

**ANNEX XIV**

**SOCIAL ASSESMENT**

**Social Assessment for the Proposed  
Bellcan Properties (Residential, Golf course and Marina Development Project)  
3.5 miles Consejo Road, Corozal District**

**2.3 Socio-cultural Environment**

**2.3.1 Introduction**

Very large development projects in the coastal marine ecosystems always produce impacts that result in temporary and permanent changes in the environment, traditional/ cultural resources and recreational uses, as well as introduce ethnic and demographical migration and dispersion. These projects modify the social and cultural environments; depending on the size and type of the development and create or enhance economic, health, education and other benefits that are valued by society. They can also enhance positively the entrepreneurial and service industries, supply and demand of construction materials, demand for cultural entertainment, offer employment, etc. Social infrastructure on a whole will be impacted as this development will address the needs of its residents, visitors and workers in the development totaling 1,025 residential units. The traditional users (fishers and tourism ventures) of the biological and physical resources of the area may be the most affected if mitigation measures are not addressed adequately.

The proposed Bellcan Development Project targets the North American and European markets of retirees and tourists and will include about 1,025 living units (single family residences, and other ancillary community requirements such as restaurants, shopping centers, etc) There will also be small piers for residents and marina to load and unload cargo incoming and outgoing from the development.

This development has been programmed to be completed in various development phases that will be carried out in concert with each other. On the positive side, the development will create an increase in the demand for goods and services, such as transportation, marine and agricultural commodities, skilled and unskilled labor as required with any new large development project of this nature. This project can easily become the economic employment and investment opportunity for the Corozal District, the Northern region of Belize, and the country on a whole. Also the developer views this development to be very compatible with the people of Corozal.

The assessment identifies, analyzes and evaluates those social impacts the proposed development may have on individuals, social groups, traditional users and other social users of the area during and post construction phase and final development phase due to demographical population growth and migration.

**2.3.2 Regional Demographics and Population Related Issues**

The Corozal District is among the smallest district in size with an area of 718 sq. miles. The 2007 Mid-year Estimates showed the district had a population of 36,365 representing 11.6.0% of the total population of Belize (311,500) and a population density of 50.6 per square miles (second highest in the country). The national population density in 2007 figures was 35.1 per square mile.

**Table 2.1 Current and Projected Population of 2 Communities Directly Impacted by the Development (CSO Census 2000/ BIS-AOS 2007)**

Community	Total in 2000	Males in 2000	Females in 2000	Mid-year Estimates in 2007 (Total)
<b>Corozal Town</b>	<b>7,888</b>	<b>3,834</b>	<b>4,054</b>	<b>9,100</b>
<b>Consejo Village</b>	<b>217</b>	<b>112</b>	<b>105</b>	<b>N/a</b>

Corozal Town community leaders reported that there are approximately 16,000 to 18,000 people living in the town and satellite communities in mid-2008. This is twice the population estimated by the Belize Institute of Statistics for mid-2007 which was 9,100. This district had a growth rate of 14.9% over the period of 1960-2000.

**Table 2.2 National Population by District, Mid-year Estimates 2007**

DISTRICT	Area in Sq. Miles	MALE	FEMALE	TOTAL	% of Total	Population Density
COROZAL	718	18,150	18,215	36,365	11.6	50.6
ORANGE WALK	1,790	23,985	23,160	47,145	14.8	26.3
BELIZE	1,663	45,335	47,880	93,215	30.5	56.1
CAYO	2,006	36,340	26,147	36,985	23.6	36.5
STANN CREEK	986	16,360	15,820	32,180	10.1	32.6
TOLEDO	1704	14,495	14,755	29,250	9.4	17.2
<b>COUNTRY TOTAL</b>	<b>8,867</b>	<b>154,665</b>	<b>156,815</b>	<b>311,480</b>		<b>35.1</b>

Abstracts of Statistics, 2007 (February)

A brief description of the community follows:

### **Corozal Town**

Corozal Town is known for sugar, the bay, being close to Chetumal, being near the Free Zone, and being the northernmost town. To the average citizen or visitor to the area, none of these descriptions seem particularly glamorous, nor do they characterize Corozal as especially interesting, special or exciting. Often described as “sleepy” or “straddling the border”, Corozal has not become an area of Belize that is visited by tourists en masse for its jungles, beaches or heritage sites. Nor has it become reviled, as other cities in Belize have, because it is too busy, too dangerous, or too urban. On the surface, Corozal Town seems to be an urban space serving as the quiet regional capital of an agricultural district. Yet the town continues to grow steadily and its history remains unexplored. The Corozal District and the town are different. It originated as a refuge to those fleeing the Caste Wars in the Yucatan Peninsula of Mexico in the mid 19<sup>th</sup> century.

This population surge not only created a town, but also nearly doubled the population of all of British Honduras. Many descendants of these Yucatecan refugees live in the Town; with some careful questioning their ancestors' stories, often full of uncertainty and violence, emerge.

Years later, Corozal served as a military site, housing barracks that were meant to protect Belize from the raiding Mayans north of its border. Fort Barlee, which most people only recognize as piles of bricks around the post office that blocks their view from on-coming traffic, was once a highly argued upon component of what seemed to be an impending invasion.

Corozal Town has grown steadily in the last 150 years; it was considered an important border City and as such has become a very commercially prosperous society. Then, in 1955 Corozal Town was nearly destroyed by Hurricane Janet with over 90% of buildings damaged, and its rebuilding was the most ambitious reconstructions in Belizean history. It emerged as a well planned community, with radical changes to its previously popular and distinctive native architecture. Despite these changes to its lay out, the town's role remains. Corozal, a frontier town, geographically isolated from much of Belize, is the product of people who melded their Yucatecan heritage and their Belizean reality.

While sugar is no longer the only characteristic industry of the district, the emergence of the papaya industry has begun to continue the development of the entire district.

In discussions with direct stakeholders in Corozal and Consejo, the main positive concerns, in no order of priority, are:

- Consejo will become more international and will be known over the world ;
- More opportunities for education and training in the tourism sector;
- Will improve the economic stability of the district, especially for the youth;
- Dredging in this area will make boating for Corozal residents better;
- Destruction of the short mangrove ecosystem will not be damaging since most of the construction will be on solid land;
- Disposal of solid waste from the development can assist the municipality in this already existing problem since the developer is willing to assist in the movement of the current disposal site to the San Jomal site;
- Employment of people from the town and neighboring villages will improve the lives for lots of people, especially if they will pay more than the minimum wage;
- The improvement (paved) of the road to Consejo Village will benefit many local people and tourists;
- The development will create a market for people in the handicraft business and cultural presentations, including the establishment of a Cultural Exchange Park at the development site ;
- The municipality will benefit from the taxes to be generated by the development;

Some of the negative impacts are related to:

- Possibility of an increase in crime;
- The 1025 residential units will demand more of the Police and Transport Departments to have a more permanent presence in the development site;
- Big developments normally are not concerned about the livelihoods of locals;
- Developers come to buy in Corozal the cheap land and re-sell at huge profits;
- Need to respect the sustainability of the coastal and marine ecosystems;
- Possible damage to the manatees of the Corozal Bay Wildlife Sanctuary by the increase of boat traffic ( boat size and bilge disposal);
- The sewerage disposal needs to be addressed with proper technology so as not to damage further the contamination of the Corozal Bay and threaten the manatees ;
- Building of marinas may cause beach erosion;
- Employment at the development will further remove workers from the sugarcane and other local industries; and
- There is need for more regulation from the BTB and BTIA.

While the stakeholders made it clear that they are not against development, they want to see that all protocols (permits and other GOB requirements) are followed. They also want this type of development to follow the Coastal Zone Development Guidelines that were developed by the Coastal Zone Management Authority and Institute during its First Phase.

Direct stakeholders (14) interviewed Corozal Town and Consejo are:

Hon. Pablo Marin,	Area Representative and Minister of Health
Mr. Hilberto Campos,	Mayor, Corozal Town
Mr. Jorge Luis Que,	Business Manager, Consejo Village
Mr. Ervin Wade,	Manager, Casa Blanca Hotel & member Corozal BTIA
Ms. Dahlia Castillo,	Owner and Manager, Tony's Inn and Beach Resort
Ms. Rosita Mai,	Owner and Manager, Maya Hotel and BTIA Representative
Mr. Armando Vasquez,	Owner and Manager, GAMMA Computer Center
Mr. Raul Chun,	Forest Officer, Protected Areas Management, Forest Dept.
Mr. Isaias Majil,	Fisheries Officer, Fisheries Department
Mr. Vildo Marin Jr.	Past Area Representative
Mr. Bill Wildeman,	Owner-Manager, Consejo Shores Ltd.
Mr. Miguel Guzman,	Superintendent, Corozal Police Dept.
Mr. Albert Roches, Sr.	Past Manager, Natl. Solid Waste Authority
Mr. Lyle Williams,	Public Health Inspector, Corozal Town

### **2.3.3 Cultural/Historical Resources (Attractions) of the Area**

#### **i. Corozal Bay Wildlife Sanctuary**

Situated in the north east of Belize, Corozal Bay Wildlife Sanctuary was declared a protected area in 1998, and encompasses 72,050 hectares of the Belize portion of the bay and much of the Northern shelf lagoon behind Ambergris Caye. The Forest Department within the Ministry of Natural Resources, declared the area under the National Park Systems Act of 1981, Chapter 215, Laws of Belize, Revised Edition 2000. Under Belize /Mexico bilateral agreements Corozal Bay was declared following the declaration in 1996 of the Chetumal Bay Wildlife Sanctuary by Mexican Authorities.

The location of Corozal Bay Wildlife Sanctuary (Manatee Reserve) within Belize is defined by Statutory Instrument 48 of 1998. It should be noted that the protected area is defined by the high water mark, but does not include cayes within the Wildlife Sanctuary.

Corozal Bay Wildlife Sanctuary lies within Mesoamerica, a region highlighted as a world 'hotspot for species diversity' (Conservation International, 2003), and considered critical for the preservation of the biodiversity of the Western Hemisphere. Here, the Nearctic bioregions of North America converge with the Neotropical bioregions of South America, and, in Belize, in particular, also with the Greater Antillean bioregion of the Caribbean. Each of these three bring a unique assemblage of plants and animals which has resulted in a particularly rich biodiversity, with components of all three regions being represented within the Central American land bridge and adjacent waters.

Corozal Bay Wildlife Sanctuary is part of the Mesoamerican Barrier Reef System, the World's second largest barrier reef, and an assemblage of ecosystems of remarkable biodiversity and beauty, as well as of great scientific value, and importance for many species of conservation concern, among them the threatened Antillean manatee (*Trichechus manatus manatus*).

The Wildlife Sanctuary, the largest estuary in the region, has a very shallow water depth of 1 to 7 m with an average depth of 3 m (Kramer & Kramer, 2002). The bottom is predominantly covered with fine mud and algae and localized sea-grass beds of sea-grass - *Thalassia testudinum* and *Halodule wrightii*. Numerous coastal lagoons with inlets, mangrove forests, and salt marshes are connected to the bay and a number of fresh water rivers, including Río Hondo and New River, discharge into it (Morales et al., 2000). Several communities are situated around the sanctuary. The largest is Chetumal, in Mexico, which has a population of more than 150,000. A number of smaller towns and villages also lie on the Belize coast - Corozal Town (pop: 9,100 mid-2007 estimate), while the villages Copper Bank (pop: 366), Chunox (pop: 1,058), and Sarteneja (pop: 1,591) as reported in the 2000 census

The coastal zone of Belize is home to the largest recorded number of West Indian manatee within the species' Caribbean range, with Corozal Bay supporting a relatively high population density within the region, as reported by Auil (1998) and Morales-Vela et al. 2000). The area also supports numerous wading birds, providing outstanding nesting and foraging habitat (Kramer & Kramer, 2002). Adjacent to the Sanctuary, Little Guana Caye (Bird Sanctuary, National Parks System Act - Ch. 215) has the largest nesting colony of Reddish Egrets in the Caribbean and is also known to have nesting White Ibis, Tri-colored Herons, and Roseate Spoonbills (Kramer & Kramer, 2002). Within the Sanctuary, protected islands in Shipstern Lagoon support two nesting colonies of Woodstorks, as highlighted by Birdlife), and a third lies in Bennet's Lagoon in the

Bulkhead area adjacent to the eastern coastline of Belize. The shallow bay also provides a protected nursery habitat for a variety of fish and invertebrates species. Although Sawfish (*Pristis pectinata*) once aggregated in this area it appears to have been fished to local extinction (Gall, 2006, pers.com.). Similarly, Bonnethead Sharks (*Sphyrna tiburo*) which once aggregated in the bay have also suffered from high fishing pressure.

Although the area has been declared a protected area since 1998, it is not currently, and has never been actively managed. Fishing pressure within the bay is high, both for commercial fishing and sport fishing, due to the fact that the bay is a premier destination for tarpon, bonefish and other sport fish. Tourism is slow, but growing.

Corozal Bay Wildlife Sanctuary has been categorized by the WWF Mesoamerican Reef Biodiversity Priority Areas Report as being a High Priority area with “a moderate capacity to adjust and recover from future disturbances”, although some intervention would be necessary to maintain ecosystem integrity and functioning (Kramer & Kramer, 2002). They further recognized that the area “has moderately degraded habitat quality, due to low fish populations, lack of vegetation, and poor water quality, although the area remains a stronghold for manatee populations”. They state that the area would require a reduction in pollution to prevent further habitat degradation.

The area has been identified by the World Bank MBRS GEF Report (2001) as being one of the principal areas with trans-boundary issues. Corozal Bay has an important trans-boundary drainage system, shared by Mexico and Belize. Degrading water quality and pollution associated with urbanization have been identified by the WWF Mesoamerican Reef Biodiversity Report as potentially the greatest threats to the area. Chetumal discharges 200 cubic meters of untreated sewage into the bay each day (FAO, 2000) and approximately 2,500 gallons of liquid wastes were reported as being discharged annually from sugar refining and rum distilling operations on the New River in Belize (UNEP, 1994) – though since that time, efforts have been made to mitigate many of these impacts. Because of the lack of flushing or strong currents, the bay acts as a catchment for accumulating contaminants.

*“The MBRS Initiative and the WWF Ecoregional Conservation Program are working with national, regional and international partners to improve management of the coral reefs and fisheries resources in these countries, and to understand and address land-based sources of marine pollution, and to resolve trans-boundary management issues”. (Status of Coral Reefs of the World: 2002)*

## **ii. Bacalar Chico National Park and Marine Reserve**

This park is located 17 miles north from San Pedro. A small number of second and retirement homes are strung along the east coast. Following the perceived success of Hol Chan Marine Reserve in attracting tourists, in the late 1980s village leaders in Sarteneja began lobbying for a reserve at Bacalar Chico, an area accessible to them. A resulting 1991 site visit by New York Zoological Society (NYZS) and ITCF (owners of Shipstern Nature Reserve) established the conservation value of the site and both have subsequently provided technical input for the preparation of its designation. The Fisheries Department also collected and collated data, and the

reserve was declared in July, 1996. Two SI's were; SI 88/96 declared the BC Marine Reserve (55% of total area) while SI 89/96 declared the BC National Park (45% of total area). The Marine Reserve had as its conservation targets coastal waters, coral reefs, sea-grass beds, marine biodiversity and mangrove habitat. The National Park portion has as conservation targets terrestrial habitat, wetlands and lagoons.

This dual purpose conservation area joins the south eastern corner of the Corozal Bay Wildlife Sanctuary.

The park, which opened officially August 23, 1996, comprises a 15,529.3-acre marine reserve and 12,640 acres of terrestrial reserve. A headquarters building with office space for a marine biologist, a terrestrial biologist, and two marine rangers has been completed, and a visitor center (with composting toilets) has been built. The concrete jetty and walkway here are remnants of the former Pinkerton Estate which once held much of the land in this area.

At present the park is accessible only by sea, from points on Ambergris Caye, from Sarteneja and elsewhere on the mainland off the Bay of Chetumal (several hours by boat), and from the Mexican port town of X'calak, only about 25 minutes away by boat.

Birds recorded included numerous Yucatan endemics and other species of some interest, and a major waterfowl mangrove caye roost was identified in the Laguna de Cantena. Over 1400 birds of 10 species were counted over a period of only 1 hour during the October study. Of the reptiles recorded, of particular note was the nesting of Green (*Chelonia mydas*) and Loggerhead Turtles (*Caretta caretta*) between Rocky Point and Robles. More Loggerheads nest here than all the other known sites in Belize and for Green Turtles the only other known nesting site at Half Mom Caye has only a few nests. Further information on terrestrial wildlife is given by Somerville (1995), who provides up dated species lists for birds, mammals, reptiles, amphibians and invertebrates recorded or likely to occur. In addition, crocodile population survey results are included. The 187 bird species recorded are listed and further information is provided on bird nesting sites. Forty (40) mammals, 58 reptiles, 22 amphibians and 171 invertebrate species are listed. The vegetation in the area displays high diversity, and includes numerous species near the southern limit of their range. Collections by CIQRO (1991) amounted to 254 species, who devised an 11 category community breakdown.

The park also has several Maya sites. The site of San Juan, located near the northwest corner of Ambergris Caye was an important transshipment point in Maya times, and the ancient sea wall is clearly visible beneath the surface. The beach must have been a scene of bustling activity at one time, as goods were unloaded from canoes paddled down the rich, heavily populated river valleys of Belize, and transferred to large trading canoes, capable of sea journeys. Plenty of goods must have been damaged, too - visitors will scrunch over an entire beach made of broken pottery. San Juan is the site of the new ranger station and visitor center. The park's northern boundary is the Bacalar Chico channel, a narrow, mangrove-lined canal, dug and cleared by the Maya to avoid a long journey around the southern tip of the caye. Mexico, on the other bank, is so close that if you're in a boat you can almost touch the mangroves on either side.

Poaching and boat collisions continue to jeopardize manatee populations in these two protected areas close to the development site.

### iii. Cerros Archaeological Reserve

**Cerros** ("Spanish for Hill") Archaeological Reserve sprawls over 53 acres atop a hill overlooking Chetumal Bay. Across the bay lies the town of Corozal.

Cerros was an important Maya coastal trading center during the late pre-Classic period (350 BC to 250AD). Cerros is a small, but important site with an impressive location.

The site is strategically located on a peninsula at the mouth of the New River which empties into Chetumal Bay. As such, the site had access to and served as an intermediary link between the coastal trade route that circumnavigated the Yucatán Peninsula and inland communities. The inhabitants of Cerros constructed an extensive canal system and utilized raised-field agriculture.

Today, partially underwater, Cerros is one of only two Pre-Classic sites with no later additions to its structures. The site contains five temples, their related plazas, two ball courts and a canal system. One temple is 72 feet high

The site provides a beautiful panorama of the surrounding region. The nearby New River supports a variety of wildlife including water birds, crocodiles and manatee. In 2007, Cerros had a total of 3,047 visitors.

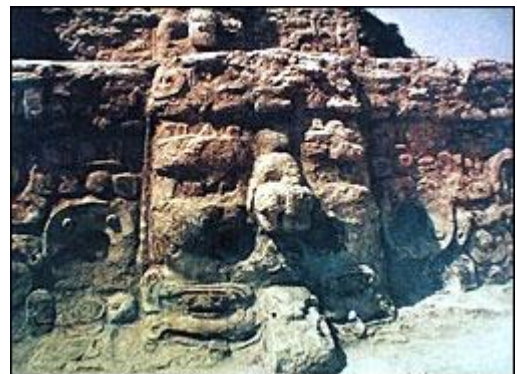
Restrooms, water, and covered picnic area provided. It is opened 8-5; nominal admission fee.

#### Private Vehicle

The road to *Cerros* passes through From San Estevan, Progreso and Copperbank. It's now possible to reach Copperbank in about 45 minutes from Orange Walk. Picturesque Progreso Lagoon scenery along the way!

#### Boat

Its a twenty-minute boat ride from Corozal Town across Corozal-Chetumal Bay. Guided boat tours can be arranged: **Tour includes Guide/Transport by boat /Entrance Fee** – \$40 per person (Minimum 2 persons).



### vi. Santa Rita Archaeological Site

This site has closed to the public since 2002 by the Institute of Archaeology.

### 2.3.4 Social Infrastructure and Services

#### 2.3.4.1 Education/Health/Water/Electrical/Cable Services

##### Education

Corozal Town has one main high school and one Sixth Form as tertiary education level institution. There are three other high schools in the district. All villages have primary schools, with some villages having pre-schools (kinder gardens). The youth requiring higher education will attend those schools in Belize City or Belmopan where the University of Belize has campuses. The residents of Belcan Development, permanent or visiting, are not expected to use the education facilities in the district and country since they will be mostly retirees.

There is a hospital facility in Corozal Town and many private medical doctors' clinics. Other health service providers and diagnostic centers are also available in Belize City and Chetumal which is closer to the residents of the town and district in general. In case of medical emergencies, the developer will make arrangements to transport the patients via airplane to the Belize City and Chetumal medical services.

**Table 2.3 Social Infrastructure/Amenities of Community Impacted by Project.**

Community	Pre Schl.	Prim. Schl.	Fire Stn.	Police Stn.	Health Center	Church	Com. Center	Cable TV	Inter-net Cafe	Casino
Corozal and Free Zone	4	4	1	1	1 - hospital	Many	Many	1	Many	2
Consejo	0	1	0	0	0	Many	1	1	0	0

##### Corozal Water Supply and Solid Waste Management

There are 4,844 households in the rural areas of Corozal District (2000 CSO data). All villages have either rudimentary water systems or are connected to the town's water system. The planned development by Belcan will have its own and independent water supply system and will not impact on the town's nor village water system. The Consejo villagers expect to benefit from a secure and improved water system that the development can offer them once proper negotiations are concluded.

The production of solid waste from homes averages at 4.8 lbs/per person (equivalent to 7,646.1 tons per year) in 2005 in the Corozal Town. Garbage collection is the responsibility of the Corozal Town Council. The garbage is taken to a dump site located right across the proposed development and with the increase of the town's yearly population; the amount of solid waste will also increase. There is no separation of the solid waste. Garbage from the residences is collected free of charge. Currently the solid waste is collected daily by two open back trucks by the

municipality and there are also private citizens who dispose their garbage free of charge at the municipal dump site.

The proposed development by Bellcan is prepared to assist the municipality in moving the current dump site to the one proposed at the San Jomal Road by the study prepared by Stantec for the National Solid Waste Management Authority. Again the developers are prepared to assist the municipality in establishing state of the art technology in managing the organic and inorganic solid waste as long a system to establish a fee structure is put in place. However, in discussions with the Mayor, a fee structure may not be feasible in the short term especially since municipal elections are due in early 2009. Another issue on moving the dump site is the question on the ownership of the proposed 100 acres of land. At the time of the Stantec study, this parcel of land was public property but in discussions with the Mayor, it became apparent that the land may have already being sold to private land owners.

**Electricity (energy supply)**

The proposed development will buy energy from the national grid system owned by the Belize Electricity Ltd.

**2.3.4.2 Labor and Employment**

The Corozal District is highly dependent on two main activities: sugar cane farming, papaya production, small farm agriculture, services and trading. Tourism visitation to the Corozal District is very limited even with one main archaeological site at Cerros and two protected areas.

In 2007, employment in the Corozal District by these industries in 2007 is as follows

**Table 2.4 Employment Data in the Corozal District during 2005-2007**

<b>Employment Situation</b>	<b>Total</b>	<b>Male</b>	<b>%</b>	<b>Female</b>	<b>%</b>
a. Employed- 2005	12,340	8,863	72	3,476	28
b. Employed- 2006	13,133	9,357	71	3,776	29
c. Employed- 2007	14,563	9,724	67	4,838	33
a. Unemployed-2005	1,159	542	47	616	53
b. Unemployed- 2006	1,054	274	26	780	74
c. Unemployed- 2007	546	142	26	403	74

Source: Labour Force Survey by BIS in 2007

National employment rate in 2005 was 89.0% and in 2007 it was 91.5%. There may be the need to give on-the-job training at Bellcan to some of these unskilled job seekers while it is also expected that skilled workers would come from other parts of the country to fill in the jobs currently generated by the tourism and tourism-construction related boom in the proposed development.

According to estimates provided by the developer, approximately 1000 skilled and unskilled workers will be employed during construction and post- construction phase. The businesses will employ almost 300 permanent workers in addition to domestic workers and maintenance crew.

### **2.3.4.3 Communication and Cable TV Services**

Communication and services are well established in the area with public and private telephones, fixed and mobile cellular phones, fax and email, and internet facilities. The Belcan development will have 24-hour electricity and cable television and all other communication services.

### **2.3.4.4 Transportation Routes and Options**

The project site and surroundings can be reached by boat or road. The traditional sea routes in the Corozal Bay are used to transport mainly tourists and local fishers from Consejo, Corozal Town and Chetumal. It should be noted that this route is not used by the sugar barges coming from Tower Hill through the New River and the Corozal Bay. Another concern of the stakeholders interviewed is the increased boat traffic and use of high speed boats. Safety measures will need to be put in place to prevent sea traffic accidents, especially with the traditional users. The killing of manatees in the bay was also a concern.

The nearest air landing strip is located in Ranchito Village, which is now practically a suburb of Corozal Town and is approximately 7.0 miles south of the proposed development site. Air traffic by the increased tourism visitors coming to the proposed development will need to be closely monitored by the local airlines and the Belize Airport Authority.

### **Security and Fire Services**

The Police Department in Corozal Town has a contingent of thirty-six regular officers and is headed by a Superintendent Police Officer. They have 6 pickup trucks including a new truck which is the most road-worthy; the department has 3 motor cycles which are used for their daily work; bicycle and foot patrols are also used to patrol the town which has seen an increase incidence of crime. Since the proposed development plans to build a security system within the property, it becomes imperative that the developer begins to negotiate with the Ministry of National Security on the process or mechanisms to have more patrols in and around the site. The Fire Department has only one Fire Engine for entire district. The developer may have to set a system for site to control fires.

### **Planning**

#### ***Introduction***

Corozal Town is the first example of town planning in Belize. This was as a result of the damage caused by Hurricane Janet in 1955. The municipalities since then have continued to expand the town in a well organized pattern.

#### ***Immigration***

Corozal Town, being a border town with Mexico, has an international entry point at Santa Elena and other villages along the Rio Hondo River which separate both countries. A Customs Department Office and patrol system exists at Consejo; this village is right across the City of Chetumal which can be reached within minutes by boat.

In-country migration to the district will be mostly from laborers coming from the other districts, who will be seeking jobs during and after construction. Their permanence and settlement in Corozal Town or Consejo may pose a strain on the current social services.

It may also be possible that highly skilled workers would have to be imported from time to time. The development will build adequate living quarters for the workers during the construction and post-construction phases.

### ***Hurricane Evacuation***

The Corozal District, because of its physical location on the sea coast is one of the most vulnerable districts to hurricanes, as has been experienced since 1955 and most recently in the last 10-15 years. Especially since Mitch in 1998 and followed by other hurricanes, Belize's system of disaster management has changed. The National System for Hurricane Management has been placed in the mandate of the National Emergency Management Organization (NEMO). This national system has been designed to function from the national to the district and village level. After Hurricanes Keith and Chantal, the experience gained in addressing the hurricane preparedness issues was used to prepare a hurricane Preparedness Plan for these coastal communities in the country. Each Chairman or mayor of coastal communities is responsible to put into effect and manage the Plan in case a hurricane threatens or strikes. The main issues in the coastal zone communities are security and evacuation.

The National Emergency Management Organization, NEMO, has upgraded its ability to deal with national disasters by the construction of a national headquarter in Belmopan, the establishment of a coordinated national body, with District Emergency Management Organizations. Annual exercises in hurricane preparedness are conducted, and attempts made at improvement of the system. Exercises include hurricane simulation, rescue and recovery exercises as well as evacuation of personnel.

Corozal Town and District has a Hurricane Contingency Preparedness Plan. A detailed evacuation management plan of coastal communities is an integral component of the Hurricane Contingency Preparedness Plan.

The Bellcan proposed development will develop its own Hurricane Preparedness and Emergency Plan that would need to be approved by NEMO prior to its implementation in case of hurricane threats and other emergencies. Because of the increased frequency and intensity of hurricanes, resulting from Global Climate Change, the developer will take into consideration all these aspects during the design and construction of the site's physical plant.

### **Coastal Planning**

#### ***Coastal Zone Development Policy***

The Coastal Zone Management Strategy was instituted to facilitate the improved management of coastal resources and to ensure economic growth is balanced with sound environmental management. The Strategy seeks to review and enhance existing laws and regulations and policies and guidelines relating to conservation and resource management and development controls in the coastal zone area. These will support the coastal area management framework that addresses the need for improved management approaches in location between, as well as within, Coastal and Marine Protected Areas, and special requirements for management

### *The Coastal Zone Management (CZM) Act*

The CZM Act passed in 1998 provides for institutional arrangements for CZM in Belize through the establishment of the Coastal Zone Management Authority and its technical arm, the CZM Institute. The Act establishes an Advisory Council, appointed by the Authority and provides for the preparation of a Coastal Zone Management Plan for the introduction of fiscal measures to support the work of the Authority and Institute.

The coastal zone of Belize as described in the Coastal Zone Management Act includes “the area bounded by the shoreline up to the mean high water-mark on its landward side and by the outer limit of the territorial sea on its seaward side, including all coastal waters.” The wider purpose of the strategy is to facilitate improved management of coastal resources at a national level, to ensure economic growth is balanced with sound environmental management.

## **2.3.6 Economic Activities in the Area**

### **2.3.6.1 Tourism Activities**

In 2007, of the ten destinations identified by the BTB, the Corozal District placed last in number of hotels and rooms, in number of beds, in number of tour operators and in number of tour guides

The 2007 tourism statistics for Corozal District are good indicators for the level of investment, the BTB does not have segregated visitation figures for each of the ten destinations being monitored in order to determine market share. Nationally there has been an increase of 8% contribution to GDP by this sector and a 6% increase in overnight visitors while the country experienced a 22% decrease in cruise visitors.

**Table 2.5 Tourism Industry Statistics in Corozal District and National Tourism Data**

<b>Corozal District</b>	<b>2005</b>	<b>2007</b>
<b># of Hotels</b>	29	29
<b># of Rooms</b>	255	283
<b># of Beds</b>	358	394
<b>#Tour-guides</b>	35	30
<b>#Tour operators</b>	0	1
<b>Employees in Hotel Sub-sector</b>	91	287
<b>Occupancy-Country</b>	42.1	44.3
<b>% Labor</b>	13.0	13.70%

<b>Over-night visitors</b>	236,573	251,656
<b>Cruise Visitors</b>	800,331	624,128
<b>Tourism Contribution to GDP</b>	15.8	24.10%

Source: BTB Annual Statistics for 2007, Feb, 2008

**Table 2.6 Recorded Visitations at Cerros Archaeological Site**

<b>Site</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
Cerros	2,091	3,380	3,047

Source: BTB, 2007; \* this figure shows the number of visitations to Cerros.

It should be noted in Table 2.6 above that there has been a decrease in visitation at Cerros as compared to the year before.

### **2.3.6.2 Fishing Activities**

The fishing activity in the Corozal Bay Area is very minimal especially now that it has been declared a Wildlife Sanctuary. Most fishers are from Sarteneja village and they do not fish in this area; they normally travel to the southern waters of the country to make their livelihoods.

### **2.3.6.3 Agriculture**

The main economic activity of Corozal District is sugarcane cultivation, and some small holder agriculture. Since the late 1980's, papaya industry was introduced but has mainly been under the ownership and management of foreign investors. While the papaya industry offers employment to some 1000 workers, it has not been accepted by local farmers who consider it a very high investment crop and also very risky due to diseases and hurricanes.

### **2.3.7 NGO and Public Interest**

Prominent resident non-government or community-based organizations in the Corozal Town are minimal. These include the local BTIA chapter, the Corozal Cane farmers Association and the Rotary Club.

Corozal Town has had the lowest visitation as a tourism destination. Currently, the local BTIA Chapter has only six paid members of which only three attend meetings. The Corozal Branch of BTIA is the least active in the Belize country.

### **The Belize Tourism Industry Association (BTIA)**

In the early 1980's tourism was of relatively little importance in Belize. Nonetheless, it was an evolving industry that was impacting various sectors. A group of individuals foresaw the importance of the industry and anticipated the need for a medium through which tourism concerns could be voiced. This group, lead by the late Mrs. Jean Shaw, conceived the Belize Tourism Industry Association (BTIA). Four years later, in 1989, BTIA was incorporated under the laws of Belize.

The mission is: *“BTIA is a private sector organization promoting sustainable tourism, while maintaining the natural and cultural integrity of Belize.*

Today the BTIA has evolved into an intermediary between government and the private sector as well as private sector and national and international organizations. The four hundred member strong association boasts of representation on every government, legislative, advisory, consultative and licensing committee, which in itself is proof of its continued commitment to national development. As a direct consequence of BTIA's initiatives, tourism has become the fastest growing industry and has been pushed to the forefront of government's priorities.

In the international arena, BTIA continues to serve as Belize's ambassador, marketing the country's attractions and services at all major trade shows and voicing its views at symposiums, conferences and forums.

BTIA purpose is to serve and promote the interests of its members, to develop and promote the Belize tourism product and to influence and secure the improvement of the industry. In order to accomplish these goals, BTIA:

- Continues to serve as the voice of the tourism industry in Belize.
- Promotes the sound development of local infrastructure and tourism.
- Provides a network and forum for addressing tourism related concerns.
- Endorses the growth of the tourism industry without damage to the environment.
- Represents and advocates the best interest of members and the industry.
- Lobbies for critical issues of interest to its members and tourism in general.
- Markets and promotes Corozal as a destination.
- Assists members in improving their skills and services in order to improve professionalism and quality of the industry.

The main concerns of this organization is the repeated failures of investments by developers in the District and they hope that the proposed development really comes to fruition and benefits the district and people of Corozal Town and Consejo Village.

### **Questions/Answers at Interviews and List of Interviewees**

In order to get the information required under this section, the consultant first introduced himself and explained the purpose of the visit, explained briefly the proposed development and then asked the person if he/she can spend some time to answer a few questions concerning the proposed development. The responses to the questions were written on a writing pad and not on formal questionnaire format.

In discussion with the persons interviewed, the following questions asked were separated between the two groups of interviewees:

- A. With NGOs, CBOs and other Direct Stakeholder agencies
  - i. Do you know any information about the proposed development at Harvest Caye?

- ii. How does your organization see this development contributing to the development of Corozal Town and District and the country on a whole?
  - iii. Specifically, what concerns, positive or negative does your organization has about this type of development?
- B. With Community Leaders, fishers and those working in tourism
- i. Do you know any information about the proposed development at Harvest Caye?
  - ii. What are your main concerns, positive or negative about this proposed development?

The list of interviewees is follows:

<b>Name</b>	<b>Organization</b>	<b>Date</b>
Hon. Pablo Marin	Area Representative and Minister of Health	March 28, 2008
Mr. Hilberto Campos	Mayor, Corozal Town	March 28 & 25 July, 2008 and August 14, 2008
Mr. Ervin Wade	Manager, Casa Blanca Hotel & member Corozal BTIA	March 26, 2008
Ms. Dahlia Castillo	Owner and Manager, Tony's Inn and Beach Resort	March 27, 2008
Ms. Rosita Mai,	Owner and Manager, Maya Hotel	March 28, 2008
Mr. Vildo Marin Jr.	Past Area Representative	March 28, 2008
Mr. Jorge Luis Que	Business Manager, Consejo Village	March 27, 2008
Mr. Lyle Williams	Public Health Inspector	August 14, 2008
Mr. Bill Wildeman	Consejo Shores Development	August 27, 2008

### 3.2.1.2 Social Impacts of Note

The development is classified as both a “Residential” and “Resort” for people from North America, Europe and Belize. The main **positive** concerns identified by those interviewed on the proposed development are:

- increased employment and job creation and the possibility for local residents to enter or expand their business, such as restaurants, hardware supplies, handicraft marketing at the boutiques or shops to be established in the resort;
- a general sentiment by community leaders is that they hope the developer does “the right thing” to seek a balance between “tourism-natural environment” by following the proper protocols and getting the required permits before starting construction;
- the availability of a new and nearby market for the farm products produced by the farmers and who will increase their income potential;
- increased income to the Town Council from property tax and vehicle licensing by the owners of the residencies in the development;
- a general increase in business activity and revenue generation during the construction and post-construction phase of the development; and
- there is always a window of opportunity to negotiate to make the development a win-win situation for all; and
- the developer can contribute to the community by paving the access road to Consejo from Corozal Town and assisting with the proposed new site for solid waste management.

Other indirect benefits may result for existing tourism businesses that will cater to an increased retiree population and who may also specialize in tourism-related catering and related service businesses to this new population. The main **negative** concerns identified, in no order of priority, are:

- impact of dredging for pier and marina construction;
- the dredging will destroy the habitat for the manatee;
- destruction of the coastal mangrove ecosystem can increase the damage by hurricanes;
- disposal of solid and sewerage waste will increase this already existing problem;
- employment of people from the town will be limited to lower positions while the senior management position will go to foreigners;
- housing for the workers are limited in the town and village of Consejo;
- an increase of immigrant population will stress further the school and health services; and
- the cultural impacts that may result from workers coming from other districts.

The other potential negative impact on local and regional tourism sector is the competition with Belizeans of the area that may arise should the retirees become investors and compete with locals. One of the direct effects of such competition is the possible increase in the price of land which is scarce and expensive for locals in this coastal district.

**Table 2.7 Possible mitigation measures for the negative impacts**

<b>Negative Impact</b>	<b>Mitigation measure</b>	<b>Comments</b>
1. Impact of dredging for pier and marina construction.	Developer uses appropriate technology to prevent damages	Technology exists.
2. The dredging will destroy the habitat for the manatee.	Developer to follow Forest Department Guidelines in Wildlife Sanctuaries.	Management Plan for CBWS is currently being prepared.
3. Destruction of the coastal mangrove ecosystem can increase the damage by hurricanes.	Developer to do least clearance and disturbance to prevent damages.	Developer has capacity to do this since they recognize the importance of mangroves to biodiversity and storm prevention.
4. Disposal of solid and sewerage waste will increase this already existing problem.	Developer uses appropriate technology and assists the Town Council in establishing the proposed new site for solid waste management in San Jomal.	All stakeholders can agree on the sites establishment and management.
5. Employment of people from the town will be limited to lower positions while the senior management position will go to foreigners.	Training of unskilled workers will be necessary.	The ITVET in Corozal Town is in a position to train these workers.
6. Housing for the workers is limited in the town and village of Consejo.	Developer to build housing facility at the development site and/or transport workers to and from the site.	This can be a condition for the Environmental Compliance Plan.
7. An increase of immigrant population will stress further the school and health services.	Developer can assist the government and Town Council in expanding current facilities.	Negotiations need to be done with relevant GOB authorities.
8. The cultural impacts that may result from workers coming from other districts; especially with an increase in crime.	Education on social interaction can be done. Cooperation with Police Department will be necessary.	Cooperation between parties will be essential.

**Table 2.8 Potential Impacts & Residual Impact Rating on Proposed Activities for Project Implementation**

<b>Activities and Conditions</b>	<b>Potential Impacts</b>	<b>Comments by Consultants</b>	<b>Residual Impacts, Magnitude/ Direction/Duration/Scope</b>
<b>Current and Proposed Land Use in Area</b>	<ul style="list-style-type: none"> <li>Location and size of development.</li> </ul>	Adequate control development proposals, especially during the construction phase, take into consideration future development activities to be undertaken.	High/ positive/high/local
<b>Activities during Construction and Post Construction Phase Activities</b>	<ul style="list-style-type: none"> <li>Transportation of construction materials and equipment during all phases of development.</li> <li>Operation of construction machinery</li> <li>High population densities during construction and post construction</li> <li>Housing and sanitary facilities for construction workers at the development site.</li> </ul>	<ul style="list-style-type: none"> <li>All vehicles transporting construction materials should be covered, and equipment secured to allow for safe transportation to the site; this should be monitored.</li> <li>Operators should be trained and involved in development plans.</li> <li>Workers should be trained in the safety procedures; operation of machinery and use of safety gear used.</li> <li>Adequate transportation, proper housing, and other basic facilities are available for workers in the island.</li> </ul>	<p>High/negative/years/ Central Coastal Zone (CCZ)</p> <p>High/positive/years/local</p> <p>High/positives/local/local</p> <p>High/positives/years/local</p>
<b>Marine and Terrestrial Traffic</b>	<ul style="list-style-type: none"> <li>Increased number of vehicles</li> </ul>	<ul style="list-style-type: none"> <li>Movement of workers, machinery/equipment and cargo, should be scheduled in advance.</li> <li>Materials transported should be properly covered and secured to prevent them falling on the road.</li> </ul>	<p>High/negative/years/CCZ</p> <p>High/negative/years/CCZ</p>
<b>Worker Population &amp; Housing</b>	<ul style="list-style-type: none"> <li>Increased population density in the area during construction and post construction phases</li> </ul>	<ul style="list-style-type: none"> <li>Temporary quarters be constructed</li> <li>Workers be transported to and from the site during all phases of construction</li> </ul>	<p>Low/ no change/years/local</p> <p>High/no change/decades/local</p>
<b>Education &amp; Health Services</b>	<ul style="list-style-type: none"> <li>Increased pressure on existing educational and health institutions.</li> </ul>	<ul style="list-style-type: none"> <li>Local education and health facilities should be strengthened and coordinated.</li> </ul>	High/positive/decades/district
<b>Employment</b>	<ul style="list-style-type: none"> <li>Skilled laborers from the region not employed during construction and post construction phase.</li> <li>Skills training may be required for some local employees.</li> </ul>	<ul style="list-style-type: none"> <li>Employment of individuals from other parts of the country encouraged and will strengthen local/regional skills and will include the potential for long-term employment</li> <li>Laborers should also be paid as per skill requirement (s)</li> <li>The Belize labour laws should also be observed.</li> <li>This skills training will be required especially in the post construction phase.</li> </ul>	<p>High/positive/decades/local</p> <p>High/positive/decades/district</p> <p>High/positive/decades/district</p> <p>High/positive/years/local</p>

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