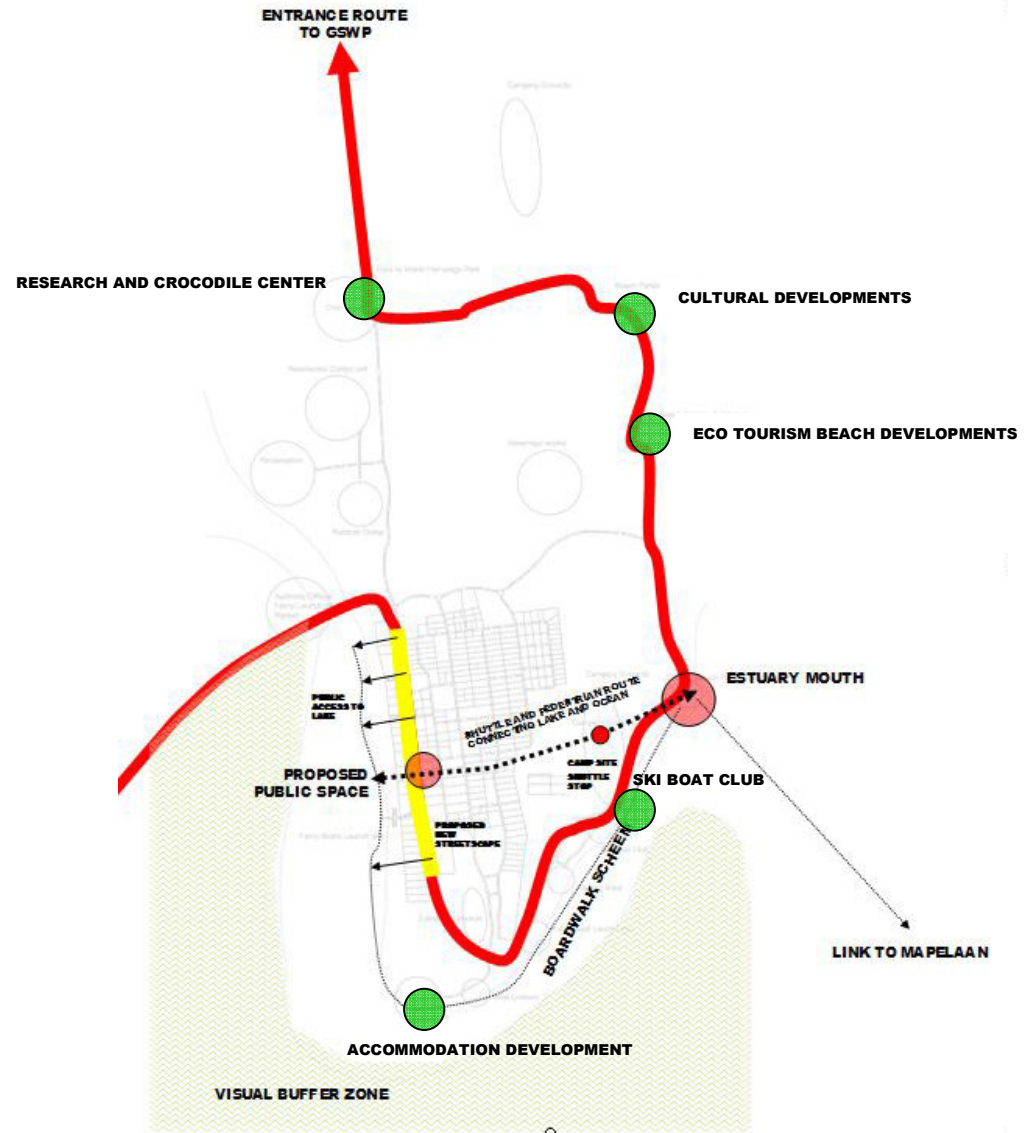


By reconnecting the systems of both the urban and natural environments one forces the new hybrid developments to respond to their specific context and ensure their sustainable character.



83 The proposed development framework for
St.Lucia village

6.1 Integration of Entrance route and other concepts

The Entrance concept has already been explained in point 5.5.6. It identifies St.Lucia as a LEAD project within the LSDI and visualizes St.Lucia village as an "entrance route" to the GSWP. The route connects all of the ecologically important sites and provides the structure for eco-tourism and cultural developments to attach themselves to.

These eco-tourism and cultural developments creates nodes where the entrance route, boulevard or boardwalk meet.

Figure 83 shows how the concept is integrated with both the East-West Boulevard and the Boardwalk scheme.

On route to the GSWP busses could drop visitors off at the Proposed Public Space and collect them at the Estuary Mouth before departing to the GSWP. This gives visitors the chance to spend money in St.Lucia while exploring the cultural heritage and natural habitats with either the Boulevard scheme (75 minute walk) or East-West Boulevard (32 minute walk).

6.2 The East-West Boulevard

The model, represented in figure 83, combines the need to connect the town and the lake with the economic opportunity of showcasing St.Lucia's unique habitats, as described in point 5.5.1 Ecological section of experience, to create the East-West Boulevard.

The East-West Boulevard is represented by a dotted line in figure 83. It is both a pedestrian and shuttle route connecting the lake with the Estuary Mouth and ocean.

The boulevard is 1, 5 km long. Assuming that the average person walks 2, 8 km/h it would take 32 minutes to complete on foot and only 3 minutes by shuttle traveling 40 km/h.

Currently the fastest route to connect the lake and the ocean is 3, 2 km.

To the West the boulevard terminates in the middle of McKenzie Street at a proposed public open space, providing access and views of the lake. The location is central and convenient and will benefit the accommodation establishment in McKenzie Street. Visitors will be able to leave their vehicles either at their place of accommodation or in McKenzie Street and catch a shuttle to the beach. McKenzie Street provides safe parking, a welcomed alternative to the parking at the beach that is hidden behind the dunes and unsafe.

The East-West Boulevard enables convenient pedestrian movement throughout the whole village. Another example of this is the camping site that is located uncomfortably at the outskirts of the urban fabric; the boulevard connects the available economic and social activities of St.Lucia with the camp site without losing the "rural" feeling and eliminates the need to depend on vehicles for transport.

To the East the boulevard terminates at the Estuary Mouth, an excellent vantage point when taking in sunrises over the Indian Ocean. This also is an important point that connects St.Lucia to Maphelane. The proposed tourism link will stimulate socio-economic growth as described by this thesis. This site calls for the development of a shuttle stop, restaurant and boat transportation platform.

The boulevard becomes Dolphin Street towards the east, entering the urban environment. Here the boulevard will take on the form of a normal two way street with the sidewalk forming pedestrian walkways planted with trees. To the west, at the end of Dolphin Street, the boulevard will become a raised linear platform through swamps and swamp forest.

6.3 Boardwalk

As discussed in point 2.2, the lake is identified as the primary resources in the St.Lucia area but has supported little to no direct economic activity.

The Boardwalk scheme will function as a platform connecting the town and lake and provide the structure for eco-tourism

development to access the lake. The boardwalk will host the following functions:

Bird viewing platforms and bird hides

Fairy boat launch sites

Canoe launch site

Anchoring and access to floating Bed and Breakfast rafts

Platforms for sundowners with bars and snackbars

Tidal and educational platforms

The Boardwalk scheme will stretch from the bridge all the way to the estuary. This proposed route is 3,5 km long and provides for a 75 minutes walk from McKenzie Street to the Beach.

The boardwalk will be accessed mainly from the commercial and accommodation establishments in McKenzie Street.

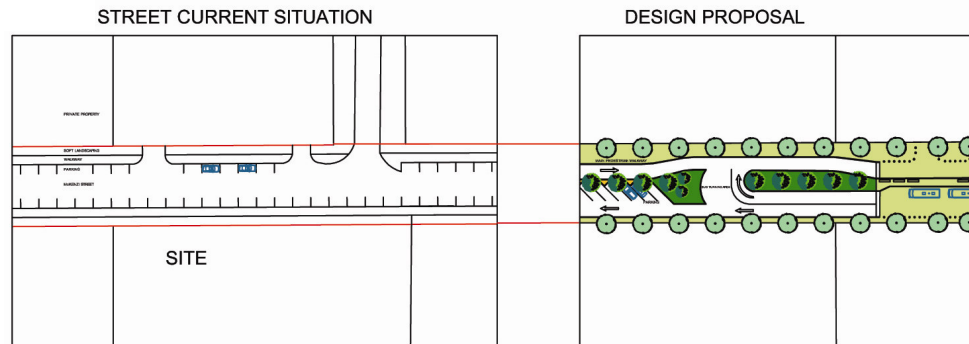
6.4 Maintaining the Western Shores as a buffer zone

As figure 82, point 5.6.3.3, illustrated it is critically important for any lakeside development in the study area for the Western shores be respected and maintained as a visual buffer/backdrop.

This point is further explained with the visual assessment in point 7.

Also point 5.2, with figures 31 and 32, illustrated the importance of the Western Shores both as a geomorphologic site but also as a site with cultural importance.

By combining the need for cultural use and the need for a visual backdrop a 'no construction' buffer area is formed. This buffer area will protect the reed beds for managed annual harvesting and provide a visual backdrop with integrity at the same time.



84 Left : McKenzie Street as it is currently
Right: The proposed new McKenzie Street

6.5 Proposed new streetscape

For the proposed reconnection of the lake and town to be successful, McKenzie Street needs to be redesigned.

The current McKenzie Street situation is discussed in point 5.6.. The total width of the road reserve is 22 meters.

Figure 77, point 5.6.1 makes it possible to analyze which portions of McKenzie Street are predominantly commercial and to pin point these commercial hotspots.

The proposed design for the new McKenzie Street takes this into account. The proposal has a main pedestrian walkway either on the East or West side reacting to commercial activity.

The conventional two way road is split into two one ways, one going north and the other south. This allows for an island in the middle that functions either as parking or transportation interchanges.

Pedestrian crossings are wide paved areas providing easy and safe crossing of the busy street without having to step over any curbs.

This design allows for more trees to be planted. The trees will help in defining McKenzie Street, providing shade, visual continuity and making the street more legible.

Bus and vehicle turning areas are present every 100 meters implying that the street functions as a series of warped traffic circles.

6.6 Framework assessment check list

Point 3.2 provided a check list to help evaluate proposed developments. This check list can be applied to both larger scale frameworks and detail design. Here follows the above mentioned check list with comment on how successfully the proposed development framework measures up to it:

6.6.1 Meaningful public participation:

This thesis did not have a public participation component. Yet the product it produces is a proposal meant to be put on the table for public discussion and input before implementation can be considered. Public participation will come to the foreground even more when the specific eco-tourism development are decided on and their impact on people, businesses and the environment can be predicted.

6.6.2 Promote public awareness

All of the component of the development framework reacts to their specific context. The East-West Boulevard for example acts as a fast pedestrian connection, yet at the same time educates the public by showcases the unique habitats of St.Lucia. This scheme succeeds because it combines functional necessities that the public is certain to use and combines these necessities with education experiences to promote public awareness in an exiting and functional way.

6.6.3 Promote integrated coastal planning

The development framework proposes an integrated approach to tourism, conservation and socio-economic pressures. St.Lucia is not seen as an entity on its own with defined boundaries. An example of this is Maphelane being integrated into the framework because of the tourism, marketing and economic benefits.

6.6.4 Ensure public right of physical access to the environment

This development framework has as a top priority public right of physical access to the environment. The working title of this thesis is 'Reconnecting the town and lake' and proposes to break the accommodation buffer that only allows access to the lake to a privileged few.

6.6.5 Equitable access to opportunities

This thesis defines the problem as a socio-economical problem. It has as its goal equitable access to opportunities. Both the local community and established business will benefit from implementing the proposed development framework.

6.6.6 Protect historical and cultural resources

The development framework recognizes the Western Shores as a cultural and geomorphologic resource and aims to protect it. It also produced a strategy to motivate protecting the cultural and historical resource by ensuring economic and social gain if it is protected.

6.6.7 Promote long term viability of coastal economies

This thesis defines the problem as a socio-economical problem and is programmed to promote long term viability of St.Lucia's economy via passive development rather than dune mining.

6.6.8 Alleviate coastal poverty

This thesis defines the problem as a socio-economical problem and is programmed to alleviate poverty by proposing eco-tourism development that the local community will own and work at.

6.6.9 Maintain a balance between built, rural and wilderness areas

The development framework is programmed in such a way that it recognizes and encourages tourism developments that reconnect the urban and natural environment. By reconnecting the systems of both the urban and natural environments one forces the new hybrid developments to respond to their specific context and ensure their sustainable character. By condensing development of the existing town one ensures a healthy balance between urban and wilderness areas.

6.6.10 Design in harmony with local and regional aesthetics

This point will specifically be dealt with in the detail design phase. Refer to point 8.

6.6.11 Plan to avoid increasing the incidence of natural disasters

Developments are placed behind the flood lines of the lake as far as possible.

6.6.12 Protect the regenerative capacity of coastal ecosystem

This proposed development framework is at a meso scale. It manages the renewable reed bed resources of the Western Shores.

6.6.13 Rehabilitate damaged habitats

This development framework does not have a rehabilitation component, but encourages it as far as possible.

6.6.14 Assessment conclusion

The proposed development framework is evaluated as successful by this thesis. The framework scores eleven out of thirteen when measured against the CMP check list. With room too improve in the public participation and rehabilitation sections.

7. VISUAL IMPACT ASSESSMENT

7.1 Introduction

As concluded in the theoretic component of this thesis, point 4, conservation, sustainability and ecological landscape design are all anthropocentric and short term exercises dealing with the temporary survival and well being of the human species.

If the above is accepted then the same is true for visual impact assessments.

In the case of St.Lucia, visual impact assessments are anthropocentric exercises measuring the impact of the appearance of the socio economic situation, manifesting in proposed developments, against the predetermined, assumed, projected media image, mental picture or perception of what a world heritage site should look like.

This can be illustrated by the following example:

The current dredger spoil vegetation, refer to point 5.3 and 5.5.3, within the study area is perceived and accepted to be the natural and untouched vegetation. Over time people have formed a psychological bond with the visually attractive, but totally disturbed, swamp forest. This disturbed vegetation is protected because of a visual perception.

Currently this disturbed piece of land, covered in indigenous but unnatural vegetation, performs a crucial visual function that most people are ignorant of – it acts as a screen, buffering off unappealing views of human activities toward the town. The dredger spoil vegetation actually protects the visual character of the lake from an aesthetic point of view. Refer to figure 85.

On the other hand rehabilitating the lake shore to its former grassland condition, will protect the visual authenticity of the lake from an ecological point of view.

The question of what then has the least negative visual impact, a disturbed screen of indigenous vegetation or a rehabilitated grassland can only be answered through debate once a context specific framework, defining boundaries, is in place where types of views (e.g. Ecological view, aesthetical view) are given a hierarchical importance.

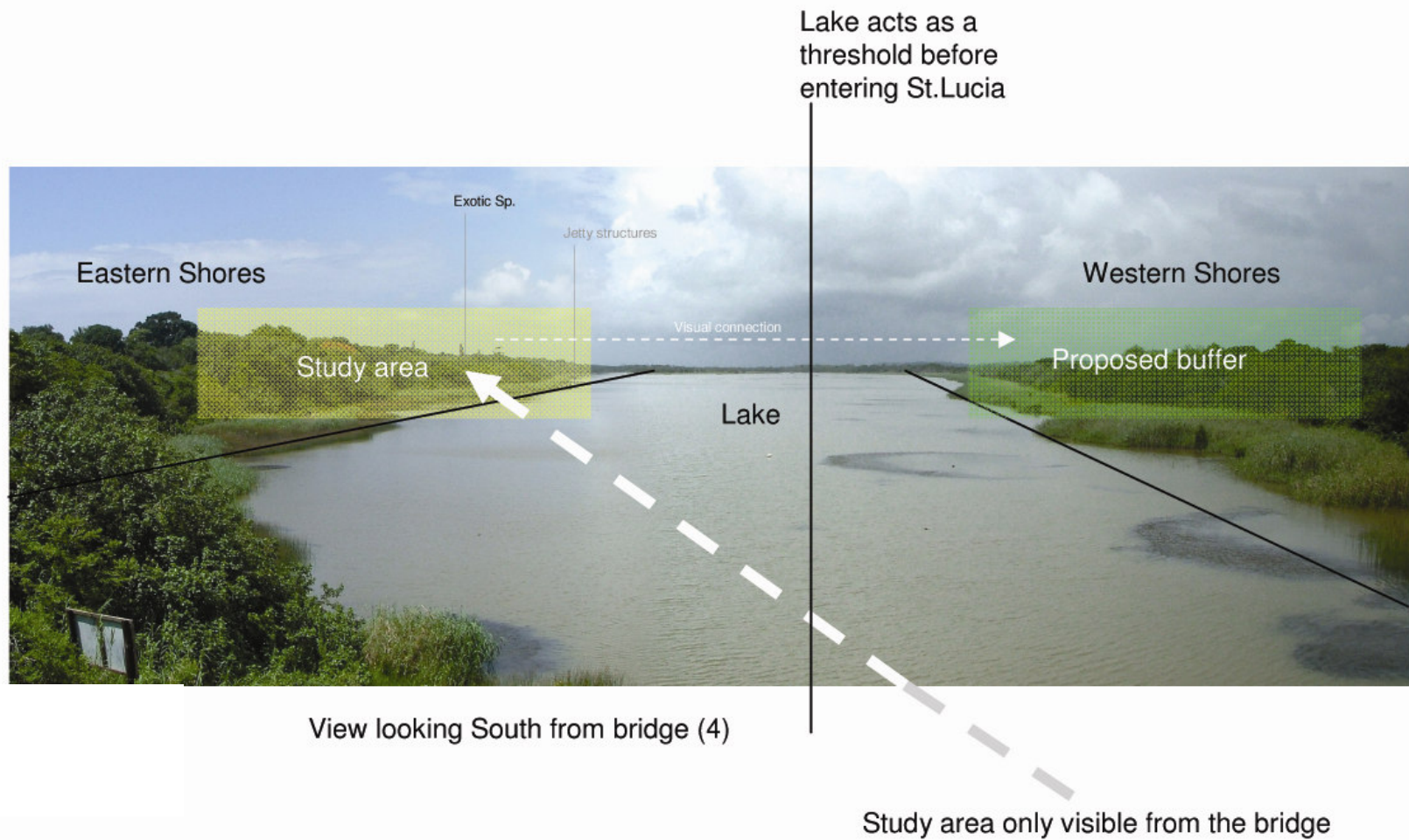
7.2 Defining boundaries

Defining the boundaries that determine the extent of a visual impact needs to be made specific to the socio-economic paradigm. Boundaries are not site specific and also can't be defined as, "as far as the eye can see". The visual impact of environmental and development decisions stretches just as far as the socio-economic impact of that proposed development. The anthropocentric measured visual impact (conservation, be it visual conservation, is also an anthropocentric approach, see point 4.3) of a development that will alleviate socio-economic pressures will appear much less against the visual impact of suffering people.

All of the above arguments are perception driven. This thesis will only present the scientifically measured impact. This chapter will examine both the visual impact of the proposed development on its surroundings as well as the possible future visual impact of the surroundings on the proposed development. Please refer to Figure 86.



85 Photo showing the dredger spoil vegetation screening off unappealing human activities



86 Diagram analyzing the parameters of the visual impact

7.3 Visual impacts of the development

7.3.1 Impacted areas

Figure 87 illustrates the “as far as the eye can see” approach and shows, in red, the areas that will visually be impacted by the proposed development.

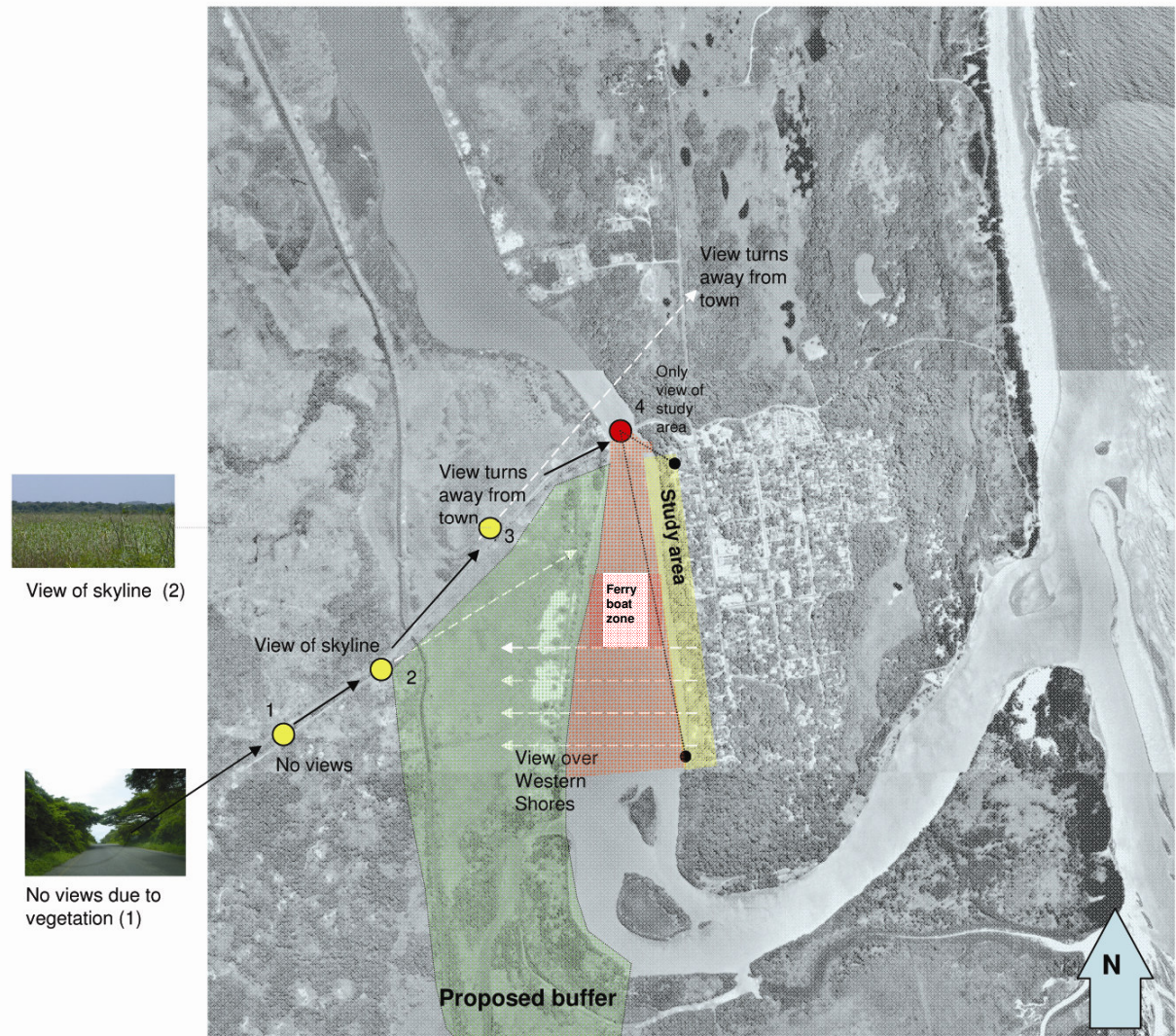
As one nears St.Lucia via the R618, the only access road, you have no view of the lake or proposed development due to the forest vegetation. Refer to Figure 87, area indicator 1.

Due to the downhill, break in vegetation cover and the low lying Western Shores Mud Flats the skyline of St.Lucia becomes visible. The lake and the proposed development are not visible. Refer to Figure 87, area indicator 2.

At area indicator 3, of Figure 87, the orientation of the road focuses the visitor’s views completely away from the town and any possible visual impacts the design might include.

It is only at area indicator 4, of Figure 87, the bridge, that the proposed development becomes visible. Please also refer to Figure 92 - 94.

Only pedestrians and vehicles crossing St.Lucia Bridge as well as three pleasure boats, which have concessions to operate south of the bridge, will be impacted visually by the proposed design.



87 Aerial photo mapping areas, in red, that will be visually affected by the proposed design

7.3.2 Existing visual impacts

Figure 88 analyses the skyline above the proposed development and comments that the town has already scarred the profile of the forest canopy that creates the skyline. Roof structures, cell - and water tower and exotic plant species protrude from the natural profile.

Figure 89 and Figure 90 shows other existing visual impacts adjacent to the proposed development. Jetty structures, cleared swamp forest and a parking area are all visible.

The bridge, which acts as the platform enabling views of the proposed development, is a visual impact in itself already altering the environment, Figure 91.



View of St.Lucia skyline (2)

Due to downhill, break in tree cover and low lying mud flats the skyline becomes visible



Cell phone tower

Exotic Sp.

Water tower

Roof structures

88 Analysis of St.Lucia skyline



89 Jetty structure visually intrudes onto the lake



90 Vegetation removed for a lawn area visually scarring the edge of the lake

7.3.4 Bridge containing the visual impact

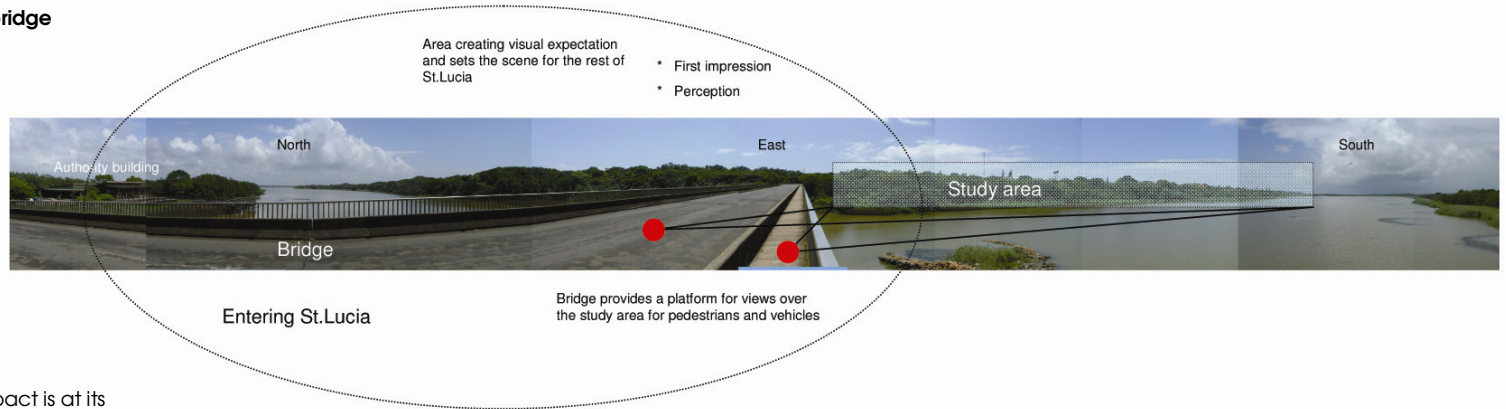
Figure 91, shows the bridge as viewed from the lake and the Authority jetty towards the South. The bridge screens off the views of the proposed development and contains the visual impact.

From the bridge northwards the proposed development will not have a visual impact, as mapped on the aerial photograph of figure 87.



91 View looking South towards St.Lucia Bridge from Authority jetty. Proposed development is not visible due to the bridge visually screening off the site

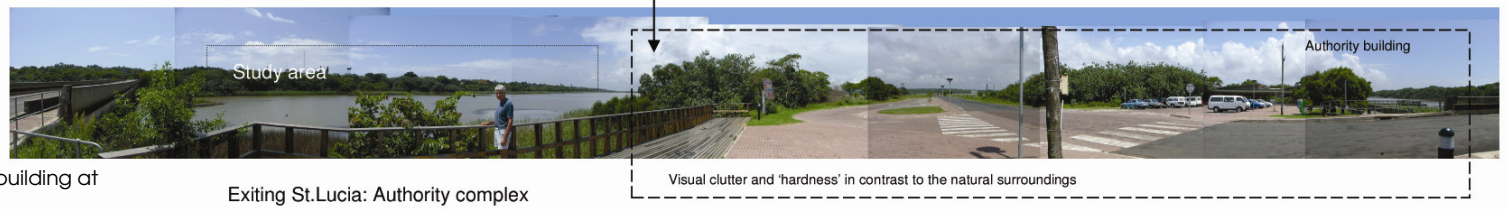
7.3.5 The visual impact as viewed from the bridge



- 92 Bridge area is where the visual impact is at its greatest



- 93 Current visuals as seen whilst leaving St.Lucia



- 94 Panorama taken at the Authority building at the bridge

As illustrated the visual impact is at its greatest as viewed from the St.Lucia Bridge. It is the only entrance point into St.Lucia town and both visitors and residence alike are forced to go through this point.

As shown by Figure 92 the bridge area carries significant visual importance. The lake acts as a threshold, signaling arrival, creating expectation and forms the visitor's first and last impressions of St.Lucia.

Please refer to Figure 95, a representation of the proposed development, as viewed from the bridge. Because of the angle of viewing from the bridge, the vegetation buffer (Point 8.4.1), and the existing swamp forest – only the boardwalk and the viewing platform will be visible from the bridge.



95 Representation of what the visual impact of the proposed development will amount to as viewed from the bridge

7.4 Possible future visual impact on the development and proposed buffers

Please refer to point 6.4, maintaining the Western Shore as a buffer zone, and figures 82, 86, 87.

As seen from Figures 85 to 95, the study area and Western Shore are visually connected. The Western Shore forms the unspoilt backdrop for views, from the study area across the open waters of the lake. This view currently is authentic and free of any visible human structures and interventions. This unspoilt view is a resource that the proposed St.Lucia Development Framework intends to utilize as an economic generator through eco tourism.

When looking at the aerial photograph, Figure 87, it is clear that the proximity of the approaching Dukuduku Township and its socio-economic problems is threatening the Western Shores as a visual resource. It is ironic that the Western shores hold such an important key to socio-economic relief for Dukuduku.

As explained in point 6.4 and figure 87 a visual buffer zone is proposed for the Western Shores ensuring the long term viability of any eco-tourism developments.

7.5 Conclusion

As stated in the introduction this thesis can only present the scientifically measurable visual data concerning the visual alterations of a proposed design. These measurements are then placed within a framework that evaluates whether the visual impact is acceptable or not.

This thesis concludes that the proposed development will only visually impact on 100 meters of bridge and 1000 meters of ferry boat route. Refer to point 7.3.1 and figure 87.

The impact will be the greatest on the bridge area as discussed in point 7.3.5.

It has been illustrated that only the boardwalk and viewing platform will be visible from the bridge, point 7.3.5 paragraph 3.

As will be discussed later in this thesis, in point 8 - detail design, the placement of the boardwalk at the edge of the existing reed beds and the proposed construction are done to minimize the visual impact on the surrounding.

Also it was noted in points 7.3.2 that the Eastern Shores, where the proposed boardwalk will be located, has already been visually scarred.

Also the proposed development has the Western Shore as a buffer area. This visual strategy clusters eco-development and restricts them to the Eastern Shores. In so doing the visual ecological integrity of the lake is maintained.

This thesis concludes by putting the above information within a framework - defined as the current socio-economic paradigm, that the proposed development has no significant negative visual impact.

Within the socio-economic paradigm the proposed development is labeled as improving the present visual state of affairs.