[Rehabilitation of the Cunha Relief Channel and Structures]

[The Cunha Relief Channel is one of the emergency spillways of the EDWC, a large and shallow surface water reservoir that supplies irrigation and potable water to the Demerara Mahaica Region. This project is aimed at restoring the capacity of this structure and will eventuate in significant benefits to agriculture and reduction of flood risk. This document provides an appraisal of various components of the resettlement activities associated with the project.]



March, 2015.

Rehabilitation of the Cunha Relief Channel and Structures

Abbreviated Resettlement Plan

Revised Issue D, March 25, 2015.

Agriculture Sector Development Unit (ASDU) Ministry of Agriculture Regent Street and Vlissengen Road Bourda, Georgetown Guyana, South America.

ACRONYMS

AP	Affected persons
ARP	Abbreviated Resettlement Plan
ASDU	Agriculture Sector Development Unit
BCL	Barama Company Limited
CAP	Conservancy Adaptation Project
CDC	Civil Defence Commission
CEO	Chief Executive Officer
D/S	Downstream
EBD	East Bank Demerara
EDWC	East Demerara Water Conservancy
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
EPA	Environmental Protection Agency
ESA	Environmental and Social Assessment
GD	Georgetown Datum
GL&SC	Guyana Lands and Surveys Commission
GoG	Government of Guyana
GPL	Guyana Power and Light Company
GRIF	Guyana REDD+ Investment Fund
GT&T	Guyana Telephone and Telegraph Company
GWI	Guyana Water Incorporated
Hydromet	Guyana Hydrometeorological Authority
IDB	Inter-American Development Bank
MoA	Ministry of Agriculture
MoF	Ministry of Finance
MoHW	Ministry of Housing and Water
MoPWC	Ministry of Public Works and Communications
NDC	Neighbourhood Democratic Council
NDIA	National Drainage and Irrigation Authority
RDC	Regional Democratic Council

Summary Resettlement Plan

1.0 Introduction

The Cunha canal and associated structures provide relief to the East Demerara Water Conservancy (EDWC). Several years ago this canal was diverted and as a result it operates at a reduced capacity. The re-establishment of this canal to its design parameters will improve its current discharge efficiency. The project will entail some displacement since the original alignment was filled-in to accommodate a private timber company, Barama Company Limited (BCL). The objective of this document is to detail all pertinent considerations for resettlement.

2.1 Project

The project is known as the Rehabilitation of the Cunha Relief Channel and Structures and is located from the western embankment of the EDWC to the east bank of the Demerara River at Land of Canaan, East Bank Demerara (EBD). The project seeks to drain flood waters from the EDWC to the Demerara River via an earthen channel and incorporating the following control structures: an existing concrete head regulator, a new prestressed concrete bridge and a rehabilitated reinforced concrete river sluice.

2.2 Project Financing

The project is the first to be financed by the GRIF with the World Bank as a Partner Entity. The World Bank has been centrally involved with planning improvements in the EDWC and coastal drainage systems through needs-assessments after the 2005 flood, implementation of the CAP and the preparation of the Flood Risk Management Project. As Partner Entity, the World Bank's safeguards and policies are applied to the project.

3.0 Statement of Problem

The proposed alignment of the channel was determined after considering a number of alternatives. The re-routing of the canal will result in the displacement of a number of structures within the property of BCL. Additionally, the construction of the public road bridge will affect the transportation route, and utilities along the East Bank Public Road. Consequently, a diversion route will be established and utilities will be re-routed to ensure minimum disruption.

4.0 Legal Framework

The laws regulating this matter are the Laws of Guyana, Chapter 64:04 Drainage and Irrigation. The National Drainage and Irrigation Authority (NDIA) is an organization crafted by the state to provide Drainage and Irrigation services in the Agriculture Sector. The laws permit the acquisition of lands to improve the drainage and irrigation within any area while providing compensation and legal resources to those affected.

5.0 List of assets

The proposed civil works do require the intake of a portion of land owned by BCL and the relocation of certain assets that are within this area. Table 1 presents an itemized list of all

#	Item
1	Log Bridge
2	Steel Bridge
3	Moulding Shed
4	Saw Dust Pen
5	Equipment
6	Fence
7	Guard hut #1
8	Guard hut #2
9	Fuel Storage
10	Utilities

affected assets. Table 1: List of displaced assets

6.0 Description resettlement assistance

The proposed wayleave for the relief channel and the river sluice between the Public Road and the river embankment is located on land currently owned by BCL. Given that only a small part of the project area is affected, resettlement activities in the affected areas will be done concurrently with civil works in unaffected areas. A negotiated settlement will be paid to BCL to offset the cost of land transfer and negative impacts of the project. This settlement complies with the World Bank's applicable policies.

7.0 Arrangements for implementation , monitoring and procedures for grievance redress:

During project implementation, staff of the Executing Agency, Agriculture Sector Development Unit (ASDU), will prepare progress reports on all aspects of land acquisition, compensation and resettlement activities and operations. Technical staff from the NDIA and ASDU will be assigned to the project to oversee the implementation of the resettlement plan and to supervise activities carried out during preparation and implementation of the civil works. Monthly and quarterly reports will be prepared, circulated and later discussed with all stakeholders during routinely scheduled conferences.

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1.0 Introduction

The aim of the project is to drain flood waters from the EDWC to the Demerara River. The EDWC is a large shallow reservoir which is utilized for irrigation of farmlands in the East Coast Demerara (ECD) and the East Bank Demerara (EBD) and for surface water to the Georgetown municipality (See Figure 1.1). The water is impounded by a relatively weak earthen embankment which is likely to be breached if the full supply level of the conservancy is exceeded. Such a breach would cause widespread flooding and damages to farmlands and residential areas.

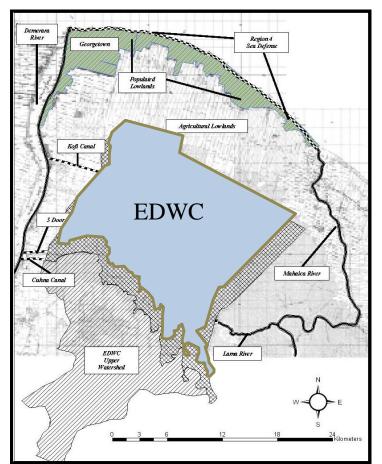


Figure 1.1: East Demerara Water Conservancy (EDWC)

A number of drainage relief channels with their associated water control structures have been constructed to facilitate drainage to the Mahaica River and/or Demerara River when the full supply level of the EDWC is exceeded or likely to be exceeded. One such relief channel is the Cunha canal which is located at Land of Canaan on the East Bank of the Demerara River. It has

an operable single door head regulator located on the EDWC embankment and a defunct river sluice which formerly discharged into the Demerara River via an outfall channel. The Cunha channel is not continuous as it is intersected by the East Bank Demerara public road. Figure 1.2 shows the relative location of the various components of the project which are as follows:

- Rehabilitation of the existing Cunha channel from the head regulator to the public road
- Construction of a new channel from the public road to the river
- Construction of a new concrete bridge at the public road
- Rehabilitation of a reinforced concrete river sluice with a single timber door.

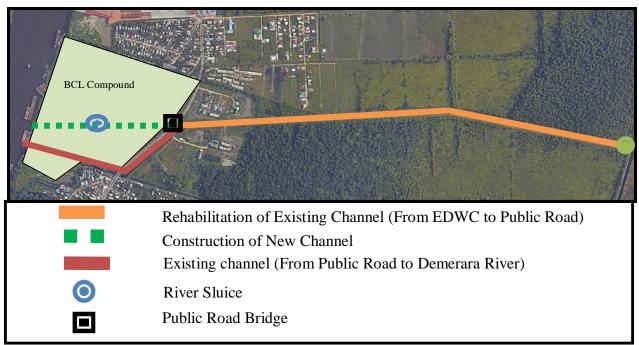


Figure 1.2: Project Area and Components

2.0 PROJECT

The total length of the Cunha relief channel is 2.8 km; it originates at the EDWC and discharges into the Demerara River. The trajectory of the channel from the EDWC is fairly straight until it reaches the East Bank Public Road where it diverts sharply. This diversion is thought to cause inefficiency in the conveyance of the channel and as such the need for realignment. The section of the Cunha channel from the head regulator to the East Bank Public Road is in use but in need of rehabilitation. This section of the canal has been reduced over time due to vegetation and siltation. It is proposed to rehabilitate the canal to a bed width of 23ft and a total wayleave of 115ft. Figure 2.1 shows the current state of maintenance of the channel and the typical cross section of the rehabilitated channel.

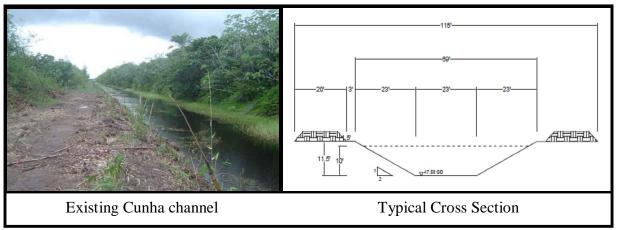


Figure 2.1: Rehabilitation of the existing channel from the head regulator to the public road

At the point where the Cunha channel intersects the East Bank Public Road a Pre-stressed Concrete Bridge will be constructed. The bridge will consist of three spans of 39'-1" and a width of 48'-4". Figure 2.2 shows the longitudinal view of the bridge.

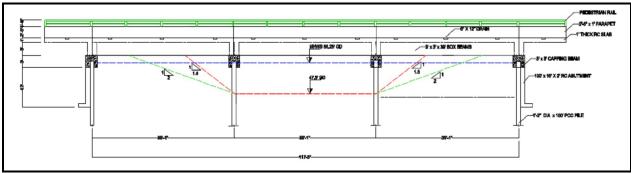


Figure 2.2: Longitudinal view of the bridge

The channel from the East Bank Public Road to the Demerara River was altered with the establishment of BCL in the 1990's. The Original alignment was straight to the Demerara River through a sluice located along the Old Public Road. The Canal was diverted south west along the new EBD Public Road and then west through a sluice located between Land of Canaan and Sarah Johanna. The original alignment of the channel will be re-established, but since this section of channel is now within the property of BCL land acquisition is required. BCL has agreed to accommodate the project by selling the land at a nominal cost on the condition that the cost for the displacement of assets is reimbursed by GoG. It is proposed to re-construct the canal with a bed width of 23ft and a total wayleave of 115ft. Figure 2.3 shows the original alignment of the channel and the typical cross section of the rehabilitated channel.

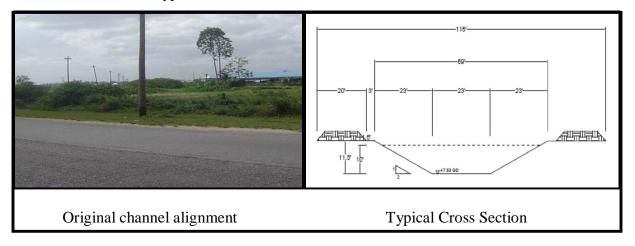


Figure 2.3: Construction of New channel from the public road to the Demerara River

The River Sluice was abandoned along with the original alignment. It is proposed to reactivate this structure together with the original alignment. The structure is of reinforced concrete and consists of a timber door controlled by a manual lifting mechanism (winch). Figure 2.4 shows the river sluice to be reactivated.



Figure 2.4 River Sluice to be reactivated

3.0 Statement of Problem

The proposed project will impact principally on the following; Transit along the East Bank Public Road, private lands and the operations of a private company BCL.

3.1 Transit along the Public Road

The East Bank Public road will be intercepted by the Cunha channel and as such a bridge will have to be constructed in this location. The agency responsible for public roads is the Ministry of Public Works and Communications (MoPWC). A memorandum of understanding was signed between the MOA and MoPWC governing the design, construction, supervision and maintenance of the public road bridge across the Cunha channel. Subsequently, the proposed design of the bridge was reviewed and approved by this agency. Please see Appendix 1: Memorandum of Understanding between MoA and MoPWC. Please see Appendix 2: No Objection on Bridge Design from MoPWC. The construction of the public road bridge can potentially disrupt traffic along the East Bank corridor if adequate provisions are not in place during project execution. The estimates for this component of the schedule of works allows for the construction of a diversion of equal or greater transit capacity and the relocation of utilities. Henceforth this potential problem is considered sufficiently addressed.

3.2 Permanent Land Take and Impacts

The section of land, from the East Bank Public Road to the Demerara River, required for project intake is approximately 5.3 acres. This land forms part of the property of BCL where Plywood and sawmilling operations are performed. As such located therein are several assets which will have to be relocated. Figure 3.1 shows a section of the property of BCL and affected assets.

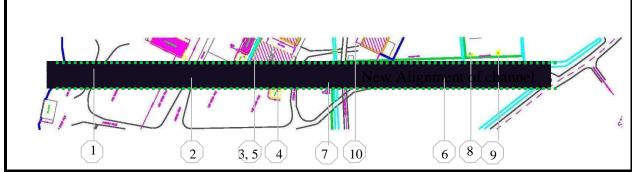


Figure 3.1 Section of the property of BCL and assets that will be affected (see details including items numbered in Table 3)

The impacts of the relocation are; the size of the property will be reduced and the operations carried out by the displaced assets will be interrupted until the relocation is completed. In order to satisfy market obligations these operations will have to be outsourced, and the additional production cost incurred as a result will have to be compensated. Table 2 summarizes the Impacts Caused by Displacement on Businesses.

Business	Loss of	Loss of	Loss or	Loss of	Comments
Number	land	Business	decrease of	economic	
		place	income	networks	
1	yes	No	Possible	No	Loss of income may
					result if orders are
					not met due to
					displacement of
					equipment

Table 2: Impacts Caused by Displacement (Businesses)

4.0 Legal Framework

The laws regulating this matter are the Laws of Guyana, Chapter 64:04 Drainage and Irrigation. The Drainage and Irrigation Act of 2004 provided for the establishment of the NDIA whose function is to ensure that water resources are located, evaluated, conserved and utilized for the greatest national advantage through appropriate water management strategies and water use planning. The Act provides mechanisms for ensuring that existing drainage and irrigation system and flood control and any new expansion that are done, are operated and maintained in a sustainable manner. The Act also allows for public participation in the planning, management and operation of drainage and irrigation facilities. Importantly, it should be noted that the Act provides for the acquisition of properties including land for the purpose of constructing drainage and irrigation infrastructures.

It is noteworthy to mention that BCL has communicated in writing their willingness to facilitate any work by the NDIA on the section of canal located within their property. Appendix 5 presents a copy of the communiqué from BCL giving their no objection to the proposed works.

5.0 List of assets

Valuations of the assets to be displaced were completed by BCL, Rodrigues Architects Ltd, and the Government Valuation Department. The final amount to be paid for resettlement was determined through negotiations.

6.0 Consultations with displaced people about acceptable alternatives

Consultations have been ongoing with BCL for a number of years and they have as early as 2010 expressed their support for the project having realized the importance of the proposed works. During engagements with BCL and other stakeholders various design alternatives were studied with the intention of minimizing adverse impacts. The design alternatives considered were:

- 1. Existing Alignment utilizing the existing structure which would be rehabilitated.
- 2. Existing Alignment with a new structure closer to the Demerara River.
- 3. A New Alignment with a new structure.

A detail study of three alignment options from the East Bank Public Road to the Demerara River was done by the NDIA and can be referenced in the Design Report. The Design report also sought to compare the advantages and disadvantages of pursuing any of the three options. The preferred option, option #1, was agreed to since it allowed for the most efficient conveyance of

the channel because it provides a straight alignment. The other options consisted of curves in the alignment which reduces the hydraulic efficiency and causes erosion of the earthen embankments. Appendix 6 presents the comparison of the various alternatives as outlined in the Design Report.

Consultations were also held with the local government body, Caledonia Good Success

Neighbourhood Democratic Council, responsible for said district in which the proposed works will be undertaken. One such event was a meeting conducted on January 29, 2014 where the aim was to inform the NDC about the planned rehabilitation works on the Cunha Canal and to give participants a chance to comment on the proposed activities. Stakeholders are in support of the proposed works and have even underscored the importance of the project and its speedy implementation. Appendix 7 presents a record of consultations held with the aforementioned stakeholders.

7.0 Arrangements for implementation, monitoring and procedures for grievance redress

The agency responsible for the implementation of the project is the ASDU. During project implementation, staff of the ASDU will prepare progress reports on all aspects of land acquisition, compensation and resettlement activities and operations. Technical staff from the NDIA and ASDU will be assigned to the project to oversee the implementation of the resettlement plan and to supervise activities carried out during preparation and implementation of the civil works. Monthly and quarterly reports will be prepared, circulated and later discussed with all stakeholders during routinely scheduled conferences. The existing grievance redress mechanism in place for project executed by the PIU will be adapted for the Cunha Channel rehabilitation. It will be used to address legitimate concerns of affected individuals and groups who consider themselves deprived of appropriate treatment under the project or otherwise. The mechanism includes:

(i) A recording and reporting system, including grievances filed both verbally and in writing,

(ii) A designated staff with responsibility at various levels of governments, and;

(iii) A timeframe to address the filed grievances.

The functioning of the grievance redress mechanism will be regularly monitored and evaluated by the ASDU during project implementation. The mechanism is outlined in Table 4.

Table 4: Grievance Redress Mechanism

Grievance Redress Procedures		
Access Point	 The Minister of Agriculture holds weekly meetings with farmers each Wednesday. These meetings can also be opened to include the public at large but specifically communities living around the project area or affected by the project. The Project Coordinator in the ASDU will also be accessible via telephone, email, and verbal communication and will be responsible for intake of any grievances. This access point will be advertised through the Ministry's website or a signboard or other means. The Permanent Secretary of the MoA shall be responsible for leading responses to grievances related to this project. 	
Grievance Log	 Grievances can be made verbally to the Minister and/or the designated representative of the Minister. In this case, the grievance shall be accurately documented and verified as a true account by a third party. Grievances can be made in writing addressed to the Project Coordinator in the ASDU and copied to the NDIA, defined as a relevant authority in the Drainage and Irrigation Act, 2004. All grievances must be signed and dated by the aggrieved person. All grievance records shall be copied to the relevant authority as defined in the Drainage and Irrigation Act, 2004. 	
Assessment and Timeframe	 The ASDU should acknowledge within 5 working days, receipt of the complaint and should include notification of the period necessary to address the grievance to the aggrieved person. If the aggrieved person does not receive a response within the agreed time or is not satisfied with the outcome, he/she can refer the matter to the NDIA Board for redress. The NDIA Board should acknowledge within 10 working days, receipt of the letter of appeal and should include notification of the period necessary to address the appeal. If the aggrieved person does not receive a response within the agreed time, or is not satisfied with the outcome he/she can refer the matter to the responsible Minister for redress. If the aggrieved person is not satisfied with the outcome he/she can refer the matter to the Court of Law for redress. If the aggrieved person is not satisfied with the outcome he/she can refer the matter to the Court of Law for redress. The grievances should be categorized by type (environmental, compensation, resettlement etc.). The first assessment of the grievance should be conducted by a Grievance Committee comprising of the Permanent Secretary, the ASDU Project Coordinator, technocrats from the NDIA and the lawyer based in the Ministry of Agriculture. Where agreement is not reached at the level of the Grievance Committee, the steps outline above should be followed. 	
Resolution and Follow-up	• An Implementation Plan should be developed for resolution of grievances. Data should be shared with the World Bank (raw grievance and/or monthly reports). On the spot resolution should be encouraged. However, the process and results should be documented.	

Appendix 1: Memorandum of Understanding between MoA and MoPWC

	G THE DESIGN, CONSTRUCTION, SUPERVISION AND MAINTENANCE OF ID BRIDGE ACROSS THE CUNHA RELIEF CHANNEL AT LAND OF CANAAN,
TOBLIC KOA	EAST BANK DEMERARA, GUYANA
	(hereinafter referred to as "the Project")
	Between
	THE MINISTRY OF AGRICULTURE (MOA)
	REPRESENTED BY THE PERMANENT SECRETARY, MOA
	of the one part
	And
TI	HE MINISTRY OF PUBLIC WORKS AND COMMUNICATION (MPW&C)
	REPRESENTED BY THE PERMANENT SECRETARY, MPW&C
	of the other part
WHEREAS:	The Co-operative Republic of Guyana (GOG) has entered into an agreement with the
	Department for International Development (DFID) for the receipt of a Grant to fund among other engineering works, the construction of a Public Road Bridge across the Cur
	Relief Channel at Land of Canaan, East Bank Demerara
WHEREAS:	The Grant will fund the rehabilitation of the Cunha Relief Channel and the currently defur
	Cunha River Sluice to facilitate the discharge of excess water (approximately 500 cuse
	from the East Demerara Water Conservancy to the Demerara River
WHEREAS:	The Project will be executed by the Agricultural Sector Development Unit of the MOA
WHEREAS:	All public road bridges on the East Bank of Demerara fall under the jurisdiction of
	MPW&C
WHEREAS:	The MOA is desirous of meaningfully involving the MPW&C in the design, constructi
	supervision and maintenance (up to the issue of the Final Completion Certificate) of
	Project
WHEREAS:	The MOA is also desirous of handing over the ownership and maintenance of the Bridge

NOW IT IS HEREBY agreed as follows:

ARTICLE I:	The National Drainage and Irrigation Authority (NDIA) of the MOA shall design the Bridge and send draft copies of the Drawings, Bill of Quantities and any relevant computations for the written comments of the MPW&C and the documents shall be amended accordingly.
ARTICLE 2:	The MOA shall prepare the Tender documents and obtain the written approval of the Permanent Secretary, MPW&C.
ARTICLE 3:	The MOA shall be responsible for the issue of invitation for bids and the evaluation of tenders
ARTICLE 4:	The MPW&C shall participate in all statutory site meetings and its comments shall duly be reflected in the minutes of the site meeting
ARTICLE 5:	The MPW&C will visit the site at any time and as often as it deems necessary during the construction and defects liability periods.
ARTICLE 6:	The MOA shall obtain the MPW&C's concurrence prior to the issue of any variation order
ARTICLE 7:	The MPW&C shall be indicate its satisfaction in the completed works by signing to this effect before the issue of the partial and final completion certificates to the contractor
ARTICLE 8:	The MPW&C shall by letter from its Permanent Secretary to the Permanent Secretary, MOA, take over the ownership of the Bridge after the issue of the final completion certificate to the contractor

THE REPRESENTATIVES OF THE MINISTRY OF AGRICULTURE AND THE MINISTRY OF PUBLIC WORKS AND COMMUNICATION HEREBY AGREE TO THIS MOU

FOR THE MINISTRY OF AGRICULTURE

Dr. Dindyal Permaul Permanent Secretary

1

SIGNATURE 2216107

DATE

FOR THE MINISTRY OF PUBLIC WORKS AND COMMUNICATION Mr. Balraj Balram Permanent Secretary

2.36 CLOS CONTRACTOR le sal

SIGNATURE 22/81.3

DATE

WITNESSES: Joslyn Mikenzie

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NAME

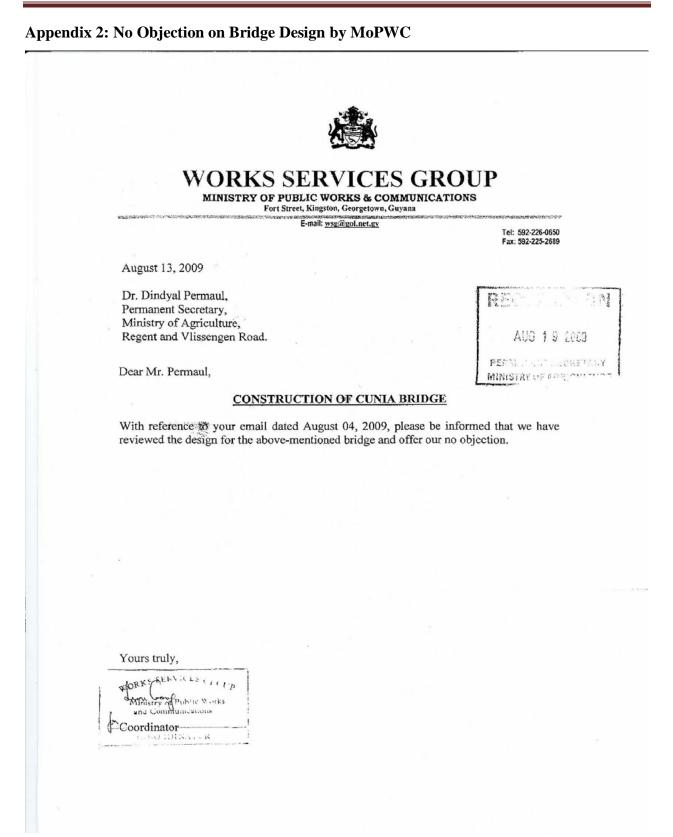
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DATE



Appendix 3: Part VI Construction, Acquisition and Maintenance of Works

PART VI

CONSTRUCTION, ACQUISITION AND MAINTENANCE OF WORKS

Construction of new works.

25. (1) Where it appears to the Authority to be necessary or expedient that any new works be constructed to improve the drainage and irrigation within any area, the Authority shall cause a plan and specification of such work, together with an estimate of the cost thereof, to be prepared.

(2) All documents referred to in subsection (1) shall be available for inspection by members of the public during normal working hours, for a period of fifteen days from the date upon which they were made available.

(3) Any person or body or local government organ that is likely to be affected by such work, may, within the aforesaid period of fifteen days, address a letter of protest which shall state the grounds on which the objection is based.

(4) Upon the expiration of the period of inspection, the documents referred to in subsection (1) shall be submitted to the Minister for approval.

(5) The Minister may, after taking into account public comments regarding the construction, approve or amend the construction of the new work.

(6) If the Minister approves the construction of the new work he may, by order, direct the Authority to construct the said work and notice of such decision shall be published in the Gazette and at least one daily newspaper.

(7) If the Minister for any reason considers it inexpedient that the works be constructed, the Authority shall he so informed and notice of such decision shall be published in a daily newspaper.

(8) Where the Minister approves the construction of the new work, the Authority shall, within thirty days, deposit the documents with the Registrar of Deeds duly authenticated by the signature of the Chief Executive Officer of the Authority and the Registrar of Deeds shall file the same as of records in the Deeds Registry.

(9) With effect from the time any plan referred to in subsection (8) is deposited with the Registrar of Deeds, all lands wherein or whereon (together with the adjoining areas mentioned in section 26), any works marked or delineated upon such plan are to be constructed shall become (together with the adjoining areas mentioned in section 26) the property of the Authority and shall be subject to the payment of drainage and irrigation rates.

26. (1) Save as provided by section 13(2) of the Railways Purchase Ordinance and by section 12(1) of the Sea Defence Act, and subject to subsection (2), all lands within twelve feet of the toe of any dam or within a like distance of any part of any work, power house or watch house marked or delineated on any deposited plan, and being the property of the Authority shall, with effect from the time such plan is deposited with the Registrar of Deeds, vest in the Authority free from encumbrance and shall be the property of the Authority.

(2) Where a fence is adjacent to a work (other than a fence) the distance of twelve feet referred to in subsection (1) shall be measured from the work:

Provided that where, at the commencement of this subsection the distance between a work (other than a fence) and an adjacent fence is greater than twelve feet, the land between the work and the fence shall nevertheless continue to vest in the Authority and shall continue to be the property of the Authority. Certain lands adjacent to works to vest in Authority. Cap. 262 1953 Ed. Cap. 64:02

Erection of fences. 27. After the commencement of this Act no fence shall be erected at a distance greater than twelve feet from an adjacent work other than a fence). Right to enter 28. (1) Where any plan is deposited with the Registrar of Deeds under section 25, opposition to apply to any person who would have a right to oppose if transport of the land referred to compensation only in section 25 were about to be passed by the owner thereof shall have the same right to enter opposition to the registration but opposition shall be deemed to apply only to the payment of the compensation to the parties interested. (2) When the matters alleged in the opposition are disputed by any of the persons claiming the compensation or any part thereof, the person so claiming may enter a defence to the opposition and thereafter the proceedings shall continue as in ordinary opposition suits; and the court shall have full power to make any order in relation to the opposition suit both as to granting time or otherwise appearing to the court to be necessary in order to have the questions at issue between the parties determined. 29. (1) When the Authority has deposited the plan for the construction of new Powers of Authority works with the Registrar of Deeds, the directors and the employees or agents of the Authority, together with such animals, vehicles and boats as may reasonably be required, shall be entitled at all times to enter upon and pass over any part of such area for the purpose of constructing the works authorised in respect of the area described in the plan. (2) For the purposes of the construction of any work the Authority may take and remove earth or other materials from any where: Provided that earth or materials shall not be taken from any cultivated land or cultivated pasture or from any improved land if obtainable elsewhere in the nearby area and such activity is in compliance with the requirements of section No.11 of 1996. 11 of the Environmental Protection Act 1996. Special powers 30. (1) If at any time it appears to the Authority that there is an imminent danger of the lands, or any part of the lands, within any area being flooded, the Authority shall forthwith report that fact to the Minister. (2) The Minister may, in considering the report made under the preceding subsection, direct the Authority to take such action or construct or erect such works as may in the opinion of the Authority be necessary to avert the threatened flood or to mitigate the results should such flooding occur. (3) For the purposes of complying with the order made under this section, directors and employees of the Authority, together with animals, vehicles and boats may enter, or be taken upon any land to dig any trench, drain or canal

> (4) As soon as conveniently possible after the completion of any work constructed or erected under this section, the Authority shall cause plans to be prepared in respect of any lands upon which such work has been conducted and shall submit the said plans to the Minister.

therein and may construct or erect any work thereon.

in connection with construction of works

in case of threatened flood (5) Upon receipt of any plan submitted under subsection (4), the Minister may, by order, direct that the lands marked or delineated on the said plan shall vest in the Authority.

(6) The Authority shall forthwith deposit with the Registrar of Deeds a copy of such plan duly authenticated by the Chief Executive Officer and the Registrar shall file the same as of record in the Deeds Registry and shall make such annotations on the record as may be necessary.

(7) With effect from the time any such plan is deposited with the Registrar of Deeds under subsection (6) all lands wherein or whereon any works marked or delineated upon such plan are constructed together with the adjoining areas referred to in section 26 shall forthwith vest in the Authority and shall be the property of the Authority.

31. (1) Where the Authority considers it desirable that any work not constructed and maintained by the Authority shall vest in and shall become the property of the Authority on the ground that such work is required by the Authority for the purposes of drainage and irrigation, the Authority shall cause plans to be prepared on which such work is marked or delineated.

(2) The Authority shall cause one copy of the plan to be deposited in the office of the concerned regional democratic council.

(3) Section 26 shall *mutatis mutandis* apply to procedure under this section.

(4) If the Minister approves that the work shall vest in and become the property of the Authority, he may by order direct that the work shall vest in and become the property of the Authority free from encumbrance.

(5) If the Minister for any reason considers it expedient that the work shall vest in and become the property of the Authority, the Authority shall be so informed.

32. (1) The Authority shall cause plans to be prepared on which are marked or delineated all drainage and irrigation works which have been constructed, reconstructed or maintained out of rates collected under the Drainage and Irrigation Act or out of moneys provided by Parliament.

(2) One copy of each plan shall be authenticated by the signature of the Chief Executive Officer and shall be deposited with the Registrar of Deeds who shall file the same as of record in the Deeds Registry and shall make such annotations on the records as may be necessary.

(3) With effect from the time any such plan is deposited with the Registrar of Deeds in accordance with this section the land whereon and wherein all works marked or delineated on such plan are constructed together with the adjoining areas referred in section 26 shall forthwith vest in the Authority free from encumbrance and shall be the property of the Authority.

Power of Authority to remove and rebuild or alter certain works. **33**. If in the opinion of the Authority it is reasonably necessary for the efficient construction or operation of any work that any bridge, culvert, koker, sluice, aqueduct or weir (not being the property of the Authority) be removed or altered, the Authority may remove and rebuild, or alter, as the case may be, any such structure.

Acquisition of works.

Existing works to

vest in the

Authority.

Cap. 64:02.

Appendix 4: No Objection by BCL on Canal realignment



March 18, 2010

Dr. Dindyal Permaul, Permanent Secretary Ministry of Agriculture Regent and Vlissengen Road Georgetown

Reference: No Objection for Rehabilitation of the Cunha Canal

Dear Dr. Permaul,

With reference to the subject at caption, we hereby inform you that we have reviewed the plans for the rehabilitation of the Cunha Canal and therefore issue our No Objection to the proposed alignment for the Canal which we recognize as pivotal for the drainage of the East Demerara Water Conservancy (EDWC).

We are cognizant that this would involve the relocation of infrastructures inclusive of a building. This will be facilitated by the Ministry of Agriculture and our Company. We are confident that there will be no serious disruption to our operations once properly coordinated.

Therefore, our Company commits to cooperate with your Ministry to ensure an efficient project implementation.

All for your information and guidance.

Best regards,

Peter Ho

CEO

"Concern for People, Environment & Quality"

Appendix 5: Record of Consultations

First Meeting/Consultation/Visit - Agricultural Sector Dev	/elopment Unit (ASDU)
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Date:	November 23, 2009
Representatives:	EMC Mr. Khalid Alladin – Projects Manager ASDU Mr. Joslyn McKenzie – Project Coordinator Mr. Frederick Flatts – Project Engineer
Venue:	ASDU Office, Ministry of Agriculture Building
Objectives:	The objective of this first meeting/consultation was for EMC to gain an in-depth understanding of the project and collect any available background data.
Discussions:	The meeting commenced at 13:30 hrs and the EMC representative outlined the purpose of the meeting. After this the representatives from ASDU proceeded to provide a background to the project and the details regarding the activities to be undertaken. Several pieces of information were provided by ASDU to EMC at this meeting. These include:
	 A Project Document Designs for the Bridge and Sluice Cross Sections of the Canal No Objection Letter from Ministry of Public Works and Communications regarding the construction of the bridge No Objection Letter from Barama Company Limited (BCL) regarding the realignment of the Canal through their property
	At the meeting it was indicated to ASDU that a site visit was necessary to gather a full understanding of the project. ASDU agreed to organize an initial site visit for November 26, 2009.
Next Steps:	ASDU to organize initial site visit to the project area.

Second Meeting/Consultation/Visit - ASDU and National Drainage and Irrigation Authority (NDIA)

Date:	November 26, 2009
Representatives:	EMC Mr. Khalid Alladin – Projects Manager
	ASDU Mr. Joslyn McKenzie – Project Coordinator Mr. Frederick Flatts – Project Engineer
	NDIA Mr. Lionel Wordsworth – Chief Executive Officer

Venue:	Project area – Land of Canaan		
Objectives:	The objective of this initial visit was for EMC to have an understanding of how the project fits on the ground and to determine potential impacts and areas that would be affected.		
Discussions:	 The visit commenced at 13:00 hrs and was concentrated on the main area to be influenced/affected by the project activities. On the site the ASDU and NDIA personnel provided: A general overview of the function and alignment of the existing canal. The following areas were also visit. The diverted canal – This diversion runs parallel along the East Bank Demerara Public Road and is cleared of vegetation. The current sluice – This sluice is located between Sara Johanna and Land of Canaan and serves to control the discharge of water from the Canal as well as prevents water from the Demerara River entering the Canal. It was indicated that this sluice is not fully operational. The current discharge channel to the Demerara River. This channel was very narrow, there were encroachment on both sides and it was clogged with vegetation. A general overview of the proposed project and the activities to be undertaken. The following areas were also visited: The site for the construction of the bridge on the Land of Canaan Public Road - At this site the areas for stockpiling of construction materials and waste were identified. The area for the construction of the temporary bypass for vehicular traffic was also identified. The old canal alignment between the Public Road and the BCL Compound – This old alignment will be rehabilitated to facilitate the re-routing of the Canal. The current situation of the canal was observed, especially regarding the presence of vegetation which will have to be removed. It was also determined that a fence on the southern boundary of BCL Compound running parallel to this alignment will be rehabilitated to serve as the control sluice for the Canal. The condition of the sluice was observed. It was pointed out that the structure of the sluice was observed. It was pointed out that the structure of the sluice was observed. It was pointed out that the structure of the sluice was observed. It was pointed out that the structur		
Next Steps:	ASDU to organize visits within BCL Compound and along the alignment of the Canal.		

Date:	December 15, 2009
Representatives:	EMC Mr. Khalid Alladin – Projects Manager ASDU Mr. Frederick Flatts – Project Engineer NDC Mr. Dwarka Nauth – Chairman Mr. Ragunandan Singh – Overseer Mr. Thomas Munroe - Councillor
Venue:	NDC Office, Craig, East Bank Demerara
Objectives:	The objective of this meeting was to solicit the views and concerns of the NDC regarding the Project since the Project is located within this NDC District and may have implications for Drainage and Flooding.
Discussions:	The meeting commenced at 15:30 hrs and a background of the Project was presented by the ASDU to the NDC. The EMC representative then outlined the purpose of the meeting indicated that EMC would like to have an indication of the concerns of the NDC regarding the Project so that these concerns can be addressed in the Environmental Assessment currently being conducted. The NDC indicated that they are aware of the Project and was previously consulted in the planning stage. They have also indicated that they are very supportive of the project since it would allow for the realignment of the Cunha Canal. The NDC indicated that it was against the diversion of the Canal in the first place since there was a possibility that the flow of water will be affected. The NDC is also of the view that a significant amount of water can be drained from the East Demerara Water Conservancy through the East Bank area. However, for this to be possible, some work will have to be done within the Conservancy to allow more water to flow to that section. The NDC indicated that they do not foresee any long term potential impacts of the project on the environment, but some impacts would occur during the construction phase and these should be mitigated.
Next Steps:	The NDC has indicated that it will send a correspondence to ASDU indicating its support for the Project. ASDU has agreed to share a copy of the letter with EMC.

Sixth Meeting/Consultation/Visit - Caledonia - Good Success Neighbourhood Democratic Council (NDC)

Seventh Meeting/Consultation/Visit – BCL

Date:	January 28, 2010
Representatives:	EMC Mr. Khalid Alladin – Projects Manager
	ASDU

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	Mr. Joslyn McKenzie – Project Coordinator Mr. Frederick Flatts – Project Engineer
	NDIA Mr. Kelvin Thorn – Engineer Mr. O Chandan – Corporate Secretary
	Barama Company Limited Mr. Mahendra Budhram – Assistant Forest Planning Manager Mr. Shameer Ali – Engineer
Venue:	BCL Boardroom - Land of Canaan
Objectives:	The objective of meeting/visit was to present the proposed alignment of the canal, including the areas within BCL Operation which would be affected.
Discussions:	The meeting commenced at 14:30 hrs in the Boardroom of the Company. The objective of the meeting was outlined by the ASDU who also presented a map to the Company outlined the alignment of the Canal and the structures that would be affected.
	It was indicated that the main building to be affected would be the Secondary Processing Shed. This is a large shed that house several pieces of equipment. Other areas to be affected include a fence on the southern boundary of the compound, a guard hut and a generator shed. Two (2) bridges that link the Company's log pond with the rest of the operation will also be affected.
	After this presentation, the Company queried whether a diversion of the Canal after the sluice to avoid the Secondary Processing Shed was considered. ASDU responded by indicating that this option was considered, but not agreed upon for the following reasons:
	 The diversion would result in a loss of energy since the water would have to flow through a sluice then a turn. Since there will be a heavy flow of water during the rainy season there is the possibility of erosion at the turn, especially since the material in that area is loose, consisting mainly of wood waste. A diversion will still pass through the Company's log pond, thus disrupting operations.
	 Given the above response BCL outlined the following concerns. The Secondary Processing Shed is an integral part of the Company's operation, housing several pieces of equipment. Relocation of this shed would be costly, since a new shed will have to be constructed and all the equipment relocated. The Company supplies external markets with products from this operation. The relocation activities will disrupt this operation, resulting in downtime and affecting the Company's ability to fulfill its market. The disruption will also result in a loss of revenue to the Company during the relocation period. A number of employees will be affected by this disruption. The Company indicated that it will have to continue paying a salary to
	these workers during the period of disruption.The Company requested that the metal bridge over the existing

	 Canal be maintained since it is in good condition, and also, the removal of both bridges will severely affect the Company's operation. It should be noted that after the meeting the bridge was visited and examined to determine a way forward. Measurements were also taken. Further analysis of this is required. The Company indicated that it can handle the other areas to be affected and the relocation activities. In this regard the Company requested: Some more time to study the proposed canal effects on its operation and to discuss with senior officials of the Company. Some form of compensations/assistance be provided by the Government to assist with the relocation and disruption. Given this request, the meeting agreed that: An official response be submitted by the Company to the Ministry of Agriculture by February 01, 2010. The response would outline the estimated cost for relocation and disruption of activities.
Next Steps:	BCL to submit official response to the Ministry of Agriculture by February 01, 2010.

A meeting was held on the 27th February 2012, at Barama Company Limited boardroom at land of Canaan were the following parties were present:

- Mohindra Chand Head, Corporate Affairs and Forest Planning (Barama Company Limited)
- Shameer Ali Manager Project and Safety department (Barama Company Limited)
- Feddy Flatts Senior Engineer Agriculture Development Sector Unit (Ministry of Agriculture)
- Kelvin Thorne -Engineer Agriculture Development Sector Unit (Ministry of Agriculture)
- Dave Hicks Senior Engineer National Drainage and Irrigation Authority (Ministry of Agriculture)
- Rafael Gravesande Junior Engineer National Drainage and Irrigation Authority (Ministry of Agriculture)

From the meeting both parties discuss the possible rehabilitation of the Cunha Relief channel and the effects it would have on the company. From the discussions three (3) viable options were examined:

- 1. Existing Alignment utilizing the existing structure which would be rehabilitated.
- 2. Existing Alignment with a new structure closer to the Demerara River.
- 3. A New Alignment with a new structure.

CRAIG/CALEDONIA NEIGHBOURHOOD DEMOCRATIC COUNCIL (NDC)

MEETING

JANUARY 29, 2014

CUNHA CANAL REHABILITATION PROJECT CONSULTATIONS

Participants:

Neighbourhood Democratic Council (NDC) Dwarka Nauth (Chairman) D. Hamilton-Gossai (Councillor) Claudette Foo (Councillor) Desmond Morian (Councillor) Somra Mangra (Councillor) Rodwell Gaskin (Councillor) Allan Charles (Councillor) Thomas Munroe (Councillor)

Agriculture Sector Development Unit (ASDU), Ministry of Agriculture Freddy Flatts (Engineer) Khemlall Alvin (Engineer)

National Drainage and Irrigation Authority (NDIA) Raphael Gravesande (Engineer)

The World Bank (WB) Isabella Bovolo

Introduction

- The NDC Chairman opened the meeting and explained that the Craig- Caledonia NDC is responsible for the area west of the conservancy (covering the Kofi, Land of Canaan and Cunha drainage channels, termed East Bank Demerara).
- ASDU explained that the aim of the meeting was to inform the NDC about the planned rehabilitation works on the Cunha Canal and to give participants a chance to comment on the proposed activities.
- ASDU explained that water levels across the EDWC vary and were generally lower on the western side of the conservancy due to the increased drainage from the Cunha, Land of Canaan and Kofi relief channels. The new Hope-Dochfour canal will help drain the northern and eastern sides better.
- A comment was made that the Kofi canal, previously managed by GuySuCo and rehabilitated after the 2005 floods, helped to drain the local farm lands as well as drain water from the conservancy. Farmers are still reliant on the channel to provide local

farm-land drainage, and farmers use the canal for navigation. NDIA explained that two drainage outlets will be constructed for the farmland drainage; the first of these structures has been included in the proposed budget for 2014.

Animation on operation of EDWC

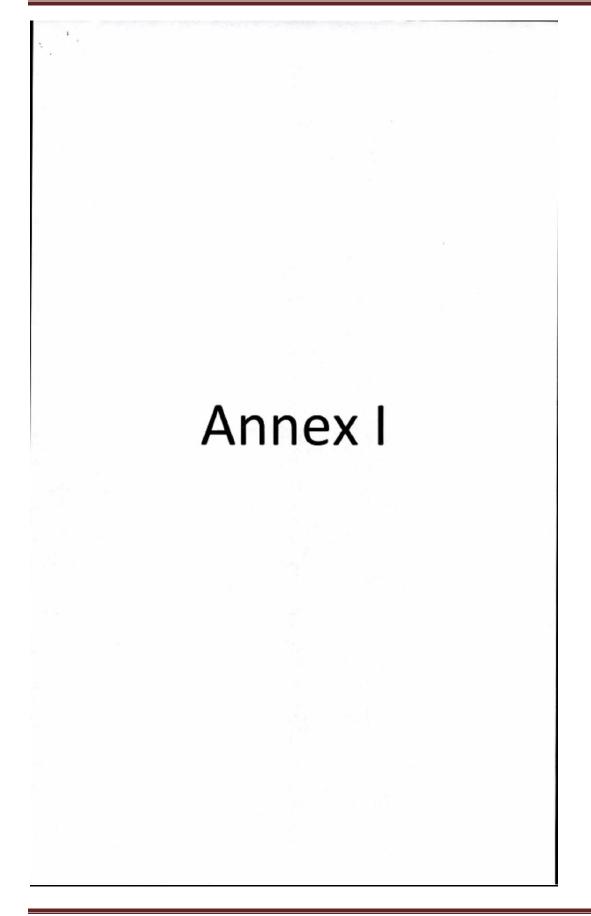
- A 5-minute animation was presented on the operation of the EDWC
- Mr. Flatts extended an invitation to the members of the NDC to visit the Conservancy, which was accepted.

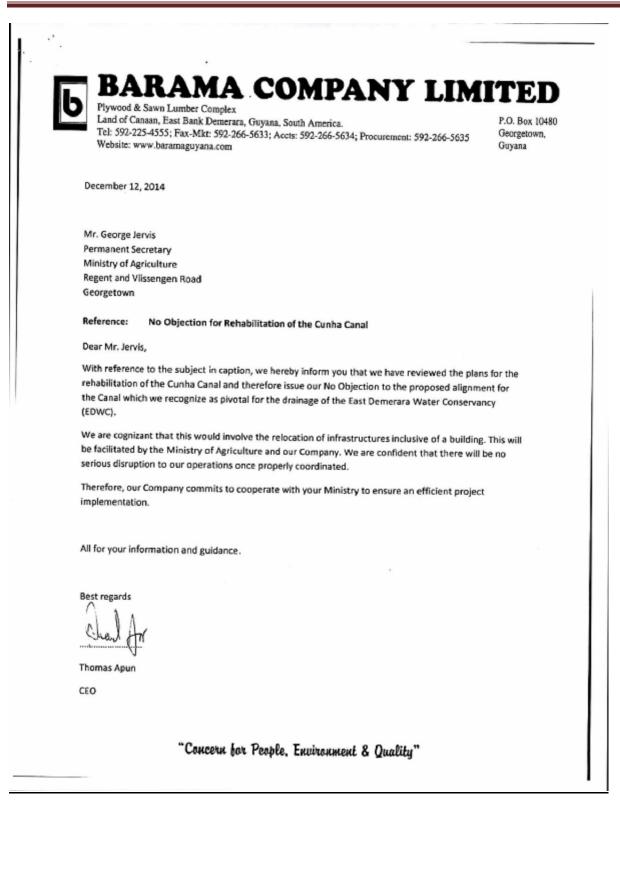
Brief Presentation on Conservancy Adaptation Project (CAP) results and new Disaster Risk Management Project (DRM)

- The WB briefly presented the results of the CAP and the new DRM project. The MoA is responsible for the DRM and Cunha Canal projects.
- A question was raised regarding maintenance of the EDWC dam in extreme wet and dry periods. ASDU explained that cracks and seepage will occur in the pegasse sections of dam during extreme droughts but that regular maintenance is continuously carried out on the dam to minimise problems. Fires in the pegasse could also cause a problem in dry season. Heavy-duty equipment has been purchased and is available for use in the Conservancy to deal with emergencies. During dry season, water can be pumped from the Mahaica Creek into the conservancy but only if water levels are not so low to cause saline intrusion.
- It was clarified that currently three new pump stations are being considered under the DRM project for the East Coast Demerara, not the East Bank Demerara.
- Local drainage in the East Bank Demerara is managed by the NDC with occasional assistance from NDIA. This includes monitoring of the sluice-attendants. Requests for clearing the canals need to be brought up at the RDC level.
- Proposed dam upgrade designs were discussed.

Presentation on Construction/Rehabilitation works on Cunha Relief System

- NDIA briefly presented the planned rehabilitation works on the Cunha Canal which included straightening the Canal through the Barama Company Ltd (BCL) compound, necessitating negotiations regarding compensation which are planned for this week. It was clarified that only BCL would be disrupted by the proposed works which include:





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