

**Environmental Guidelines for Sustainable Residential Development on  
St. John, V. I.**

*“St. John’s incredible natural beauty and the environment are inseparably linked.  
If we preserve the natural environment, we preserve the beauty.  
If we destroy the environment, we destroy the beauty.  
The choice is ours!”*

*Doug White, Architect*

**GOALS & OBJECTIVES of the Guidelines:**

1. To provide practical, implementable information to owners and builders on *Green Building* (environmentally friendly) design and site development practices to reduce pollution and destruction of the natural environment.
2. To create awareness to help preserve the native vegetation, natural beauty and traditional “Old Caribbean” lifestyles of St. John.
3. To promote the building of structures on St. John in *balance and harmony with nature*.

**MAJOR AREAS OF CONCERN:**

**I. Site Planning and Design for Environmental Preservation.**

**The maximum potential for environmental destruction occurs during the construction process.**

Owners who are not familiar with the actual construction process may not normally consider some of the issues listed below. St. John is an extremely fragile ecosystem. Once destroyed, native vegetation takes many years (if ever) to regenerate.

**1. Minimum Site Disturbance Recommendations:**

**It is strongly recommended that vegetation be cleared only in the immediate area around the building footprint and areas of immediate use and construction.** The building footprint is defined as the building, sewage disposal and driveway areas. (See 2.)

**Visible identification (marking) of areas of the site to be cleared and the installation of protective measures around vegetation to be preserved before excavation equipment arrives is highly recommended.**

**Site clearing before receipt of CZM (Costal Zone Management) Permit.**

**Note: Items in underlined italics listed below are V.I. Government Requirements (and quotes from government publications).**

**Hand clearing of trails and small areas only is allowed by non-mechanical hand equipment. All trees shall be preserved. No mechanical clearing or machine clearing of any kind (chain saws, back hoe’s, etc.) is allowed before a CZM Permit is received. All site clearing shall be done in a manner so as to create minimum erosion and run off (non-point source pollution).**

It is recommended that cleared brush be collected and composted on site, out of sight of estate roads, public spaces and driveway easements.

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After receipt of Permits: *Berms and swales should be created to contain runoff in cleared areas.* (See 4. and the Sediment and Erosion Control on Construction Sites Field Guide, UVI Cooperative Extension Service)

Any proposed grading shall not impair existing surface drainage, constitute a potential erosion hazard, or act as a source of sedimentation to any adjacent land or water course, or affect any sediment and erosion control structure previously installed.

Silt fences and other CZM permit required environmental protection measures should be installed before mechanical site work begins.

All work should be in compliance with CZM Requirements

**2.Brush Clearing and Waste Removal Recommendations:**

Owners are encouraged to take responsibility for disposal of cleared brush on their property. Composting of cleared brush onsite and establishment of cleared brush vegetation berms around the downslope portions of the cleared construction area are recommended. Owners are requested not to leave cleared brush in view, along the roadsides, on common property, or on other landowner's property.

Burning of brush (with or without a burning permit) is not recommended in order to minimize the chance for brush fires and air pollution.

**In Nature there is no waste.** Nature recycles everything. In nature, waste is a renewable resource. We should strive for waste transformation and recycling and not throwing away. (Termites are nature's wood recyclers.)

All garbage from St. John is trucked and barged back to St. Thomas at great expense to taxpayers. Be mindful that if you create waste on your property, you are encouraged to recycle it on your property. As ecological architect Michael McDonough says, "Away has gone away!" Our island infrastructure can no longer support the concept of "throwing something away."

**3.Green Belt & Native/Natural Vegetation Setback Recommendations.**

A **30 foot** native/natural vegetation greenbelt along each side of public and estate roads is highly recommended.

Native Vegetation Greenbelt Recommendations:

<b><u>Native Vegetation Greenbelt width from property line on each lot.</u></b>				
<b>Front &amp; Rear</b>	<b>Sides</b>	<b>Roads</b>	<b>Waterfront</b>	<b>Guts</b>
<b>25'-30"</b>	<b>15'-20'</b>	<b>30'</b>	<b>50'</b>	<b>30'</b>
	(Between Lots)		(Mean Low Water)	(from center or 25'from edge, whichever is greater)

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Recommendations for clearing driveway access lanes within native/natural vegetation setbacks.

Driveways: Fifteen-foot (15') wide driveway access clearings into the property from the estate road.

**4. Excavation, Drainage and Erosion Control Recommendations;**

*Each individual parcel owner should strive to maintain zero topsoil runoff onto estate/public roads, adjacent property, drainage guts leading into the waters of the Virgin Islands..*

**Runoff from roads and construction sites is a major source of ocean pollution (Non-point Source Pollution) that settles on and kills the coral reefs.**

Collection, retention and reuse of rainwater/storm water runoff from paved areas within the property into gray water cisterns (for reuse in irrigation) is recommended. Owners are also encouraged to retain storm water on their land with rain gardens and landscape swales. (Refer to: *Permaculture, A Practical Guide for a Sustainable Future* by Bill Mollison)

*Site plans should provide for Storm Water runoff mitigation and distribution during periods of heavy precipitation so as not to create excessive runoff from individual properties.*

Excavation for future construction work for footings, foundations and cisterns, not to be completed immediately after excavation or left exposed to weather is not recommended.

*All driveways should be surfaced (pavement, permeable pavers or gravel) so as to create no runoff into the surrounding environment.*

Exposed earth driveways or driveway cuts should not remain uncovered for extended periods. It is recommended that all driveway cuts be surfaced within 30 days of creation.

*Soil stabilization practices (temporary seeding, mats, etc.) are required both during and after construction. (See: Sediment and Erosion Control on Construction Sites Field Guide, UVI)*

Many contractors think that all that is needed during construction is a silt fence, and do not bother to stabilize soils until construction is complete.

**The use of huge excavation equipment is not recommended. Owners are encouraged to design homes with small cuts into the hillside.**

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Owners are asked to carefully consider the maximum depth of a cut into the hillside for the excavation of their residences. Cuts greater than eight feet high are not recommended. Five to six foot cuts, are recommended.

Owners are asked to show the maximum height of excavation cuts for retaining walls and cistern/slab excavations on their submission of plans for homeowner association review.

**5. Building Envelope Recommendations.**

Building setback and height recommendations:

**Principal, Guest Cottage and Accessory Structure  
Setbacks from property lines and Height Recommendations.**

<b>Front &amp; Rear</b>	<b>Sides</b>	<b>Roads</b>	<b>Height</b>
<b>30'</b>	<b>20'</b>	<b>40'</b>	<b>2 Stories</b>
			<b>(Including lofts)</b>

The establishment of green belts and conservation easements within property lines is recommended.

Outright tax-deductible property donations to 501 (c)(3) non-profits such as the St. John Land Trust, Inc. to preserve open space, in perpetuity, are recommended.

**6. View Preservation and Visual Pollution Recommendations.**

Owners are encouraged to be mindful of the visual impact of their home design and property development on other parcels. Design phase consideration of the visual impact on other homeowners’ lots both from above and below and across the valleys is recommended in order to preserve maximum visual privacy for all parties.

Apply the “Golden Rule of Building.” Build your house for others to view, as you would like to view other homes from your home.

Fences: Dense native vegetation fencing along the road is encouraged to help stabilize soil and prevent erosion. Metal wire, solid (native stone) or other manmade fencing materials are recommended to be set back 15’ from roadways, within vegetation greenbelts, so as to be minimally visible.

*Signage: All signage should conform to the V.I. Code signage requirements for size and usage. The V.I. Zoning, Building and Housing Laws and Regulations have the following regulations regarding signs. From: Ch.3 T.29-231*

1. *Identification Signs: Permitted in A-1, A-2,R-1,R-2,R-3,R-4 and R-5 districts provided they do not exceed one (1) square foot.*  
*Directional Signs: Directional signs attached to private property or located at the intersection of streets designating property owners shall not exceed one (1) square foot.*

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*Occupancy Signs: Permitted in A-1,A-2,R-1,R-2,R-3,R-4,R-5 districts  
provided they do not exceed one (1) square foot.*

*No commercial signage may be displayed on owner's property, other than  
temporary For Sale signs.*

Signage is recommended to be erected in a tasteful and positive manner, and not contribute to visual pollution. It is suggested that signage be reflective of St. John culture and local color.

**7. Light Pollution Elimination Recommendations:**

One of the most strikingly beautiful aspects of the evening sky, aside from the view of a full moon rise, is the minimum amount of manmade ambient light in the environment.

Owners are encouraged to pay particular attention to the choice of their exterior lighting fixtures so as not to project light from their property that is visible from other properties. **All outdoor fixtures are recommended to be fully shielded and installed in such a way that no light is emitted above a horizontal plane running through the lowest part of the fixture. Thus glare, light trespass, and light pollution will be minimized.**

Outwardly shining spotlights are not recommended for use on the exterior of buildings.

**8. Noise Pollution Minimization Recommendations:**

Owners are encouraged to be aware that sound travels great distances because of the bowl shaped terrain and lack of tall trees. Even normal voice level conversations may be heard 300 to 400 yards away!

Construction machinery or noise producing construction work is recommended to be conducted/operated between the hours of 7:30 AM and 5PM, Monday through Saturday.

**9. Onsite Sewage Disposal Systems (OSDS) Recommendations:**

Note: Any sewage disposal system not connected to a municipal sewer line is considered an OSDS system. In 1993 the Department of Planning & Natural Resources (DPNR) conducted a *Septic System Study for the Virgin Islands*. A stateside engineering consultant, Kimball Chase Engineering, conducted this study. The results of the study found **"that the vast majority of the Islands' land areas are unsuitable for (septic) soil absorption systems.** We have also found that **thousands** of septic systems currently in operation have been located in areas that are inappropriate for (septic) disposal and represent not only a hazard to the environment, but more importantly, a risk to the Public's Health." Kimball Chase Engineering

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**Recommendations for OSDS systems:**

Small-scale mechanical package plants (Multi-Flow, or equal), small scale constructed wetlands (rock/plant filter systems), composting toilets and other DPNR approved alternative OSDS systems are recommended. *Mechanical package treatment plants require TPDES permits from DPNR.*

Conventional septic tank/leach field or leach pit systems are not generally approved or recommended by CZM because of insufficient soil depth (3'-5' minimum) required below leach fields to prevent sewage seepage into bed rock and eventually the ocean or bay. *If conventional septic systems are to be used, owners will be required to provide the results of a 72-hour perk tests on their property.*

**II) Construction Recommendations:**

The construction process can be extremely damaging to the natural environment. Owners and contractors are encouraged to take great care to provide maximum possible site protection during construction.

It is recommended that owners and contractors review the **Island Green Building Association (IGBA)** website, [www.igba-stjohn.org](http://www.igba-stjohn.org) for specific recommendations and have copies of the **Sediment and Erosion Control on Construction Sites Field Guide** (UVI Cooperative Extension Service publication) on site to use as a construction reference.

Minimization of road debris, site clearing for staging areas and construction waste is recommended.

**III) Green Building Design and System Recommendations:** Green buildings are

good common sense designs that: are energy and resource efficient, are more comfortable in terms of climate and livability, are lower in operating costs, use construction materials wisely including local, recycled, renewable resources; and provide a healthy environment for the occupants.

The use of visually and acoustically non-polluting renewable energy (wind & solar) systems; solar hot water heating, energy efficient appliances and lighting are encouraged. High quality, low maintenance systems (that may be more expensive initially) will prove to be less expensive to operate and maintain over time (life cycle cost of the structure).

The use and preservation of traditional Caribbean architectural design elements is highly encouraged. Traditional Caribbean building styles (vernacular architecture) have evolved over hundreds of years to meet the diverse needs of the intense tropical environment. Contemporary use and application of these design elements can provide elegant and functional buildings and help preserve Caribbean architectural traditions. These elements can also provide some of the following amenities. Natural cooling to the interior by channeling trade wind air flow through the building which greatly

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reduces the need for air conditioning. Porches, galleries and high hip roofs provide protection for masonry wall heat gain from the intense tropical sun. Wooden hurricane shutters are attractive and provide quick and easy building closure for storms.

It is recommended that owners and contractors review the **Island Green Building Association (IGBA)** website, [www.igba-stjohn.org](http://www.igba-stjohn.org)

**IV) Landscaping: Native and Exotic Tropical Vegetation Recommendations.**

The maintenance and protection native/natural vegetation is highly recommended.

The use of native vegetation and native xeriscopic landscaping (plants that will survive in a dry climate) wherever possible is recommended.

**Maintaining as much of the existing native/natural vegetation on the property as possible is the most economical way to landscape.** Existing native plants and trees can survive in the tropical environment without constant human care.

Minimization of the use of imported exotic tropical vegetation which is non self sustaining (requiring continuous watering), may be invasive, crowding out native species and carry diseases and pests which kill native vegetation is recommended. (The native Century Plant, *Agave missionium*, is currently being devastated on St. John by a non-native beetle, probably imported in an exotic Agave.).

When imported tropicals are used in landscaping, it is suggested that their use be concentrated around buildings for ease of watering and where the most environmental disruption has taken place during construction. As landscaping progresses outward from the habitable spaces it can transition from exotic to native. In this way, the perimeter greenbelt around the property can remain undisturbed native/natural vegetation.

Owners are encouraged to try to minimize the use of chemical fertilizers, herbicides and pesticides. Natural and organic remedies are recommended instead. Some chemical fertilizers may be manufactured from recycled hazardous waste substances. (The Seattle Times has documented the nationwide use of cadmium, lead, arsenic, dioxins, radionuclides and other hazardous waste in fertilizer.) Because of our thin top soil layer, these harmful chemicals leach into the bedrock and eventually into the ocean.

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**V) Vehicular Access and Parking Recommendations:**

It is recommended that all parking on individual parcels be off street and shielded from view, as much as possible, from public and estate roads.

Permanent parking places along the side of the estate roads and driveway easements are not encouraged.

The use and development of alternative, non-polluting vehicles are recommended.

**VI) Habitation and Facilities Management Recommendations.**

The development of individual parcels and community property so as to create a living environment in balance and harmony with all of our neighbors (both human and natural) is recommended.

The preservation of the cultural and historic “old Caribbean” qualities of St. John are highly recommended.