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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

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REPORT AND RECOMMENDATION

OF THE

PRESIDENT

TO THE

EXECUTIVE DIRECTORS

ON A

PROPOSED LOAN

TO

GUYANA

FOR A

SECOND SEA DEFENSE PROJECT

June 2, 1971

CURRENCY

Guyanese Dollars (GS)

US\$1 = G\$2

G\$1 = US\$0.50

G\$1,000,000 = US\$500,000

WEIGHTS AND MEASURES (British System)

1 inch (in)	= 25.4 millimeters (mm)
12 in	= 1 foot (ft)
5,280 ft	= 1 mile (mi)
	= 1.609 kilometer (km)
1 acre (ac)	= 43,560 sq ft
	= 0.405 hectares (ha)
1 sq mile	= 640 ac
	= 2.590 sq km
	= 258.99 ha
1 long ton (ton)	= 2,240 pounds (lb)
	= 1.016 metric tons (m ton)

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

REPORT AND RECOMMENDATION OF THE PRESIDENT  
TO THE EXECUTIVE DIRECTORS ON A PROPOSED  
LOAN TO GUYANA FOR SECOND SEA DEFENSE PROJECT

1. I submit the following report and recommendation on a proposed loan in an amount in various currencies equivalent to \$5.4 million to the Government of Guyana. The loan would finance the foreign exchange component of a sea defense project designed to protect Georgetown, the capital of Guyana, and of ancillary expenses related to sea defenses in Guyana which have been financed under a previous Bank loan. The loan would be repayable over 25 years, including a 5-year grace period, with interest at  $7\frac{1}{4}$  percent.
2. The status of previous loans to Guyana is summarized in Annex I. An economic report on Guyana (CA-4a) was distributed to the Executive Directors on October 1, 1970. An appraisal report on the proposed project (PS-7a) is being distributed separately. Country and project data sheets are attached hereto as Annexes II and III.

PART I - COUNTRY CONSIDERATIONS

3. The proposed loan would be the second sea defense loan for Guyana. The first sea defense loan, made in 1968, was the Bank's first lending operation in recently independent (1966) Guyana. The Bank had made a loan for agricultural credit in 1961 in the amount of \$0.9 million (net of cancellation) to the former colony of British Guiana, with the guarantee of the United Kingdom. This loan has been repaid in full. Since independence, Bank loans and IDA credits to Guyana have totalled \$7.9 million and \$5.1 million, of which \$6.9 million and \$4.6 million, respectively, remain undisbursed. Almost one-half of the loans/credits extended have been for an education project, about two-fifths for sea defenses and the remainder for livestock credit. After some initial delays progress on the education and sea defense projects has been generally satisfactory. The IDA credit granted in December 1970 for a livestock project is not yet effective. However, action has been taken on most of the outstanding matters, including appointment of a livestock director, and the credit is expected to become effective shortly.
4. Guyana experienced a period of social and political instability prior to independence, and there were severe civil disturbances in 1962 and 1964. The underlying cause of social tension was the antagonism between Guyanese of African and those of Indian descent. A greater measure of stability has been achieved in the last few years under the leadership of Prime Minister Forbes Burnham, head of the People's National Congress Party. Early last year Guyana proclaimed



itself a Cooperative Republic, and progress was made during 1970 towards settlement of the boundary disputes with two of Guyana's neighbor countries: an agreement was signed with Surinam for renewed economic cooperation, and arrangements were made with Venezuela for a twelve-year moratorium on territorial claims.

5. The last economic report concluded that in spite of Guyana's narrow productive base - mainly bauxite, sugar and rice - the country's overall economic performance in the past five years had been satisfactory. Real output has grown at an annual average of about 4.5 percent since 1965 - or about 2 percent in per capita terms - with growth being concentrated in mining and sugar while rice production declined. At the same time, the 14 percent rate of unemployment estimated for 1965 appears to have been reduced to about 12 percent. This growth performance was achieved with the help of a high level of investment in mining and the steady growth of public capital formation, of which about one-third was financed out of public savings - reflecting a strong fiscal effort with an average ratio of taxes to GDP of 19 percent. The volume of external assistance also rose sharply, with a shift from grants to loans on concessionary terms.

6. In 1970 the Government called for the preparation of a new social and economic development plan for the 1970's setting as principal objectives: (a) full employment by the early 1980's; (b) some major changes in the system of economic organization and ownership, including government equity participation of 51 percent in enterprises exploiting natural resources, and government-supported cooperatives playing an important role in economic development; and (c) hinterland development to exploit resources in the interior, mainly through agricultural settlements which are to be encouraged with settlers coming from the coast and from overcrowded Caribbean islands. A long-range development plan (1972-85) is now under preparation and scheduled for completion later this year.

7. Considering the relatively large amount of external assistance available, the economic report suggested a public investment program which was consistent with the Government's strategy, except that it accorded lower priority to hinterland development. This investment program envisaged expansion and modernization of the basic infrastructure in those sectors with the greatest productive or cost-saving potential (agriculture, including sea defenses, fishing, power, communications and air transport) together with increased investments in education, health, sanitation and housing. The program rested on two assumptions. First, a sharp upward shift in the level of public sector savings was expected to result from new tax measures introduced in 1970 and the establishment of a national insurance system. Second, improvements would be carried out in public administration to make use of all the project assistance likely to be made available by bilateral and multilateral aid agencies.



8. In recent months the political and economic scene has been overshadowed by the Government's decision to nationalize the Demerara Bauxite Co. Ltd. (DEMBA), the largest bauxite mining company in Guyana, a wholly owned subsidiary of the Aluminum Company of Canada, Ltd. (ALCAN). The Government started negotiations with DEMBA at the end of 1970 with a view to obtaining at least 51 percent of the equity of the company through the purchase of shares out of future profits. On Cooperative Republic Day, February 23, Prime Minister Burnham announced that, as the negotiations had not reached a successful conclusion, the Government would nationalize DEMBA "with reasonable compensation". Legislation was presented to Parliament relating to any bauxite "undertaking" in the country which set forth the following: if the Government entered into negotiations with a company to achieve government participation "on just and equitable terms" and these broke down, the Minister of Mines would have the option to certify the breakdown of said negotiations, at which point ownership would automatically vest in the Government; the Government would then pay compensation. The Parliament approved the legislation virtually unanimously; for the first time since independence, the two main political parties were in accord on a major policy issue.

9. The Government is presently negotiating with ALCAN regarding the terms of the nationalization, with particular attention to the compensation arrangements and future sales to ALCAN. It has indicated that, following completion of its negotiations with ALCAN, it will try to reach agreement with the other bauxite producer in Guyana, Reynolds Aluminum Company, on a majority participation by the Government in the local Reynolds enterprise.

10. With the negotiations between the Government and ALCAN still going on, it is impossible to judge what effect nationalization of the company might have on Guyana's economy. In 1970, production of bauxite and alumina contributed 46 percent of Guyana's earnings from exports of goods and non-factor services and 19 percent of its GDP. During this period DEMBA was responsible for 75 percent of the bauxite and 100 percent of the alumina production. The gross value of DEMBA's sales abroad was US\$62 million. With the exception of calcined bauxite, all of which is exported to Western Europe, all bauxite and alumina exports go to North America. If this market were to be lost, Guyana would have to seek alternative outlets. There is the further question of how far the Government will be able to fulfill its expectations that it can handle the technical and managerial aspects of bauxite production. The possible effects of nationalization on other foreign investments in Guyana have also to be considered. The country's future economic development, and consequently its creditworthiness, must depend to an important extent on the further exploitation of its mineral and forest resources, for which foreign partners will be needed to provide assistance in production



and marketing. If this exploitation does not take place, the rate of economic growth is likely to fall below the 5 percent a year assumed in the economic report, since the prospects for Guyana's two staple crops, sugar and rice, are not particularly promising.

11. The flow of bilateral external assistance has not yet been interrupted by these developments, and Canada recently signed a C\$2.3 million loan for a water supply project. Meanwhile, preparations for new projects and programs are continuing. Assistance from bilateral sources is provided by the United States (at a level of authorization of close to US\$10 million a year), by the United Kingdom (about US\$5 million) and by Canada (about US\$4 million). U.S. assistance is concentrated on the agricultural sector (mainly to improve rice production), certain roads and water supply; the U.K. has helped in financing sea defenses and certain social services; CIDA has concentrated its capital assistance efforts mainly on air transportation. Considerable technical assistance is provided by all the three countries, as well as by the UNDP and Germany. Guyana organized meetings of an Aid Coordination Group in 1967, 1968 and 1969, and is planning another meeting in early 1972 after completion of the new development plan. Coordination between the Government, the bilateral aid donors, UNDP and the Bank Group has been satisfactory.

12. The Bank has discussed with the Government of Guyana possible Bank/IDA operations in selected priority fields where significant institution building is involved or where bilateral lenders have not shown an interest in participating on their own. The sea defense program had not attracted financing from bilateral sources until the Bank helped to work out a project for the first phase, in which the United Kingdom is now also participating. The second project, now under consideration, is likely in due course to be followed by a third. In addition, preparatory work is proceeding on power and highway projects, and the possibility of a fisheries credit project is being investigated with the help of the FAO/IBRD Cooperative Program.

13. Guyana's creditworthiness for borrowing on conventional terms is severely limited by its narrow resource base and weak balance of payments, which is heavily dependent on the continuance of official aid. However, external public debt service is quite low (less than 4 percent of export earnings net of foreign companies' profits), and most of the aid which Guyana receives from bilateral sources is on highly concessional terms. I consider, therefore, that Guyana is creditworthy for the loan now under consideration. However before recommending any further Bank lending, I shall review the economic situation very carefully in the light of developments in the bauxite sector. An economic mission will visit Guyana when the outcome of the Government's negotiations with ALCAN can be better evaluated.



PART II - THE PROJECT

14. In 1968 the Bank assisted Guyana in financing the works for the first sea defense project (Loan 559-GUA), which included the economic and engineering feasibility study for the proposed second sea defense project. Both the ongoing and the proposed projects are part of the first phase of a Twelve-Year Sea Defense Program for the period 1968-79 designed to protect coastal areas below sea level against cyclical and local erosion, as well as from total inundation. The Georgetown area and adjacent coast are subject to an erosion phenomenon which, although its causes are not fully known, has been extensively studied. Hydrographic investigation and historical data indicate that this area is about to be affected by an active erosion cycle which is expected to start sometime after 1973, last for approximately thirteen years and to cause a number of breaches in the present sea defense structures. The proposed project would upgrade these structures to provide flood protection for an area of about 2.5 square miles where Guyana's main institutional and administrative centers as well as important residential communities and public utilities installations are located.

15. Some delay was experienced in the execution of the works under the first sea defense loan in connection with selection of consultants and invitation of bids from contractors. Construction was begun in June 1970 and is progressing satisfactorily according to a modified schedule of construction which was made necessary by unusually heavy erosion. As of May 1971, 22 percent of the funds provided under the loan had been disbursed.

16. Netherlands Engineering Consultants (NEDECO) completed the feasibility study for the proposed project in September 1970. The proposed project consists of the following elements: (a) the rehabilitation of 6,830 feet of existing sea defense structures and the construction of 1,570 feet of new sea defense structures protecting Georgetown, (b) the construction of a diversion road, (c) the rehabilitation of eight drainage outfalls including sluice gates, (d) the procurement of two tugs and nine pontoons to transport stone, (e) the construction of a slipway to service the floating craft, (f) the purchase of steel sheet piles and equipment for use under the Sea Defense Program, and (g) consultant services for detailed engineering, preparation of tender documents, and construction supervision. Two maps of the project site and the country are attached as Annexes IV and V. The diversion road has been included in the project as part of the preparatory works necessary to facilitate construction and also to provide an alternate route to the major road along the Georgetown seawall which will have to be closed during construction. New floating craft will probably not be available until the latter part of the construction period, estimated to be about 24 months, and craft may be leased in the interim to expedite construction. The cost of rental would be eligible for Bank financing under the terms of the Loan Agreement. The floating craft comprise an integral part of the project as they are essential for the implementation of the works remaining under the Twelve-Year Sea Defense Program. The eight drainage outfalls included in



the project were originally included in the first sea defense project, but were deleted from the first project in agreement with Guyana because new designs had to be prepared for them as a result of severe erosion in the project area and because of shortage of funds.

17. Total cost of the project is estimated at \$6.8 million. The proposed loan of \$5.4 million would finance the entire foreign exchange component of the project, estimated at \$5.0 million, and interest and other charges on the loan during construction (\$0.4 million). In addition to financing the local cost component, estimated at \$1.8 million equivalent, the Government would provide the necessary funds to meet the project's recurrent costs.

18. The project is designed to protect Georgetown against cycles of severe sea erosion activity which pose the threat of periodic and extensive damage to property and the disruption of business activity, and consequently the retardation of economic development. The estimated internal economic rate of return of the investment over the 32-year life of the project, on the basis of simplified but conservative assumptions, is over 30 percent and the benefit-cost ratio, based on a discount rate of 10 percent, is calculated at 3.8:1.

19. With the exception of stone and sand, construction materials for the proposed sea defense structures (cement, asphalt, steel sheet piles and polypropylene sheets) would be imported. Stone is available domestically from public as well as private quarries. Arrangements exist which would assure a continuous supply of stone for the proposed project. The same consultants who prepared the preliminary engineering (NEDECO) have been appointed to perform the detailed engineering, preparation of tender documents and construction supervision of the Georgetown sea defense works. Sir William Halcrow and Partners (U.K.) have been retained for similar consulting services relating to the eight drainage outfalls. The consultants will undertake the training of Guyanese counterparts. These appointments will ensure a timely start of the works. The tugs and pontoons would be procured through international competitive bidding. Local manufacturers of floating craft would be given a preferential margin of up to 15 percent or the actual duty, whichever is lower. Construction of the sea defense structures would be according to normal Bank practice for the awarding of civil works contracts; construction of the small diversion road would be by force account.

### PART III - LEGAL INSTRUMENTS AND AUTHORITY

20. The draft Loan Agreement between Guyana and the Bank, the Report of the Committee provided for in Article III, Section 4(iii) of the Articles of Agreement, and the text of a resolution approving the proposed loan are being distributed to the Executive Directors separately. The provisions of the draft Loan Agreement conform substantially to the pattern of provisions generally found in Bank Loan Agreements.



21. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Bank.

PART IV - RECOMMENDATION

22. I recommend that the Executive Directors approve the proposed loan.

Robert S. McNamara  
President

Attachments



GUYANASUMMARY OF BANK LOANS AND IDA CREDITS AT APRIL 30, 1971

<u>No.</u>	<u>Year</u>	<u>Borrower</u>	<u>Purpose</u>	Amount (US\$ million)		
				<u>Bank</u>	<u>IDA</u>	<u>Undisbursed</u>
255-B6	1961	British Guiana	Agricultural Credit	0.9 <sup>1/</sup>		
559-GUA	1968	Guyana	Sea Defense I	5.0		4.0
583-GUA) 139-GUA)	1969	Guyana	Education	2.9	2.9	2.9 2.4
221-GUA	1970	Guyana	Livestock	—	2.2 <sup>2/</sup>	2.2
		Total (net of cancellations) Of which has been repaid to Bank and others		8.0 <u>0.9</u>	5.1 -	
		Total now outstanding		<u>7.9</u>	<u>5.1</u>	
		Amount sold: Of which has been repaid		0.0 <u>0.7</u>	- -	
		Total now held by Bank and IDA		<u>7.8</u>	<u>5.1</u>	<u>12.9</u>
		Total undisbursed		<u>6.9</u>	<u>4.6</u>	<u>11.5</u>

<sup>1/</sup> Net of cancellations since the loan was for US\$1.25 million. It was guaranteed by the United Kingdom.

<sup>2/</sup> Credit not yet effective.



GUYANA: COUNTRY DATA SHEET

Area and population

Area:	214,970 square kilometers
Population:	714,233 (1970)
Population density:	3 per square kilometer 133 per square kilometer of cultivated area

I. ECONOMIC INDICATORS

<u>GNP per capita (1970)</u>	US\$353
<u>Origin of GDP 1970</u>	(percent)
Agriculture	20.2
Mining, quarrying	19.9
Government	12.6
Manufacturing	11.7
Distribution	11.7
Other activities	23.7
<u>Ratios to GDP (1970)</u>	
Exports of goods and services	57.2
Imports of goods and services	65.5
Central government current revenues	24.0
Central government current expenditures	21.9
External public debt	45.7
(of which disbursed only)	26.9)
Gross domestic savings	13.3
Investment	21.4
Money and quasi-money	31.8

Annual changes in economic indicators

	<u>Average</u>		
	<u>1965-68</u>	<u>1969</u>	<u>1970</u>
	(percent)		
Real GDP	6.5	4.1	2.6
Real GDP per capita	3.7	1.6	0.1
GDP at current prices	8.5	9.9	6.0
Domestic expenditure (at current prices)	7.2	7.7	10.0
Investment	(6.3)	(2.3)	(10.2)
Consumption	(6.9)	(9.3)	(9.9)
Cost of living (national consumer price index)	2.7	1.4	3.4
Central government current revenue	9.9	7.6	20.8
Central government current expenditure	5.4	9.5	18.4
Central government capital expenditure	18.1	6.3	22.0



	Average <u>1965-68</u>	<u>1969</u>	<u>1970</u>
Money and quasi-money	9.6	9.1	5.3
Money	(7.7)	(7.3)	(0.5)
Quasi-money	(10.7)	(10.0)	(7.9)
Net domestic bank assets	17.8	25.0	16.1
Credit to public sector (net)	(20.5)	(34.0)	(14.7)
Credit to private sector	(22.9)	(19.3)	(20.3)
Merchandise exports (f.o.b.)	4.4	6.3	4.1
Merchandise imports (c.i.f.)	1.3	7.4	14.3
<u>Central government finances</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>
		(G\$ million)	
Current revenue	102.6	110.4	133.4
Current expenditures	90.9	99.5	117.8
Current account surplus	11.7	10.9	15.6
Capital expenditure	39.7	42.2	51.5
Overall surplus or deficit (-)	-20.4	-25.0	-32.0
External financing (net)	11.9	13.1	19.4
Internal financing (net)	9.3	14.3	18.4
Other	-0.8	-2.4	-5.0
<u>Balance of payments</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>
		(US\$ million)	
Merchandise exports (f.o.b.)	117.4	127.7	133.0
Commodity concentration (bauxite & alumina)		48 percent	
Merchandise imports (c.i.f.)	-110.0	-116.1	-134.9
Investment income (net)	-15.1	-17.6	-17.4
Other services (net)	-5.3	-4.6	-2.8
Current account balance	-13.0	-12.0	-22.1
Private capital (net)	9.1	4.2	11.0
Official capital (net)	6.0	6.6	10.1
Current transfers (net)	0.4	0.5	0.9
Allocation of SDRs	--	--	2.5
Errors and omissions	-6.3	-5.2	-4.7
Change in net reserves (increase-)	3.8	4.7	2.3
<u>External public debt</u>			
Total	84.3	113.9	122.9
of which undisbursed	27.2	46.1	45.4
Debt service	4.8	5.2	5.3
Debt service ratio (percent)	3.9	4.6	3.9
<u>Banking system reserve position</u>	26.5	21.3	18.5



IMF data (December 31, 1970)

Quota	US\$20 million
Cumulative drawings	none
Fund holdings of Guyana dollars <u>1/</u>	91 percent of
Allocation of SDRs	SDR 4.7 million
Holding of SDRs <u>1/</u>	SDR 2.2 million

<u>II. Social Indicators</u>		<u>1955</u>	<u>1960</u>	<u>1970</u>
Population growth rate	% p.a.	3.0 <sup>2/</sup>	2.7	2.5
Rate of natural increase	% p a.	3.2	3.3	2.9
Birth rate	per 1,000 popln.	42.5 <sup>3/</sup>	42.5	36.8
Death rate	per 1,000 popln.	9.2 <sup>3/</sup>	9.5	8.1
Life expectancy	years	n.a.	61	n.a.
Doctors	per 10,000 popln.	2.8	2.5	n.a.
Nurses	per 10,000 popln.	13.0	19.1	n.a.
Unemployment	%	12.5 <sup>3/</sup>		12.0-14.0 <sup>4/</sup>
Literacy rate	% adult popln.		83.0	
Primary school enrollment	%	84.0	85.0	90.0 <sup>5/</sup>
Secondary school enrollment <u>6/</u>	%	7.0	14.0	18.0 <sup>5/</sup>

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1/ March 22, 1971.

2/ 1957.

3/ 1956.

4/ 1969.

5/ 1967

6/ For 1955 and 1960 without enrollment in vocational schools.



LOAN AND PROJECT DATA SHEET

I. LOAN SUMMARY

Borrower: Guyana

Amount: US\$5.4 million equivalent. The proposed loan would cover the project's estimated foreign exchange component plus interest and commitment charges during construction.

Terms and Conditions: Payable in 25 years with 5 years of grace at 7 1/4 percent interest per annum.

Disbursement Period: 3 years, estimated at US\$200,000 the first year, US\$2,450,000 second, and US\$2,750,000 the third.

II. PROJECT DATA

Brief Description: The proposed project consists of the rehabilitation of 6,830 feet of existing sea defense structures and the construction of 1,570 feet of new structures, construction of a diversion road, construction of eight drainage outfalls, construction of a slipway, procurement of two tugs and nine pontoons, purchase of steel sheet piles and equipment, and consultant services for the detailed engineering and supervision of construction.

Estimated Cost:

<u>Component</u>	<u>(US\$ Thousands)</u>		
	<u>Local</u>	<u>Foreign</u>	<u>Total</u>
<u>Construction</u>			
Sea Defense Rehabilitation and Construction (total of 8,400 feet)	695	1,045	1,740
Diversion Road	64	126	210
Eight Drainage Outfalls	396	1,189	1,585
Engineering fees for sea defenses and eight outfalls	162	290	460
<u>Floating Craft (including Engineering)</u>			
Two tugboats (450 HP)	-	450	450
Three pontoons (500T capacity)	-	260	260
Six pontoons (250T capacity)	-	300	300



<u>Component</u>	(US\$ Thousands)		
	<u>Local</u>	<u>Foreign</u>	<u>Total</u>
<u>Slipway (including Engineering)</u>			
One 250T capacity repair	40	160	200
<u>Steel Sheet Piles and Equipment</u>			
Procurement of steel sheet piles and equipment	<u>--</u>	<u>180</u>	<u>180</u>
Sub-total	1,377	4,006	5,383
<u>Contingencies</u>			
Price	228	509	737
Physical	<u>182</u>	<u>479</u>	<u>661</u>
Total Project Cost	<u>1,787</u>	<u>4,986</u>	<u>6,783</u>

Financing: The proposed Bank loan would cover the foreign exchange cost of US\$5.0 million and US\$0.4 million for interest and commitment charges on the Bank loan during construction. The balance of US\$1.8 million in local currency will be provided by the Government of Guyana.

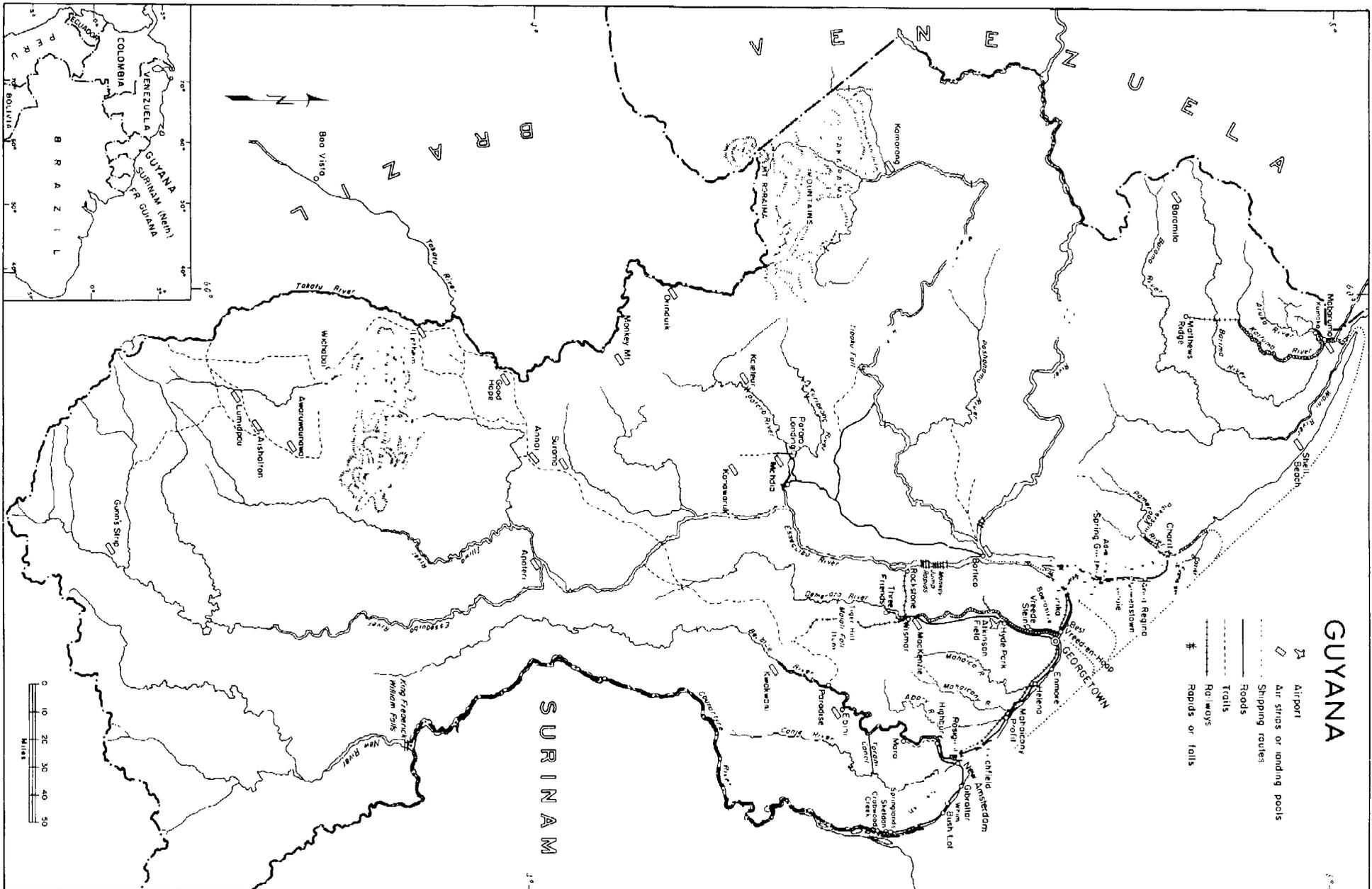
Procurement: International competitive bidding (except for the diversion road which would be built by force account).

Construction Period: February 1972 to February 1974.

Engineering Consultants: Netherlands Engineering Consultants (NEDECO). Sir William Halcrow and Partners.

Economic Benefits: The direct economic benefits of the project was evaluated in terms of savings in damages to the Georgetown area. The analysis is based on assumptions concerning the probability of the occurrence of breaches in the defenses as presently constituted; the timing, magnitude, and number of breaches; and the extent of property damage resultant from breaches. Using the most probable set of assumptions, the internal economic rate of return is estimated to be about 30 percent, and the benefit cost ratios 3.8:1 and 2.9:1, respectively, for discount rates of 10 percent and 14 percent.





GUYANA

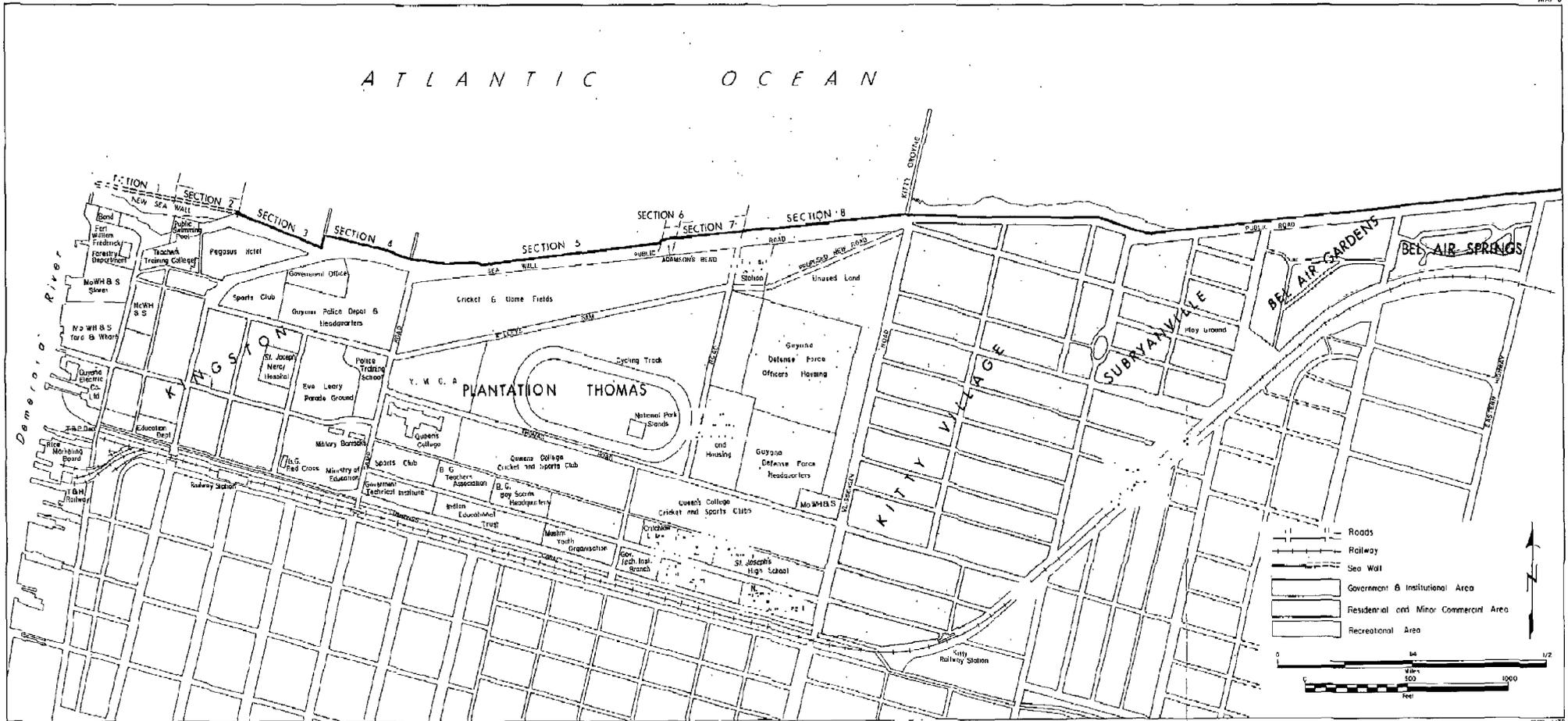
- ✈ Airport
- ◊ Air strips or landing pools
- Shipping routes
- Roads
- Trails
- Railways
- # Rapids or falls





# GUYANA GEORGETOWN URBAN PROTECTIVE WORKS PROJECT AREA IDENTIFICATION

MAP 6



11/20/75

168D-3472







