

Minor Land Development Permit Application

For Improvements To

Little St. James Island
Parcel A

Applicant:
L.S.J., LLC
P.O. Box 870
St. Thomas, Virgin Islands

March 22, 2010

Minor Land Development Permit Application

For Additions to Little St. James Island, VI - Parcel A

March 22, 2010

INTRODUCTION

The purpose of this Minor Land Permit Application is to address the construction of accessory buildings and landscape improvements by the owner of Little St. James Island. It is the desire of the owner of LSJ to construct improvements which will be part of the existing single family compound including:

- A.1 - A Swimming Pool & Cabana
- A.2 - A Tennis Court
- A.3 - A Music Room

1.0 Applicant:

L.S.J., LLC
Little St. James Island
6100 Red Hook Quarter A2-7
St. Thomas, USVI 00802

2.0 Location: Little St. James – Parcel A

- 2.01 Vicinity Map (see attached)
- 2.02 Parcel Map (see attached)

3.0 Project Description, Components & Environmental Site Considerations

3.01 A1 - A Swimming Pool & Cabana – Parcel – A (See Exhibits A.2-A.5)

The proposed 25' x 70' swimming pool and associated cabana will be located on the northwestern corner of Little St. James. The pool and cabana will be located outside the required 50' CZM setback line and will be at an elevation of approximately +30.0'. The pool will be surrounded by a corral stone paved deck. There will be 2,000 square foot cabana on the east end of the pool and will include a living space, restroom and pool equipment room. Total site footprint will be approximately 6,500 square feet.

Sitework – The existing site is a grass lawn, native stone walls and a grove of coconut palms. Required Sitework for the pool & cabana will encompass earthmoving, grading, paving, building construction, hardscape construction and landscaping. The stormwater runoff from the new development will have a negligible impact on the environment. Stormwater drainage will be directed

to vegetated bio-retention swales and forebays to minimize sedimentation runoff.

Temporary Drainage & Erosion Control – Excavation for the patio and landscaping will be performed with backhoes and hand labor. During construction the bare soils will be encircled with erosion control silt fencing. Erosion control devices will be checked daily and immediately after heavy rains to ensure proper function. All disturbed soils will be landscaped and stabilized.

Storm Water Controls & Mitigation – Storm water from the roof of the new structure will be collected in a cistern and will be used for replenishing the swimming pool water level. The runoff from the paved areas will be directed to several grass vegetated forebays within the landscaped areas adjacent to the building area where it will be allowed to percolate into the soil. The remainder of the runoff from the site will sheet flow to the ocean to mimic existing runoff patterns. There is a negligible increase in runoff and thus no flooding concerns as the eventual discharge is to the ocean.

Sewage Disposal – The new building will have all sewage flow discharged through a prepackaged hydro-action disposal system which consists of a pre-treatment tank (septic tank), treatment plant, pump tank and turtle drip subsurface dosing system. The location of the disposal zone is located so as to satisfy the requirements of the USVI handbook on onsite sewage treatment systems. The drip irrigation disposal zone will be located within the surrounding low landscaped earth mounds.

Water – Potable water will be supplied from the existing reverse osmosis plant and will be stored in new cisterns.

Construction activities starting with the installation of silt fencing and demolition is scheduled to begin in May 2010 pending approvals.

3.02 A.2 - Tennis Court – Parcel – A (See Exhibits A.6 & A.7)

The proposed tennis court and associated landscaping will be constructed slightly northwest of the existing gym fitness structure. The court will be a regulation 60'x 120' size and will be surfaced with natural colors. Native stone retaining walls and native landscaping will allow the tennis court to blend in with the natural surroundings. There will also be an open air stone pavilion in the colonial architectural style consistent with the other new structures on LSJ.

Total site footprint: 8,000 sq. ft.

Sitework – The court will be depressed into the sloped bank so that tennis play will be protected from the winds. Native stone walls will encircle the

court and create a more naturalistic setting. Additional native landscaping will reinforce the design. A small stone open-air tennis shelter will be constructed on the side of the court to offer sun and rain protection. The runoff from the new development will have a negligible impact on the environment. The amount of storm water flow off the site will essentially match the existing development condition.

Temporary Drainage & Erosion Control – Excavation for the tennis court complex will be performed using backhoe excavators and hoe rams as needed for rock excavation. The excavation will be as limited as practical to install the tennis court and walls. During construction the bare soils will be encircled with erosion control silt fencing. Erosion control devices will be checked daily and immediately after heavy rains to ensure proper function. Stormwater drainage will be directed to vegetated bio-retention swales and forebays to minimize sedimentation runoff.

Construction activities for the Tennis Court, starting with the installation of silt fencing and selective grading is scheduled to begin in May 2010 pending approvals.

3.05 A.3 - Music Room - Parcel A (See Exhibits A.8 & A.9)

The proposed 1,800 square foot music room will be constructed on the southwestern tip of Little St. James and will overlook the distant Frenchman's Cap Island. The single music room will be a simple structure and will function as a living area. The room will be placed on the site approximately 140' landward of the coast line at an elevation of approximately +138.0' above sea level. The music room will be accessed by way of a narrow 10' trail.

Total site footprint: 3,500 square feet

Site – The site is located within Parcel A and is on the southwestern end of LSJ. The new construction will consist of grading, paving, building construction and landscaping. The runoff from the new development will have a negligible impact on the environment. The amount of water flow off the site will essentially match the existing development condition.

Temporary Drainage & Erosion Control – Excavation for the structure will be performed using backhoe and hoe rams as needed for rock excavation. The excavation will be as limited as practical to install the structure. During construction the bare soils will be encircled with erosion control silt fencing. Erosion control devices will be checked daily and immediately after heavy rains to ensure proper function.

Storm Water Controls & Mitigation – Storm water from the roof of the new structure will be collected in a cistern and will be used for irrigation. The

runoff from the paved areas will be directed to several grass vegetated forebays within the landscaped areas adjacent to the building area where it will be allowed to percolate into the soil. The remainder of the runoff from the site will sheet flow to the ocean to mimic existing runoff patterns. There is a negligible increase in runoff and thus no flooding concerns as the eventual discharge is to the ocean.

Little St. James

Lot Coverage Calculation

Parcel A – Total Area 36.7 Acres

Proposed Structures

	<u>Area</u>
A-1 Pool & Cabana	6,500 SF
A-2 Tennis Court	8,000 SF
A-3 Music Pavilion	<u>3,500 SF</u>
Total Proposed Structures	18,000 SF

Existing Structures

A-4 Tiki Hut	1,400 SF
A-5 Fitness Gym	1,890 SF
A-6 Dive Beach Pavilion	650 SF
A-7 Nature Observation Cabana	<u>250 SF</u>
Total Existing Structures	4,190 SF

Total Proposed & Existing Structures -Lot Occupancy Coverage **22,190 SF (0.50 Acres)**

Open Space Area & Percentage **36.2 Acres (98.6%)**

Little St. James

CZM Minor Land Permit Application

Environmental Assessment

March 22, 2010

INTRODUCTION

At the request of the staff of the Coastal Zone Commission LSJ, LLC, the owner of Little St. James Island (LSJ) has commissioned this study to confirm that no future development can or will have a substantial, adverse impact on the existing environment of LSJ.

EXECUTIVE SUMMARY

Little St. James is a small privately owned island located about one mile off the southeast coast of St. Thomas and is approximately 71.5 acres in size. The coordinates of the island are 18 18' 06" N, 64 49' 37" W. Little St. James is and has been developed as a residential compound for almost 2 decades. It contains single family residential structures, accessory uses, a trail system and associated utilities. Its sole owner is committed to further development only to the extent of expanding the residential compound for personal use and expanding its water generation facilities for personal use and maintaining the vegetation.

LSJ is divided into three lots or parcels and is shown on Exhibit A. Parcel A is comprised of 36.7 acres, Parcel B is 23.0 acres and Parcel C is 11.8 acres for a total of 71.5 acres. Parcels A & B are very sparsely developed with most of the main house compound within Parcel C, including a main house with an accessory staff house and associated mechanical workshops for standby generators and an R/O complex which generates water.

The existing conditions of the island have been evaluated thoroughly in two reports which have been previously submitted. The first is a comprehensive survey of plant, animal and related conditions by Dr. R.B. Burbidge, PH.D., B. Sc. And the second is a detailed hydrological study by William McComb in conjunction with the Maguire Group.

The findings of these reports demonstrate that:

- No evidence of antiquities or significant archeological remnants.
- Limited rare or endangered species existing on-island.
- Existing erosion control methods are adequate but will be improved upon.
- Future development will cause minimal impact to the natural environment of the island.
- Stormwater run-off controls are adequate and functioning.
- Existing vegetation plantings and landscaping is controlling erosion & sedimentation.

EXISTING CONDITIONS

Climate & Weather

Little St. James island is located southeast of St. Thomas. The climate on LSJ is closely related to the climate on St. Thomas. The climate throughout the USVI is maritime tropical, generally consisting of fair weather and steady easterly trade winds. Mean air temperatures range between 76 F and 82 F throughout the year. The highest temperatures occur in August or September and the lowest are in January or February. The highest average daytime temperature in the warmest months is about 88 F, and in the coolest months it is in the low 80's. Nighttime lows are usually in the mid 70's during the warmest months and in the high 60's during the cooler months.

Rainfall amounts vary with topography, and increase at higher elevations. The wettest period generally is from September to November, and the driest period is from January to June. The average annual rainfall on St. Thomas is approximately 40 inches, ranging from 35 inches toward the eastern end of the island to more than 55 inches at the higher elevations to the northwest.

The area experiences numerous disturbances during the year, especially squalls and thunderstorms. These occur most frequently during the summer, lasting only a few hours and causing no pronounced change in the trade winds. Hurricanes occur most frequently between August and mid-October with their peak activity occurring in September. Hurricane winds may exceed well over 74 mph and significantly affect the area. The annual probability of a hurricane is one in sixteen years. Since 1989, the Virgin Islands have been impacted by Hurricane Hugo 1989, Hurricanes Luis and Marilyn in 1995 and Hurricanes Bertha and Hortense in 1996. No hurricanes passed the Virgin Islands in 1997. Hurricane Georges passed close to St. Thomas on September 21, 1998. Hurricane Lenny, a Category 4 hurricane, impacted St. Croix on November 17, 1999. Hurricane Lenny developed very late in the season and approached the islands from the southwest.

Landform, Soils, Geology & Drainage

The USVI are located near the northeastern corner of the present Caribbean Plate, a relatively small trapezoidal-shaped plate which is moving eastward relative to the North and South American continents carried on the American plate. That arc of the Lesser Antilles is an active volcanic arc above a subduction zone in which the Atlantic oceanic crust of the American plate is carried downward under the Caribbean Plate. The closest active volcano to the USVI is Saba and lies 100 miles to the east and last erupted in 1636.

The island of Little St. James is relatively hilly with the maximum elevation of 142 feet above sea level. The shoreline of the island is irregularly shaped and approximately 2.2 miles long. The soils of the island are classified into six different soil classifications. The main series of soils are Redhook, Solitude, Salt Flat and Southgate.

The Redhook series soils are predominantly located along the 2.2 miles of shoreline. Redhook soils are classified as being excessively drained soils on vegetated beaches. The soils formed in

alkaline marine deposits. Slopes range from 0 to 5 percent. Typical composition of the Redhook soils is extremely stony sand, mild slopes, rubbly, and rarely flooded. These soils have low natural fertility and have a slight hazard of erosion. (NRCS 2007)

The Solitude series soils are located throughout the island and are mainly located in association with the Redhook series near saline conditions. These soils are classified by gravelly fine sandy loam, with a 0 to 2 percent slope, which frequently is flooded. The natural fertility of these soils is low to moderate with a slight hazard of erosion. (NRCS 2007)

The Salt Flats soils are located on the western side of the island with the associated salt pond. These soils are unvegetated areas of saline flats, saline marshes and salt ponds. The area is prone to ponding and flooding resulting from gut flow, marine tides and storm surges. The soils are very deep and poorly drained. The areas are strongly saline and are frequently ponded for long periods of time. (NRCS 2007)

The Southgate series of soils are located throughout the islands and compose all of the upland soils on the island. These soils are classified as Southgate Rock outcrop complex with varying slopes from 12% - 60% depending on the soil type and the location on the island. The steepest slopes are located in the SrF soils located on the western and southern portions of the island with slopes from 40% - 60%. These soils are typically volcanic hills and mountains, composed of very gravelly, stony, or rubbly surface layer. The natural fertility is moderate with a severe erosion hazard, and no flooding. (NRCS 2007)

The islands topography and drainage patterns are broken into several drainage watershed areas. Each of the proposed improvements will include detail site plans and drainage improvements which will direct the stormwater runoff into bio-retention swales and drainage forebays so as to minimize stormwater runoff.

Fresh Water Resources

On island freshwater resources are limited. The owner of the island has incorporated other methods to collect and treat freshwater for personal use, irrigation and household needs. The island produces fresh water from three sources: a ground-water well, ocean intake for reverse osmosis and rainwater collection in cisterns. Based on the capacity of these three systems, the water requirements for the island home will be adequately handled.

Vegetation

The vegetation and species composition of the island is typical of an east-facing, semi-arid Caribbean island and closely resembles the vegetation found on the east end of St. John and St. Thomas. There are approximately 100 native species present on the island. One species is listed on the Federal or Territorial Endangered Species list, and because of its habitat on steep sloping grassland and rocky outcrops, it is under no immediate threat. The island has never been occupied by grazing animals and is also free of some of the invasive exotic plant species (Burbidge 2007).

Rare and Endangered Species

One rare or endangered species exists on the island and is located in areas which cannot be built on. This species is an indigenous endangered species which is not federally listed. It is a species of orchid, *Tetramicra canaliculata*. This orchid is common on select sections of Little St. James, usually in association with the grass *Uniola virgata* where it grows epiphytically among the leaves and culms of the grass. The species thrives in areas which are steep, grass covered, or rocky hillsides.

Wetland Areas

Two wetland areas exist on the island in addition to the coastal areas. These wetland areas are located on the north and western sides of the island. These areas consist of a small brackish pond on the north side of the island and a large salt pond on the western side of the island.

The northern pond is located in a small depression between the beach and the foot of the hill. The pond is an ephemeral storm water retention pond that collects run-off from the surrounding hills. This pond becomes dry several times a year, however on isolated occasions waves do wash into the pond and the salt concentration is maintained, varying with the collection of rainwater. The salinity has been measured and indicates that the pond is classified as brackish water. Vegetation surrounding this pond is sparse.

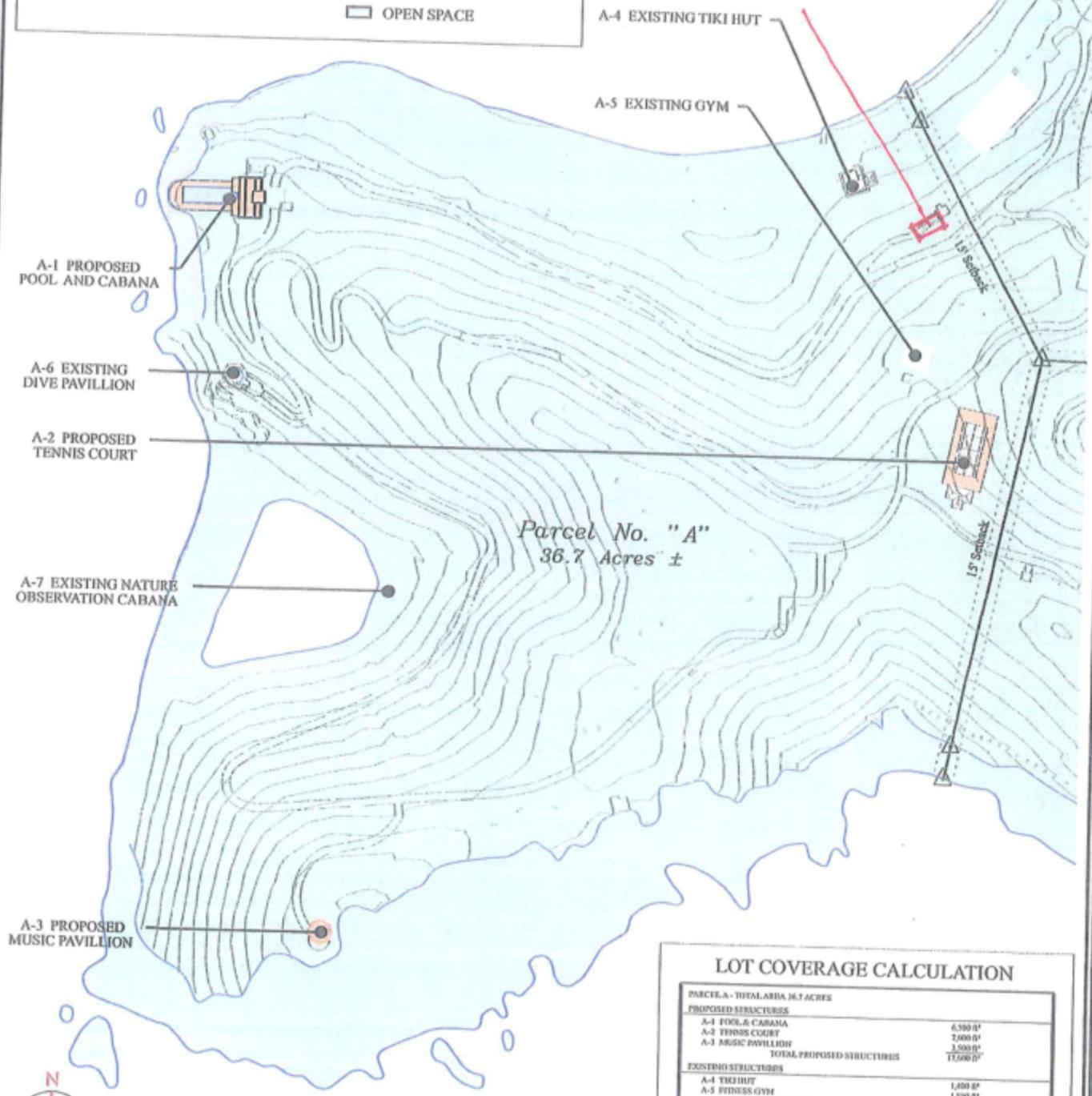
The western pond is a large salt pond separated from the bay by a cobble beach. It holds seawater year round and contains red, white and black mangroves. The mangrove fringe while not being very dense does offer habitat benefits. Three sides of the pond are bordered by hills and therefore some natural upland erosion has caused some sedimentation deposits into the pond. The pond also receives run-off from the gut that runs nearby.

Existing Structures

Currently there are several existing structures on the island making up the residence and its accessory uses. The structures include a Main House with three guest rooms, Master Bedroom, Office Pavilion, Staff Cottage, Mechanical Building, Wood Shop, Gym, Beach Hut, Tiki Hut and several small open thatched cabanas. The main house, office pavilion and mechanical building are all going through various stages of construction under previously obtained permits.

- EXISTING STRUCTURES
- A-4 TIKI HUT
- A-5 FITNESS GYM
- A-6 DIVE BEACH PAVILLION
- A-7 NATURE OBSERVATION CABANA
- PROPOSED ACCESSORY IMPROVEMENTS
- A-1 POOL & CABANA
- A-2 TENNIS COURT
- A-3 MUSIC PAVILLION
- OPEN SPACE

St James Cut
SPA



Parcel No. "A"
36.7 Acres ±

Caribbean Sea



LOT COVERAGE CALCULATION	
PARCEL A - TOTAL AREA 36.7 ACRES	
PROPOSED STRUCTURES	
A-1 POOL & CABANA	6,300 SF
A-2 TENNIS COURT	2,000 SF
A-3 MUSIC PAVILLION	2,500 SF
TOTAL PROPOSED STRUCTURES	10,800 SF
EXISTING STRUCTURES	
A-4 TIKI HUT	1,000 SF
A-5 FITNESS GYM	1,500 SF
A-6 DIVE BEACH PAVILLION	650 SF
A-7 NATURE OBSERVATION CABANA	250 SF
TOTAL EXISTING STRUCTURES	3,400 SF
TOTAL PROPOSED & EXISTING STRUCTURES	14,200 SF (0.38 ACRES)
- LOT OCCUPANCY COVERAGE	
OPEN SPACE AREA & PERCENTAGE	35.2 ACRES (95.6%)

PARCEL A MASTERPLAN

LITTLE ST. JAMES

U.S. VIRGIN ISLANDS

MASTER
BASE PLAN
CZM EXHIBIT A.1
02.01.2010

EXISTING STRUCTURES

- A-4 TIKI HUT
- A-5 FITNESS GYM
- A-6 DIVE BEACH PAVILLION
- A-7 NATURE OBSERVATION CABANA

PROPOSED ACCESSORY IMPROVEMENTS

- A-1 POOL & CABANA
- A-2 TENNIS COURT
- A-3 MUSIC PAVILLION

OPEN SPACE

St James Cut

A-4 EXISTING TIKI HUT

A-5 EXISTING GYM

A-1 PROPOSED POOL AND CABANA

A-6 EXISTING DIVE PAVILLION

A-2 PROPOSED TENNIS COURT

A-7 EXISTING NATURE OBSERVATION CABANA

A-3 PROPOSED MUSIC PAVILLION

Parcel No. "A"
36.7 Acres ±



Caribbean Sea

LOT COVERAGE CALCULATION

PARCEL A - TOTAL AREA 36.7 ACRES

PROPOSED STRUCTURES

A-1 POOL & CABANA	6,500 SF
A-2 TENNIS COURT	1,600 SF
A-3 MUSIC PAVILLION	3,500 SF
TOTAL PROPOSED STRUCTURES	11,600 SF

EXISTING STRUCTURES

A-4 TIKI HUT	1,400 SF
A-5 FITNESS GYM	1,800 SF
A-6 DIVE BEACH PAVILLION	650 SF
A-7 NATURE OBSERVATION CABANA	250 SF
TOTAL EXISTING STRUCTURES	4,100 SF

TOTAL PROPOSED & EXISTING STRUCTURES
-LOT OCCUPANCY COVERAGE

21,700 SF (0.59 ACRES)

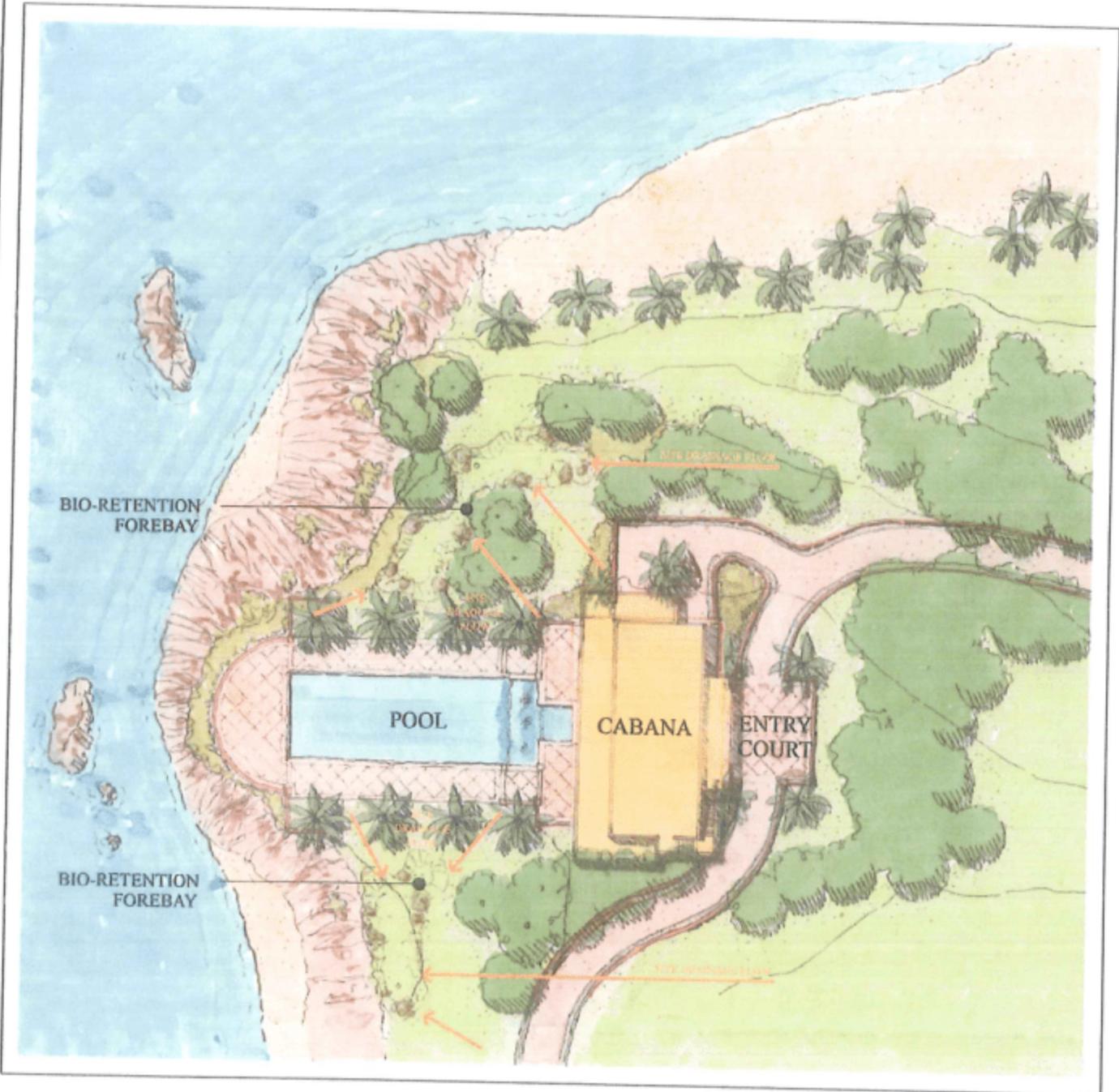
OPEN SPACE AREA & PERCENTAGE
36.2 ACRES (98.4%)

SCALE: 1" = 100'



PARCEL A MASTERPLAN
LITTLE ST. JAMES
U.S. VIRGIN ISLANDS

**MASTER
BASE PLAN**
CZM EXHIBIT A.1
02.01.2010



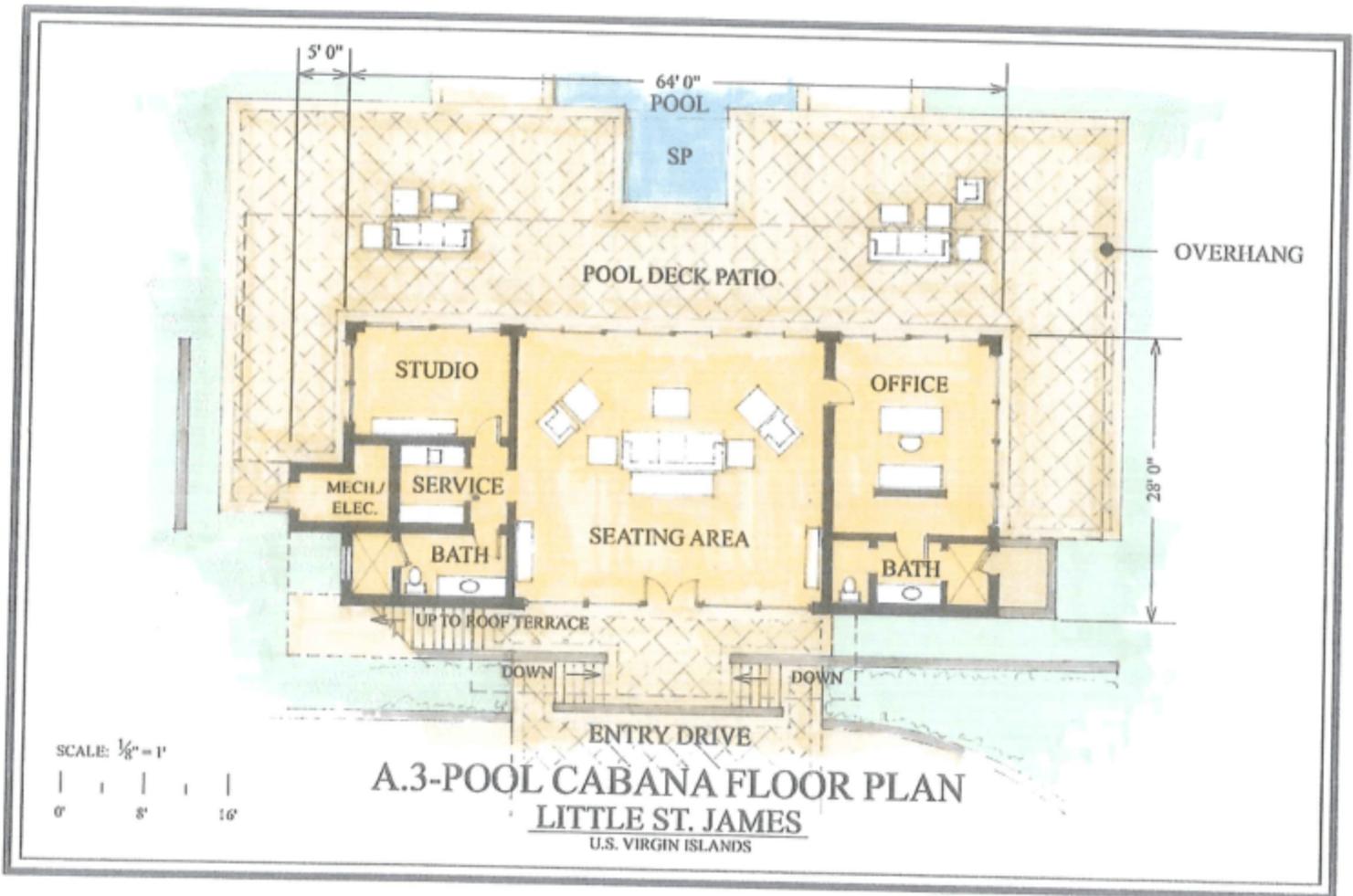
A.2 - PROPOSED POOL & CABANA- SITE PLAN

LITTLE ST. JAMES

U.S. VIRGIN ISLANDS

02.01.2010



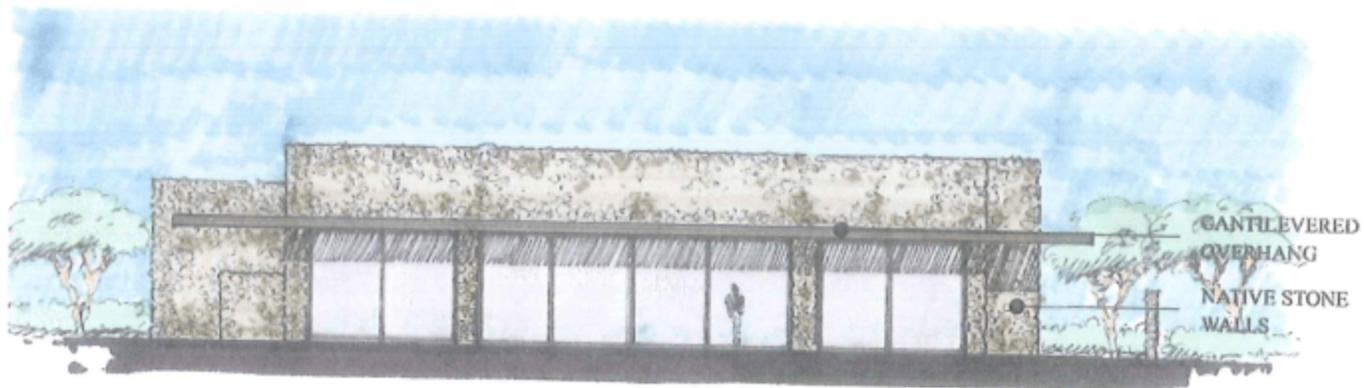




SCALE: $\frac{1}{8}'' = 1'$



A.4-POOL CABANA EAST ELEVATION
LITTLE ST. JAMES
U.S. VIRGIN ISLANDS



SCALE: $\frac{1}{8}'' = 1'$



A.5-POOL CABANA WEST ELEVATION
LITTLE ST. JAMES
U.S. VIRGIN ISLANDS



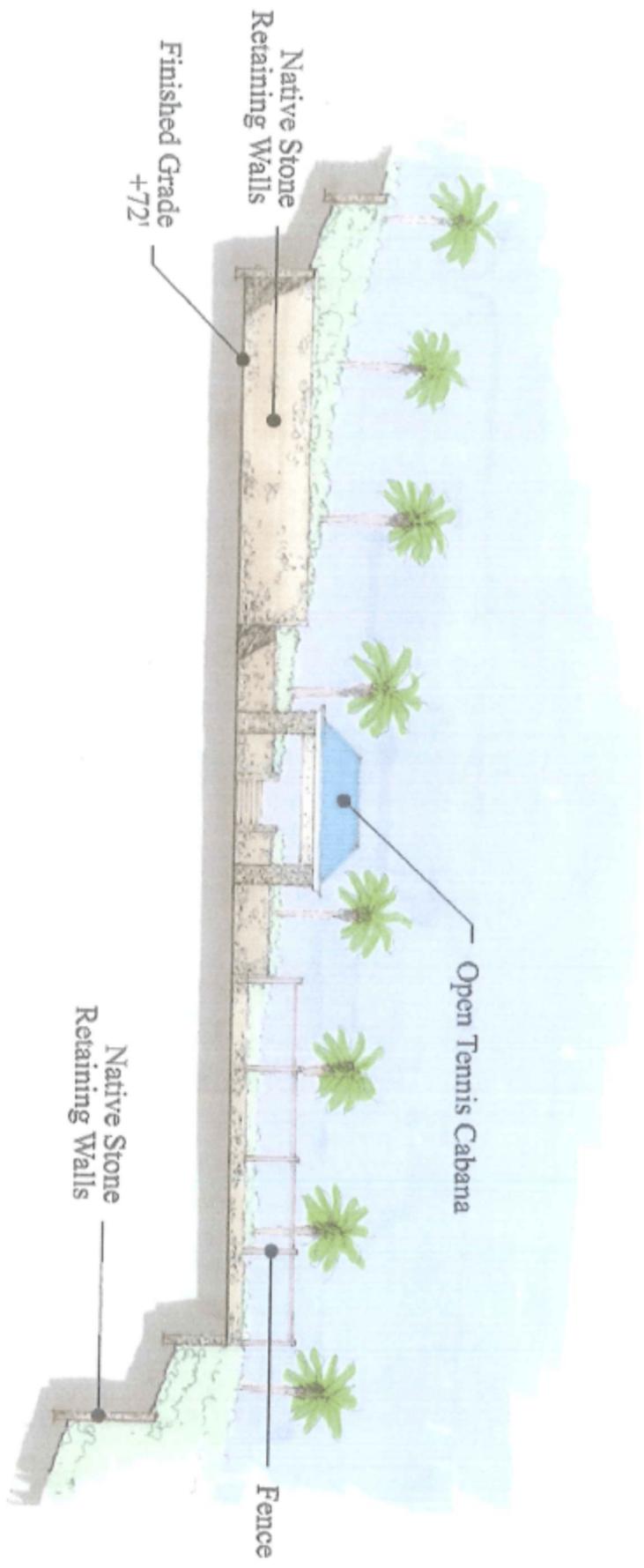
Scale: 1" = 20'
0' 10' 20'



**A.6-PROPOSED TENNIS
COURT & CABANA-
SITE PLAN**
LITTLE ST. JAMES
U.S. VIRGIN ISLANDS

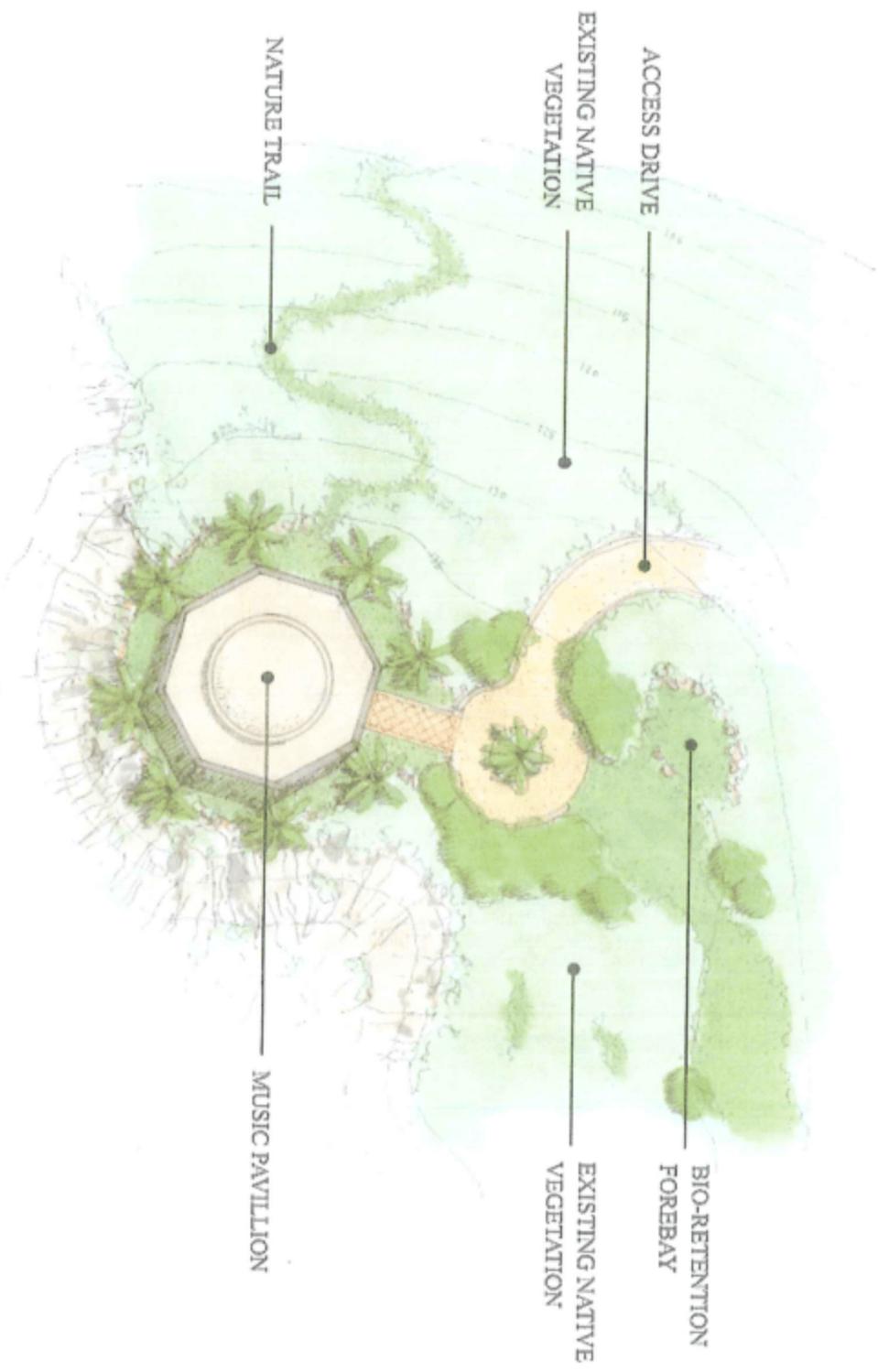
Scale: 1" = 10'
0' 10' 20'

A.7-PROPOSED TENNIS COURT & CABANA SECTION
LITTLE ST. JAMES
U.S. VIRGIN ISLANDS



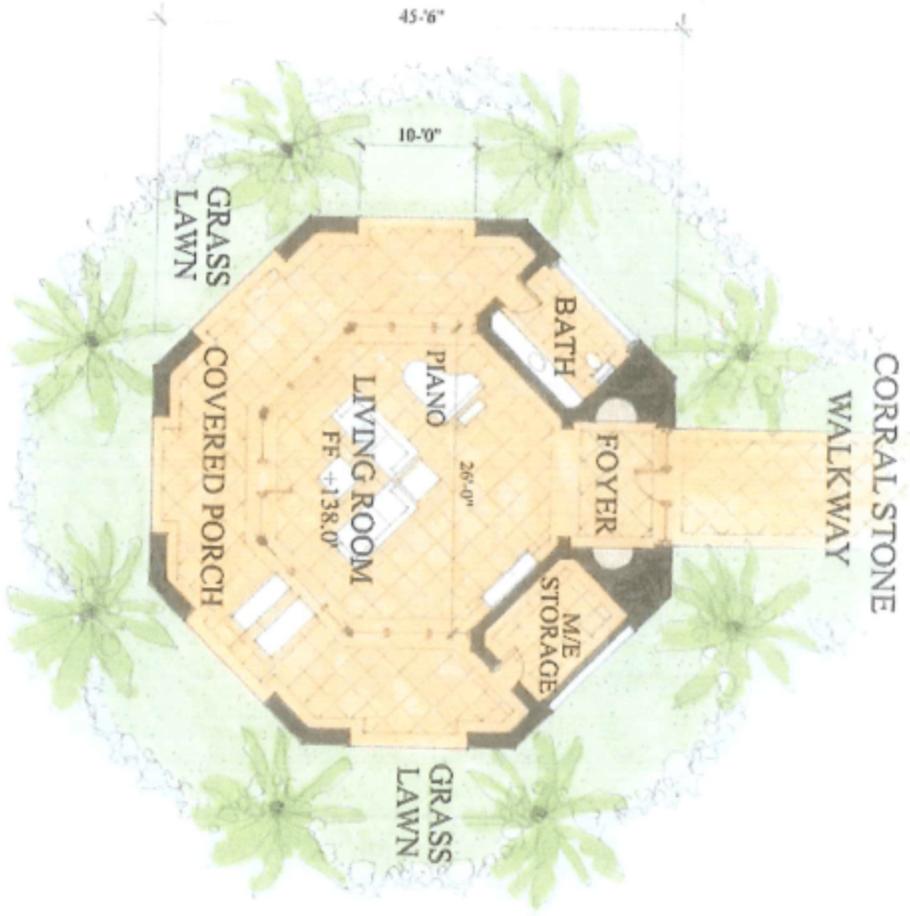


A.8-PROPOSED MUSIC PAVILLION-SITE PLAN
LITTLE ST. JAMES
 U.S. VIRGIN ISLANDS



SCALE: 1" = 10'

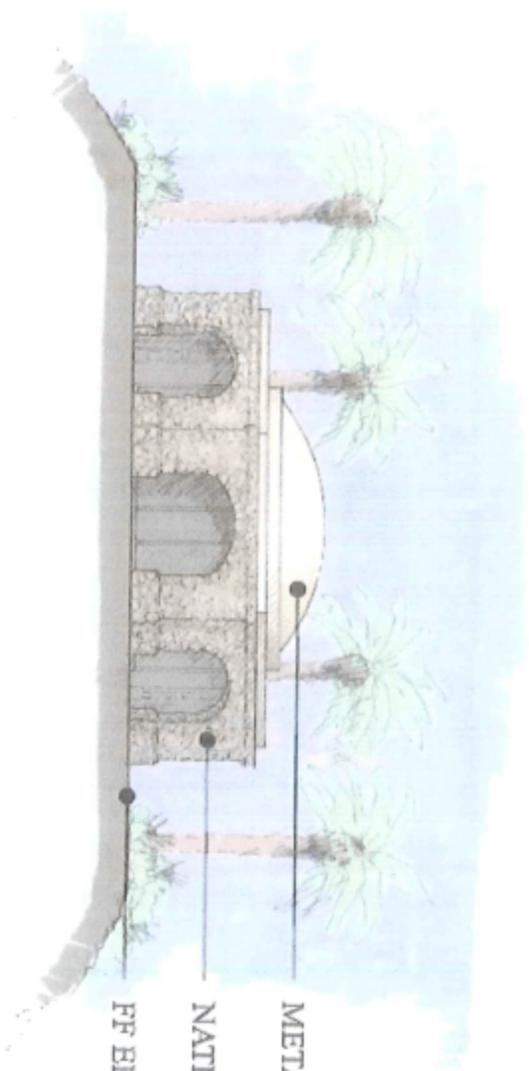
0' 10' 20'



A.9-PROPOSED MUSIC PAVILLION-FLOOR PLAN

LITTLE ST. JAMES
 U.S. VIRGIN ISLANDS

AREA: 2,000 FT²



METAL-DOMED ROOF
NATIVE STONE WALL
FF ELEV. +138.0'

A.10-PROPOSED MUSIC PAVILLION-
SOUTH ELEVATION

LITTLE ST. JAMES
U.S. VIRGIN ISLANDS

SCALE: 1/8" = 1'

