M \$
Stone/Masonry Paving Blocks								L \$\$\$
Wood Paving Blocks on Concrete								L \$\$\$
Asphalt Paving Blocks								M \$\$
b. CHANNELING								
Natural Creek								L \$
Terracing								M \$\$
Vegetative Swale								L \$
Drainage Ditch								L \$
Stone/Rip Rap Channels								L \$\$
Vegetative/Stone Swale								L \$
Grassed Cellular Plastic								M \$\$\$
Grassed Cellular Concrete								M \$\$\$
Soakaway Trench								M \$\$\$
Slope Avenue								M \$\$\$
French Drain								M \$
Shallow Channel Footpath/Rainwater Conveyor								L \$
Concrete Pipe								L \$\$
Curbs & Gutters								L \$\$
Planting Strip Trench								L \$
Masonry Trough								L \$\$
Canal								H \$\$\$
Sculpted Watercourse, i.e. cascades								M \$\$\$
Concrete Trough								L \$\$
Archimedean Screw								L \$\$\$
c. STORAGE								
Irrigation Pond								L \$
Retention Basin with Sloping Bank								L \$\$
Retention Basin with Fence								L \$\$
Retention Hollow								M \$
Detention Pond								L \$
Vegetative Purification Bed								M \$\$
Flowing Park								M \$\$
Retention Pond								M \$\$
Landscaped Tree Well								L \$\$
Pool/Fountain								H \$\$\$
Underground Vault/Pipe/Cistern-Corrugated Metal								L \$\$
Underground Vault/Pipe/Cistern-Precast Concrete								L \$\$
Underground Vault/Pipe/Cistern-Cast in place Concrete								L \$\$
Grated Tree Well								L \$\$
Underground Vault/Pipe/Cistern-Plastic								L \$\$\$
Paved Basin								M \$\$\$
d. FILTRATION								
Wetland/Swamp								L \$
Filtration Ponds								L \$\$
Shallow Marsh								M \$
Surface Landscape								L \$
Natural Vegetation								L \$
Constructed Wetland								M \$
Bio-Retention Swale								M \$\$
Purification Biotope								H \$\$
Green Finger								L \$\$\$
Roof Garden								M \$\$\$
Rain Garden								M \$\$
Detention Pond								L \$
Grassed Cellular Plastic								M \$\$\$
Grassed Cellular Concrete								M \$\$\$
Waterscapes								H \$\$\$

*NOTE - Maintenance is denoted as L=Low, M=Medium and H=High.



	T1 NATURAL ZONE	T2 RURAL ZONE	T3 SUB-URBAN ZONE	T4 GENERAL URBAN ZONE	T5 URBAN CENTRE ZONE	T6 URBAN CORE ZONE	SD SPECIAL DISTRICT (see Table 21)
a. ALLOCATION OF ZONES per Pedestrian Shed (applicable to Article 3 only)							
CLS requires	no minimum	60% min	10 - 30%	20 - 40%	10% maximum	not permitted	
TNS requires	no minimum	50% min	10 - 30%	20 - 40%	10% maximum	not permitted	
RSC requires	no minimum	no minimum	not permitted	30 - 60%	10 - 30%	not permitted	
b. BASE RESIDENTIAL DENSITY (see Section 3.4)							
By Right	not applicable	1 unit / 20 ac avg.	2 units / ac. gross	4 units / ac. gross	6 units / ac. gross	12 units / ac. gross	
By TDR	by Variance	by Variance	6 units / ac. gross	12 units / ac. gross	24 units / ac. gross	96 units / ac. gross	
Other Functions	by Variance	by Variance	10 - 20%	20 - 30%	30 - 50%	50 - 70%	
c. BLOCK SIZE							
Block Peri+	no maximum	no maximum	3000 ft. max	2400 ft. max	2000 ft. max	2000 ft. max	
d. THOROUGHFARES (see Table 3 and Table 4)							
HW	permitted	permitted	permitted	not permitted	not permitted	not permitted	
BV	not permitted	not permitted	permitted	permitted	permitted	permitted	
AV	not permitted	not permitted	permitted	permitted	permitted	permitted	
CS	not permitted	not permitted	not permitted	not permitted	permitted	permitted	
DR	not permitted	not permitted	permitted	permitted	permitted	permitted	
ST	not permitted	not permitted	permitted	permitted	permitted	not permitted	
RD	permitted	permitted	permitted	not permitted	not permitted	not permitted	
Rear Lane	permitted	permitted	permitted	permitted	not permitted	not permitted	
Rear Alley	not permitted	not permitted	permitted	required	required	required	
Path	permitted	permitted	permitted	permitted	not permitted	not permitted	
Passage	not permitted	not permitted	permitted	permitted	permitted	permitted	
Bicycle Trail	permitted	permitted	permitted	not permitted *	not permitted	not permitted	
Bicycle Lane	permitted	permitted	permitted	permitted	not permitted	not permitted	
Bicycle Route	permitted	permitted	permitted	permitted	permitted	permitted	
e. CIVIC SPACES (see Table 13)							
Park	permitted	permitted	permitted	by Warrant	by Warrant	by Warrant	
Green	not permitted	not permitted	permitted	permitted	permitted	not permitted	
Square	not permitted	not permitted	not permitted	permitted	permitted	permitted	
Plaza	not permitted	not permitted	not permitted	not permitted	permitted	permitted	
Playground	permitted	permitted	permitted	permitted	permitted	permitted	
f. LOT OCCUPATION							
Lot Width	not applicable	by Warrant	72 ft. min 120 ft. max	18 ft. min 96 ft. max	18 ft. min 180 ft. max	18 ft. min 700 ft. max	
Lot Coverage	not applicable	by Warrant	60% max	70% max	80% max	90% max	
g. SETBACKS - PRINCIPAL BUILDING (see Table 15)							
(g.1) Front Setback (Principal)	not applicable	48 ft. min	24 ft. min	6 ft. min 18 ft. max	2 ft. min 12 ft. max	2 ft. min 12 ft. max	
(g.2) Front Setback (Secondary)	not applicable	48 ft. min	12 ft. min	6 ft. min 18 ft. max	2 ft. min 12 ft. max	2 ft. min 12 ft. max	
(g.3) Side Setback	not applicable	96 ft. min	12 ft. min	0 ft. min	0 ft. min 24 ft. max	0 ft. min 24 ft. max	
(g.4) Rear Setback	not applicable	96 ft. min	12 ft. min	3 ft. min *	3 ft. min *	0 ft. min	
Frontage Buildout	not applicable	not applicable	40% min	60% min	80% min	80% min	
h. SETBACKS - OUTBUILDING (see Table 15)							
(h.1) Front Setback	not applicable	20 ft. min + bldg setback	20 ft. min + bldg setback	20 ft. min + bldg setback	40 ft. max from rear prop	not applicable	
(h.2) Side Setback	not applicable	3 ft. or 6 ft.	3 ft. or 6 ft.	0 ft. min or 3 ft.	0 ft. min	not applicable	
(h.3) Rear Setback	not applicable	3 ft. min	3 ft. min	3 ft.	3 ft. max	not applicable	
i. BUILDING DISPOSITION (see Table 9)							
Edgeyard	permitted	permitted	permitted	permitted	not permitted	not permitted	
Sidyard	not permitted	not permitted	not permitted	permitted	permitted	not permitted	
Rearyard	not permitted	not permitted	not permitted	permitted	permitted	permitted	
Courtyard	not permitted	not permitted	not permitted	not permitted	permitted	permitted	
j. PRIVATE FRONTAGES (see Table 7)							
Common Yard	not applicable	permitted	permitted	not permitted	not permitted	not permitted	
Verandah & Fence	not applicable	not permitted	permitted	permitted	not permitted	not permitted	
Terrace or Dooryard	not applicable	not permitted	not permitted	permitted	permitted	not permitted	
Forecourt	not applicable	not permitted	not permitted	permitted	permitted	permitted	
Stoop	not applicable	not permitted	not permitted	permitted	permitted	permitted	
Shopfront & Awning	not applicable	not permitted	not permitted	permitted	permitted	permitted	
Gallery	not applicable	not permitted	not permitted	permitted	permitted	permitted	
Arcade	not applicable	not permitted	not permitted	not permitted	permitted	permitted	
k. BUILDING CONFIGURATION (see Table 8)							
Principal Building	not applicable	2 Stories max	2 Stories max	3 Stories max, 2 min	5 Stories max, 2 min	8 Stories max, 2 min	
Outbuilding	not applicable	2 Stories max	2 Stories max	2 Stories max	2 Stories max	not applicable	
l. BUILDING FUNCTION (see Table 10 & Table 12)							
Residential	not applicable	restricted use	restricted use	limited use	open use	open use	
Lodging	not applicable	restricted use	restricted use	limited use	open use	open use	
Office	not applicable	restricted use	restricted use	limited use	open use	open use	
Retail	not applicable	restricted use	restricted use	limited use	open use	open use	

ARTICLE 5
ARTICLE 2, 3, 4



(see Table 1)

I. BUILDING FUNCTION (see Table 10 & Table 12)

Residential	restricted use
Lodging	restricted use
Office	restricted use
Retail	restricted use

k. BUILDING CONFIGURATION (see Table 8)

Principal Building	2 stories max.
Outbuilding	2 stories max.

f. LOT OCCUPATION (see Table 19f)

Lot Width	72 ft. min 120 ft. max
Lot Coverage	60% max

i. BUILDING DISPOSITION (see Table 9)

Frontage Garden	permitted
Side Garden	not permitted
Rear Garden	not permitted
Courtyard Garden	not permitted

g. SETBACKS - PRINCIPAL BUILDING (see Table 19g)

(g.1) Front Setback Principal	24 ft. min
(g.2) Front Setback Secondary	12 ft. min.
(g.3) Side Setback	12 ft. min.
(g.4) Rear Setback	12 ft. min.
Frontage Buildout	40% min at setback

h. SETBACKS - OUTBUILDING (see Table 19h)

(h.1) Front Setback	20 ft. min. + bldg setback
(h.2) Side Setback	3 ft. or 6 ft at corner
(h.3) Rear Setback	3 ft. min

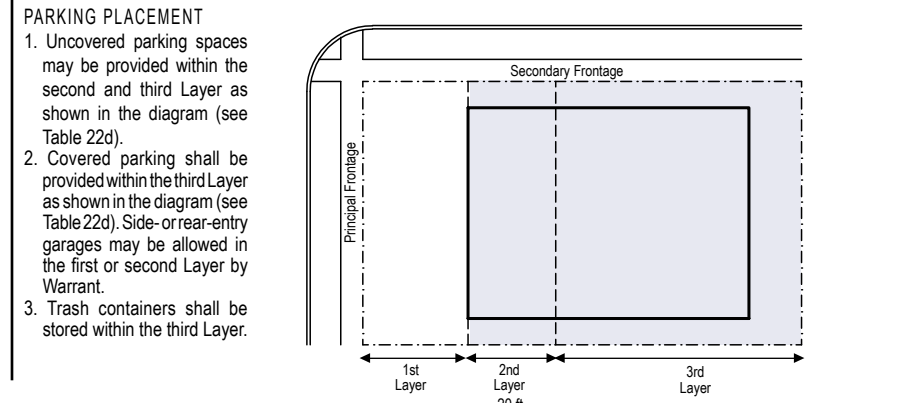
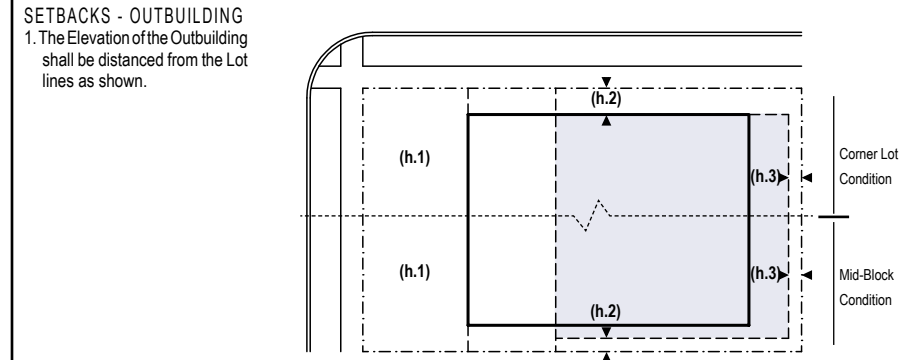
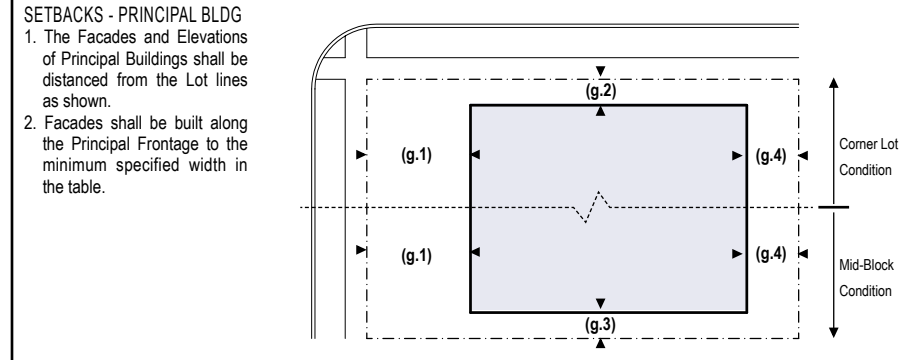
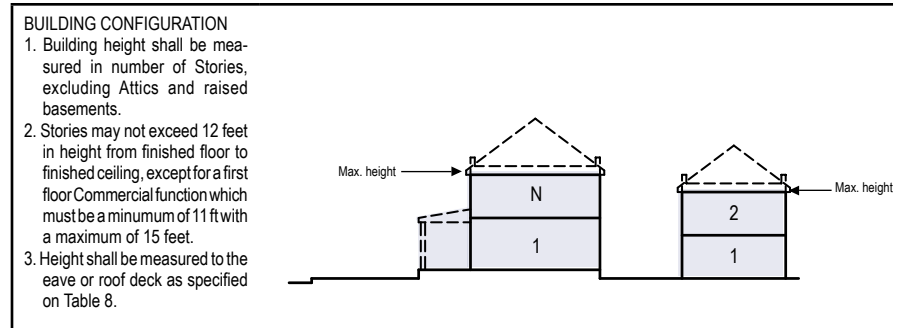
j. PRIVATE FRONTAGES (see Table 7)

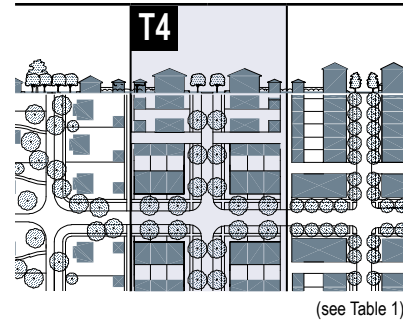
Common Lawn	permitted
Verandah & Fence	permitted
Terrace or L.C.	not permitted
Forecourt	not permitted
Stoop	not permitted
Shopfront & Awning	not permitted
Gallery	not permitted
Arcade	not permitted

Refer to Summary Table 19

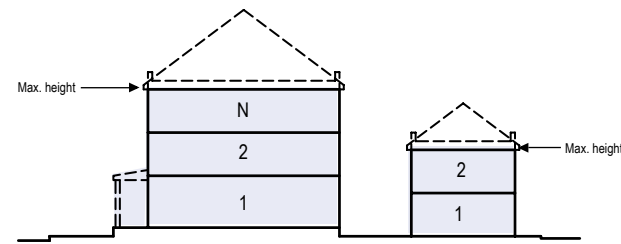
PARKING PROVISIONS
See Table 10 & Table 11

*or 15 ft. from Centre line of alley
"N" stands for any Stories above those shown, up to the maximum. Refer to metrics for exact minimums and maximums





BUILDING CONFIGURATION
 1. Building height shall be measured in number of Stories, excluding Attics and raised basements.
 2. Stories may not exceed 12 feet in height from finished floor to finished ceiling, except for a first floor Commercial function which must be a minimum of 11 ft with a maximum of 15 ft.
 3. Height shall be measured to the eave or roof deck as specified on Table 8.



I. BUILDING FUNCTION (see Table 10 & Table 12)

Residential	limited use
Lodging	limited use
Office	limited use
Retail	limited use

k. BUILDING CONFIGURATION (see Table 8)

Principal Building	2 stories max
Outbuilding	2 stories max.

f. LOT OCCUPATION (see Table 19f)

Lot Width	18 ft min 96 ft max
Lot Coverage	70% max

i. BUILDING DISPOSITION (see Table 9)

Frontage Garden	permitted
Side Garden	permitted
Rear Garden	permitted
Courtyard Garden	not permitted

g. SETBACKS - PRINCIPAL BUILDING (see Table 19g)

(g.1) Front Setback Principal	6 ft. min. 18 ft. max.
(g.2) Front Setback Secondary	6 ft. min. 18 ft. max.
(g.3) Side Setback	0 ft. min.
(g.4) Rear Setback	3 ft. min.*
Frontage Buildout	60% min at setback

h. SETBACKS - OUTBUILDING (see Table 19h)

(h.1) Front Setback	20 ft. min. + bldg. setback
(h.2) Side Setback	0 ft. min. or 3 ft at corner
(h.3) Rear Setback	3 ft. min

j. PRIVATE FRONTAGES (see Table 7)

Common Lawn	not permitted
Verandah & Fence	permitted
Terrace or L.C.	permitted
Forecourt	permitted
Stoop	permitted
Shopfront & Awning	permitted
Gallery	permitted
Arcade	not permitted

Refer to Summary Table 19

PARKING PROVISIONS

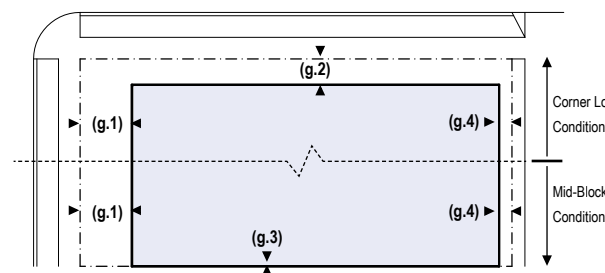
See Table 10 & Table 11

*or 15 ft. from Centre line of alley

"N" stands for any Stories above those shown, up to the maximum. Refer to metrics for exact minimums and maximums

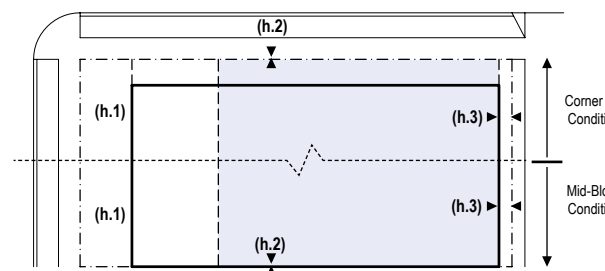
SETBACKS - PRINCIPAL BLDG

1. The Facades and Elevations of Principal Buildings shall be distanced from the Lot lines as shown.
 2. Facades shall be built along the Principal Frontage to the minimum specified width in the table.



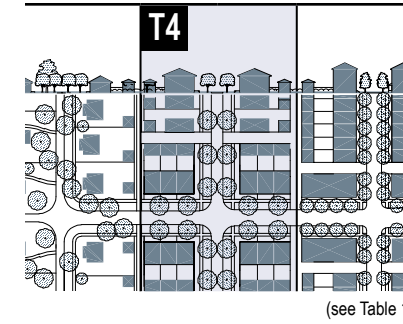
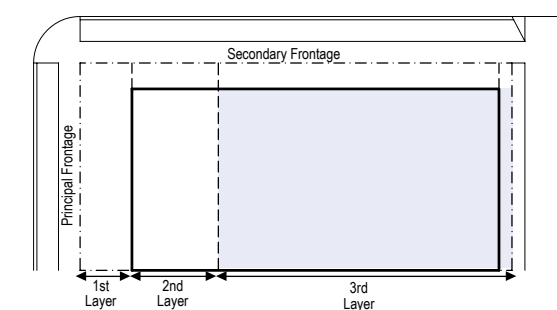
SETBACKS - OUTBUILDING

1. The Elevations of the Outbuilding shall be distanced from the Lot lines as shown.

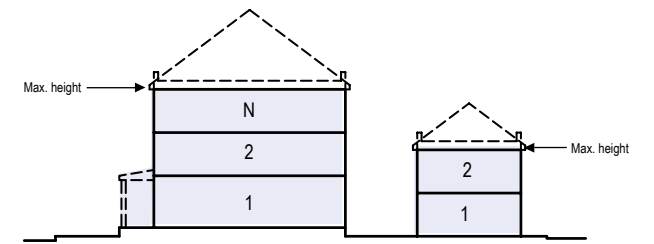


PARKING PLACEMENT

1. Uncovered parking spaces may be provided within the third Layer as shown in the diagram (see Table 22d).
 2. Covered parking shall be provided within the third Layer as shown in the diagram (see Table 22d).
 3. Trash containers shall be stored within the third Layer.



BUILDING CONFIGURATION
 1. Building height shall be measured in number of Stories, excluding Attics and raised basements.
 2. Stories may not exceed 12 feet in height from finished floor to finished ceiling, except for a first floor Commercial function which must be a minimum of 11 ft with a maximum of 15 ft.
 3. Height shall be measured to the eave or roof deck as specified on Table 8.



I. BUILDING FUNCTION (see Table 10 & Table 12)

Residential	limited use
Lodging	limited use
Office	limited use
Retail	limited use

k. BUILDING CONFIGURATION (see Table 8)

Principal Building	2 stories max
Outbuilding	2 stories max.

f. LOT OCCUPATION (see Table 19f)

Lot Width	18 ft min 96 ft max
Lot Coverage	70% max

i. BUILDING DISPOSITION (see Table 9)

Frontage Garden	permitted
Side Garden	permitted
Rear Garden	permitted
Courtyard Garden	not permitted

g. SETBACKS - PRINCIPAL BUILDING (see Table 19g)

(g.1) Front Setback Principal	6 ft. min. 18 ft. max.
(g.2) Front Setback Secondary	6 ft. min. 18 ft. max.
(g.3) Side Setback	0 ft. min.
(g.4) Rear Setback	3 ft. min.*
Frontage Buildout	60% min at setback

h. SETBACKS - OUTBUILDING (see Table 19h)

(h.1) Front Setback	20 ft. min. + bldg. setback
(h.2) Side Setback	0 ft. min. or 3 ft at corner
(h.3) Rear Setback	3 ft. min

j. PRIVATE FRONTAGES (see Table 7)

Common Lawn	not permitted
Verandah & Fence	permitted
Terrace or L.C.	permitted
Forecourt	permitted
Stoop	permitted
Shopfront & Awning	permitted
Gallery	permitted
Arcade	not permitted

Refer to Summary Table 19

PARKING PROVISIONS

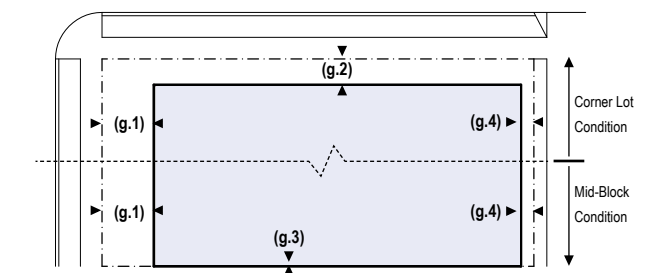
See Table 10 & Table 11

*or 15 ft. from Centre line of alley

"N" stands for any Stories above those shown, up to the maximum. Refer to metrics for exact minimums and maximums

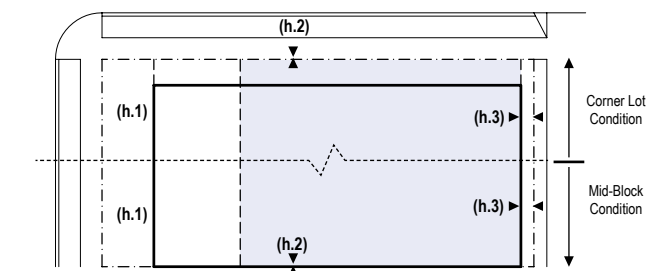
SETBACKS - PRINCIPAL BLDG

1. The Facades and Elevations of Principal Buildings shall be distanced from the Lot lines as shown.
 2. Facades shall be built along the Principal Frontage to the minimum specified width in the table.



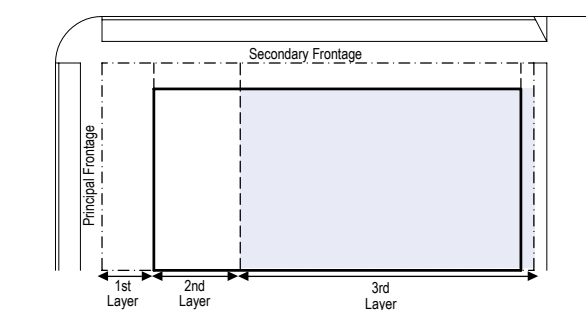
SETBACKS - OUTBUILDING

1. The Elevations of the Outbuilding shall be distanced from the Lot lines as shown.



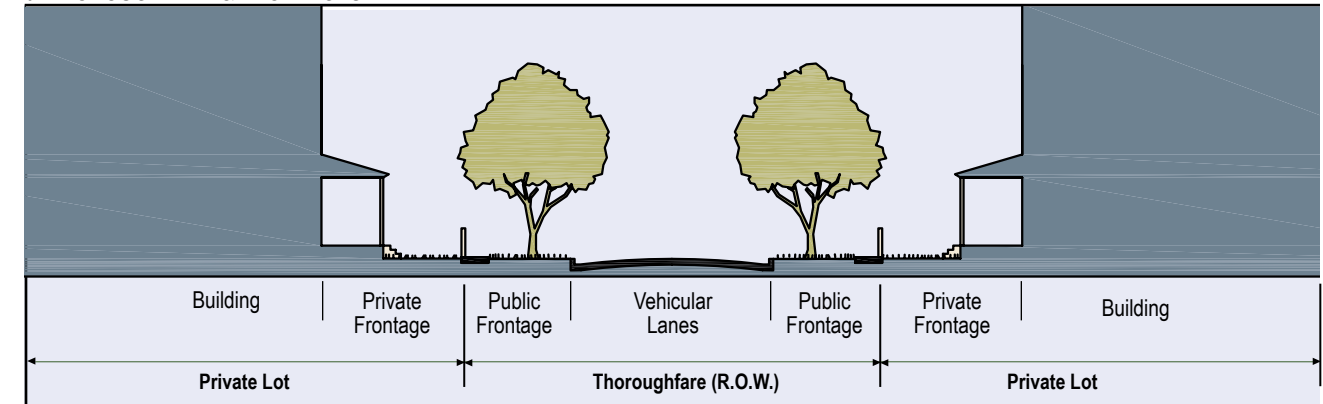
PARKING PLACEMENT

1. Uncovered parking spaces may be provided within the third Layer as shown in the diagram (see Table 22d).
 2. Covered parking shall be provided within the third Layer as shown in the diagram (see Table 22d).
 3. Trash containers shall be stored within the third Layer.

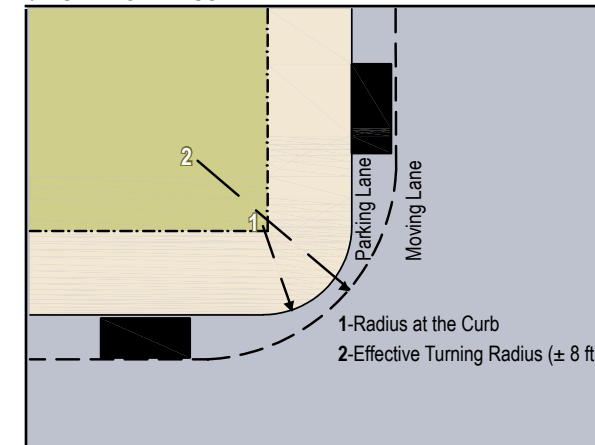


[RESERVED FOR Table 21: Special District Standards]

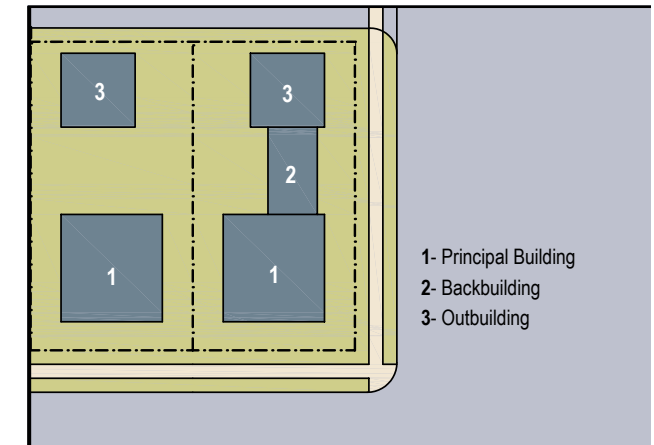
a. THOROUGHFARE & FRONTAGES



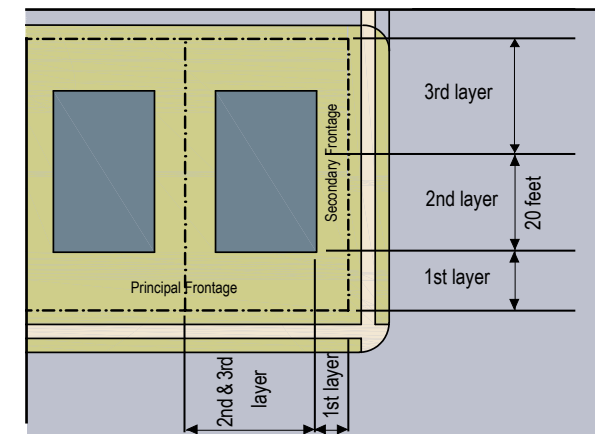
b. TURNING RADIUS



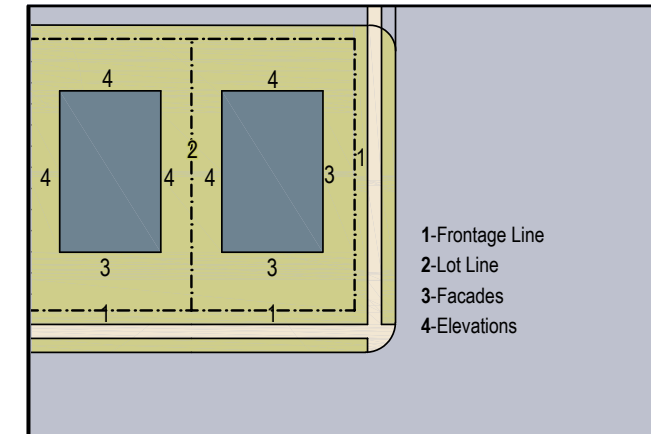
c. BUILDING DISPOSITION



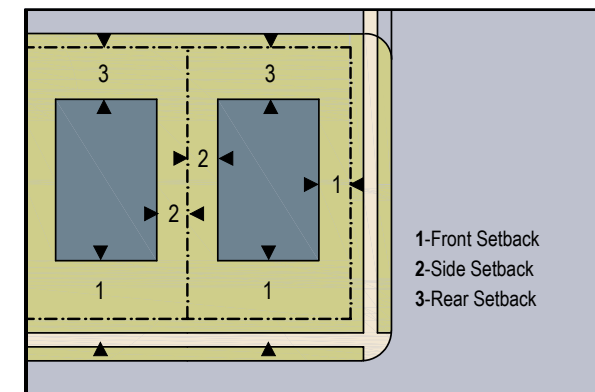
d. LOT LAYERS



e. FRONTAGE & LOT LINES



f. SETBACK DESIGNATIONS



g. NETWORK-BASED PEDESTRIAN SHED



DEFINITIONS

This Article provides definitions for terms in this Code that are technical in nature or that otherwise may not reflect a common usage of the term. If a term is not defined in this Article, then the TPC shall determine the correct definition. Items in italics refer to *Articles*, *Sections*, or *Tables* in the SmartCode.

Abaco Parrot: a sub-species of the Cuban Amazon Parrot indigenous to Great Abaco Island distinguished by its subterranean nesting practices.

A-Grid: cumulatively, those Thoroughfares that by virtue of their pre-existing pedestrian-supportive qualities, or their future importance to pedestrian connectivity, are held to the highest standards prescribed by this Code. See B-Grid. (Syn: primary grid.)

Accessory Building: an Outbuilding with an Accessory Unit.

Accessory Unit: an Apartment not greater than 440 square feet sharing ownership and utility connections with a Principal Building; it may or may not be within an Outbuilding. See *Table 10 and Table 22*. (Syn: ancillary unit)

Adjusted Pedestrian Shed: a Pedestrian Shed that has been adjusted according to Section 3.2, creating the regulatory boundary of a Settlement Unit.

Affordable Housing: dwellings consisting of rental or for-sale units that have a rent (including utilities) or mortgage payment typically no more than 30% of the income of families earning no more than 80% of median incomes by family size for the county. (Alt. definition: rental or for-sale dwellings that are economically within the means of the starting salary of a local elementary school teacher.)

Allee: a regularly spaced and aligned row of trees usually planted along a Thoroughfare or Path.

Apartment: a Residential unit sharing a building and a Lot with other units and/or uses; may be for rent, or for sale as a condominium.

Arcade: a Private Frontage conventional for Retail use wherein the Facade is a colonnade supporting habitable space that overlaps the Sidewalk, while the Facade at Sidewalk level remains at the Frontage Line.

Area-to-Perimeter Ratio: the ratio between the area of a domain and its perimeter.

Attic: the interior part of a building contained within a pitched roof structure.

Avenue (AV): a Thoroughfare of high vehicular capacity and low to moderate speed, acting as a short distance connector between urban Centres, and usually equipped with a landscaped median.

Bay Street: the primary thoroughfare located on the bay of a settlement.

B-Grid: cumulatively, those Thoroughfares that by virtue of their use, location, or absence of pre-existing pedestrian-supportive qualities, may meet a standard lower than that of the A-Grid. See **A-Grid**. (Syn: secondary grid.)

BRT: see **Bus Rapid Transit**.

Backbuilding: a single-Story structure connecting a Principal Building to an Outbuilding. See *Table 22*.

Base Density: the number of dwelling units per acre before adjustment for other Functions and/or TDR. See **Density**.

Bed and Breakfast: an owner-occupied Lodging type offering 1 to 5 bedrooms,

permitted to serve breakfast in the mornings to guests.

Bicycle Lane (BL): a dedicated lane for cycling within a moderate-speed vehicular Thoroughfare, demarcated by striping.

Bicycle Route (BR): a Thoroughfare suitable for the shared use of bicycles and automobiles moving at low speeds.

Bicycle Trail (BT): a bicycle way running independently of a vehicular Thoroughfare.

Bioswale: an extended Rain Garden that sometimes runs the length of the block.

Block: the aggregate of private Lots, Passages, Rear Alleys and Rear Lanes, circumscribed by Thoroughfares.

Block Face: the aggregate of all the building Facades on one side of a Block.

Blue Holes: openings in the earth to underground cave systems that contain a mixture of fresh and saline waters. Blue holes develop when the limestone shelf collapses during periods of stress due to low sea levels.

Boulevard (BV): a Thoroughfare designed for high vehicular capacity and moderate speed, traversing an Urbanized area. Boulevards are usually equipped with Slip Roads buffering Sidewalks and buildings.

Brownfield: an area previously used primarily as an industrial site.

Buffer: A vegetated area, including trees, shrubs, and herbaceous vegetation, that exists or is established to protect a habitat, blue hole, mangrove swamp, lake, reservoir, or coastal estuarine area. Alteration of this natural area is strictly limited.

Bus Rapid Transit: a rubber tire system with its own right-of-way or dedicated lane along at least 70% of its route, providing transit service that is faster than a regular bus.

By Right: characterizing a proposal or component of a proposal for a Settlement Plan or Building Scale Plan (*Article 3, Article 4, or Article 5*) that complies with the SmartCode and is permitted and processed administratively, without public hearing. See **Warrant** and **Variance**.

CLS or Clustered Land Settlement: a Settlement Unit type structured by a Pedestrian Shed oriented toward a Common Destination such as a general store, Meeting Hall, schoolhouse, or church. CLS takes the form of a small settlement standing free in the countryside. See *Table 2 and Table 19a*. (Syn: Hamlet, Conservation Land Settlement, cluster.)

Civic: the term defining not-for-profit organizations dedicated to arts, culture, education, recreation, government, transit, and municipal parking.

Civic Building: a building operated by not-for-profit organizations dedicated to arts, culture, education, recreation, government, transit, and municipal parking, or for use approved by the legislative body.

Civic Parking Reserve: Parking Structure or parking lot within a quarter-mile of the site that it serves. See *Section 5.9.2*.

Civic Space: an outdoor area dedicated for public use. Civic Space types are defined by the combination of certain physical constants including the relationships among their intended use, their size, their landscaping and their Enfronting buildings. See *Table 13*.

Civic Zone: designation for public sites dedicated for Civic Buildings and Civic Space.

Commercial: the term collectively defining workplace, Office, Retail, and Lodging

Functions.

Common Destination: An area of focused Settlement activity, usually defining the approximate Centre of a Pedestrian Shed. It may include without limitation one or more of the following: a Civic Space, a Civic Building, a Commercial Centre, or a transit station, and may act as the social Centre of a neighborhood.

Common Yard: a planted Private Frontage wherein the Facade is set back from the Frontage line. It is visually continuous with adjacent yards. *See Table 7.*

Configuration: the form of a building, based on its massing, Private Frontage, and height.

Coppice: a variety of dry-broadleaf evergreen formation that is distinguished by solid clusters of broad leafed trees with a sparse under-story. Coppice is a primary habitat for the Abaco Parrot. *See Abaco Parrot.*

Coppice Zone 1: Coppice located within 4 kilometers of the Parrot Nesting Area.

Coppice Zone 2: Coppice located within 4 to 20 kilometers of the Parrot Nesting Area.

Coppice Zone 3: Coppice located within 20 to 45 kilometers of the Parrot Nesting Area.

Corridor: a lineal geographic system incorporating transportation and/or Greenway trajectories. A transportation Corridor may be a linear Transect Zone.

Cottage: an Edgeward building type. A single-family dwelling, on a regular Lot, often shared with an Accessory Building in the back yard.

Crown Lands: lands owned by the Commonwealth of the Bahamas.

Courtyard Garden Building: a building that occupies the boundaries of its Lot while internally defining one or more private patios. *See Table 9.*

Curb: the edge of the vehicular pavement that may be raised or flush to a Swale. It usually incorporates the drainage system. *See Table 4A and Table 4B.*

DDC: Development and Design Centre.

Density: the number of dwelling units within a standard measure of land area.

Design Speed: is the velocity at which a Thoroughfare tends to be driven without the constraints of signage or enforcement. There are four ranges of speed: Very Low: (below 20 MPH); Low: (20-25 MPH); Moderate: (25-35 MPH); High: (above 35 MPH). Lane width is determined by desired Design Speed. *See Table 3A.*

Developable Areas: lands other than those in the O-1 Preserved Open Sector.

Development and Design Centre (DDC): a component of the Government of the Bahamas Department of Physical Planning assigned to advise on the use of this Code and to aid in the design of the Settlements and buildings based on it.

Disposition: the placement of a building on its Lot. *See Table 9 and Table 22.*

Dooryard: a Private Frontage type with a shallow Setback and front garden or patio, usually with a low wall at the Frontage Line. *See Table 7.* (Variant: **Lightwell**, light court.)

Drive: a Thoroughfare along the boundary between an Urbanized and a natural condition, usually along a waterfront, Park, or promontory. One side has the urban character of a Thoroughfare, with Sidewalk and building, while the other has the qualities of a Road or parkway, with naturalistic planting and rural details.

Driveway: a vehicular lane within a Lot, often leading to a garage. *See Section 5.10 and Table 3B-f.*

Eco-Settlement (ECOS): a Settlement Unit type structured by half a Standard Pedestrian Shed oriented toward a Common Destination such as a Lodge, general store, Meeting Hall, schoolhouse, or church. ECOS takes the form of a settlement that is comprised of a small footprint with a light imprint infrastructure. The entire settlement is off-grid; water, sewer, energy, and food production independent, standing free in the countryside. *See Table 2 and Table 19a.*

Eco-Pedestrian Shed (ECOPS): a Pedestrian Shed that is half a Standard Pedestrian Shed or 440 feet, about the distance of a two and a half minute walk at a leisurely pace. *See Pedestrian Shed.*

Effective Parking: the amount of parking required for Mixed Use after adjustment by the Shared Parking Factor. *See Table 11.*

Effective Turning Radius: the measurement of the inside Turning Radius taking parked cars into account. *See Table 22.*

Elevation: an exterior wall of a building not along a Frontage Line. *See Table 22.* See: **Facade.**

Encroach: to break the plane of a vertical or horizontal regulatory limit with a structural element, so that it extends into a Setback, into the Public Frontage, or above a height limit.

Encroachment: any structural element that breaks the plane of a vertical or horizontal regulatory limit, extending into a Setback, into the Public Frontage, or above a height limit.

Enfront: to place an element along a Frontage, as in "verandahs Enfront the street."

Estate House: an Edgeward building type. A single-family dwelling on a very large Lot of rural character, often shared by one or more Accessory Buildings. (Syn: country house, villa)

Expression Line: a line prescribed at a certain level of a building for the major part of the width of a Facade, expressed by a variation in material or by a limited projection such as a molding or balcony. *See Table 8.* (Syn: transition line.)

Extension Line: a line prescribed at a certain level of a building for the major part of the width of a Facade, regulating the maximum height for an Encroachment by an Arcade Frontage. *See Table 8.*

Extensive Green Roof: a building roof with a planting medium six inches in depth or less, designed to be virtually self-sustaining and requiring a minimum of maintenance. Such roofs are intended to function as an ecological protection layer. They are planted with low-lying species designed to provide maximum cover achieving water retention, erosion resistance, and transpiration of moisture.

Facade: the exterior wall of a building that is set along a Frontage Line. *See Elevation.*

Ferry Transit Network (FTN): a water transit system within the Bahamas.

Forecourt: a Private Frontage wherein a portion of the Facade is close to the Frontage Line and the central portion is set back. *See Table 7.*

Frontage: the area between a building Facade and the vehicular lanes, inclusive of its built and planted components. Frontage is divided into **Private Frontage** and **Public Frontage.** *See Table 4A and Table 7.*

Frontage Garden Building: a building that occupies the centre of its Lot with Setbacks on all sides. *See Table 9.*



Frontage Line: a Lot line bordering a Public Frontage. Facades facing Frontage Lines define the public realm and are therefore more regulated than the Elevations facing other Lot Lines. See *Table 22*.

Function: the use or uses accommodated by a building and its Lot, categorized as *Restricted*, *Limited*, or *Open*, according to the intensity of the use. See *Table 10* and *Table 12*.

Gallery: a Private Frontage conventional for Retail use wherein the Facade is aligned close to the Frontage Line with an attached cantilevered shed or lightweight colonnade overlapping the Sidewalk. See *Table 7*.

GIS (Geographic Information System): a computerized program in widespread municipal use that organizes data on maps. The protocol for preparing a *Regional Plan* should be based on GIS information. See *Section 2.1*.

Green: a Civic Space type for unstructured recreation, spatially defined by landscaping rather than building Frontages. See *Table 13*.

Greenfield: an area that consists of open or wooded land or farmland that has not been previously developed.

Green Roof: a building roof partially or completely covered with vegetation and soil, or a growing medium, over a waterproofing membrane. Green roofs may be categorized as Extensive, Semi-Intensive, or Intensive, depending on the depth of the planting medium and the amount of maintenance required. (Syn: eco-roof, living roof, greenroof)

Greenway: an Open Space Corridor in largely natural conditions which may include trails for bicycles and pedestrians.

Greyfield: an area previously used primarily as a parking lot. Shopping Centres and shopping malls are typical Greyfield sites. (Variant: Grayfield.)

Growth Sector: one of four Sectors where development is permitted By Right in the SmartCode, three for New Settlements and one for Infill. See *Article 2*.

Hamlet: See **CLS**. (Syn: cluster, settlement.)

Highway: a rural and suburban Thoroughfare of high vehicular speed and capacity. This type is allocated to the more rural Transect Zones (T-1, T-2, and T-3).

Home Occupation: non-Retail Commercial enterprises. The work quarters should be invisible from the Frontage, located either within the house or in an Outbuilding. Permitted activities are defined by the Restricted Office category. See *Table 10*.

Horizontal Axis Wind Turbine: a Wind Turbine with its rotor on the horizontal axis, similar to an airplane propeller.

House: an Edgeward building type, usually a single-family dwelling on a large Lot, often shared with an Accessory Building in the back yard. (Syn: single.)

Infill: *noun* - new development on land that had been previously developed, including most Greyfield and Brownfield sites and cleared land within Urbanized areas. *verb*- to develop such areas.

Infill RSC: a Settlement Unit type within an Urbanized, Greyfield, or Brownfield area based on a Long or Linear Pedestrian Shed and consisting of T-4, T-5, and/or T-6 Zones. An Infill RSC is permitted By Right in the G-4 Infill Growth Sector and is regulated by Article 4. See *Section 4.2.3*. (Var: downtown.)

Infill TNS: a Settlement Unit type within an Urbanized, Greyfield, or Brownfield area based on a Standard Pedestrian Shed and consisting of T-3, T-4, and/or T-5

Zones. An Infill TNS is permitted By Right in the G-4 Infill Growth Sector and is regulated by Article 4. See *Section 4.2.2*. (Var: neighborhood.)

Inn: a Lodging type, owner-occupied, offering 6 to 12 bedrooms, permitted to serve breakfast in the mornings to guests. See *Table 10*.

Intensive Green Roof: a building roof with a planting medium between 8 inches and 4 feet. It can sustain elaborate plantings that include shrubs and trees. Intensive Green Roofs are heavy and usually installed over concrete roof decks. They require considerable maintenance. In addition to their role in carbon mitigation, they are used for recreation or aesthetics, being park or garden-like.

Layer: a range of depth of a Lot within which certain elements are permitted. See *Table 22*.

Light Imprint: a method of managing stormwater within a settlement. It uses both sustainable engineering and New Urbanist principles with regards to the different transect zones. See *Table 18*.

Lightwell: A Private Frontage type that is a below-grade entrance or recess designed to allow light into basements. See *Table 7*. (Syn: light court.)

Linear Pedestrian Shed: A Pedestrian Shed that is elongated along an important Mixed Use Corridor such as a Bay Street or a Main Street. A Linear Pedestrian Shed extends approximately 1/6 miles from each side for the Corridor for the length of its Mixed Use portion. The resulting area is shaped like a lozenge. It may be used to structure a TNS, RSC, Infill TNS, or Infill RSC. (Syn: elongated pedestrian shed).

Liner Building: a building specifically designed to mask a parking lot or a Parking Structure from a Frontage.

Live-Work: a Mixed Use unit consisting of a Commercial and Residential Function. The Commercial Function may be anywhere in the unit. It is intended to be occupied by a business operator who lives in the same structure that contains the Commercial activity or industry. See **Work-Live**. (Syn.: flexhouse.)

Lodge: the main building, including reception or main dining hall, of a resort.

Lodging: premises available for daily and weekly renting of bedrooms. See *Table 10* and *Table 12*.

Long Pedestrian Shed: a Pedestrian Shed that is an average 1/3 mile radius or 2260 feet, used when a transit stop (bus or ferry) is present or proposed as the Common Destination. A Long Pedestrian Shed represent approximately a ten-minute walk at a leisurely pace. It is applied to structure an RSC Settlement Unit type. See Pedestrian Shed.

Lot: a parcel of land accommodating a building or buildings of unified design. The size of a Lot is controlled by its width in order to determine the grain (i.e., fine grain or coarse grain) of the urban fabric.

Lot Line: the boundary that legally and geometrically demarcates a Lot.

Lot Width: the length of the Principal Frontage Line of a Lot.

Main Civic Space: the primary outdoor gathering place for a Settlement. The Main Civic Space is often, but not always, associated with an important Civic Building.

Main Street: the primary Thoroughfare in a settlement.

Manufacturing: premises available for the creation, assemblage and/or repair of artifacts, using table-mounted electrical machinery or artisanal equipment, and including their Retail sale.

Meeting Hall: a building available for gatherings, including conferences, that accommodates at least one room equivalent to a minimum of 10 square feet per projected dwelling unit within the Pedestrian Shed in which it is located.

Mixed Use: multiple Functions within the same building through superimposition or adjacency, or in multiple buildings by adjacency, or at a proximity determined by Warrant.

Net Site Area: all developable land within a site including Thoroughfares but excluding land allocated as Civic Zones.

Network Pedestrian Shed: a Pedestrian Shed adjusted for average walk times along Thoroughfares. This type may be used to structure Infill Settlement Plans. See *Table 22*.

Office: premises available for the transaction of general business but excluding Retail, artisanal and Manufacturing uses. See *Table 10*.

Open Space: land intended to remain undeveloped; it may be for Civic Space.

Outbuilding: an Accessory Building, usually located toward the rear of the same Lot as a Principal Building, and sometimes connected to the Principal Building by a Backbuilding. See *Table 22*.

Park: a Civic Space type that is a natural preserve available for unstructured recreation. See *Table 13*.

Parking Structure: a building containing one or more Stories of parking above grade.

Parrot Corridors (PC): a corridor of existing coppice habitat preserved in the settlement plan prior to clearing. Preference should be given to protection of existing high quality habitat and connecting to adjacent Parrot Corridors.

Parrot Nesting Area: the zone in which there are known active nests. See **Abaco Parrot** or **Coppice**.

Passage (PS): a pedestrian connector, open or roofed, that passes between buildings to provide shortcuts through long Blocks and connect rear parking areas to Frontages.

Path (PT): a pedestrian way traversing a Park or rural area, with landscape matching the contiguous Open Space, ideally connecting directly with the urban Sidewalk network.

Pedestrian Shed: An area that is Centreed on a Common Destination. Its size is related to average walking distances for the applicable Settlement Unit type. Pedestrian Sheds are applied to structure Settlements. See **Standard, Long, Linear** or **Network Pedestrian Shed**. (Syn: walkshed, walkable catchment.)

Planter: the element of the Public Frontage which accommodates street trees, whether continuous or individual.

Plaza: a Civic Space type designed for Civic purposes and Commercial activities in the more urban Transect Zones, generally paved and spatially defined by building Frontages.

Principal Building: the main building on a Lot, usually located toward the Frontage. See *Table 22*.

Principal Entrance: the main point of access for pedestrians into a building.

Principal Frontage: On corner Lots, the Private Frontage designated to bear the address and Principal Entrance to the building, and the measure of minimum Lot

width. Prescriptions for the parking Layers pertain only to the Principal Frontage. Prescriptions for the first Layer pertain to both Frontages of a corner Lot. See **Frontage**.

Private Frontage: the privately held Layer between the Frontage Line and the Principal Building Facade. See *Table 7* and *Table 22*.

Public Frontage: the area between the Curb of the vehicular lanes and the Frontage Line. See *Table 4A* and *Table 4B*.

Rain Garden: sunken garden using native plants and sometimes trees.

RSC: see **Regional Settlement Centre**.

Rear Alley (RA): a vehicular way located to the rear of Lots providing access to service areas, parking, and Outbuildings and containing utility easements. Rear Alleys should be paved from building face to building face, with drainage by inverted crown at the Centre or with roll Curbs at the edges.

Rear Lane (RL): a vehicular way located to the rear of Lots providing access to service areas, parking, and Outbuildings and containing utility easements. Rear Lanes may be paved lightly to Driveway standards. The streetscape consists of gravel or landscaped edges, has no raised Curb, and is drained by percolation.

Rear Garden Building: a building that occupies the full Frontage Line, leaving the rear of the Lot as the sole yard. See *Table 9*. (Var: Rowhouse, Townhouse, Apartment House)

Recess Line: a line prescribed for the full width of a Facade, above which there is a Stepback of a minimum distance, such that the height to this line (not the overall building height) effectively defines the enclosure of the Enfronting public space. Var: Extension Line. See *Table 8*.

Regional Centre: Regional Centre Settlement or RSC.

Regional Settlement Centre (RSC): a Settlement Unit Type structured by a Long Pedestrian Shed or Linear Pedestrian Shed, which may be adjoined without buffers by one or several Pedestrian Sheds, each with the individual Transect Zone requirements of a TNS. RSC takes the form of a high-Density Mixed Use centre connected to other centres by transit. See infill RSC, *Table 2* and *Table 19a*. (Var: town centre, downtown. Syn: Regional Centre)

Regulating Plan: a Zoning Map or set of maps that shows the Transect Zones, Civic Zones, Special Districts if any, and Special Requirements if any, of areas subject to, or potentially subject to, regulation by the SmartCode.

Residential: characterizing premises available for long-term human dwelling.

Retail: characterizing premises available for the sale of merchandise and food service. See *Table 10* and *Table 12*.

Retail Frontage: Frontage designated on a Regulating Plan that requires or recommends the provision of a Shopfront, encouraging the ground level to be available for Retail use. See **Special Requirements**.

Road (RD): a local, rural and suburban Thoroughfare of low-to-moderate vehicular speed and capacity. This type is allocated to the more rural Transect Zones (T1-T3). See *Table 3A*.

Rowhouse: a single-family dwelling that shares a party wall with another of the same type and occupies the full Frontage Line. See **Rearyard Building**. (Syn: **Townhouse**)

Rural Boundary Line: the extent of potential urban growth as determined by existing geographical determinants. The Rural Boundary Line is permanent.

Sector: a neutral term for a geographic area. In the SmartCode there are six specific Sectors for regional planning that establish the legal boundaries for Open Space and development.

Secondary Frontage: on corner Lots, the Private Frontage that is not the Principal Frontage. As it affects the public realm, its First Layer is regulated. See Table 22.

Semi-Intensive Green Roof: a building roof with specifications between the Extensive and Intensive Green Roof systems. This type requires more maintenance, has higher costs, and weighs more than the Extensive Green Roof.

Setback: the area of a Lot measured from the Lot line to a building Facade or Elevation that is maintained clear of permanent structures, with the exception of Encroachments listed in Section 5.7. See Table 19g. (Var: build-to-line.)

Settlement Unit: a regulatory category defining the physical form, Density, and extent of a settlement. The three Settlement Unit types addressed in this Code are CLS, TNS, and RSC. Variants of TNS and RSC for Infill (Article 4) are called Infill TNS and Infill RSC. The TOS Settlement Unit type may be created by an overlay on TNS or RSC.

Shared Parking Factor: an accounting for parking spaces that are available to more than one Function. See Table 11.

Shopfront: a Private Frontage conventional for Retail use, with substantial glazing and an awning, wherein the Facade is aligned close to the Frontage Line with the building entrance at Sidewalk grade. See Table 7.

Sidewalk: the paved section of the Public Frontage dedicated exclusively to pedestrian activity.

Side Garden Building: a building that occupies one side of the Lot with a Setback on the other side. This type can be a Single or Twin depending on whether it abuts the neighboring house. See Table 9.

Slip Road: an outer vehicular lane or lanes of a Thoroughfare, designed for slow speeds while inner lanes carry higher speed traffic, and separated from them by a planted median. (Syn: access lane, service lane)

Solar Farm: a facility where solar powered devices, either photovoltaic (PV) or turbine systems, are clustered. It should be large enough to generate at least one megawatt.

Solar Roof: a building roof that supports an array of solar panels, including solar shingles.

South Abaco Preservation Committee (SAPC): the SAPC is comprised of a representative from each of the various regulatory agencies that have jurisdiction over the preservation of a historic building or site. and shall be part of the Preservation of Historic Buildings Committee of the Bahamas National Trust in cooperation with the Government of the Bahamas Department of Antiquities, Monuments, and Museums.

Specialized Building: a building that is not subject to Residential, Commercial, or Lodging classification. See Table 9.

Special District (SD): an area that, by its intrinsic Function, Disposition, or Configuration, cannot or should not conform to one or more of the normative Settlement Unit types or Transect Zones specified by the SmartCode. Special

Districts may be mapped and regulated at the regional scale or the Settlement scale.

Special Requirements: provisions of Section 3.9, Section 4.7, and Section 5.3 of this Code and/or the associated designations on a Regulating Plan or other map for those provisions.

Square: a Civic Space type designed for unstructured recreation and Civic purposes, spatially defined by building Frontages and consisting of Paths, lawns and trees, formally disposed. See Table 13.

Standard Pedestrian Shed: a Pedestrian Shed that is an average 1/6 mile radius or 880 feet, about the distance of a five-minute walk at a leisurely pace. See Pedestrian Shed.

Stepback: a building Setback of a specified distance that occurs at a prescribed number of Stories above the ground. See Table 8.

Stoop: a Private Frontage wherein the Facade is aligned close to the Frontage Line with the first Story elevated from the Sidewalk for privacy, with an exterior stair and landing at the entrance. See Table 7.

Story: a habitable level within a building, excluding an Attic or raised basement. See Table 8.

Street (ST): a local urban Thoroughfare of low speed and capacity. See Table 3B and Table 4B.

Streetscreen: a freestanding wall built along the Frontage Line, or coplanar with the Facade. It may mask a parking lot from the Thoroughfare, provide privacy to a side yard, and/or strengthen the spatial definition of the public realm. (Syn: streetwall.) See Section 5.7.5f.

Substantial Modification: alteration to a building that is valued at more than 50% of the replacement cost of the entire building, if new.

Sustainability: The basis upon which an organism or a settlement can manage its own continuing viability, meeting the needs of the present without compromising the ability of future generations to meet their own needs.

Swale: a low or slightly depressed natural area for drainage.

T-zone: Transect Zone.

TDR: Transfer of Development Rights, a method of relocating existing zoning rights from areas to be preserved as Open Space to areas to be more densely urbanized.

TDR Receiving Area: an area intended for development that may be made more dense by the purchase of development rights from TDR Sending Areas.

TDR Sending Area: an area previously zoned for development within a designated Reserved Open Sector (O-2), from which development rights may be transferred to a Growth Sector.

Terminated Vista: a location at the axial conclusion of a Thoroughfare. A building located at a Terminated Vista designated on a Regulating Plan is required or recommended to be designed in response to the axis.

Thoroughfare: a way for use by vehicular and pedestrian traffic and to provide access to Lots and Open Spaces, consisting of Vehicular Lanes and the Public Frontage. See Table 3A, Table 3B and Table 22a.

TNS: Traditional Neighborhood Settlement, a Settlement Unit type structured by

a standard Pedestrian Shed oriented toward a Common Destination consisting of a Mixed Use centre or Corridor, and in the form of a medium-sized settlement near a transportation route. See Table 2 and Table 19a. (Syn: village. Variant: Infill TNS, neighborhood)

TOS: Transit Oriented Settlement. TOS is created by a n overlay on all or part of a TNS or RSC, or by designation on a Regional Plan, permitting increased Density to support Thoroughfare or Ferry Transit (FTN) as set forth in Section 5.9.2d.

Townhouse: See **Rear Garden Building**. (Syn: **Rowhouse**)

Town Planning Committee (TPC):a TPC is comprised of the existing members of the TPC including a member from each regulatory agency having jurisdiction over the permitting of a project, and a representative of the Development and Design Centre. to process administratively applications and plans for proposed projects. See *Section 1.4*.

Transect: a cross-section of the environment showing a range of different habitats. The rural-urban Transect of the human environment used in the SmartCode template is divided into six Transect Zones. These zones describe the physical form and character of a place, according to the Density and intensity of its land use and Urbanism.

Transect Zone (T-zone): One of several areas on a Zoning Map regulated by the SmartCode. Transect Zones are administratively similar to the land use zones in conventional codes, except that in addition to the usual building use, Density, height, and Setback requirements, other elements of the intended habitat are integrated, including those of the private Lot and building and Public Frontage. See *Table 1*.

Turning Radius: the curved edge of a Thoroughfare at an intersection, measured at the inside edge of the vehicular tracking. The smaller the Turning Radius, the smaller the pedestrian crossing distance and the more slowly the vehicle is forced to make the turn. See *Table 3B and Table 22*.

Urban Boundary Line: the extent of potential urban growth as determined by the projected demographic needs of a region. The Urban Boundary Line may be adjusted from time to time.

Urban Farm: agricultural land dedicated to food production to be locally consumed (by locavores).

Urbanism: collective term for the condition of a compact, Mixed Use settlement, including the physical form of its development and its environmental, functional, economic, and sociocultural aspects.

Urbanized: generally, developed. Specific to the SmartCode, developed at T-3 (Sub-Urban) Density or higher.

Variance: a ruling that would permit a practice that is not consistent with either a specific provision or the Intent of this Code (*Section 1.3*). Variances are usually granted by the Board of Appeals in a public hearing. See *Section 1.5*.

Vertical Axis Wind Turbine: a Wind Turbine with its rotor on the vertical axis. Blades are usually helical and the device is usually more compact than the Horizontal Axis Wind Turbine. It does not have to rotate to face the prevailing wind.

Vertical Farm: agricultural production in buildings without yards, usually high and mid-rise buildings.

Warrant: a ruling that would permit a practice that is not consistent with a specific provision of this Code, but that is justified by its Intent (*Section 1.3*). Warrants are

usually granted administratively by the TPC. See *Section 1.5*.

Wind Turbine: a rotary device for converting wind energy into mechanical or electrical energy.

Work-Live: a Mixed Use unit consisting of a Commercial and Residential Function. It typically has a substantial Commercial component that may accommodate employees and walk-in trade. The unit is intended to function predominantly as work space with incidental Residential accommodations that meet basic habitability requirements. See Live-Work. (Syn: Live-With.)

Yield: characterizing a Thoroughfare that has two-way traffic but only one effective travel lane because of parked cars, necessitating slow movement and driver negotiation. Also, characterizing parking on such a Thoroughfare.

Zoning Map: the official map or maps that are part of the zoning ordinance and delineate the boundaries of individual zones and districts. See **Regulating Plan**.





APPENDIX B:
LIGHT IMPRINT SURVEY

INTRODUCTION
CHANNELING
FILTRATION
STORAGE
PAVING



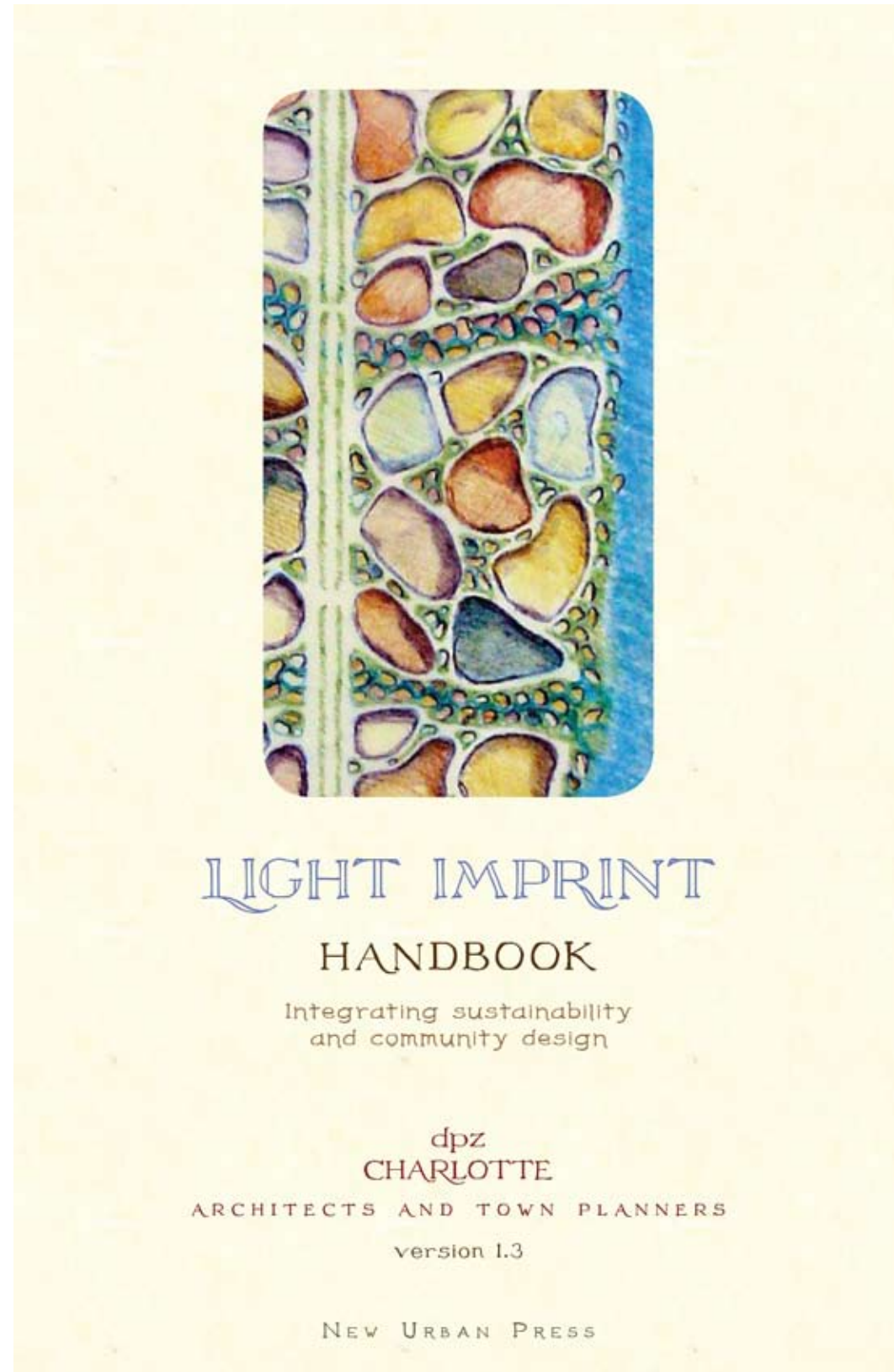
LIGHT IMPRINT

Light Imprint endeavors to integrate sustainability and community design. It is “a planning and development strategy that emphasizes sustainability, pedestrian-oriented design and increased environmental and infrastructural efficiency while reducing communities’ anticipated infrastructure expenses.” Its primary focus is stormwater management with a determined regard for the environment and the general principles that make pleasant, livable, and sustainable communities.

In contrast to “low impact” development, which tends to focus on increasing large green spaces within conventional development, Light Imprint seeks to promote compact settlements that “lay lightly on the land.” This means that infrastructure is designed to minimize the affects of conventional inlet-pipe-and-pit stormwater management by emphasizing pervious surfaces, efficient conveyance, as well as natural and local filtration processes. Light Imprint also proposes that detention and retention systems can be valuable civic and real estate amenities rather than simple engineered products. The benefits of Light Imprint can include reduced infrastructure expenditures, reduced concentration of contaminating stormwater, reduced erosion and improved recharge of the local water table or aquifer. It is important to remember that a major difference between Light Imprint and conventional engineering is that Light Imprint systems often require the collaboration of many small multi-purpose applications spread over the settlement, rather than one large infrastructure project that reduces its purpose to a single function.

Appropriate Light Imprint tools are available for all transect zones. The systematic assembly of a Light Imprint toolbox was developed by Tom Low, director of town planning for Duany Plater-Zyberk & Co. in Charlotte, North Carolina. The following pages represent a very brief survey of Light Imprint tools found in Dunmore Town, Harbour Island. They do not represent a complete collection, but serve to introduce the subject by focusing on existing methods in The Bahamas. The presentation of these tools is loosely modeled on the Light Imprint Handbook.

For more information on Light Imprint and the handbook, please visit www.lightimprint.org.



LIGHT IMPRINT HANDBOOK: A Transect-based resource for town planning and stormwater management.



Paving

Light Imprint places emphasis on paving that is pervious, which allows stormwater to reach the soil as locally as possible. The various characteristics of pervious paving have their proper place in each transect zone. Sand roads can work in rural areas but may not be appropriate in commercial centers, for example. However, even in dense settlement, various Light Imprint paving techniques exist to ensure a very pervious overall catchment area. Paths, terraces, courts, driveways and steps can all be designed to be very pervious to stormwater.

This characteristic also compliments the aesthetic characteristic of The Bahamas, especially given its emphasis on tourism. The following pages illustrate how the best Bahamian landscapes include a sophisticated and intricate variety in detail, which allows entire settlements to work in concert with rainfall.



T3: SAND ROAD



T2: Gravel Road



T3: Sand Road, Pink Sands Beach



T4: Sand Ground Cover, Bay Street



T4: Gravel Ground Cover in a Courtyard



T3: Stone Pavers, Bay Street



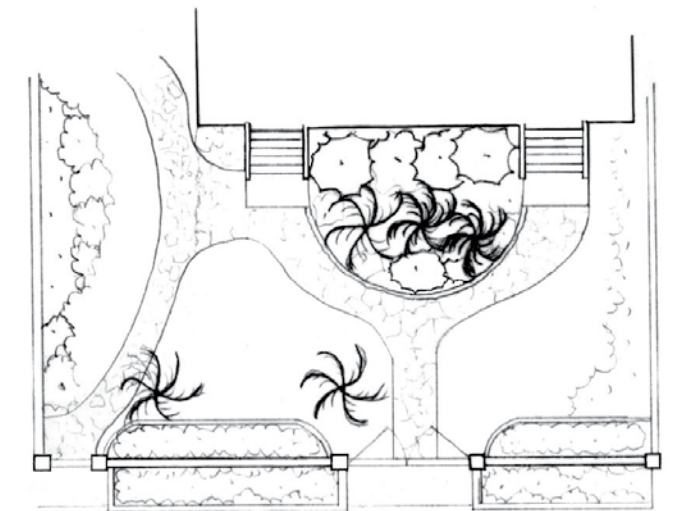
T4: Pervious Public Lane



T3: Stone Paver Footpath



T3: Stone Pavers, Bay Street



T3: Stone Paver Footpath Plan, Bay Street



T5: Concrete Pavers, Near Temperance Square



T4: Stone Paver Plaza, Public Library



T5: Raised Path: Wood Plank, Valentine's Marina



T4: Raised Path Section, Valentine's Marina



T4: Stone Paver Golfcart Parking, Dunmore Street



T4: Concrete Pavers



T3: Partially paved Public Steps, Bay Street



Channeling

Responsible methods of channeling stormwater runoff are particularly important in The Bahamas. Much of the islands' bed material is coral reef with limestone partially covered by a thin layer of soil. Average yearly rainfall is around 52 inches and usually falls in short but heavy bursts. Because the rock base is non-absorbent the water must be diverted to areas where storage and filtration can occur. Channeling helps to prevent flooding and erosion.

Bahamian settlements frequently feature a variety of open gutters, planter strips and other conveyance systems that help to channel stormwater. In general, less urban Transect zones include more planted channeling tools. More urban Transect zones include the unique footbridge tradition, for which historic Nassau was quite famous.

Unfortunately, many of these systems have been neglected and replaced with conventional inlet-pipe-and-pit systems that are expensive and never assist in draining water locally, resulting in polluting concentrations of stormwater. The following pages illustrate a collection of Light Imprint tools as alternatives to these conventions.



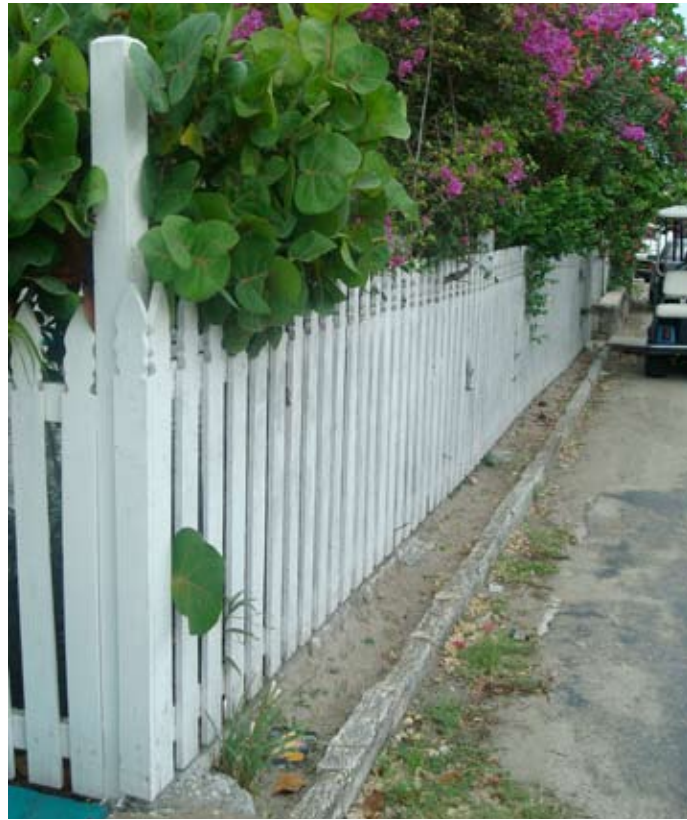
T4: Open Gutter, Dunmore Street



T5: Open Gutter, Murray Street



T5: Open Gutter with Bridges, Murray Street



T4: Open Gutter, Dunmore Street



T4: Open Stone Gutter, Dunmore Street



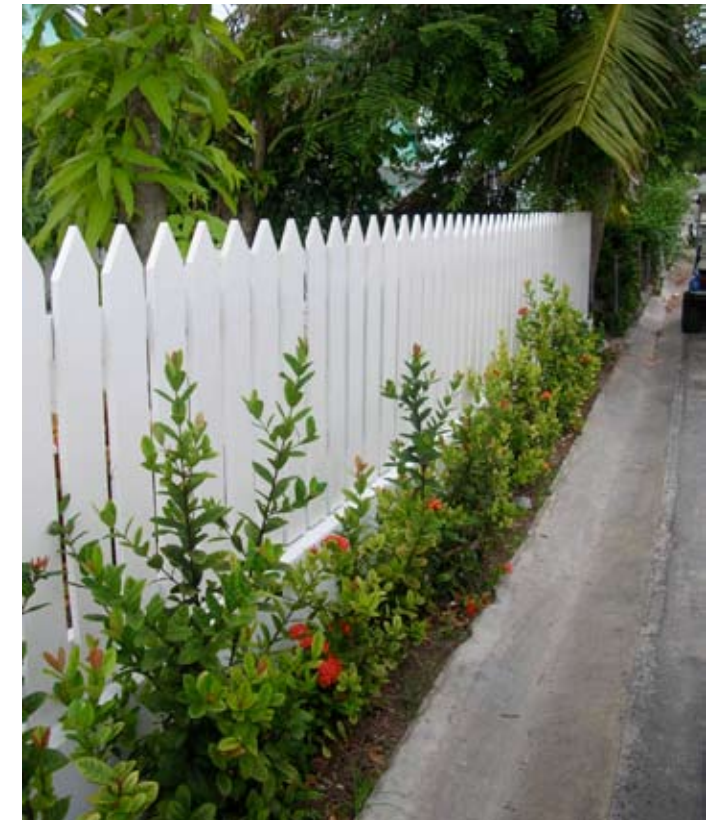
T3: Planted Channeling, South Street



T4: Planted Channel, King Street



T3: Open Turf Gutter



T3: Planted Channeling, Dunmore Street



Filtration

Bahamians depend on the ocean for their food and livelihood. The marine life of oceanic ecosystems are fragile environments. To introduce stormwater directly into the ocean would often be harmful to such a vulnerable environment. Contaminants in stormwater runoff must be filtered out before emptying into the sea. In some places, filtering may even help in recharging the aquifer.

Filtering runoff may be accomplished using natural processes, or mechanical systems that are often costly and require a regular maintenance. Supplementing natural filtration with mechanical can often be advantageous where resources may be limited. By utilizing natural options in conjunction with artificial systems, settlements will benefit from reduced expenses and strains on infrastructure, instead adding value to the livable environment by providing an ecological amenity.

A rain garden, for example, can anchor a public place where people will gather; and green fingers may enrich a public park as it helps water reclamation. Other features include tree wells with mangroves to purify water. The key to Bahamian filtration is local and frequent filtration using native plants to assist the natural characteristics of sand and soil. This is in stark contrast to conventional development patterns that cover vast areas with turf grass unable to meet similar performance measures.



T3: Planter Strip Filtration, Queen Street



T5: Tree Well Filtration, Bay Street



T4: Planter Bed Filtration, Murray Street



T3: Curbless Street promotes limited natural Filtration



T3: Pervious Curb promotes Filtration in adjacent Garden, Colbrook Street



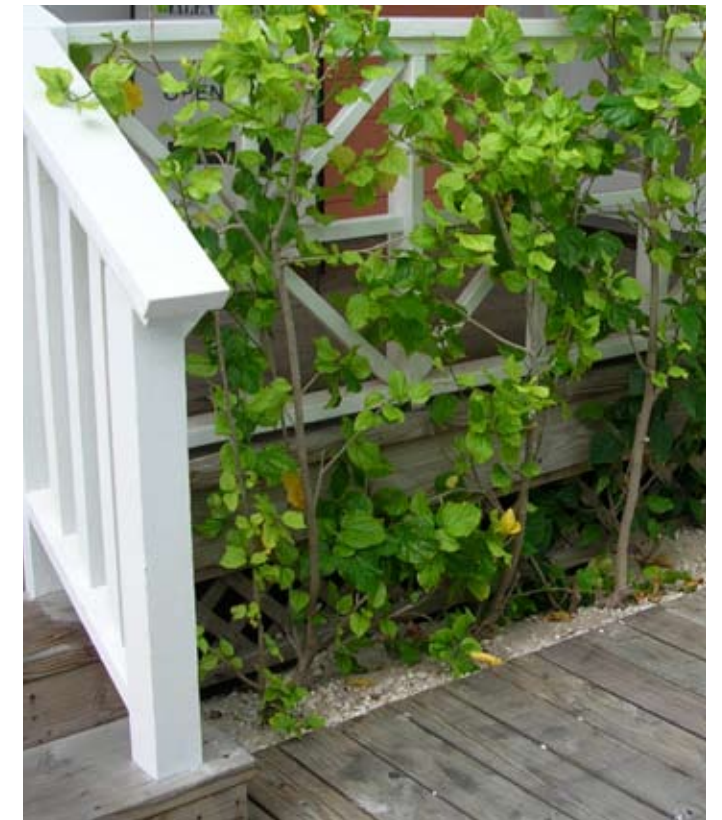
T4: Planter Bed Filtration, Bay Street



T3: Planter Bed Filtration, Bay Street



T3: Curbless Street promotes limited natural Filtration



T4: Valentine's Marina



Storage

Light Imprint approaches to storage can help to reduce erosion and the concentrated release of stormwater. Catching stormwater before it is released into ports and fishing grounds can help to preserve water quality in these areas. Simply storing large bodies of standing water may not be the best use of expensive real estate, so other storage techniques can include the provision of plants that give shade and help cool temperatures.

Storage systems can include retention and detention systems, which need not be large industrial infrastructure if localized storage is distributed throughout the community. In contrast to conventional modern lawns and swales, the attached storage tools help to explain why the historic traditions of Bahamian landscaping are so essential to restoring a sustainable settlement culture. Small detention and retention facilities are scattered across the neighborhood and serve prevent excessive accumulation in other places.



T3: Rain Garden, Bay Street



T3: Rain Garden, King Street



T3: Rain Garden Plan, Bay Street



T3: A curbed planted area like this can detain some runoff before it enters the sea, which helps to prevent erosion.



T4: Planter Strip Storage, Bay Street



T4: Tree Well, Bay Street



T4: Planter Storage, Murray Street



T3: Planter Bed Storage, King Street



T4: PLANTER BED STORAGE, DUNMORE STREET

APPENDIX C:
SURVEY OF MOST-LOVED PLACES

NASSAU, NEW PROVIDENCE, THE BAHAMAS

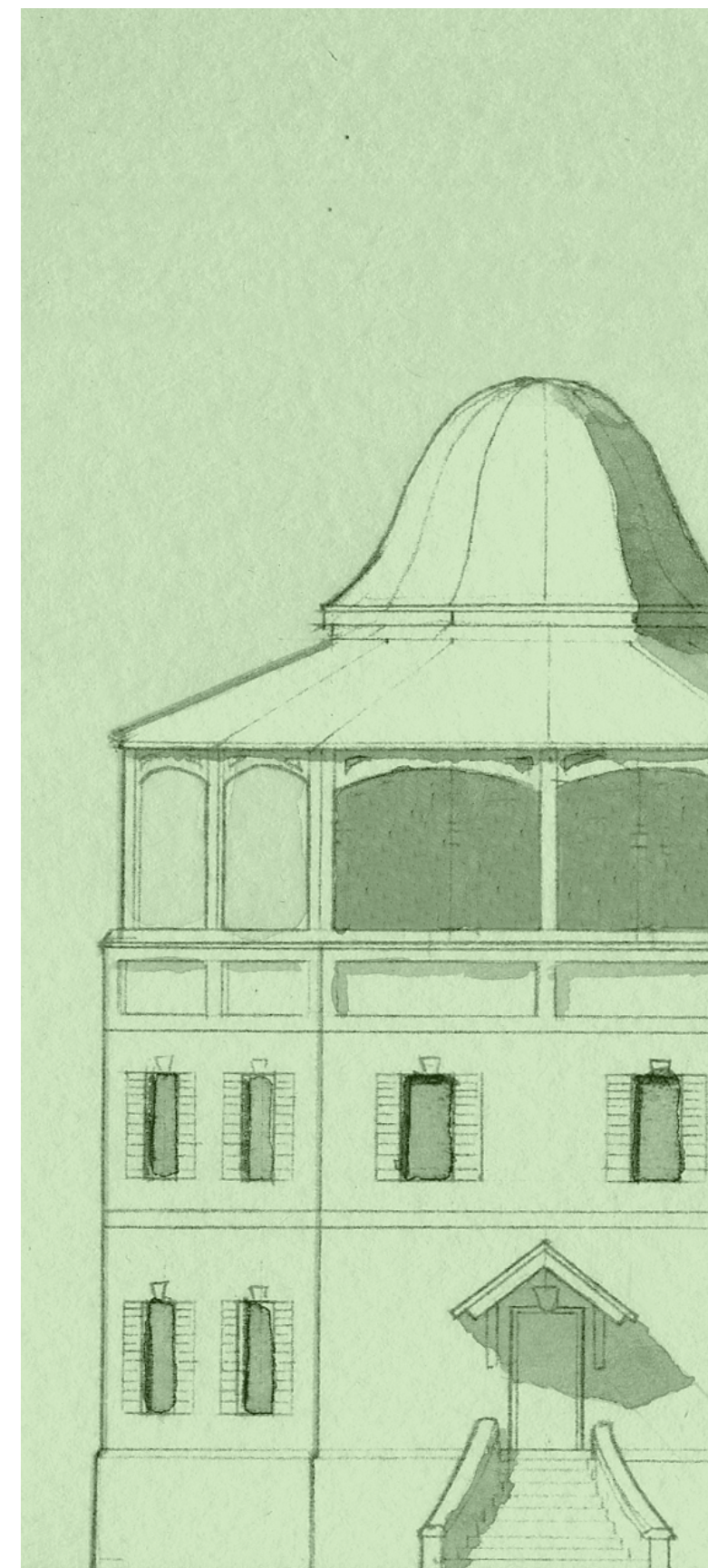
URBAN PLACES

DUNMORE TOWN, HARBOUR ISLAND, THE BAHAMAS

URBAN BLOCKS

STREETS

ARCHITECTURE



HISTORIC PRECEDENT FOR PLACEMAKING *NASSAU, NEW PROVIDENCE*

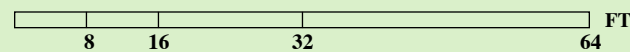
The following pages include a rough survey of places in Nassau, New Providence that are worthy of study for the building of Bahamian settlements. While much of Nassau has deteriorated as a result of conventional planning and development culture, many streets and buildings in the capital still present good models for the making of most-loved places. Cruise ship industry, automobile-dominated traffic engineering, and Las Vegas-style resort development have all taken their toll on this city once known for its gleaming white streets. But careful study still reveals the place-specific potential of even the most neglected structure.

Various books exist that tell the story of these places, including:

- Historic Nassau, by G. Saunders and D. Cartwright (MacMillan Caribbean, 1980)
- Nassau's Historic Landmarks, by Gail Saunders and Linda Huber (MacMillan Caribbean, 2001)
- Reminiscing II: Photographs of Old Nassau, by Ronald G. Lightbourn (Nassau, 2005)

The project team that produced this document was privileged to briefly visit the Bahamian capital and study some of its best historic models. Bahamians should be proud of their built heritage and should take care to learn from its lessons so that they can be implemented to their full potential, including towards the restoration of a fine capital city.

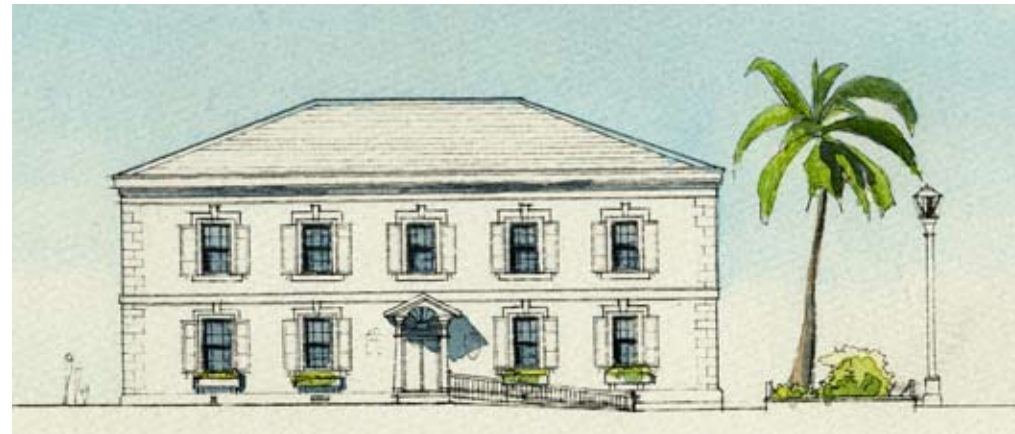
In an effort to begin to shape an understanding of Bahamian placemaking patterns, this team documented a variety of urban places within the historic city center. Because of their quick and on-site nature, these drawings are only approximations of existing conditions and may not reflect precise details or relationships. It is also important to note that documentation is of existing conditions, which may or may not be true to the best of Bahamian traditions.



PARLIAMENT SQUARE: Public buildings



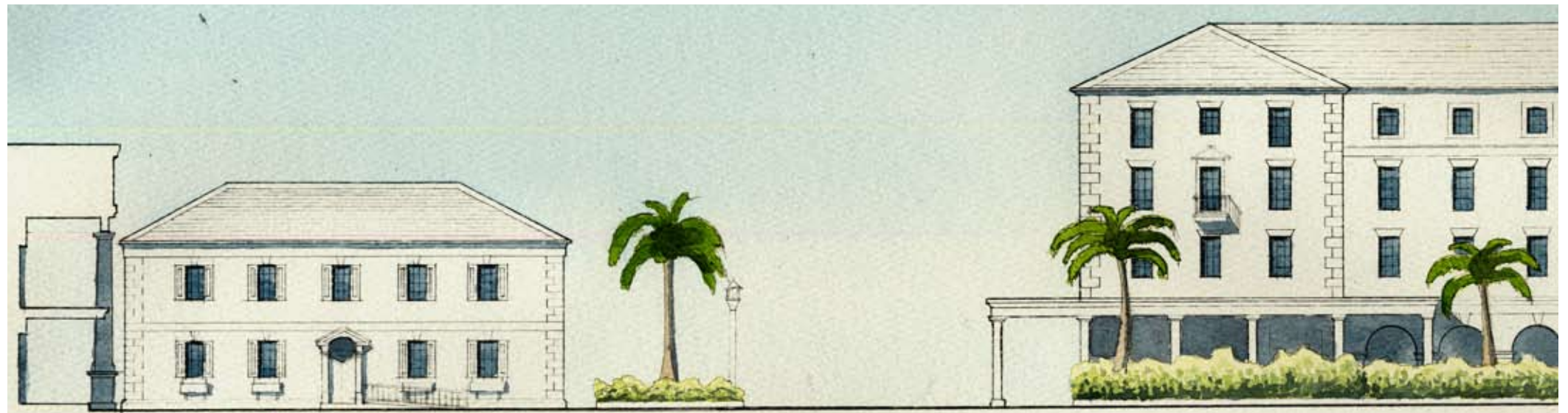
RAWSON SQUARE: Churchill Building



PARLIAMENT SQUARE: House of Assembly



PARLIAMENT SQUARE: Former Colonial Secretary Office and Treasury



PARLIAMENT SQUARE: East Bay Street and Rawson Square



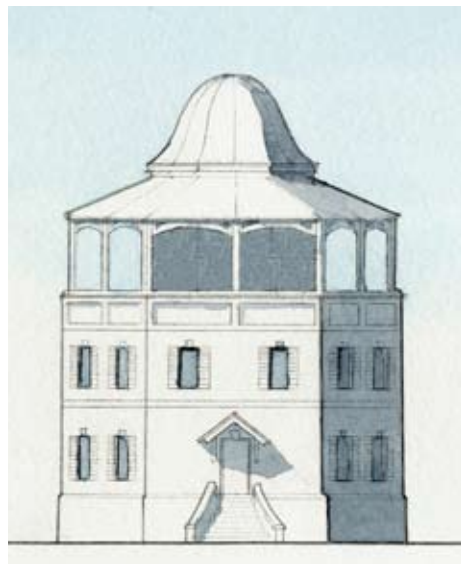
GARDEN OF REMEMBRANCE: Plan [Not to Scale]



GARDEN OF REMEMBRANCE: N-S Section showing British Embassy and Public Library



PARLIMENT STREET: Featuring Magna Carta Court on left



NASSAU PUBLIC LIBRARY: Elevation



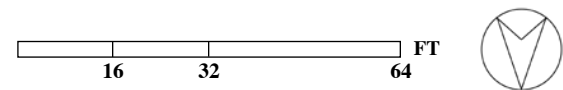
GARDEN OF REMEMBRANCE: W-E Section showing the Cenotaph and Supreme Court



EAST BAY STREET: South Elevation from Parliament Street to Charlotte Street

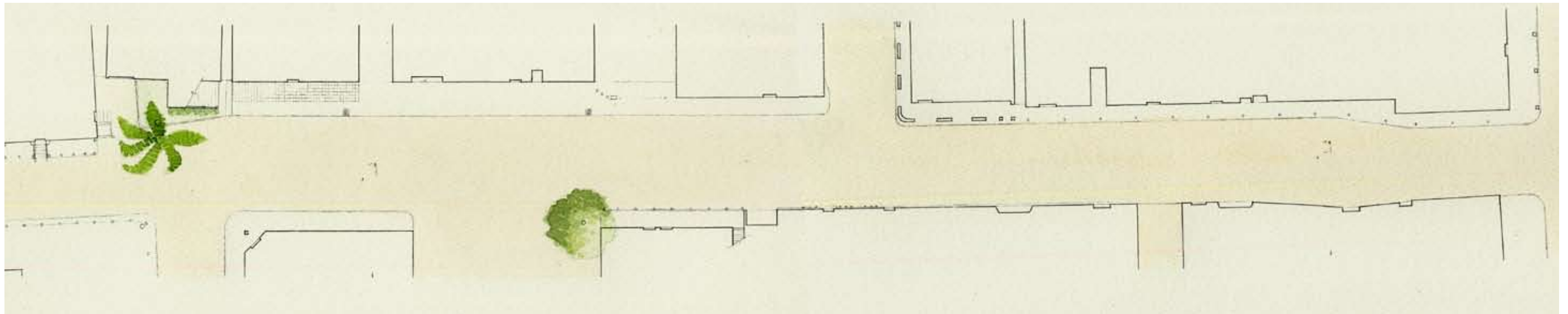


EAST BAY STREET: Plan from Parliament Street to Charlotte Street





MARKET STREET: West elevation from Balcony House to East Bay Street

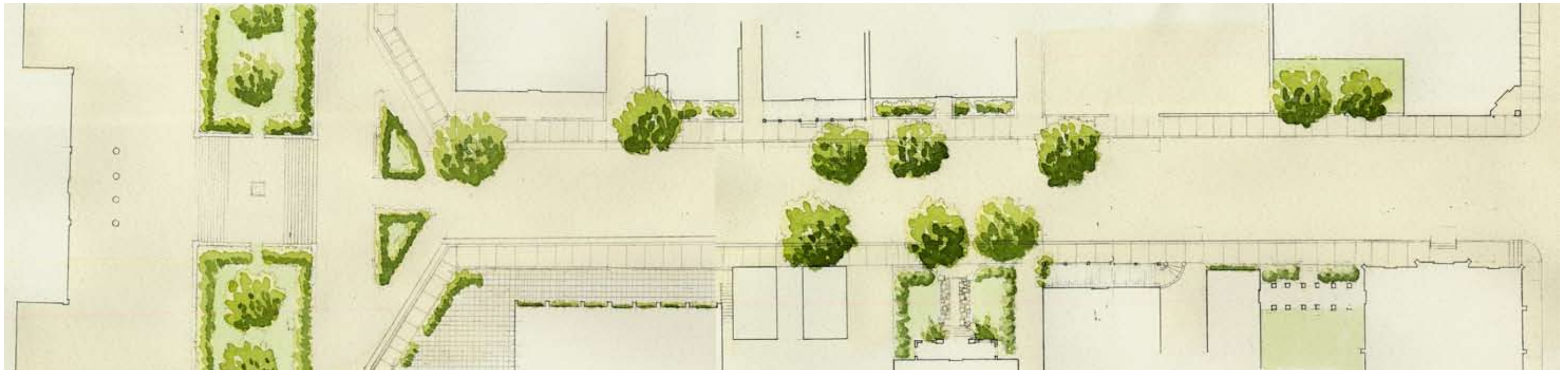


MARKET STREET: Plan from Balcony House to East Bay Street

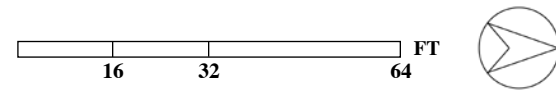




GEORGE STREET: West elevation from Government House to King Street



GEORGE STREET: Plan from Government House to King Street





GEORGE STREET: East elevation from Government House to King Street



GEORGE STREET: Section looking at Government House



GEORGE STREET: Section looking North



ST FRANCIS XAVIER CATHEDRAL: Elevation



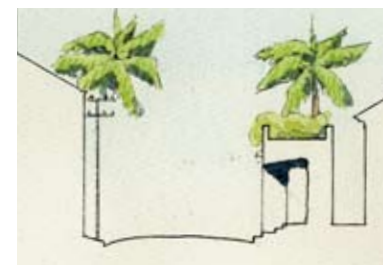
WEST STREET: Section at St Francis Xavier Cathedral



WEST STREET: Partial West elevation



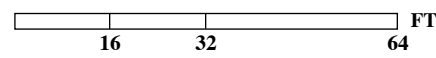
WEST STREET: Partial Plan

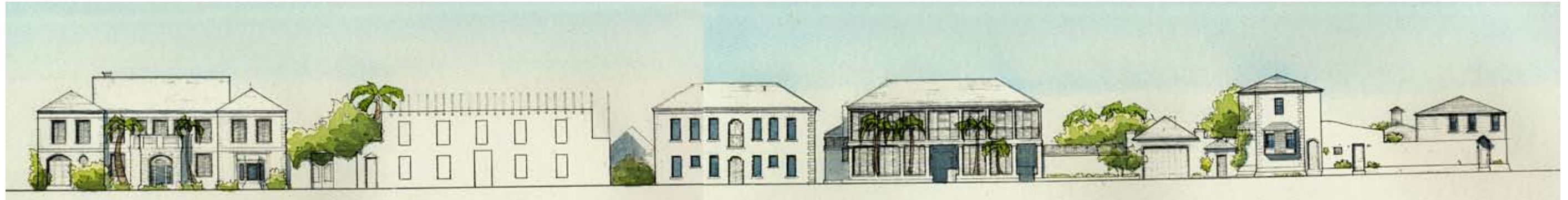


WEST HILL STREET: Section

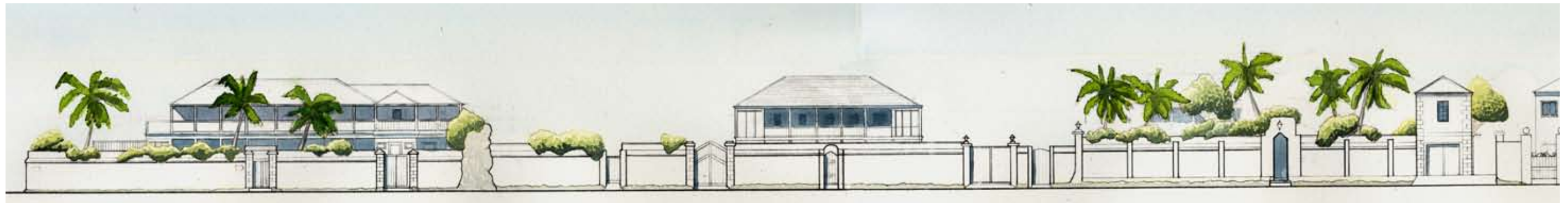


WEST HILL STREET: Section at the O'Donnell House

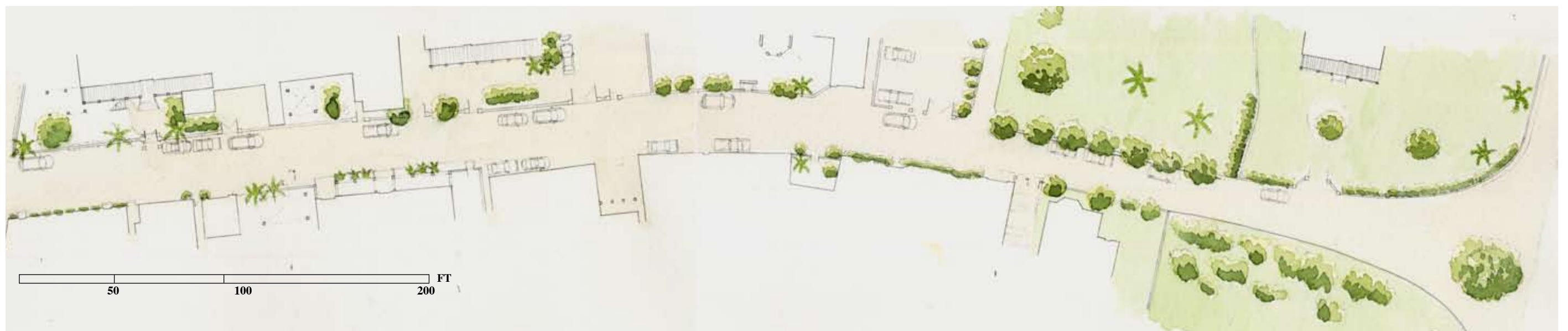




WEST HILL STREET: North elevation from Queen Street to Cumberland Street



WEST HILL STREET: South elevation from Cumberland Street to Queen Street

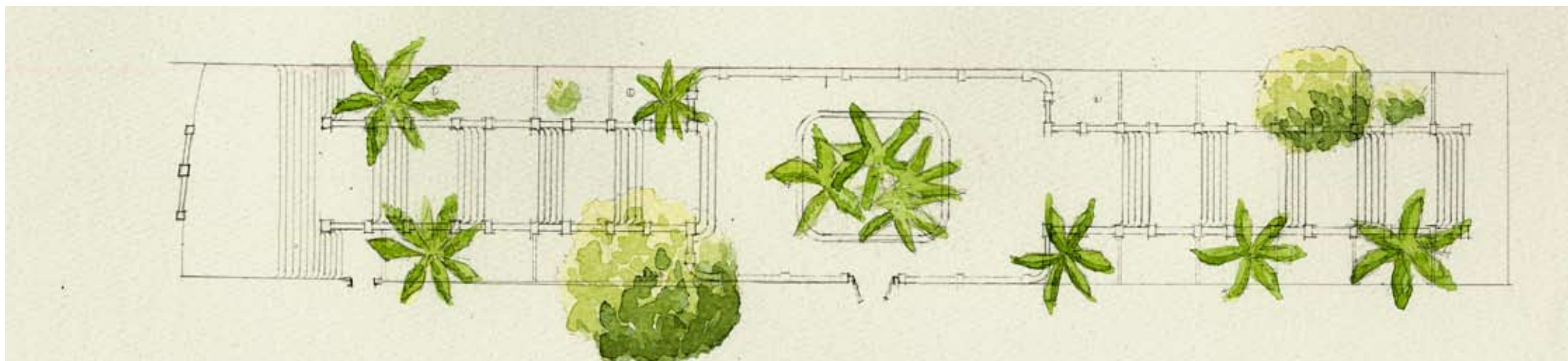


WEST HILL STREET: Plan elevation from Cumberland Street to West Hill Street

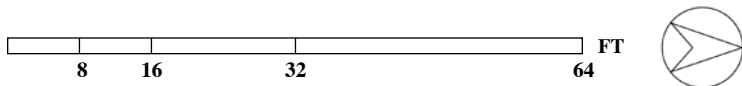




FREDERICK STREET STEPS: Section from East Hill Street to Prince's Street



FREDERICK STREET STEPS: Plan from East Hill Street to Prince's Street



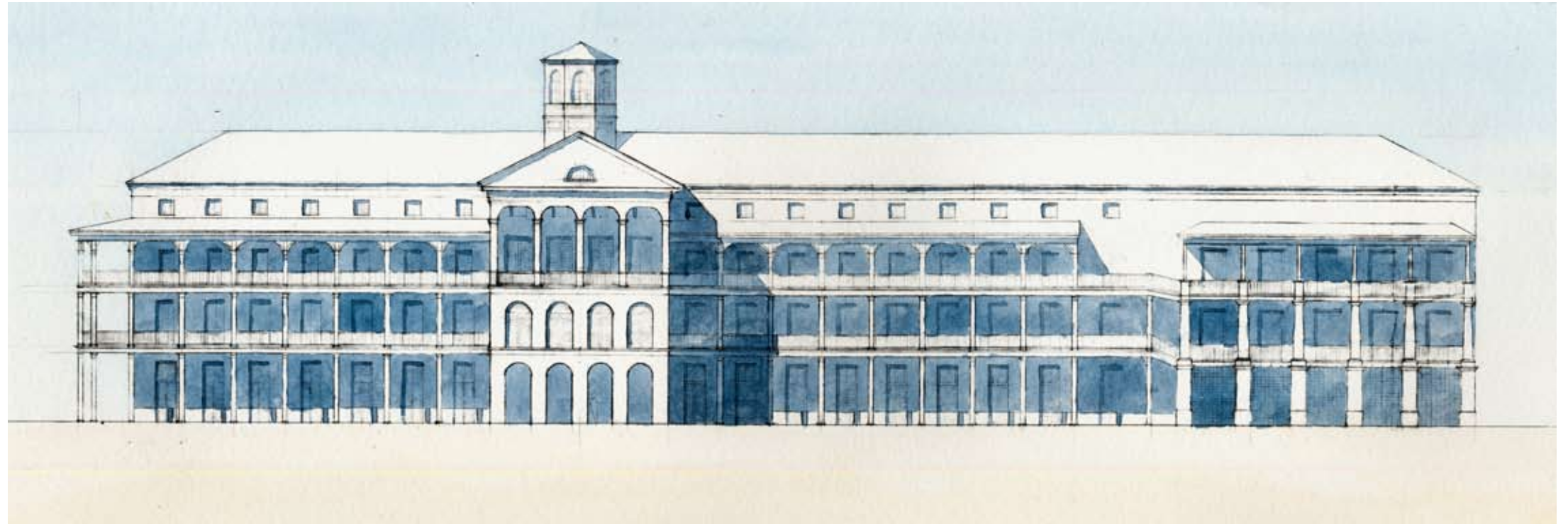
CHARLOTTE STREET STEPS: Garden wall at East Hill Street



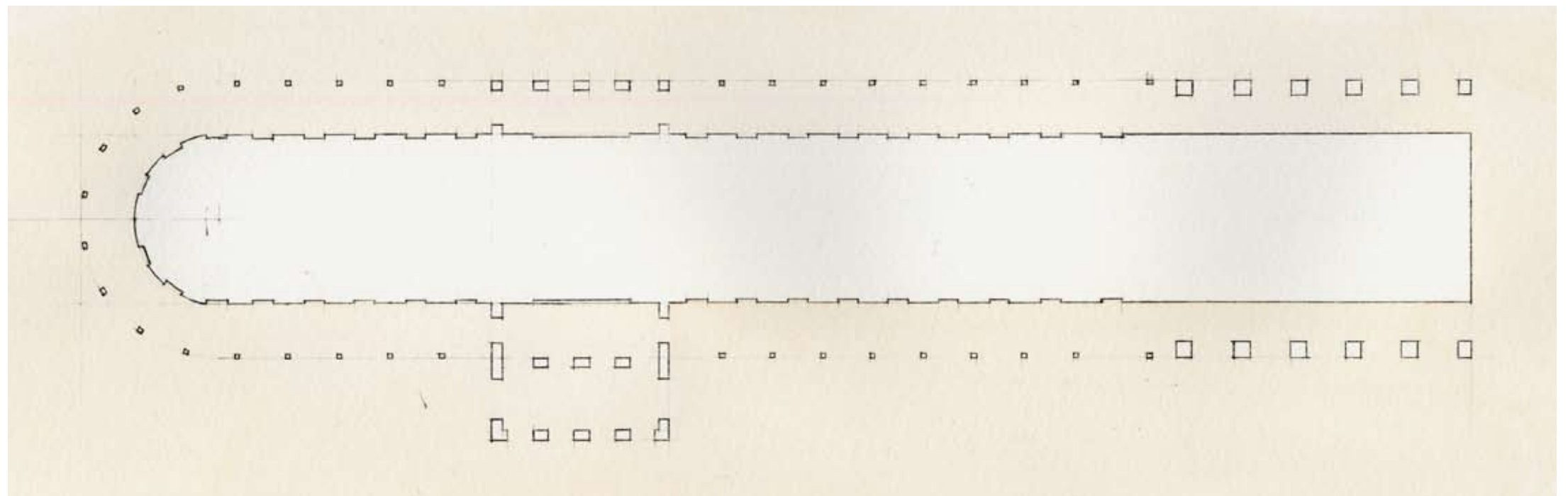
CHARLOTTE STREET STEPS: Plan



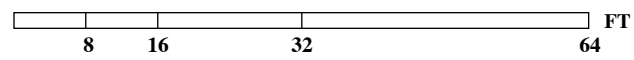
CHARLOTTE STREET STEPS: Section



ROYAL VICTORIA HOTEL: North Elevation [Demolished/ reconstructed based on photographs]



ROYAL VICTORIA HOTEL: Plan [Demolished/ reconstructed based on photographs]

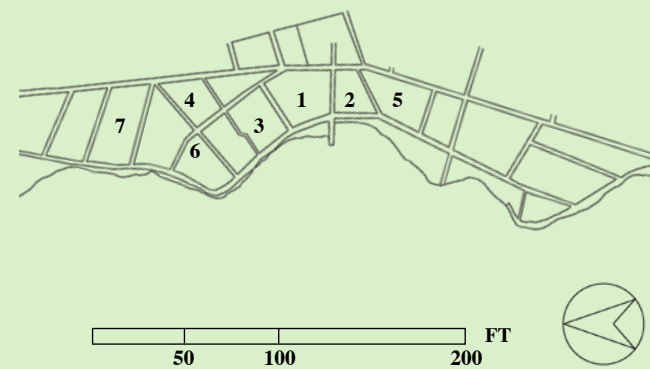


HISTORIC PRECEDENT FOR PLACEMAKING
DUNMORE TOWN, HARBOUR ISLAND

The following pages include a rough survey of places in Dunmore Town, Harbour Island, perhaps the best-preserved Bahamian settlement model. While Harbour Island is dealing with its own contemporary challenges that are the result of increased automobile ownership and real estate speculation, much of the settlement is worthy of study for the benefit of greater Bahamian settlement culture. As was said by a leading local citizen, “There can never be another Harbour Island. You can’t copy it. It is what it is because of the people who shape it.” This document suggests that design principles and techniques can be learned, studied and applied just as management techniques can be studied and economics can be understood. In the end, of course, it is up to people to decide whether to apply the lessons of study.

The story of Harbour Island and its places has been told in various books, including Anne & Jim Lawlor’s “The Harbour Island Story” (MacMillan Caribbean, 2008). The project team that produced this document was fortunate to briefly visit the island and study some of its best historic models. Bahamians should be proud of their built heritage and should take care to learn from its lessons so that they can be implemented to their full potential, including towards the building of new places as successful as Harbour Island.

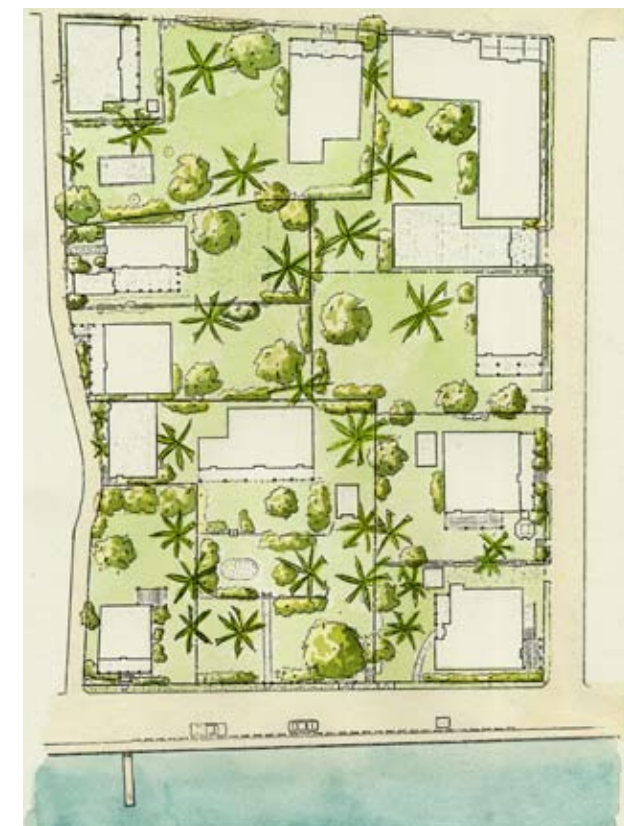
In an effort to begin to shape an understanding of Bahamian placemaking patterns, this team documented a variety of urban places within the historic city center. Because of their quick and on-site nature, these drawings are only approximations of existing conditions and may not reflect precise details or relationships. It is also important to note that documentation is of existing conditions, which may or may not be true to the best of Bahamian traditions. The provided floor plans of houses are speculative based on careful study of the exterior only.



Block 1: Bay Street, Murray Street, King Street, Dunmore Street, Church Street: Showing Government Dock



Block 2: Bay Street, Church Street, Dunmore Street, Hill Street



Block 3: Bay Street, Crown Street, King Street, Murray Street



Block 4: King Street, Princess Street, Dunmore Street, Crown Street



Block 5: Bay Street, Hill Street, Dunmore Street, York Street



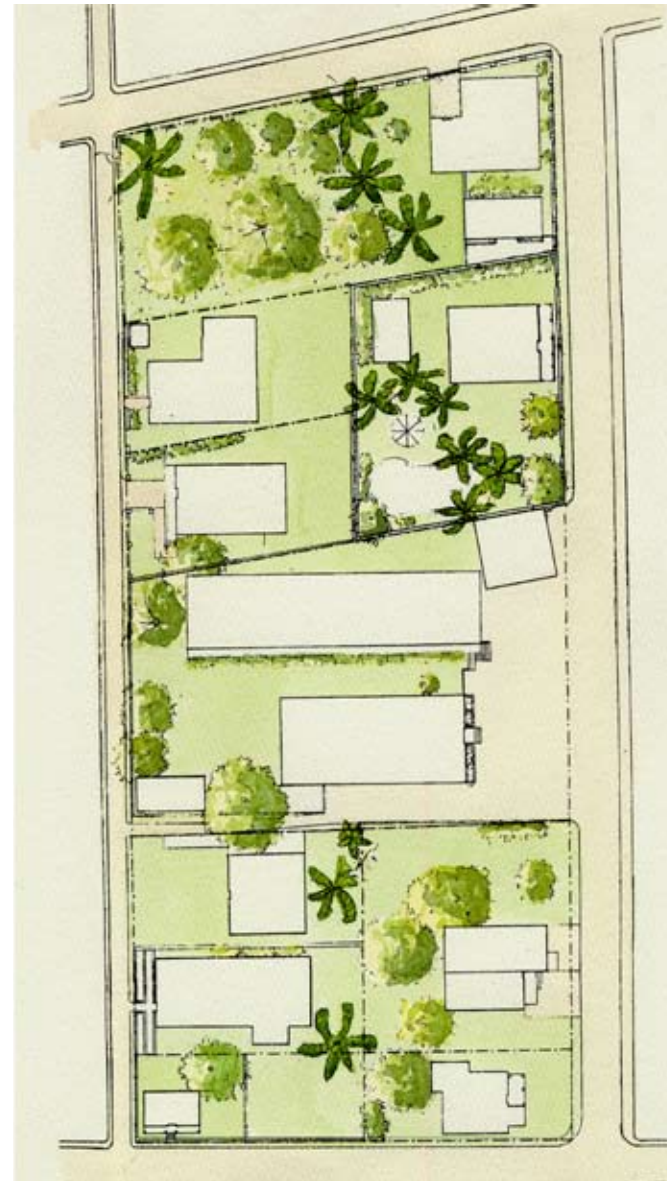
Block 6: Bay Street, King Street, Princess Street



Block 7: Bay Street, Grant Street, Dunmore Street, Duke Street



Block 8: Bay Street, Duke Street, Dunmore Street, Pitt Street



Block 9: Dunmore Street, Munnings Street, Colebrook Street, Chapel Road



Block 10: Dunmore Street, Chapel Road, Colebrook Street, Duncan Lane:
Showing Temperance Square and Methodist Church

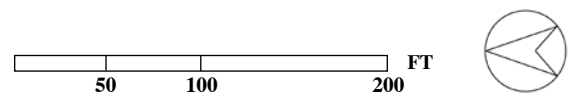
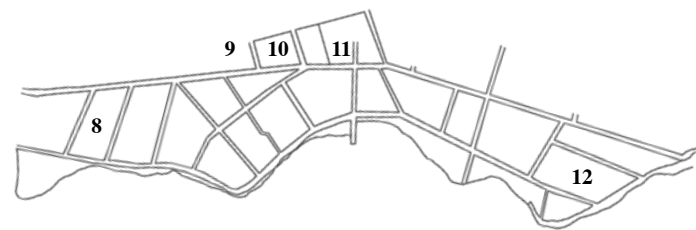




Block 11: Dunmore Street, Duncan Lane, Colebrook Street, Gaol Street: Showing the Commissioner's Residence terminating Church Street



Block 12: Bay Street, South Street, Queen Street: Showing steps to harbor

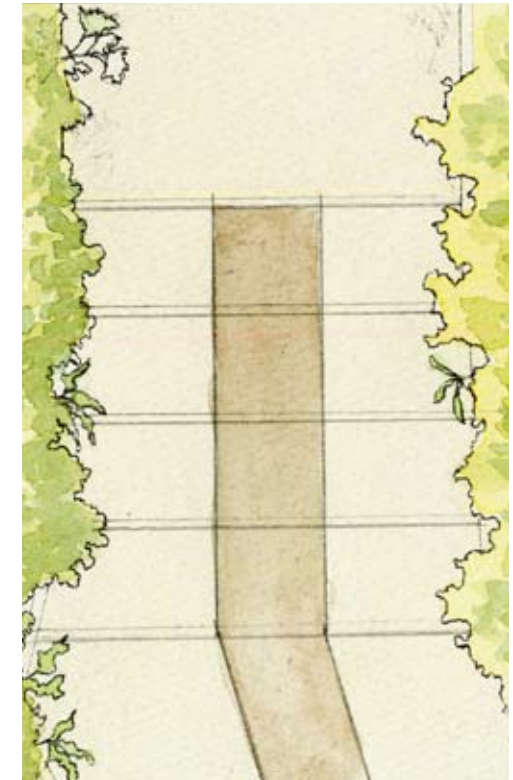




BAY STREET: Section and Plan



BAY STREET: Section and Plan



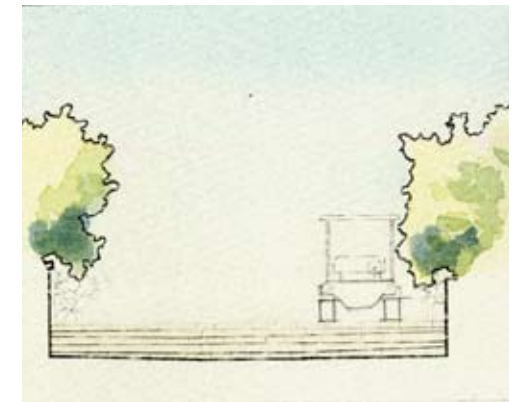
BAY STREET: Plan of steps to harbor



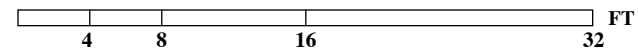
BAY STREET: Section



BAY STREET: Section of steps to harbor

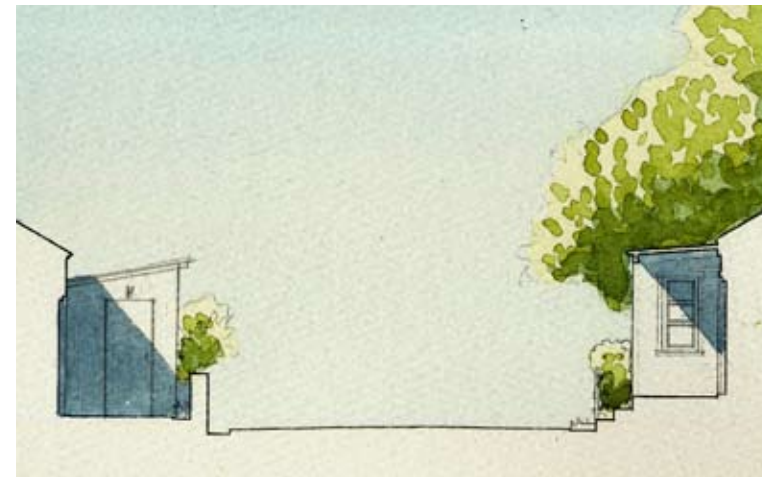


BAY STREET: Section at steps to harbor

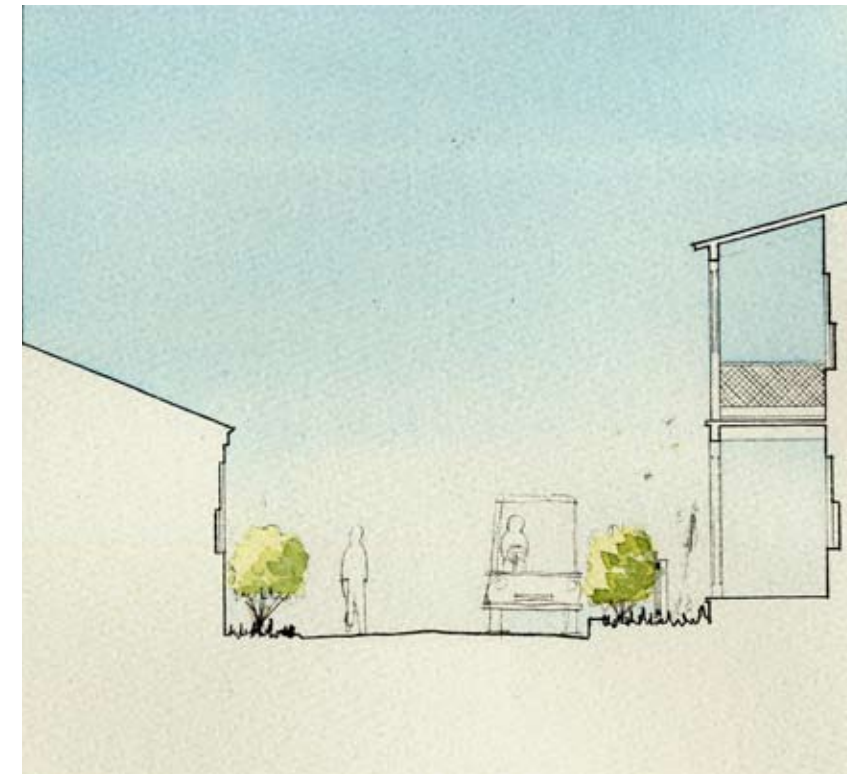




PRINCESS STREET: Section and Plan



DUKE STREET: Section and Plan



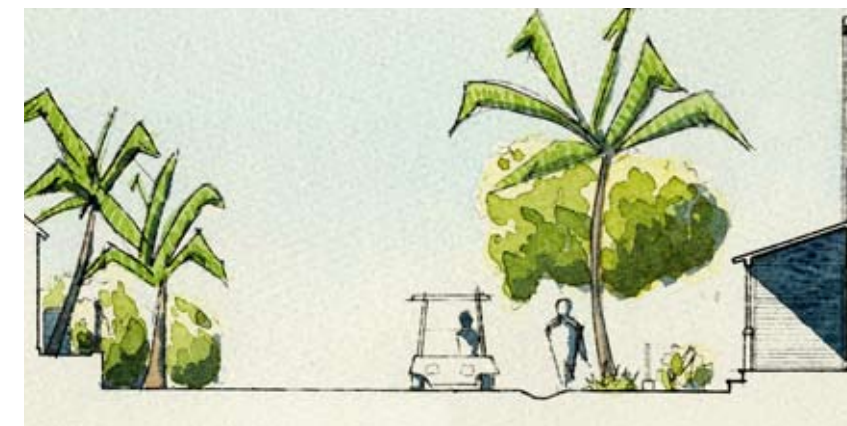
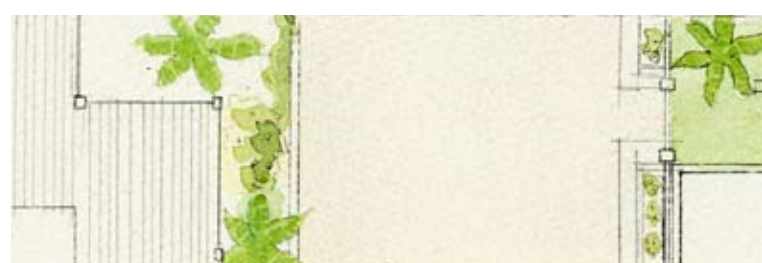
BAY STREET: Section



KING STREET: Section and Plan



MURRAY STREET: Section and Plan



BAY STREET: Section and Plan at Valentines





CROSS ROAD: Section and Plan



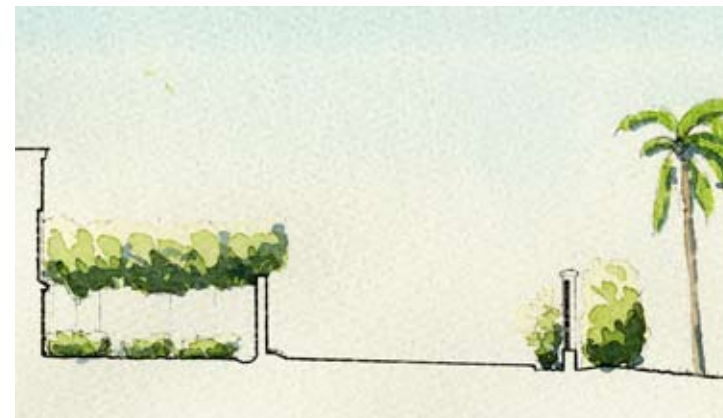
COURT ROAD: Section and Plan



CHAPEL ROAD: Section and Plan

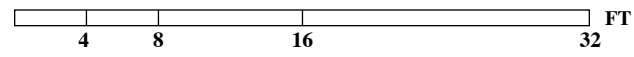


CHAPEL ROAD: Section and Plan



SOUTH STREET: Section





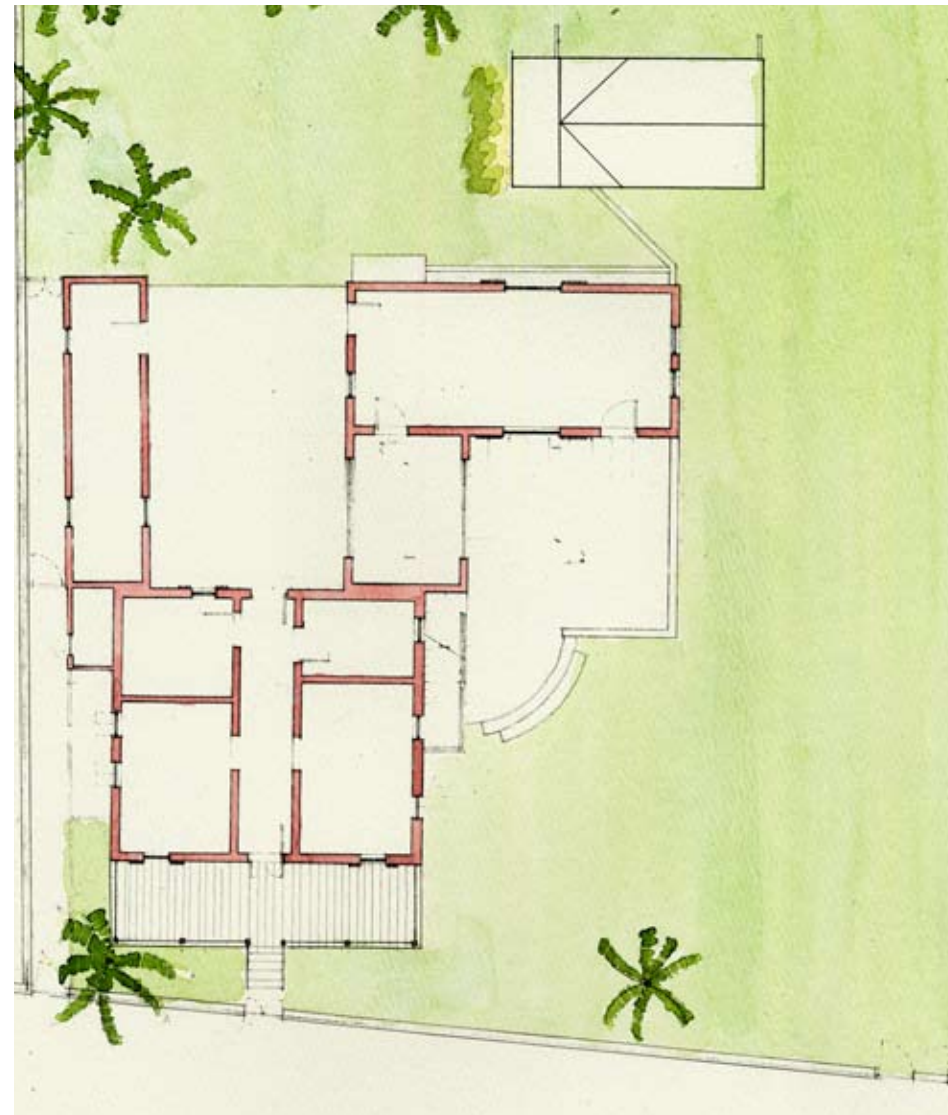
DUNMORE STREET: Section

COLEBROOK STREET: Section and Plan

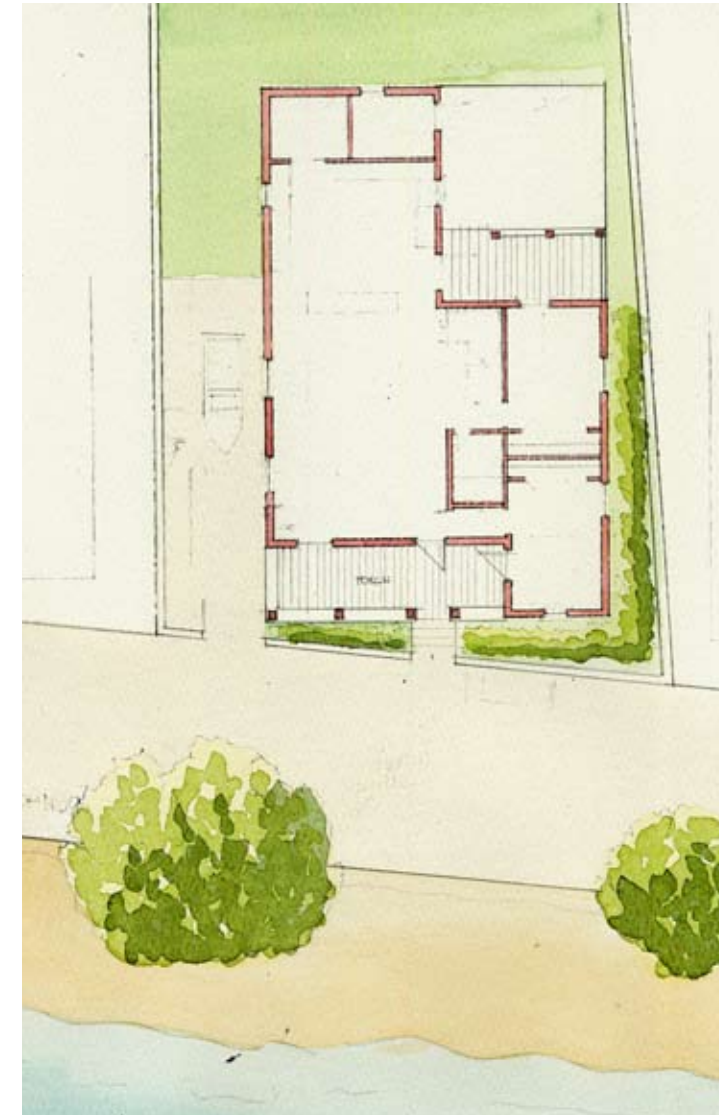
DUNMORE STREET: Section and Plan



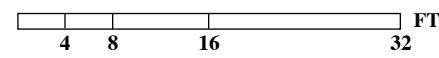
BESIDE THE POINT

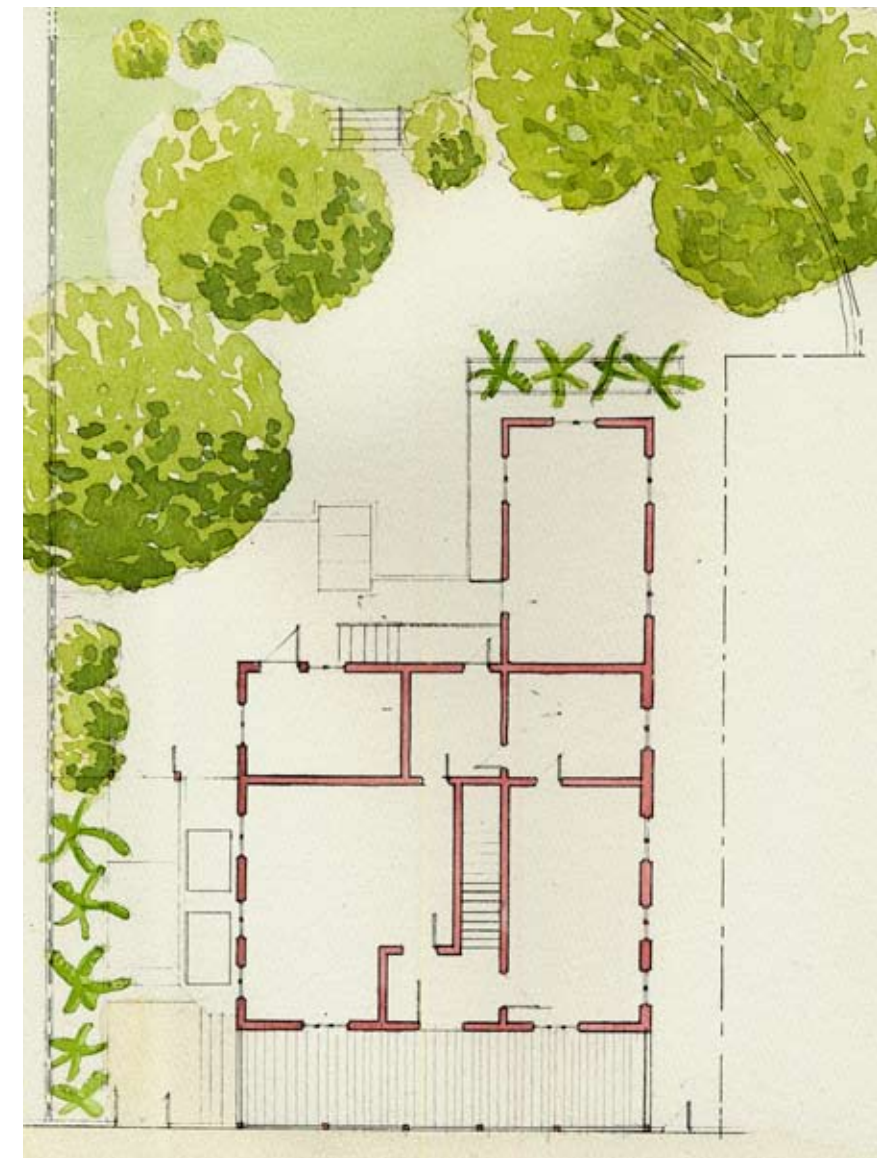
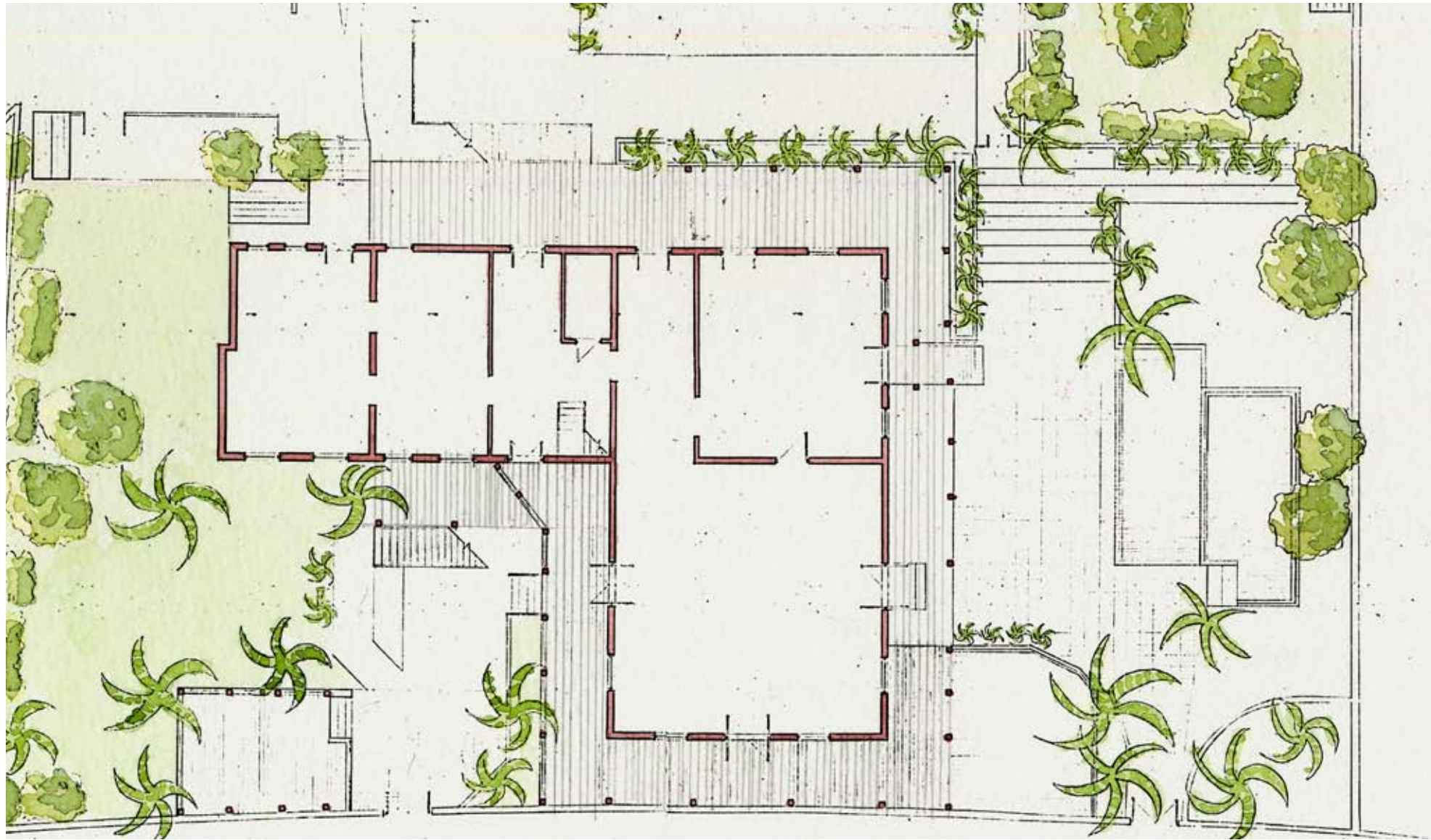


THE DOLL HOUSE



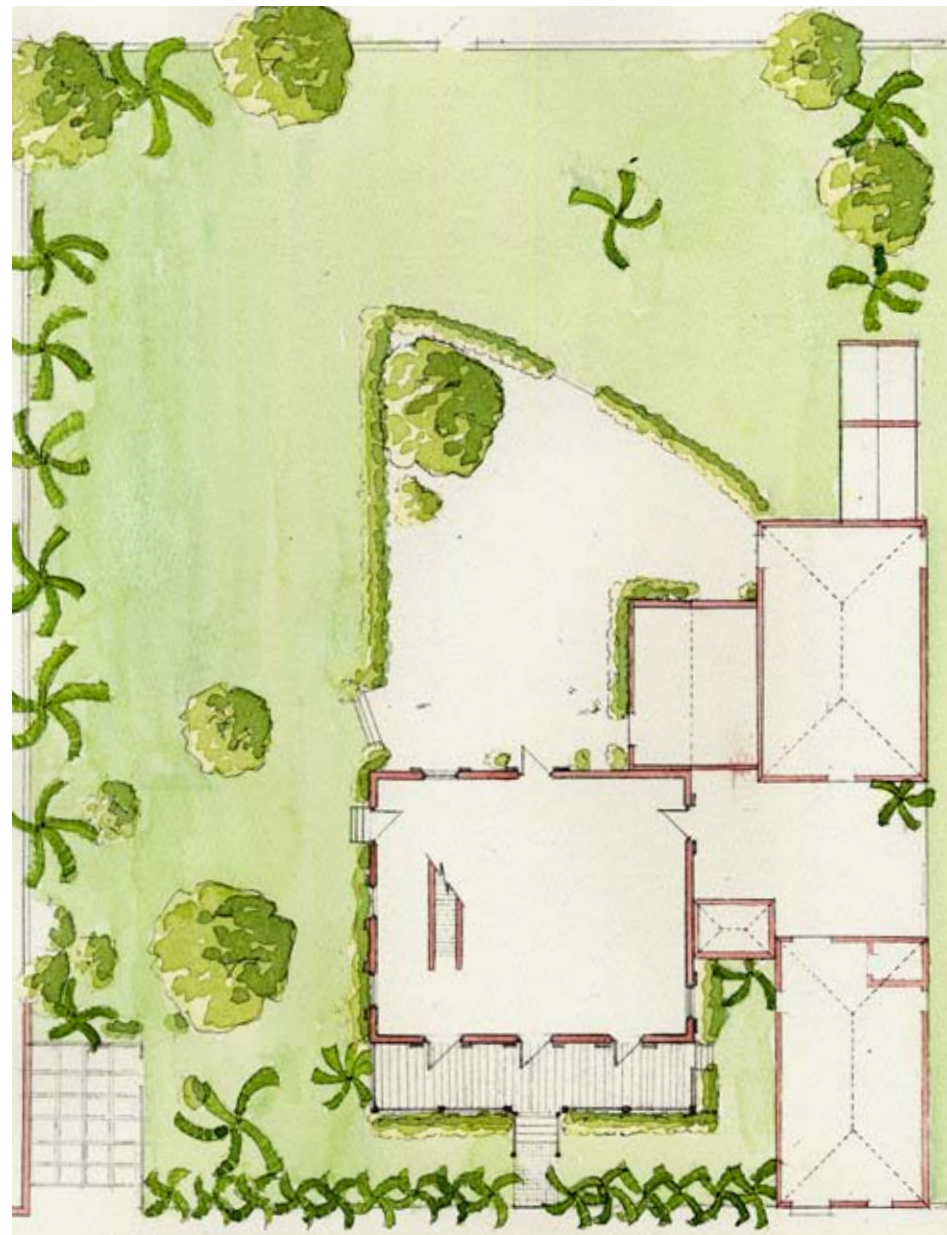
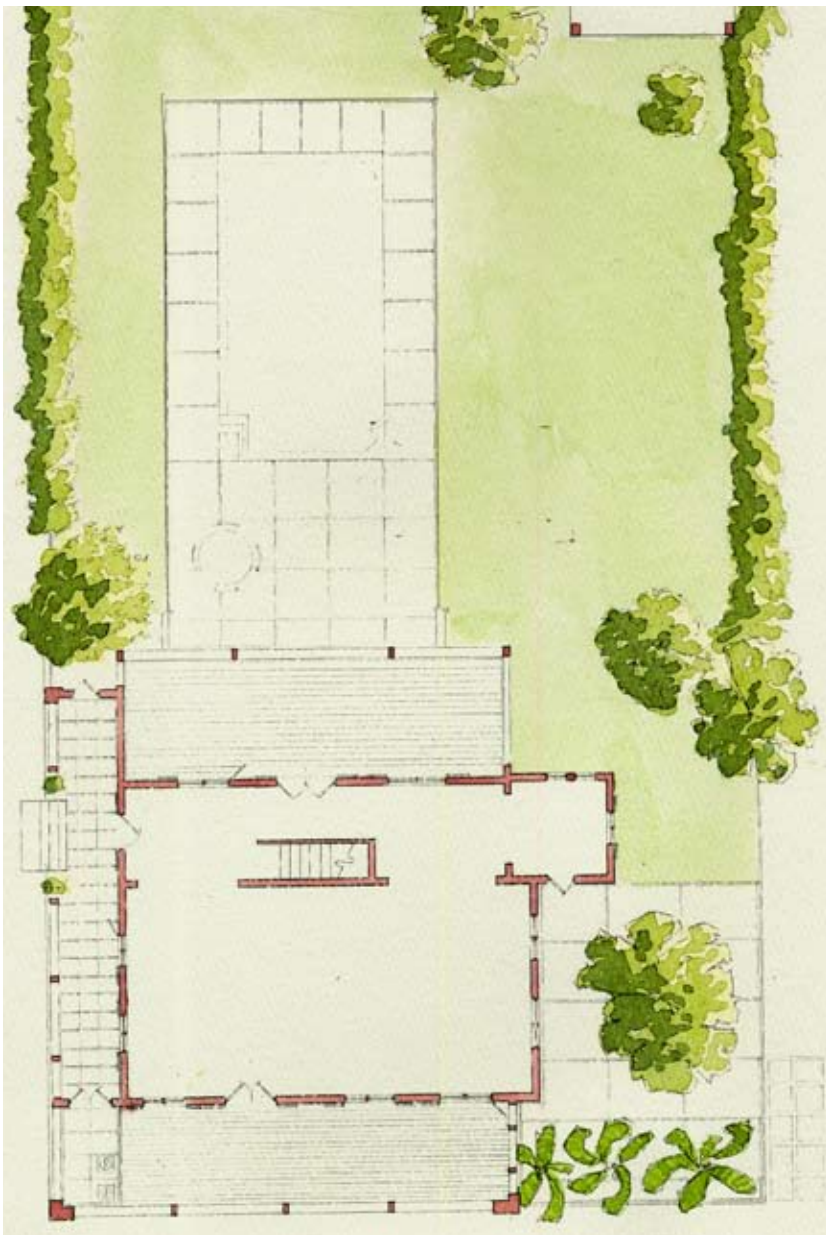
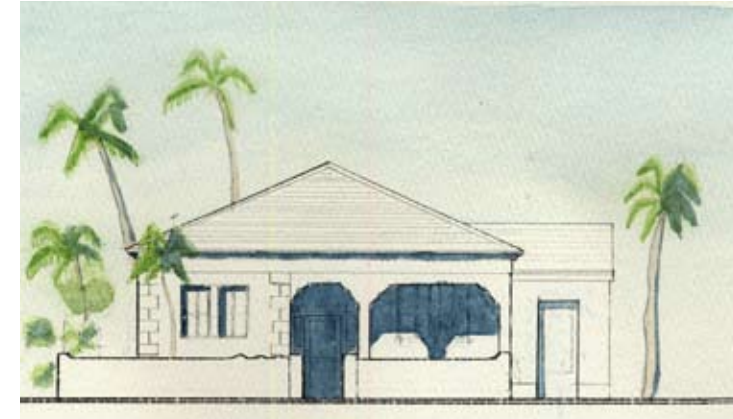
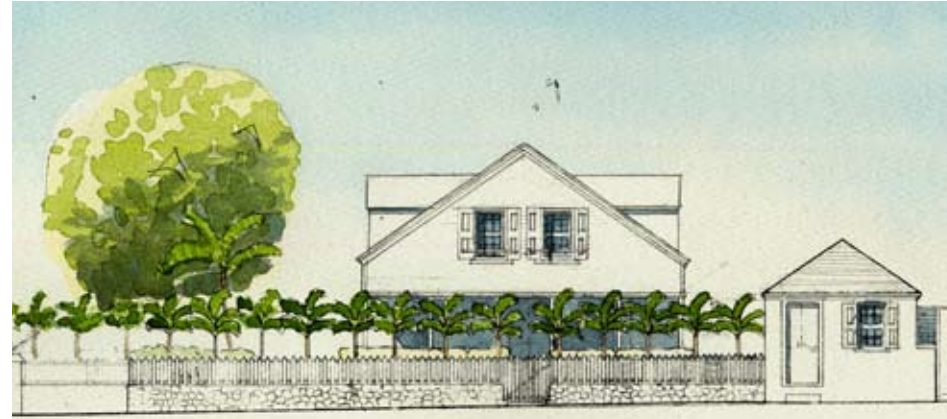
STILL POINT





THE LANDING

THE LANDING



BAMBOO BAMBOO

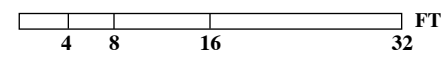
HOUSE ON DUNMORE STREET AND YORK STREET

BLUE STICKS



ALMOND TREE HOUSE

ARALIA HOUSE



APPENDIX D:
CHARRETTE NEWS

THE ABACONIAN
VOLUME 16, NUMBER 20, 15 OCTOBER 2008



The Abaconian

Abaco's Most Complete Newspaper



VOLUME 16, NUMBER 20 OCTOBER 15th, 2008

University group suggested future enhancements of towns



This is the suggested waterfront along the creek at Sandy Point as depicted by the students of Andrews University. They did a planning exercise to show possibilities of future enhancement of that town. The group of 25 students along with several professors did much field work for a study to improve Marsh Harbour's waterfront, the Mud and Sandy Point. Their complete work will be available by the end of the year. They stressed going back to old Bahamian architecture and making the waterfront the special feature of each town. See story on page 16.

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Planning group offered ideas for two towns

By Jennifer Hudson
A ten-day planning charrette was conducted by graduate students of Andrews University School of Architecture in Berrien Springs, Michigan, from September 21 to October 1. This consisted of an intense, concentrated and collaborative design workshop to bring people together to articulate a vision and set of guiding principles through a series of design sessions. The goal was to shape a vision for the future of Great Abaco Island and to identify guiding principles and planning mechanisms to help pursue such a vision which would only be meaningful through effective public participation.
"How will we know what Abaco needs and wants? By working with local citizens and local government," stated Mr. Andrew von Maur, Assistant Professor of Architecture. The focus was placed on South Abaco and Central Marsh Harbour concentrating on how to prepare South Abaco

for sustainable development, how to shape Marsh Harbour neighborhoods, how to prepare Sandy Point and Crossing Rocks for growth opportunities and how to help Great Abaco avoid urban sprawl through planning and design.
The undertaking was sanctioned by the Hon. Earl Devenaux, Minister for the Environment, and local collaborative organizations included the Bahamas National Trust, Friends of the Environment, Bahamas Human Rights Network, Islands By Design Limited, Town Planning and the Administrator's office.
A complete working office was established in the Below Decks room at the Abaco Beach Hotel where the public was invited at any time to interact with the design students to discuss ideas. Several public meetings were held in Sandy Point at the J.A. Pinder Primary School and in Marsh Harbour at the Anglican Church Hall.
At the introductory meeting in Marsh

Harbour on October 23, Mr. von Maur opened by stressing that one of the most important aspects of the venture would be public input and feedback. He gave a brief introduction of the 25 students involved in the project and stated that while the university had been involved in many urban design projects within the United States and had won awards for their Urban Renewable design, Abaco was the first community they had worked with outside of the country so this would be a challenge to them.
Mr. von Maur stated that the students had studied Bahamian planning in settlements and had looked at all conditions and culture in considering how they can prepare South Abaco for sustainable development through planning and design. It was

stated that in the south, growth opportunities exist within existing towns such as Sandy Point and that the team is mindful of the fact that whatever happens will have a huge impact on the ecology of the area.
In Marsh Harbour the questions would be where to put new growth and what happens to old growth? The team vowed to try various solutions as they were cognizant of the fact that Marsh Harbour is affected by the immigrant community of the Mud. As a long term vision they put forward some questions they would be considering such as: "Must we develop outside a town and abandon it or use the town and develop around what is there? What will this project seek to accomplish?" They promised to



Andrews University students and professors held three public meetings in Marsh Harbour and two in Sandy Point to let the public know what they were doing and to encourage getting input. Mr. Andrew von Maur, Assistant Professor of Architecture, was the spokesman and conducted the meetings. The last two meetings featured Power Point presentations that showed conceptual drawings of their ideas.



This shows one concept suggested by the Andrews University group for South Abaco development. Clusters of homes and condos of about 30 units could be constructed around a central business area. This could form a nucleus or unit. In the distance can be seen two other similar clusters, each dotting the coast about a mile apart.

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Bahamian architecture was encouraged

Andrews From Page 16
look at the transportation problem in Marsh Harbour which, they stated, is a network issue and also the parking problem at the ferry dock. Recommendations would be made providing clear and principled guidance on the following:
• Fundamental planning principles
• Specific illustrative planning proposals
• Proposal for legal mechanism for implementation
The students researched and worked intensively on their presentations during the next ten days. The targeted areas in the south and city of Marsh Harbour were visited and studied and many aerial photographs were taken. Their illustrative de-

signs were displayed at the final meeting to be viewed and discussed by the public. They had obviously worked very hard to produce the amount of quality work presented and their designs were interesting and attractive, offering some innovative and valuable ideas for Abaco.
Final Review
On September 30 at the final public review meeting Mr. von Maur gave an overview of the project and cited the example of Dunmore Town in Harbour Island from the planning perspective as an excellent example of urban design which could serve well as a model. "All Bahamian towns should have a waterfront," he stated and encouraged the development of Front Street in Marsh Harbour into an attractive area for tourists. In considering the future development of Marsh Harbour, Mr. Maur said, "We should make it a lovable place with Bahamian architecture which would be cooler and cut down on air conditioning costs, a city on the water with spaces between the buildings which would make people want to stay and would be good for tourism. It should have walk-ability and be designed so that people do not have to drive. It should be planned for livability and made attractive for a range of demographics, high end to low end and for all



The team from Andrews University set up their workshop in the Below Decks room at Abaco Beach Resort. They applied their book knowledge to a real life situation, showing how towns and specifically the water front areas can be made much more attractive that will please residents and draw tourists.



This is a conceptual development for the Lanternhead area of South Abaco showing a small self-sufficient cluster of residential buildings independent of public utilities. This is suggested for the edge of private property that adjoins a strip of Crown Land along the southern coast, leaving that land in its native form close to the beach.

Andrews From Page 18

so the area has the opportunity to grow into something else." The drainage issue in the Mud was addressed. "There is presently no drainage there and we have proposed a drainage concept for the area. It is generally considered that there is a density problem in the Mud, but the students working on plans for the Mud have calculated that density of buildings in the Mud is not much different from that in Hope Town, Cherokee and New Plymouth, and that the problem is a crowding issue due to several families living in one house, not a density issue."
The question was asked by a member of the audience as to why the focus was only on South Abaco. Mr. von Maur gave the reply that due to resource limitations they were unable to do the whole island. In the future if it was possible, they would love to come back to work on the remainder of the island. In the meantime, however, the designs they proposed could be adapted to communities anywhere.
At the close of the presentation the students divided into four groups and persons present were invited to spend time with the different groups to ask questions and discuss the plans they had come up with.
After the completion of the ten-day charrette the students returned to Michigan where they will continue working on their proposals in order to produce their final submission by the end of the year. It will be presented to Mr. Earl Devenaux and the public. "This is just the beginning of something much larger and the final document will be of great value to the people of Abaco," assured Mr. von Maur. "However, what happens after we leave depends on local leadership which includes citizens, developers and businessmen. Building towns is a community effort."

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The Planning Charrette had a Bahamian connection

By Jennifer Hudson
Among the twenty-five students from Andrews University in Berrien Springs, Michigan, who were on Abaco to participate in the ten-day planning charrette was one Bahamian student. Lionel Johnson graduated valedictorian and Head Boy from St. John's College in Nassau and spent one year studying at the College of The Bahamas before entering the School of Architecture at Andrews University where he earned his Bachelor of Science degree in Architecture. He is now in the one-year graduate Urban Design Studio in which graduate students assist with issues to aid in the future development of communities.
Lionel was very pleased to have the opportunity to be on Abaco to help with the long-term planning. "At Andrews University it teaches you to build according to the culture of a place. Whereas others import the American way of design into the Bahamas, we are allowed to incorporate Bahamian ways and to consider how the building refers to its urban context. Coming to Abaco

to design as part of this project has enabled me to see the value of this immediately and validates what I have learned. I am very gratified," he stated. Regarding the project for Abaco, he felt that it is very interesting with a lot of potential but so big.
"It gives me a sense of pride that our university could be bold enough to take on

the project and step outside our borders to see a community that needs help and which is willing to put forth a change."
Lionel has three years of internship before he receives his license which he will probably do in the United States. After that he definitely plans to come back home to The Bahamas to work.

The Editor Says . . . Challenges of Abaco's growth



This year two university groups have given professional advice on our growth and expansion - a student group from Massachusetts Institute of Technology this summer and a second student group from Andrews University in Michigan in late September. It is not clear at this time if these two groups are making parallel studies or if each has different objectives.

Twenty-five students from Andrews University School of Architecture in Michigan just returned to their school after spending an intensive ten days here. During their limited time they focused on four issues: the Marsh Harbour business district, the settlement of Sandy Point, undeveloped areas of South Abaco and, for good measure, they made some suggestions on improving conditions in the Mud and Pigeon Peas. Their lead person, Assistant Professor Andrew van Mair, gave five public presentations on their work as it progressed, two in Sandy Point and three in Marsh Harbour.

The students and their professors expect to release a comprehensive study and analysis in December which will be available in its entirety on the Internet. This will include more than innovative sketches of land use. They are expected to make suggestions for legislation and regulations for Central and Local Government to consider in managing growth issues. There may be suggestions related to Local Government's involvement in the long range issue of town planning. There is much room for Local Government to be more aggressive in our long range planning process.

The students were appalled at Marsh Harbour's chaotic traffic situation. Their sketches and suggestions frequently pointed to the need for more cross streets and additional roads to give motorists more options and provide access to more undeveloped property.

Daring presentations in Sandy Point and Marsh Harbour, they gently chided the audiences for not taking better advantage of their waterfronts. They felt that both towns had much waterfront potential that was being overlooked.

The undeveloped Atlantic coast of South Abaco, in their view, lends itself to

limited development using small residential clusters, each separated by a mile of native vegetation. These would be self-sustaining, off the utility grid, using wind or solar energy sources. In many respects, this concept follows Abaco's traditional growth which has been in small incremental steps as opposed to single massive resort development which seems to be coming into style now. Perhaps the current financial crunch will put a damper on some of these larger projects.

Much of their presentation focused on preservation of the environment by building smaller on available vacant sites in our present communities. In support of this, they showed examples of Hope Town, Green Turtle Cay and Harbour Island which all have a much higher building density than Marsh Harbour, yet all are considered as being desirable and acceptable.

For those interested, a glimpse into the Andrews University student's ten days here can be seen by visiting their web site www.planningabaco.org.

We are not sure when the results of the MIT study will be released.

The expanding role of local government

Abaco's explosive growth has been a challenge to both central government and local government. Laws, regulations and rules are in place but enforcement is inconsistent. Furthermore, our diverse boards, committees and councils, which pass judgement or make recommendations are generally looking at satisfying immediate issues and are not considering the effect as the area continues to grow.

Another constraint on realistic future planning is a lack of continuity in the local political process. Town committee members and area councils are subject to change every three years and the statutory boards are subject to change within a one, two or three year term, at their council's discretion.

Additionally, Abaco is divided into seven local government districts which have had no particular reason to act together for any common cause. On October 1 a historic first occurred when five of Abaco's seven chief councillors met in Marsh Harbour to discuss common issues. They felt it was beneficial and hope to meet several times a year. Common issues might include traffic, trash handling, tourism and environmental issues.

The laws and regulations imposed by central government apply equally to the entire island. Some districts apply their will and their interpretation of the regulations rather stringently while other districts are more lax.

Many issues which relate to a community's growth are not rigidly defined and must be resolved by common sense and a view to present and future community values. This is not an easy task.

There seems to be a growing movement by central government to encourage local government to take more control over local issues and become more responsible. Local government members must learn to use the authority they have been given.

Town planning regulations are under review and we suspect that recommendations by these two universities may find practical applications. It is difficult to write a uniform set of regulations for our diverse settlements. Regulations appropriate for Nassau are not always suitable for Family Island situations. Conditions appropriate for Hope Town or Grand Cay would not be valid for a commercial center like Marsh Harbour. Likewise, the minimum waterfront setback on a sandy ocean beach should not be equated to an acceptable waterfront setback in a protected harbour. It is expected that revised Town Planning Regulations may give better guidelines for many of these issues.

However, it is expected that local common sense must always be involved. It is the leeway allowed when applying common sense by local government which aggressive developers, contractors and property owners try to exploit in their attempt to deviate from the normal.

Our present local government bodies have been mainly concerned with the day-by-day issues facing their towns and communities. They have not been asked, had the resources or interest to get involved in long range issues.

For instance, recognizing that an additional road might be an asset, local government bodies have neither the funding, the expertise or the authority to make a new road. They must now give some thought to these issues and lobby to see them implemented.

Central government is finding Abaco's growth to be an interesting phenomenon and appears to be quietly experimenting with allowing more local authority to prevail. We should show that we are up to the task.

Viewpoint . . . Sustainable development and Abaco

By J.F. Heckler

The last few weeks on Abaco have been very fast moving, motivating and varied.

The Abaco Business Outlook Conference highlighted Abaco's growth and direction with relevant presentations by the Minister for the Environment, the Hon. Dr. Earl Deveau; hotelier Frank Conito; and local publisher Dave Ralph. All three approached the subject of sustainable development from very different and relevant angles.

Days later the population was regaled with public discussions on the mechanics of physical planning and development with special attention to conserving space and energy through building design and town planning. Presentations were made in Sandy Point and Marsh Harbour by a group of architectural students from Andrews University, Michigan. This group is working with the developers of the Schooner Bay project designed to prevent a complete town with business space through environmentally conscious living accommodations, educational, agricultural, infrastructural and leisure systems all in one place.

The crescendo came with the collapse of the U.S. banking system, closely followed by the rest of the developed and industrialised world, and, of course, the impact on the Bahamian economy. It has not stopped yet. This is serious stuff, and the implications are huge, especially for us.

The U.S. economy in its present form is finished. No more an alchemy of wealth and capital creation through speculation, debt trading, paper transactions and continuous refinancing. Next time round the U.S. economy will have to restart with solid investment, genuine rock solid productivity and obviously slower growth.

This means more regulation and controls by governments and independent watchdogs. It also means less available high flying capital for investments in the mega resort developments that have been resurgent in The Bahamas over the last few years.

It is interesting to note that the Bahamian islands are littered with the failed foreign investment projects of the last 60 years, including Andros, Eleuthera, Grand Bahama, Mayaguana, and, of course, New Providence. Today's ongoing projects throughout the islands are threatened by the recent failures of their financial backers. The only thing sustainable about this seems to be their eventual collapse. And I thought only us Bahamians were too "big eye."

Of course, all this means that we have to change our approach to economic development throughout the islands. We must also realise that as the unrecoverable debt eventually overtakes the financial wizardry of the last 30 years, the value of the dollar will sink lower and lower along with our lifestyles. We, therefore, have to do something different and create a more appealing market.

The Bahamas has to rethink and refloat its economy, its job market and its productivity. We have to develop alternative sectors of the economy; we have to rethink our environment, we have to rethink our use of infrastructure, services, space and energy.

We have to rethink education, culture and our unique qualities. In other words, we have to become more attractive and hence more marketable. We as Bahamians understand our own qualities, so we need to develop them ourselves. To date we have allowed and encouraged foreign investment to dictate our economic model

along their needs and conditions, not ours. This has to change if we are to realise long term sustainable growth. Every developed country worldwide dictated its own growth strategy without foreign control. The sad thought is that to date we have not valued our own resources. Our history, thrown away. Our culture, discarded. Our architecture, allowed to rot and decompose. Our intellect, on a flight to Miami. Our resourcefulness, scheming to get it in cost free from Miami.

The hospitality industry will have to change course and move away from the cheap day-tripper product offered to the cruise ship passenger. The industry will have to concentrate less resources on the huge million dollar a job resort developments which do not pump real long term value into the local economy. Bahamians will have to move away from being employed to being the employer, the entrepreneur, the developer, the investor.

Golf courses and opulence and luxury do not make money for The Bahamas, but they do consume huge amounts of resources and infrastructural inputs that could be better used elsewhere in local sectors. The creation of lots of low value jobs does nothing for the growth of The Bahamas, in fact, it hinders it. What we need now is good, well planned local investment along smaller scale projects that intimately involve our own communities with the product offered to our visitors. It's called "value for money."

We need better services and trades development, a higher quality educational base, a more valuable productivity mentality, a more ethical approach to our product, more involvement and motivation, more honesty and dignity within ourselves

and more respect for our surroundings and environment. Look at how we live. We are nasty, dirty and lazy; just look at our yards, our forests and wilderness areas, our sea floor and our beaches. We have become fat and complacent.

Maybe Abaco has already started this trend with its approach to growth and sustainability, especially in the cays. Abaco has very few actual hotel rooms for visitors and guests, but it does have volumes and volumes of accommodations in cottages, settlements, rental second home, boat charters and the like. Not only that, people stay a lot longer and they participate in and interact with the community. Want to make them feel at home. And guess what? They want to come back again, and again, and again!

When I was a little kid in Nassau, people were always talking about Hope Town. It was only after I moved to Abaco that I understood why. We don't have tourists here; we have guests and visitors from away.

Nationwide we need to encourage internal investment, change from debt and finance to production base, develop trades and services, improve educational opportunities.

Tourism must move into a different arena, away from the impersonal mega resorts and into the local cottage residential-style accommodations which are smaller, operator managed, culturally integrated and intimately involve the local communities. This will lead to greater visitor and guest satisfaction and inject real value back into the settlements through participation, communication, interaction and involvement.

Please see Viewpoint Page 21

Viewpoint From Page 20

We need a smaller model which takes into account our own surroundings, economy, culture, history, personality and character. The small ecotourism units exploiting their immediate environment are a good example.

We also need to develop the support industries such as small scale farms and market gardens, landscaping ventures and nurseries using local product, local hand-crafts and souvenirs, local repair and trade shops, cabinet and furniture manufacturing, all of which produce a competitive and high value product. We must be able to provide seasonal fruit and vegetables for the visitors' table along with native meats, fish and desserts. This way we circulate the money in our own economy rather than exporting the 85 percent that we presently do. As a spin off, we will achieve much greater satisfaction for our guests, our operators, our producers, our technicians and our workers.

Only then will we be able to provide a truly sustainable product.



PLANNING ABACO

ANDREWS UNIVERSITY
2008