is higher during the construction phase of the project when the top soil will be disturbed.

Mitigation Measure:

- Retain vegetation along steep slopes, which will assist in maintaining the current slope stability, and lessen the potential for erosion at the development site.
-

6.0 ANALYSIS OF ALTERNATIVES

From an environmental and socio-economic perspective the project alternatives will be looked at. This will help the proponent to determine the best alternative use of the site. The analysis includes a discussion on the project activity alternatives and the project design alternatives.

6.1 Project Alternatives

6.1.3 The 'No Action' scenario

If the study area is left in its current state without the development, it is likely that it will remain a highly disturbed area due to the high level of anthropogenic influence and the possibility of bush fires that could affect the area. The area also has an abundance of the "cow itch" plant which will spread if the site is allowed to remain in its present state.

From a socio-economic perspective the "no action" option may not be the best alternative. The Ridge area and its surrounding communities of Edey Village, Frere Pilgrim, Lower Greys and Skeen Hill are in need of community growth and development, which a housing development such as the one proposed may be able to provide directly and indirectly. Considering the great demand for housing in the country, the area may be subject to squatting if left undeveloped.

6.1.4 The Proposed Subdivision

The area with the proposed housing development may see some change in its environmental characteristics (physical and biological). Ecologically there will be an insignificant loss of habitat and species diversity in the area. Drainage patterns, soils quality and general geology of the area will not be affected by the proposed subdivision.

From a Socio-Economic perspective the proposed housing development would contribute significantly to a partial national, the local housing shortage. In addition numerous jobs would be created by the development either directly or indirectly as well as community growth and development for the Ridge and its surrounding communities.

6.1.5 Agriculture

The growing of sugar cane has been tried at the site for centuries but has been proven to be un-economical. The table below shows the amount acres allocated to sugar at the Ridge Plantation for the years 2010 to 2013, the last time it was in sugar cane production.

Year	Area Planted(acres)	Yield(Tonnes/Acre)
2010	239	19.5
2011	270	15.6
2012	234	17.2
2013	108	9.6

The figures show that there has been a constant decline in yield per acre of sugar cane planted at the plantation. This is against the background that in some high rain fall areas such as St.George production could be as high as 40 tonnes per acre. The Nation News in an article on the 10th September, 2014 quoted Dr. Frances Chandler as saying that Barbados is exporting sugar at $900 per tonne, while it is costing $ 1300 to produce it. Furthermore Barbados is importing sugar at $1400 and selling it at $100 less per tonne. This clearly is uneconomical.

The potential for certain agricultural practices such as animal rearing will deteriorate the air quality in the area and affect the residents downwind from the site. The planting of vegetables is limited due to the climate in the area and the scarcity of natural water sources. These practices however have also been marginal due to the instances of praedial larceny. Agriculture is therefore not seen as a suitable alternative.

6.1.6 The Chosen Alternative.

After careful consideration of the environmental and socio-economic impacts that may arise from the project, the proposed subdivision has been chosen as the most suitable alternative of the three project activity alternatives analysed. The 'No Action" alternative is perhaps the best from an ecological point of view although no species of high conservation value will be lost. The other two alternatives assessed would have varied negative environmental impacts, which however can be mitigated. From a socio-economic perspective the subdivision will have the most positive impact on the Ridge and its surrounding communities.

7.0 ENVIRONMENTAL MANAGEMENT PLAN (EMP)

The Environmental Monitoring Plan (EMP) provides a delivery mechanism to address the adverse environmental impacts of the project during its execution. It is aimed at enhancing the project benefits, and to introduce standards of best practices to be adopted for the project works. An EMP is important as it provides useful information and helps to:

- Assist in detecting any unwanted environmental situation, and thus, provides opportunities for adopting appropriate control measures, and
- Define the responsibilities of the project proponents, contractors and environmental monitors and provides means of effectively communicating environmental issues among them.
- Define monitoring mechanism and identify monitoring parameters.

The table 7.1 outlines the scheduling of the monitoring plan. Although the projected duration of the development of the roads and drainage and other infrastructure to service the proposed subdivision is 100 weeks, a four year plan is given. The EPM will be submitted to the EPD prior to the commencement of the works.

Table7.1: ENVIRONMENTAL MONITORING PLAN SCHEDULE

PARAMETERS TO BE MONITORED	MONITORING SCHEDULE																PERSON RESPONSIBLE
	YEAR1				YEAR2				YEAR3				YEAR4				
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q 4	
ENVIRONMENTAL PARAMETERS																	
Air Quality	x		x		x		x					x				x	EPD/Developer
Noise and vibration	x		x		x		x									x	EPD/Developer
Waste	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	MOH/Developer
SOCIO-ECONOMIC PARAMETERS																	
Demography				x				x				x				x	BSS
Employment & Income		x		x		x		x		x		x		x		x	Labour Office
Road Maintenance				x				x				x				x	Developer/MTW
HAZARDS																	
Technological Disasters	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	Developer/BFS/ RA
Accidents	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	Developer/RA
Natural Disasters	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	Developer/DEM/ RA

8.0 CONCLUSIONS

After the alternatives to the proposed project were analysed and based on the environmental and socio-economic assessments the proposed subdivision was the chosen alternative. From an environmental perspective although negative impacts were identified, mitigation measures have been recommended which may decrease with much success these negative impacts.

The proposed development, in a socio-economic sense, is the most advantageous scenario in that it is the likeliest to benefit the existing residents with much needed

infrastructure such shopping centres, and jobs both directly and indirectly related to the construction and post construction activities of the development. With the insatiable demand for housing in this country, the project will help to satisfy area the need for housing within the area.

9.0 RECOMMENDATIONS

Recommendations are made to ensure that the development takes place in an orderly fashion and with environmental sound practices that will be of benefit to future generations. The following recommendations represent caveats to the proposed development.

i. The project should be implemented on a phased basis to minimize all negative impacts. These include the loss of the natural environment and the changes in environmental impacts such as noise and air pollution that will inevitably follow site preparation and construction activities. All mitigation measures that form part of this document should be implemented throughout the project for a seamless transition from pre to post- development and operational phases of the project.

ii. The necessary improvement in social infrastructure that should accompany a new housing development must extend to the existing residents of the study area. This would promote a feeling of basic social equity which is crucial.

iii. A comprehensive monitoring plan has to be implemented to ensure that existing residents as well as workers are not exposed to unacceptable levels of noise, air pollution and any effluent or otherwise negative impacts that will affect

health, safety, property or livelihoods. The monitoring plan should have in its scope, both the construction and post construction phases of the development methods for correcting deteriorating environmental quality to acceptable levels. In addition to this, the monitoring plan should seek to ensure that mitigation measures are being implemented and where necessary amended for the good of the natural and human environment.