

2. GRENVILLE AND ST. ANDREW'S PARISH

General Statement

St. Andrew is the largest of Grenada's six parishes. St. Andrew's population of 22,425 is spread over 52 settlements, with generally less than 600 residents per settlement. Significant number of people from St. Andrew's parish work in various service establishments in Grenville.

Grenville is the largest urban center with 2,822 persons. The Great River Valley which is the largest in Grenada is one of the most fertile and productive in the country an active commercial center.

Grenville is located on the windward side of the island and the town has always been vulnerable to high winds and tropical storms. The Great River and its tributaries flow to the west of Grenville. It frequently floods blocking off access throughout the settlements in the St. Cloud Area.

The north and central beaches of the coastlines of the town have recently experienced dramatic erosion. This has caused the Grenville Community Development Committee to initiate government sponsored programs of beach revegetation and jetty improvement.

A small seawall is constructed along the urban center, where a school, police station, fish market, and church are located. In the event of a hurricane, these buildings and Grenville in general would receive significant damage to real estate and infrastructure.

The low lying nature of the town at sea level causes significant flooding during periods of heavy rainfall. Of the four schools in Grenville, 2 are prone to flooding, the Anglican senior and the Anglican junior schools.

Pearl Airport, is one mile North from Grenville town, and original air facility sited were Pearls is also the site of Grenada's outstanding "dig" for carib artifacts.

North of Pearl's is TIVOLI, one of the 52 settlements with less than 600 residents. Tivoli is located on the inland area close to the long stretch on the Atlantic side; approximately 4 miles North of the town of Grenville along the Eastern Main Road on the coastline.

In this area there is no major development although on the seashore, Tourism and Recreational activities are contemplated in the Interim Development Plan-PPU, January 1988. Roads follow the coast closely and where they penetrate inland they wind

through valleys connecting the settlement. The roads and tracks are unsurfaced and unsealed, nevertheless there is a program of upgrading roads in this area. The secondary dirt tracks lead through the slopes connecting to the houses. These houses are prone to landslide and windstorm do to their dangerous location.

In Tivoli, the school is being renovated and the church is being restored. Both of the buildings are damaged and deteriorated.

2.1 IDENTIFICATION OF PROBLEMS AND RISK IN GRENVILLE
 2.1.1 Matrix: Grenville and Environs

<u>INFRASTRUCTURE</u>	<u>HAZARD</u>	<u>CAUSE-EFFECT LINK</u>	<u>FREQUENCY PATTERN</u>	<u>FACTORS TO BE NOTED</u>	<u>CONDITION</u> 4:excellent 3:good 2:fair 1:poor 0:none	<u>REMARKS</u>
<u>1. TRANSPORTATION</u>						
Roads	Windstorm	Low-lying land	Heavy rainfall	.Proximity to cliffs and shoreline.	3	
	Tidal surge	Flash flood	Hurricane season	.Drainage	2	
	Flood	River overflow	Yearly Jun,Nov.	.Building lines in relation to width.	3	
Bridges		Blocked culvert		.Surface condition and maintenance.	3	
	Windstorm	Low-lying land	Heavy rainfall	<u>Bridge:</u> .Age and structural stability.	2	One lane bridge Paradise.
	Tidal surge	Flash flood	Hurricane season	.Load capacity	2	
Small Fishing boats and small schooners	Flood	Blocked culvert		.River banks	2	Easily bridge
				.Tree trunks	3	
				.Obstruction in river bed from boulders.	1	St. Cloud bridge, Great river floods from St. Clouds to
				.Ocean Depths	2	Reefs obstruction
				.Erosion of shoreline	1	
				.Absence of navigational Beacon.	0	
				.Siltting from drains	3	
				.Debris and floatsam heavy rains.	3	
				.Jetties	2	1 Jetty.
				.Storage sheds	1	Need for expansion
				.Seawalls	1	Need for renoavtion
				.Toxic Pollution	2	Oil, bitumen
				.Markers buoys	2/3	2 Buoys
				.Wrecks	3	
<u>2. COMMUNICATION</u>						
Postal				<u>Postal:</u> .Location	2	Prone to flooding in central Grenville.
				.Security	2	Police station close-no alarm.

Telephone	Windstorm Tidal surge Flood	Low lying land Flash flood Blocked culvert	Heavy rainfall Hurricane season	<u>Telephone:</u> .Location of poles .Condition of poles and stays. .Height of overhead lines. .Over hanging trees and foliage over trans- mission lines.	2 3 2 3	
Radio				.Quality of transmission emergency.	4	
<u>3. HEALTH</u>						
Health	Flood			.Hospital .Location of structure away from flood areas. .Access to community by motor vehicle. .Building to be in good state of repair. .Equipment to be servicable. .Proper disposal of wastes. .Pleasant landscaping	3 2 2 3 3 3 3	Can have difficult access during floods. Prone to tree fall.
Care Center	Flood		Heavy rainfall Hurricane season Yearly			
Public Lavatory	Windstorm Flood	Low lying land Flash flood	Heavy rainfall Hurricane season Yearly			
<u>4. EDUCATION</u>						
Classroom buildings and playgrounds	Windstorm Tidal surge Flood	Low lying land Flash flood Blocked culvert	Heavy rainfall Hurricane season Yearly	.Location of buildings away from areas subject to flood, erosion or landslide.	1	La Baye (flood-erosion) of 3 schools, 2 are prone to flooding: 1.Grenville secondary 2.Anglican school 3.Anglican primary Of 3 schools the Anglican is too close.
<u>5. SERVICE</u>						
Fire Police Ambulance	Windstorm Tidal surge	Low lying land Flash flood	Heavy rainfall Hurricane season Yearly	<u>Fire:</u> .Adequately staffed station. .Equipment to includ life saving. .Police to control traffic in emergency. .Regular checks of	3 3 3	

equipment.
 .Location and maintenance 3
 hydrants.

Police:

.Immediate response to 3
 to fires and criminal
 disturbance.

.Carry out regular check 2
 of industrial and
 commercial premises.

.Advice on location of 3
 gasoline stations.

Water:

.Maintenance of dams. water supply is good
 reservoirs, service except during flooding
 lines, public and domes- when dam floods.
 tic supply lines.

.Eliminate waste 3

Sewerage

Health
 problem

Blocked drains

Dry season

Sewerage: 3
 .Monitor outfalls of 1
 public discharge. When the concentrated
 nature of drain water is
 high.

.Check private disposal 1
 systems.

.Maintain good upkeep of 0
 vehicles.

6. ENERGY

Windstorm
 Landslide

Overloaded
 poles
 Overhanging
 trees
 Wood rot

Heavy rainfall

Electricity:

.Faulty electricity poles 3

.Sagging lines 1

.Interruptions of 2
 service.

.Load shedding Happens occasionally

.Location of poles near 1
 roadway.

.Transformer location and 3
 maintenance.

.Tree cropping 3

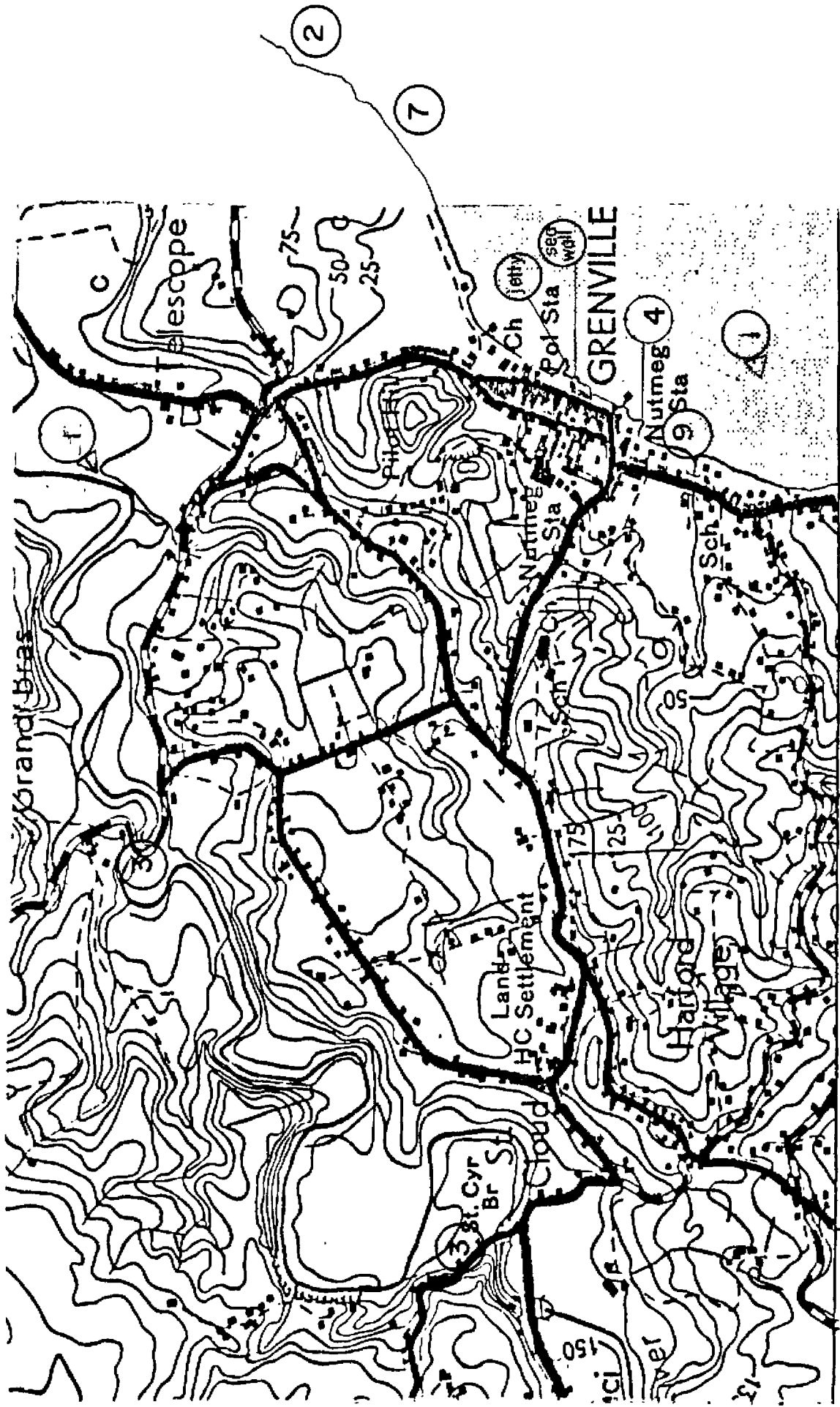
Fire

Petrol-Gas:

.Retail gas stations in 3
 built-up and proximity
 to schools, hospital and
 community halls.

.Location of bulk storage 0
 tanks retail.

.Outlets for gas 0
 cylinders.



Type of hazard

- 1. Wind Action
- 2. Wave Action/Storm Surge
- 3. Flood
- 4. Earthquake and Landfill
- 5. Landslide/Slippage
- 6. Rockslide
- 7. Erosion
- 8. Explosion and Fire
- 9. Silting
- 10. Area of poor housing/
High density/Low Sanitation
- 11. Subsidence

2.1.2

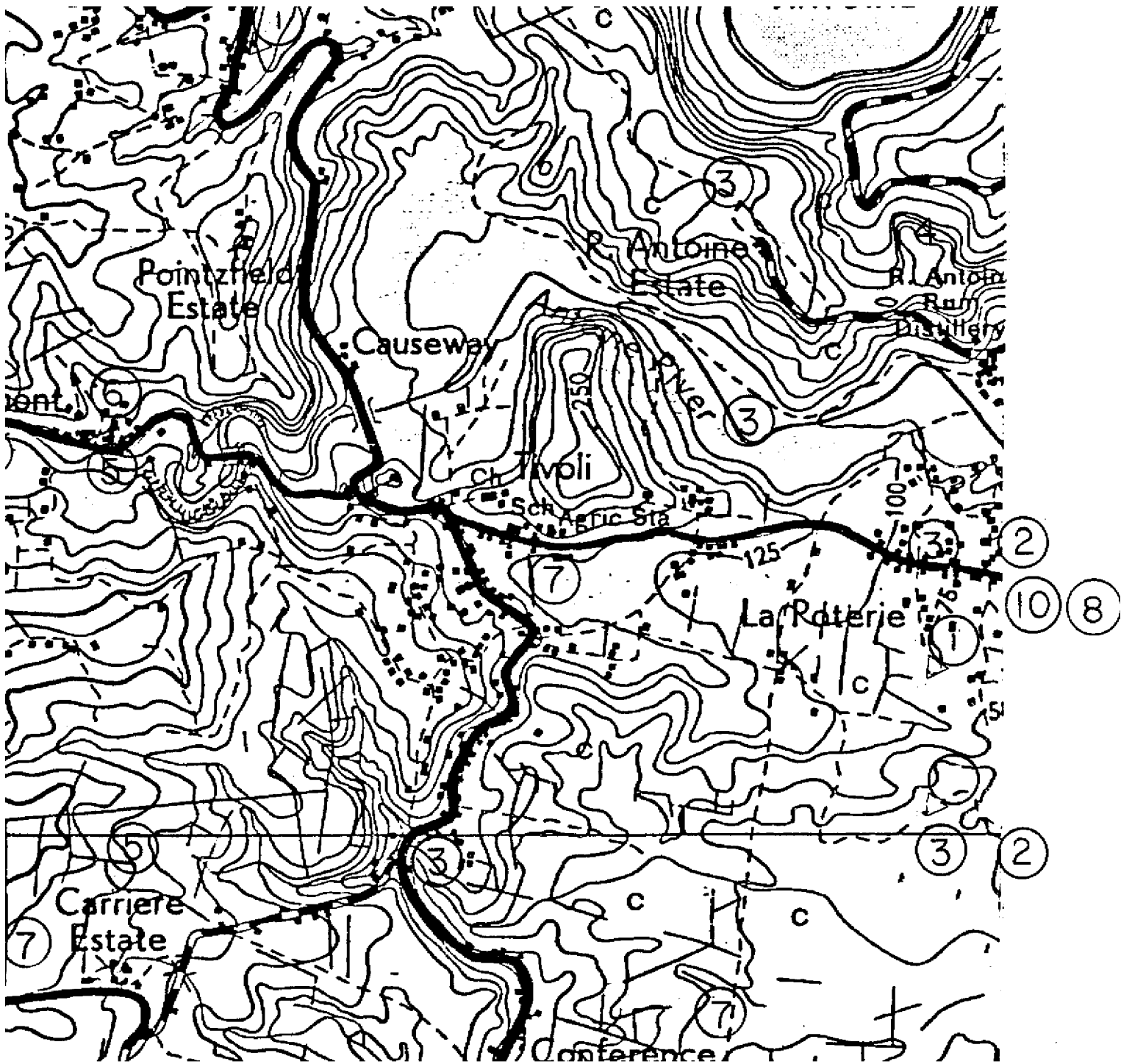
RISK ASSESSMENT MAP

Grenville

Parish St. Andrews

Scale 1:12500





2.1.2
RISK ASSESSMENT MAP

Tivoli
Parish St. Andrew
Scale 1:12500

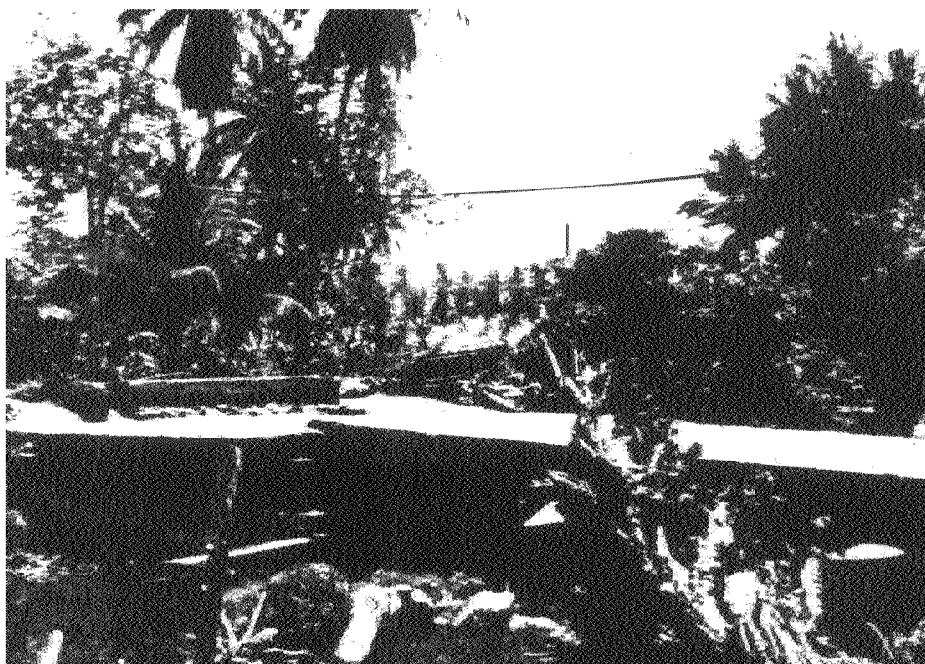


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|----------------------------|--|
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| 2. Wave Action/Storm Surge | 8. Explosion and Fire |
| 3. Flood | 9. Silting |
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| 6. Rockslide | |

2.2 RECOMMENDED ACTIONS

2.2.1 Short Term Action	Responsible Agency
.Regular checks and control of environmental hazards.	Health Department Planning Dept. Physical Planning Unit
.Clean-out drains running to the sea, throughout low lying town have slow run-off and collect significant grey water from urban center. This is flushed into the sea unless blockage occurs.	Comm. and Works
.Establish a new location for public lavatories close to seashore (Victoria street).	
.Carry out regular inspection of buildings and locate on risk assessment map.	Planning Dept. Physical Planning Unit National Emergency Organization
.Reinforce sea wall along the urban center.	Ports Authority Comm. and Works
.Clear-out blockages of tree trunks and large boulders, when water over-reaches the banks in Paradise and St. Cloud bridges.	Comm. and Works
2.2.2 Long Term Action	Responsible Agency
.Report and control public buildings, real state, and infrastructure built close to sea shore. (area of Victoria street).	Physical Planning
.Urban Renewal Plan required to consolidate and improve town centre-develop into independent commercial, service and manufacturing area.	Physical Planning Unit
1. Existing port: develop as small port for coasting trade/ small carriers. New Jetty, dredging and widening of channel required. 2. Possible infill development.	



Debris accumulation under bridge.
Pearls-Parish St. Andrew



Public beaches affected by erosion.