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SEP 19 1980

EXECUTIVE SECRETARIAT

ACTION MEMORANDUM FOR THE ASSISTANT ADMINISTRATOR FOR AFRICA

FROM : AAA/AFR/DR, ^{John W. Koehring}~~John W. Koehring~~

SUBJECT: Project Authorization Amendment - Lesotho Southern
Perimeter Road (690-0076)

Problem: Your signature is requested for the attached Action Memorandum to the Administrator recommending an \$8 million increase in grant funding from the Section 531, Economic Support Fund (ESF) appropriation, to the Government of Lesotho (GOL) for the Southern Perimeter Road Project (690-0076). It is planned that \$4 million will be obligated in FY 1981 and \$4 million in FY 1982.

Discussion: On June 29, 1978, the Deputy Administrator authorized a grant of \$26 million from Security Supporting Assistance funds for the purpose of financing the design and construction of an all-weather road through southern Lesotho, from Qacha's Nek to Quthing. The project represented a response to an emergency UN-sponsored appeal for donor assistance to help the Government of Lesotho face economic repercussions stemming from their steadfast refusal to recognize the "independence" of the South Africa homeland of Transkei. This project was designed to permit the region to substitute trade within Lesotho for the traditional trade with the Transkei, which in effect, has been cut off by the new Government of Transkei.

Following the original project time-schedule, a detailed engineering design was initiated and completed on schedule in December 1979. On the basis of this design work, the total completion cost of the project was estimated at \$121 million, an increase (\$90 million) which AID could not seriously consider. Since December 1979 efforts have been geared toward revising design standards in order to permit the successful accomplishment of project objectives at substantially lower costs to both the GOL and AID. The proposed \$8 million increase by AID to the project is the result of those efforts and will achieve the original project objective of providing an all-weather road in southern Lesotho, allowing southern and southeastern Lesotho to be opened to accelerated development programs and integrating those regions more fully with the national economy of Lesotho.

BEST AVAILABLE DOCUMENT

Recommendation: That you sign the attached Action Memorandum for the Administrator recommending authorization of the Project Amendment. Also, please clear the Project Authorization Amendment (Attachment 1).

Clearances:

DAA/AFR:WHNorth _____
AFR/DR:NCohen _____
AFR/DR/SA:WWcliff *WW* _____
AFR/SA:MDagata (draft) _____
AFR/SA:DFredriak (draft) _____
AAA/AFR/DP:RStacy (draft) _____
GC/AFR:NFrame (draft) *13* _____
AFR/DR/ENGR:FZobrist (draft) _____
AFR/DR/SDP:BBoyd (draft) _____

for WW
AFR/DR/SA:TPutscher:bks:09/10/80:X28818

P 11 3 15 PM '81

19 SEP 1980

ACTING
ACTION MEMORANDUM FOR THE ADMINISTRATOR

THRU : ES *pc*
THRU : AA/PPC, Alexander Shakov
FROM : AA/AFR, Goler T. Butcher

CP Pavilio
h/b

SUBJECT: Project Authorization Amendment: Lesotho Southern Perimeter Road Project (690-0076)

Problem: Your approval is required for a grant amendment of \$8 million from the Section 531, Economic Support Fund (ESF) appropriation, to the Government of Lesotho (GOL) for the Southern Perimeter Road Project (690-0076). It is planned that \$4 million will be obligated in FY 1981 and \$4 million in FY 1982.

Discussion: On June 29, 1978, a Grant of \$26 million from Security Supporting Assistance funds was authorized which, together with a GOL contribution of \$5.5 million, made a total of \$31.5 million available to finance the design and construction of an all-weather road of 155 kilometers from Qadha's Nek to Quthing in southern Lesotho (The Southern Perimeter Road). The road was justified on two grounds: (a) it would incorporate the southern region of Lesotho into the national economy, and (b) it would protect the inhabitants of the region from the political and economic repercussions of Lesotho's refusal to recognize Transkei as an independent state. Prior to South Africa's assertion of the independence of Transkei, much of the region's services and commercial traffic either transited through or was with the Transkei. Thus, the project was designed to substitute and stimulate commerce within Lesotho for trade with the Transkei.

The justification for the road was detailed in the original Project Paper (Attachment 3). The same justification applies today. In fact, the importance of the road has been strengthened by Lesotho's growing need to raise rural production beyond subsistence levels and to incorporate this increased production into the national economy. The three districts which will benefit from the road, Mhale's Hoek, Quthing, and Qacha's Nek, hold over 25 percent of Lesotho's population, 22 percent of the cropland, 36 percent of the sheep and goats, and 28 percent of the cattle.

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Following the original project time-schedule, a detailed engineering design was initiated in April 1979, with preliminary plans completed on schedule by the F.R. Harris Company in December 1979. On the basis of this design work, the total completion cost of the project was estimated at \$121 million, an increase which A.I.D. could not seriously consider. Since December 1979, efforts have focused on redesigning the project, including reducing design standards, to accomplish the project's goal and purpose at substantially lower costs to the GOL and A.I.D., and within available funding levels.

In April 1979, the GOL, A.I.D., and the F.R. Harris Company agreed on a revised project design and construction approach, resulting in costs being reduced from \$121 million to \$41.5 million. A reduction of this magnitude still ensures that the original objective of upgrading the existing Southern Perimeter Road to all-weather standards will be accomplished, but deviates from the original Project Paper as recapped below:

	<u>Original Design</u>	<u>Revised Design</u>
Total Project Cost	\$121 million	\$41.5 million
AID Funds	\$ 26 million	\$34 million
GOL Contribution	\$ 5.5 million	\$ 7.5 million
Construction Methodology	Capital Intensive	Less Capital Intensive
Road Standard	Gravel 1	Gravel 3
Steepe Slope Surface	Black Top	Black Top
Minimum Road Speed	60 kph	25 kph
Grades	12 percent	14 percent

Under the redesigned project, upgrading of the existing road (117 kms.) will be carried out by a force account team rather than by a private construction firm. Only a new cut-off section (38 kms.) will be constructed by a private firm. This change raised the issue of whether the F.R. Harris contract, under which the firm was to supervise construction carried out by a private firm, could simply be amended to allow Harris to manage the force account team. It was decided that it would not be practicable nor desirable to seek competition for the management services, and that the Harris contract should be amended. A detailed discussion of this issue is set forth on page 25 of the revised project paper. Upon completion of the project, the force account organization will constitute a resource of skilled manpower and equipment, leading

to a substantial improvement in the GOL's ability to construct and maintain rural roads. All construction under the project will be supervised by the F.R. Harris Company.

In addition to the \$26 million authorized by A.I.D., the GOL contributed \$5.5 million. The GOL is now prepared to contribute an additional \$2 million to match the \$8 million A.I.D. increase. It is important to note that no funding is being requested for FY 1980. Of the \$8 million A.I.D. increase, \$4 million is planned for obligation in FY 1981, and \$4 million in FY 1982. A breakdown of the project costs is detailed below:

	(\$000)		
	<u>GOL</u>	<u>AID</u>	<u>TOTAL</u>
Engineering Design	\$ 800.0	\$ 2,200.0	\$ 3,000.0
Technical Services (Construction Supervision & Force Account Management)	-0-	3,552.3	3,552.3
Cut-Off Construction	-0-	15,636.0	15,636.0
Seaka Bridge Rehabilitation	232.0	-0-	232.0
Force Account Mobilization	1,586.2	-0-	1,586.2
Force Account Equipment	246.0	5,254.0	5,500.0
Force Account P.O.L.	4,135.8	1,086.3	5,222.1
In-Kind Contribution	500.0	-0-	500.0
Force Account Materials	-0-	2,469.5	2,469.5
Force Account Personnel	-0-	3,686.9	3,686.9
Evaluation	-0-	115.0	115.0
TOTAL	<u>\$ 7,500.0</u>	<u>\$34,000.0</u>	<u>\$41,500.0</u>

The GOL commitment of \$7.5 million to the project represents 27 percent of the Government's total planned capital expenditures for the period 1980-1985, clearly demonstrating the high priority that the GOL gives to this project. The project could benefit Zimbabwe, a Code 941 Country, substantially, since the project calls for the procurement of construction services and materials aggregating about \$19 million, which Zimbabwe is able to provide.

The project review and analyses determined that the redesigned project is technically, financially, and economically sound and ready for implementation. Similarly, the revised engineering standards have been reviewed and accepted, and project cost estimates have been thoroughly analyzed, and are considered reasonably firm by AID engineers, thereby satisfying the Section 611(a) requirements of the Foreign Assistance Act of 1961, as amended.

The Initial Environmental Examination (IEE) was approved at the time the project was authorized. The new, lower-cost design will further reduce negative impacts by following the existing road alignment more closely and avoiding disturbance of the ground.

The Project Authorization Amendment (see Attachment 1) does not contain any new conditions precedent or covenants.

The original Project Authorization provided a source/origin waiver to permit \$2,250,000 of Code 935 procurement, primarily for construction materials from South Africa. While it is anticipated that those materials will now be procured from Zimbabwe, an increase in the waiver amount is necessary to allow for the purchase of petroleum products (POL). South Africa remains Lesotho's only source of POL, and the cost of POL has increased substantially, thereby requiring the waiver to be increased from \$2,250,000 to \$4,222,000. This amount also includes a \$35,000 waiver for five 3/4 ton righthand drive vehicles. Justification for the waiver is found on page 26 of the amended Project Paper (attachment 2).

The Project Review was held on August 13, 1980 and this was followed by an ECPR on August 20, 1980, which recommended approval of the project.

A Congressional Notification is not required, because the \$8 million increase appears on page 531 of the FY 1981 Congressional Presentation.

The responsible A.I.D. officer in the field will be the USAID/Lesotho Mission Director, or his designee, and the AID/W backstop officer will be Mr. Thomas G. Putscher, AFR/DR/SA. The agency for the Government of Lesotho responsible for implementing the project will be the Ministry of Works (MOW). The Ministry will be supported by the F.H. Harris Company, a U.S. consulting engineering firm, which will supervise all aspects of project construction.

There are presently no human rights issues in Lesotho.

Recommendation: That you sign the attached Project Authorization Amendment (Attachment 1), thereby authorizing the proposed project increase and the requested waivers.

Attachments:

1. Project Authorization Amendment
2. Amended Project Paper
3. Original Project Paper

Clearances:

GC:NHolmes KCK/la 2/22/80

~~DAA/AFR:WNorth~~

PPC/PDFR:JErikson J.E. 2/23/80

GC/AFR:EDragon NE/la

COM/ALI:PHagan (draft)

plw
AFR/DR/SA:TPutsoher:bks:09/10/80:X28818

PROJECT AUTHORIZATION AMENDMENT

Name of Country: Lesotho
Name of Project: Southern Perimeter Road
Number of Project: 690-0076

1. Pursuant to Part II, Chapter 4, Sections 532 (now Section 531) and 533 of the Foreign Assistance Act of 1961, as amended, the Southern Perimeter Road Project for Lesotho was authorized on June 29, 1978. That authorization is hereby amended as follows:

- a. The last sentence of the first paragraph is deleted.
- b. The following paragraph is inserted as paragraph 2 (previous paragraphs 2 and 3 become paragraphs 3 and 4):

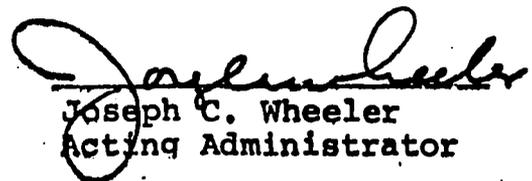
"I hereby authorize an additional eight million United States Dollars (\$8,000,000) in grant funds for total life of project funding of not to exceed thirty-four million United States Dollars (\$34,000,000), over a five year period from date of authorization, subject to the availability of funds in accordance with the AID OYB/allotment process."
- c. Paragraph a. is amended to read as follows:

"Except as AID may otherwise agree in writing, goods and services financed by AID under the project shall have their source and origin in the Cooperating Country or in countries included in AID Geographic Code 941. Ocean shipping financed by AID under the project shall, except as AID may otherwise agree in writing, be financed only on flag vessels of the United States or the Cooperating Country."
- d. The paragraph labelled "b. Local Currency Costs" is deleted.
- e. Paragraph d. is amended by adding the following phrase to the end of the paragraph, "except where such construction is being performed by force account."
- f. Subparagraph (5) of paragraph e, is amended by deleting the figure "\$5 million" and inserting in lieu thereof "\$7.5 million".

- g. The following sub-paragraph is added to paragraph e:
- "(6) The Grantee will covenant that all equipment purchased for the project shall be used solely on the project for the duration of the project."
- h. The first sentence of paragraph (f) is amended by adding the word "Amendment" following the words "Project Paper".
- i. Subparagraph (2) of paragraph (f) is amended by deleting the figure "\$2,250,000" and inserting in lieu thereof "\$4,187,000" and by adding "and petroleum products" after the phrase "construction materials."
- j. The following subparagraph is added to paragraph f:
- "(3) The requirements under Handbook 1, Supplement B and Section 636(i) of the Foreign Assistance Act of 1961, as amended (the "Act"), that motor vehicles have their source and origin in the United States are waived to permit procurement of five vehicles costing approximately \$35,000 which have their source and origin in countries included in A.I.D. Geographic Code 935 and certification is made that special circumstances exist to waive the requirements of Section 636(i) of the Act. Exclusion of procurement of these vehicles from Free World countries other than the Cooperating Country and countries included in Code 941 would seriously impede attainment of US foreign policy objectives and objectives of the foreign assistance program."

2. The authorization cited above remains in force except as hereby amended.

Date: Sept 25, 1980


Joseph C. Wheeler
Acting Administrator

Clearances:
GC:NLHolmes KCK Date 9/22/00
AA/AFR:GTButcher CP Date 9/23/00
AA/PPC:AShakov CP Date 9/25/00

GC/AFR: ^{ny} Name:my:9/11/80:23808

UNCLASSIFIED

AMENDMENT TO

PROJECT PAPER

LESOTHO SOUTHERN PERIMETER ROAD

(690-0076)

UNCLASSIFIED

AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT PAPER FACESHEET	1. TRANSACTION CODE <input type="checkbox"/> A : ADD <input checked="" type="checkbox"/> C : CHANGE <input type="checkbox"/> D : DELETE	PP 2. DOCUMENT CODE 3
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3. COUNTRY/ENTITY LESOTHO	4. DOCUMENT REVISION NUMBER <input type="text" value="1"/>
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5. PROJECT NUMBER (7 digits) <input type="text" value="690-0076"/>	6. BUREAU/OFFICE A. SYMBOL <input type="text" value="AFR"/> B. CODE <input type="text" value="06"/>	7. PROJECT TITLE (Maximum 40 characters) <input type="text" value="Southern Perimeter Road"/>
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8. ESTIMATED FY OF PROJECT COMPLETION <input type="text" value="83"/>	9. ESTIMATED DATE OF OBLIGATION A. INITIAL FY <input type="text" value="78"/> B. QUARTER <input type="text" value="4"/> C. FINAL FY <input type="text" value="82"/> (Enter 1, 2, 3, or 4)
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10. ESTIMATED COSTS (\$000 OR EQUIVALENT \$1 -)

A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FX	C. L/C	D. TOTAL	E. FX	F. L/C	G. TOTAL
AID APPROPRIATED TOTAL						
(GRANT)	<input type="text" value="124"/>	<input type="text" value=""/>	<input type="text" value="124"/>	<input type="text" value="29,473"/>	<input type="text" value="4,527"/>	<input type="text" value="34,000"/>
(LOAN)	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>
OTHER U.S. 1.						
OTHER U.S. 2.						
HOST COUNTRY		<input type="text" value="61"/>	<input type="text" value="61"/>	<input type="text" value="787"/>	<input type="text" value="6,713"/>	<input type="text" value="7,500"/>
OTHER DONOR(S)						
TOTALS	<input type="text" value="124"/>	<input type="text" value="61"/>	<input type="text" value="185"/>	<input type="text" value="30,260"/>	<input type="text" value="11,240"/>	<input type="text" value="41,500"/>

11. PROPOSED BUDGET APPROPRIATED FUNDS (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. 1ST FY <u>78</u>		H. 2ND FY <u>79</u>		K. 3RD FY <u>80</u>	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	I. GRANT	J. LOAN	L. GRANT	M. LOAN
(1) ESF	<input type="text" value="900"/>	<input type="text" value="821"/>		<input type="text" value="26,000"/>					
(2)									
(3)									
(4)									
TOTALS									

A. APPROPRIATION	N. 4TH FY <u>81</u>		O. 5TH FY <u>82</u>		LIFE OF PROJECT		12. IN-DEPTH EVALUATION SCHEDULED <input type="text" value="01"/> <input type="text" value="82"/>
	P. GRANT	Q. LOAN	R. GRANT	S. LOAN	T. GRANT	U. LOAN	
(1) ESF	<input type="text" value="4,000"/>		<input type="text" value="4,000"/>		<input type="text" value="34,000"/>		
(2)							
(3)							
(4)							
TOTALS							

13. DATA CHANGE INDICATOR. WERE CHANGES MADE IN THE PID FACESHEET DATA, BLOCKS 12, 13, 14, OR 15 OR IN PRP FACESHEET DATA, BLOCK 12? IF YES, ATTACH CHANGED PID FACESHEET.

NA 1. NO
2. YES

14. ORIGINATING OFFICE CLEARANCE		15. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION	
SIGNATURE Kenneth H. Sherper		<input type="text" value="07"/> <input type="text" value="18"/> <input type="text" value="80"/>	
TITLE Acting Director, USAID/Lesotho			
DATE SIGNED		MM DD YY	

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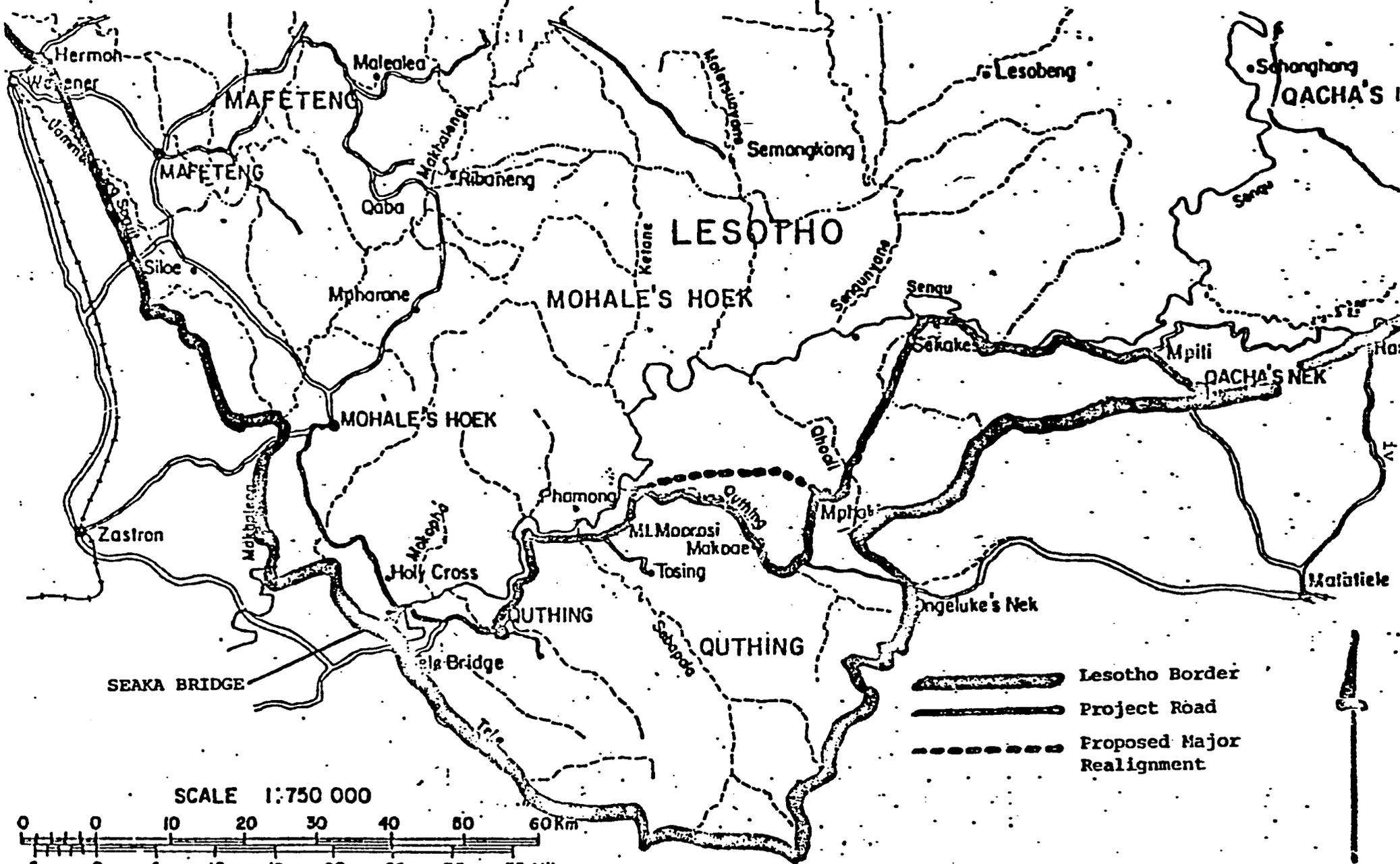
(690-0076)

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SCALE 1:750 000



-  Lesotho Border
-  Project Road
-  Proposed Major Realignment



AMENDMENT TO
PROJECT PAPER
LESOTHO SOUTHERN PERIMETER ROAD
PROJECT NUMBER 690-0076

I. Summary and Recommendations

A. Recommendations

That the Administrator authorize a grant to the Government of Lesotho of an additional eight million dollars (\$8,000,000) in Economic Support Funds which with a further contribution from the Government of Lesotho of the equivalent of two million dollars (\$2,000,000) and the prior contributions from AID of twenty-six million dollars (\$26,000,000) and from Lesotho of the equivalent of five million five hundred thousand (\$5,500,000) will completely finance this project which has been redesigned to the minimum compatible with achieving the goals and purpose of the original project.

That the Administrator enlarge the prior source and origin waiver permitting procurement under A.I.D. Geographic Code 935 to increase from two million two hundred fifty thousand dollars (\$2,250,000) to four million three hundred twenty six thousand dollars (\$4,222,000). Much of the procurement contemplated in the original Project Paper as Code 935 will shift to the Code 941 countries of Zimbabwe or Kenya.

That the other terms and conditions of the original authorization remain the same.

B. Project Description

1. Scope

The primary components of the original project will not be changed by this amendment. They are:

- Design of an all-weather, two lane road from Mohale's Hoek south to Quthing in southwestern Lesotho for construction with other donor financing;
- Rehabilitation of the existing bridge over the Seaka River on the road from Mohale's Hoek to Quthing;
- Upgrading the existing road from Quthing east to Qacha's Nek to all-weather two lane standards except for
- Construction of an all-weather, two lane cut-off road through virgin territory between Mt. Moorosi and Mphaki which will substantially shorten the Quthing-Qacha's Nek road.

The project goal is to facilitate economic development and national integration through an all weather road network. The project purpose is to upgrade the basic transportation link between Qacha's Nek and the western lowlands of Lesotho. Both the goal and the purpose remain the same as in the original project.

2. Project Costs.

AID's financing will include most of the Code 941 costs of the project and \$4,222,000 of the Code 935 costs. The GOL will finance \$6,212,800 in cash for local currency costs of which \$5,162,400 are indirect Code 935 costs being local purchases of South African source. Additionally the GOL will provide approximately \$500,000 on an in-kind basis. The GOL will also finance \$787,200 in foreign exchange project costs.

C. Summary Findings

Both the Feasibility Study and the Project Paper seriously underestimated the construction costs of the project. The extent of this underestimation was discovered in the process of preparing the detailed engineering design. The analyses in Section III of this Project Paper amendment show that the project, redesigned to austere standards, is technically feasible and that the costs estimated in this amendment are reasonably firm. The economic analysis of the Project Paper has been adjusted for increased costs and deferred benefits and concludes that the project has an economically viable internal rate of return of 19.0%—up from the original 17.2% primarily because of the great increase in vehicle operating costs and because the principal returns on this project come from savings in those costs. The revised project includes the same sort of measures to protect the environment that were contemplated before and should have the same positive impact previously anticipated.

Instead of having all road construction contracted out, the revised project will in large part be carried out by force account. Unlike many force account organizations, this will be a semi-autonomous team with key management and equipment furnished by the grant. Measures for effectively supervising the team are being established by the GOL. This particular organization has been designed to avoid the managerial and operational shortcomings of traditional force accounts. Upon project completion, it will constitute a resource of skilled manpower and equipment which should expand the GOL's capabilities to construct and maintain rural roads.

Based upon the collaborative redesign of this project and the commitments of the GOL, the principal AID officer in Lesotho has certified that the GOL has the financial and human resources capabilities to maintain and utilize effectively the capital assistance to be provided under this project.

II. Project Background and Detailed Description

A. Background

1. General

On June 29, 1978 the Deputy Administrator authorized a grant of \$26,000,000 from Southern Africa Regional Supporting Assistance funds which, with a contribution equivalent to \$5,500,000 from the Government of Lesotho, was deemed adequate to finance the design and construction of an all-weather road through southern Lesotho. The road was justified on two grounds--incorporating the southern region into the national economy and protecting the inhabitants of the region from the political and economic repercussions of Lesotho's refusal to recognize Transkei as an independent state. The justification has not changed. Its importance has, in fact, been strengthened by Lesotho's growing need to raise rural production beyond subsistence levels and to incorporate this increase into the national economy.

The three districts to be provided access by the road, Mohale's Hoek, Quthing and Qacha's Nek, hold over 25 percent of Lesotho's population, 22 percent of the cropland, 36 percent of the sheep and goats, and 28 percent of the cattle. Prior to South Africa's assertion of the independence of Transkei, the region's trade was with South Africa, in the southeast from Qacha's Nek and in the southwest from Mohale's Hoek. The project was designed to permit the region to substitute trade within Lesotho for traditional trade within what has become the Transkei.

The project was originally recommended in the Lesotho Transportation Study of March 1974 to open up the region to development programs and to integrate it into the national economy. The project was given priority following the report of a special UN Mission in early 1977 which assessed the impact on Lesotho's economy of Transkei independence.

2. Various Designs and Techniques

In March 1977 an AID team recommended a \$20,140,000 grant to provide equipment, labor, commodities and a 9 person OPEX technical team to assist the Ministry of Works to upgrade the existing roads and tracks along most of the project alignment through a thus reinforced force account.

In March 1978 an AID-financed feasibility study* recommended that a significantly higher standard road be designed

*By Louis Berger International, Inc.

and, because of the increased difficulty of new construction over upgrading, that it be built by international construction contractors. The Ministry of Works was to receive training and equipment for road maintenance.

In June 1978 the Project Paper modified the feasibility study's recommendations to conform to funding limitations. AID would finance the design of all the road, but would finance construction only for the portion from Quthing to Qacha's Nek, and this portion was to be given a double bitumen seal coat on grades in excess of 10 percent and on the most heavily traveled portions. The first 50.3 km. of the road, between Mohale's Hoek and Quthing, were deemed in sufficiently good condition* not to require further work to assure all weather access to the region; this section was also considered likely to receive other donor financing. The basic design criteria were as recommended by the feasibility study, which were still substantially higher than the criteria recommended in the March 1977 AID assessment.

On April 5, 1979 the Ministry of Works signed a contract with Frederic R. Harris, Inc. (hereinafter referred to as the Consultant) for preparation of detailed design and bidding documents for the entire road and for supervision of construction of the portion from Quthing - Mt. Moorosi - Mphaki - Sekake's - Qacha's Nek. The work also included designing and supervising rehabilitation of the Seaka Bridge across the Senqu River 15 km. north of Quthing on the road to Mohale's Hoek. The design criteria were to be as recommended in the feasibility study and shown in the following table.

<u>Terrain</u>	<u>Design Criteria</u>			
	<u>Design Speed</u> kph	<u>Platform Width</u> meters	<u>Surface Width</u> meters	<u>Maximum Gradient</u> %
Flat	100	12	7	4
Rolling	100	10	7	6
Hilly	80	10	7	8
Mountainous	60	9	7	10

3. Cost Consequences

In August 1979 the Chief Roads Engineer and the Senior Roads Engineer of the Ministry of Works, accompanied by AID engineers,

*An exception to this was the Seaka Bridge which needs rehabilitation to carry heavy truck traffic.

reviewed the Consultant's designs. Concern over whether the design could be constructed within available funding led to requests for cost estimates. The extraordinary increase in those costs to over \$121 million led to an intense search for an alternative way to achieve the project's goal and purpose within available funding.

After extensive discussions with AID and the Consultant and consideration of the costs of various alternatives, the Ministry has decided to divide the work. Only rehabilitation of the Seaka Bridge and construction of the cut-off from Mt. Moorosi to Mphaki, including the 80 meter Quthing River Bridge, are to be constructed by contractors. The remaining portions of the road between Quthing and Qacha's Nek are to be constructed by force account. Design standards have been astutely reduced. All bridges (other than Seaka and Quthing) have been eliminated. The resulting road will be 189 km. long as opposed to the 155 km. indicated in the Project Paper and the existing road of 209 km. Average speed under best conditions will be reduced from 40 kph to 30 kph. Construction is to take three and a half years instead of the earlier planned two and a half years. These changes bring estimated costs down from \$121 million to \$41 million.

A summary of the estimated costs of the revised project are as follows:

Engineering Design	\$ 3.0
Construction of cut-off and bridge	15.6
Rehabilitation of Seaka Bridge	.2
Construction supervision and force account management	3.6
Force account mobilization	1.6
Force account equipment	5.5
Force account POL	5.2
Force account materials	2.5
Force account personnel	3.7
Evaluation	.1
Inkind Contribution	.5
TOTAL	\$41.5

The project as redesigned will substantially meet the original project purpose of an all weather transportation link between Qacha's Nek and the southwestern lowlands without resorting to transit through the Transkei and the utilization of the South African road network. It will also increase the originally projected 17.2 percent internal rate of return to 19 percent, highly acceptable in comparison to the 10 to 12 percent opportunity cost of capital in Lesotho. While the revised approach will take longer, it will create a pool of skilled manpower and equipment that can expand the Ministry's construction and maintenance capabilities. Further, the short term gravelling and minor upgrading of the existing track performed by the Ministry of Works with the support of EEC funds as an

interim response to the border situation should, with minor maintenance, hold up through the construction period.

The revised approach has been worked out in careful collaboration between AID and the GOL. The skill and persistence demonstrated by the Ministry of Works in achieving the redesign and the alacrity with which the Ministry of Finance has committed an additional \$2 million provide impressive evidence of the GOL's capability and commitment with respect to the project.

An interesting and exceedingly important feature of the redesigned project is the substantial ancillary benefit to Zimbabwe as a newly-designed Code 941 country. A wide range of construction materials are expected to be obtained from there. In addition, several firms are interested in the contract for construction of the cut-off.

There do not appear to be any further opportunities for cost reductions unless major sections of the road are deleted from the project in their entirety. Such truncation would be undesirable on political, economic, and technical grounds.

B. Detailed Project Description

1. Goal and Purpose

The goal, purpose, and end-of-project status remain as given in the original Project Paper and stated in the previous Summary and Recommendations section.

2. Outputs

The three major outputs: (i) a two-lane road constructed between Quthing and Qacha's Nek; (ii) final design completed and tender documents prepared for an improved Gravel 1 standard road between Mohale's Hoek and Quthing; and (iii) reinforcement of the Seaka Bridge remain as given in the original Project Paper. The description of the first output is now changed, however. Rather than 155 km, constructed to Gravel 1 standard, there will be 189 km. constructed to improved Gravel 3 standard.

3. Inputs

a. A.I.D.

Rather than the two major inputs: (i) an A & E contract for final design of the road from Mohale's Hoek to Qacha's Nek and for construction supervision of the road from Quthing to Qacha's Nek; and (ii) construction contracts for the road from Quthing to Qacha's Nek and for reinforcing the Seaka Bridge, inputs are changed to read as follows:

(1) An A & E contract for final design of the road from Mohale's Hoek to Qacha's Nek, for construction supervision of the cut-off- from Mt. Moorosi to Mphaki, and for staffing a semi-autonomous construction management team;

(2) Construction equipment, materials, and POL for the semi-autonomous construction team.

b. Government of Lesotho

The GOL will now fund and issue a contract for reinforcing the Seaka Bridge. Other inputs remain as given in the original Project Paper.

4. New Assumptions Regarding Inputs and Outputs

Employment of the semi-autonomous construction team using a force account method for upgrading 151 km, of existing track to improved Gravel 3 standards is based on three important assumptions:

a. That the team will be able to recruit the combination of laborers, semi-skilled and skilled workers, clerical and supervisory personnel listed in Annex III.D.1. necessary to do the job. A review of the number of Basotho workers with these skills who have gone to South Africa, but who periodically return when opportunities at appropriate pay levels arise, the ability of the team to offer competitive pay, the outputs of the various technical training schools combined with the training operations built into the team's approach, and previous GOL experience with force account indicate this is a reasonably safe assumption,

b. That the GOL will be able to come to agreement with the engineering design Consultant to staff the semi-autonomous team. The GOL's informal discussions with the Consultant and the Consultant's sample list of the people it could provide indicate agreement can be reached. Should agreement not be reached, enough time is available for the GOL to turn to an alternate firm.

c. That substantial competition from qualified construction contractors can be obtained from Code 941 sources for the reduced portion of the road being tendered. The Consultant and REDSO staff have reviewed availabilities in Zimbabwe, Malawi, and Kenya and conclude that this is a reasonable assumption.

III. Project Analyses

A. Technical Analysis

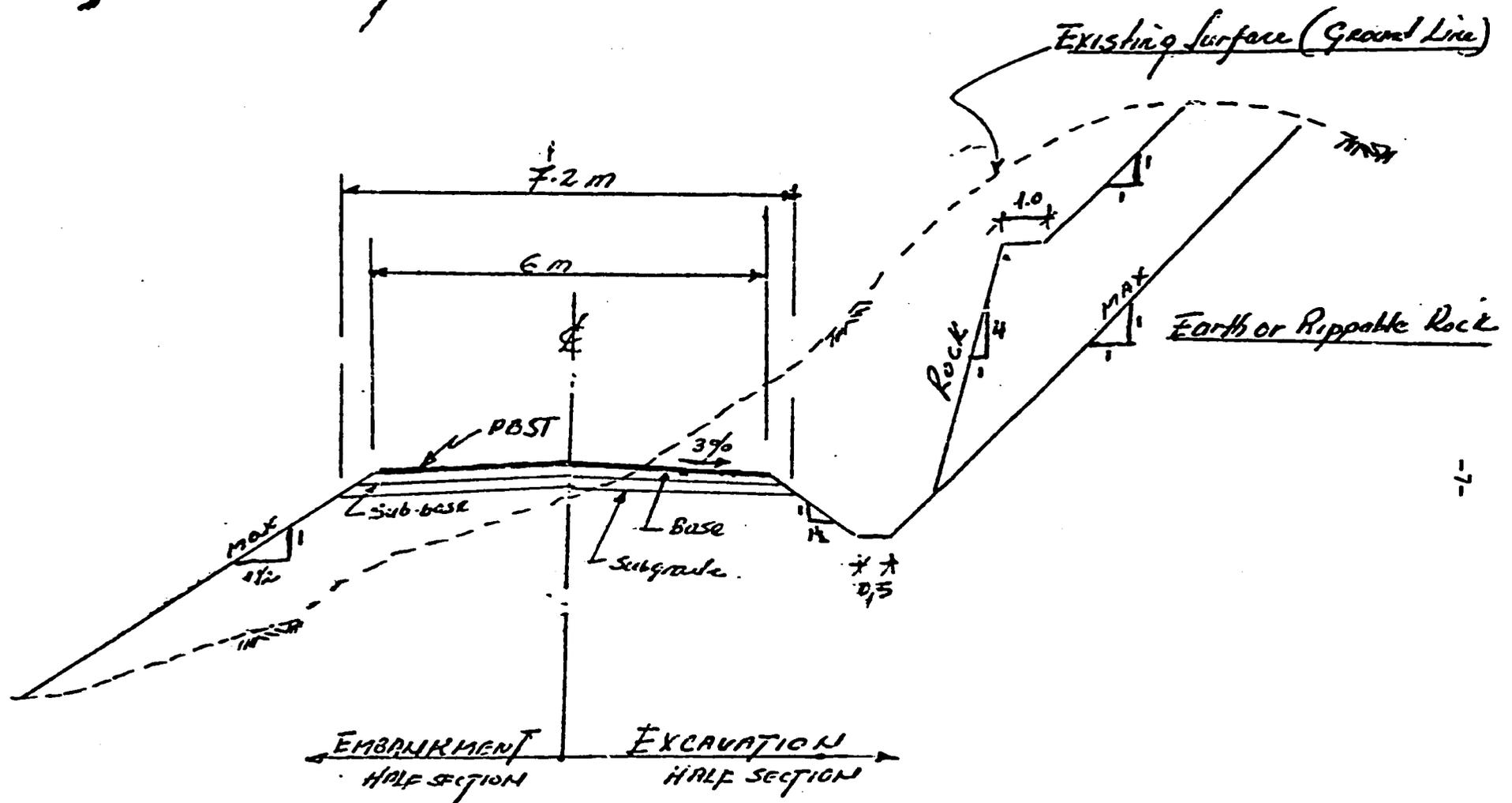
1. Technical Requirements. The essential design requirement of the project is to provide all weather access to Qacha's Nek through Quthing, Mt. Moorosi, Mphaki and Sekake. The existing road between Quthing and Qacha's Nek was described in the Project Paper as "such that even a short rain can render it impassable due to its slippery surface, poor drainage, rockfalls, and because of unpaved fords used for stream and river crossings."

The Project Paper recommended constructing the road to improved Gravel 1 standards, i.e., with a gravel surface 7 meters wide over a formation or platform width of 11.3 to 8.0 meters and with curves that would permit speeds to 100 kph in flat and rolling terrain, 80 kph in hilly terrain and 60 kph in mountainous terrain. Maximum grades, however, ranged from 4 percent in flat, to 6 percent in rolling, to 8 percent in hilly, and 10 percent in mountainous terrain. More rapid construction permitted by a wider road was apparently a key factor in the decision to go to these standards rather than the narrower (5.5 m over 6.0 m) Gravel 3 standards recommended earlier by AID. "Conforming to this width with the use of modern heavy equipment would be impossible in mountainous terrain if a reasonable time schedule is to be held -- this because in a width of six meters, equipment pieces could not pass one another." I Berger III 20.* The Project Paper picked up this notion and on page 11 characterized the 5.5 m over 6.0 road as "one-lane," although for regular traffic it would be characterized as a two lane road. It also accepted Berger's recommended emphasis on increasing design speed in the mountains from 50 kph to 60 kph. The Project Paper (page 24) indicated that this was warranted because of the primary classification and the geographic importance of the road. (Refer to typical G-3 section and notes on following pages.)

When the Consultant's preliminary cost estimates showed that constructing to G-1 standards would far exceed available funding, the subsequent discussions suggested that speed requirements were the principal contributor to the high costs. Summarizing a meeting with AID on October 25, 1979 the Consultant wrote: "The Consultant's opinion was that cost savings to be obtained from decreasing formation width and/or steepening grades, while keeping the horizontal alignment standards, would not reduce construction costs by anywhere near the levels of the Feasibility Report." Apparently tightening the wide, high-speed curves was still not considered as a means to further cost reduction. The decision to reduce the horizontal as well as the

*No one has since contended that road construction would be significantly hampered this way.

TYPICAL SECTION - G-3 MODIFIED



DBST — Double Surface Treatment (Bitumen) — (on grades 10% or above)

Sub-base — 20 cm of compacted select material from pit

Base — 15 cm of crushed, processed (screened) or under DBST
 — 15 cm of select and tested material under over sub-base,
 and in sections without DBST

EXPLANATORY NOTE ON GEOMETRIC STANDARDS OR DESIGN CRITERIA

References are made throughout this amendment to design criteria or geometric standards. The table below shows these as normally defined by the Ministry of Works, Government of Lesotho. As can be seen in the diagram on the preceding page, formation width refers to interface between the sub-grade and the sub-base while carriageway width refers to the uppermost surface of the road.

The Consultant's initial design used G-1 standards modified to broaden formation width to 14 m and carriageway width to 9 m. The portion of the road for other donor financing remains designed to this improved G-1 standard.

In preparing the comparative cost estimates of constructing the cut-off to G-1 or G-3 standards, the Consultant put G-1 width at 9 m over 11.2 m and changed the maximum G-3 gradient from 10 percent to 12 percent. The Consultant also then used a modified G-3 standard which broadened the width to 6 m over 9 m.

The entire road to be built by this project from Quthing to Qacha's Nek will be at the improved G-3 standard.

Road Type	Terrain	Design Speed (k.p.h)		Cross sections (meters)		Gradients (%)		Curvature (degrees)	
		Opt.	Min.	Formation	Surface	Opt.	Max.	Opt.	Max.
Bitumen 1	Rolling	100	80	9.7	6.7	4	6	1.5	3.17
	Hilly	80	55	9.7	6.7	5	8	2.5	6.75
	Mountain	50	35	8.0	6.0	8	10	6.5	16.25
Gravel	Rolling	100	80	11.30	7.6	4	6	1.5	3.17
	Hilly	80	55	11.30	7.6	5	8	2.5	6.75
	Mountain	50	35	8.0	6.0	8	10	6.5	16.25
Bitumen 2	Rolling	80	60	8.0	5.5	5	8	2.5	5.75
Gravel 2	Hilly	60	50	8.0	5.5	7	11	4.5	8.25
	Mountain	30	25	8.0	5.5	10	12	18	33
Bitumen 3	Rolling	60	50	6.00	3.5	5	8	4.5	8.25
	Hilly	30	35	6.00	3.5	8	12	6.5	16.25
	Mountain	30	25	5.00	3.5	10	14	18.0	33
Gravel 3	Rolling	60	50	6.00	5.5	5	8	4.5	8.25
	Hilly	30	35	6.00	5.5	8	12	6.5	16.25
	Mountain	30	25	6.00	5.5	10	14	18.0	33.0
Gravel 4	Rolling	60	50	4.0	3.5	5	8	4.5	8.25
	Hilly	30	35	4.0	3.5	8	12	6.5	16.25
	Mountain	30	25	4.0	3.5	10	14	18.0	33.0

vertical criteria to a modified G-3 standard--speeds of 60 kph in flat or rolling terrain, 30 kph in hilly and 25 kph in mountainous terrain; gravel surface 6.0 m wide over a formation or platform width of 7.2 m; 14 percent maximum grade and 33^o maximum curve--raises issues of whether the Project Paper's design requirements can still be met, issues of providing all weather access, of handling the anticipated traffic, and of increased maintenance costs because of lowered capital costs.

2. All-Weather Access. Surface and drainage are the critical factors here. Both the G-1 and the G-3 roads are to be gravel surfaced except on slopes of 10 percent or more where both receive a double bitumen surface coat. Thus, the surfaces are the same.

The drainage criteria for the G-1 road were not spelled out explicitly in either the Feasibility Report or the Project Paper. Criteria set out in the Lesotho Transportation Study of March 1974 were incorporated by reference. They are as follows:

- | | |
|----------------------------------|--------------------|
| (a) Major Structures - Bridges | 20 year recurrence |
| (b) Large Culverts over 1800 mm | 10 year recurrence |
| (c) Small Culverts up to 1800 mm | 5 year recurrence |
| (d) Drainage Ditches | 2 year recurrence |

The G-1 drainage criteria used by the Consultant were apparently higher than these judging from cost estimates. The G-3 criteria now proposed will be 50 years for the Quthing River Bridge, 5 years for all culverts, and 2 years for drainage ditches. In the revised G-3 design there are 300 culverts under 1800 mm in diameter and 100 larger. Reducing 100 large culverts to 5 year recurrence should not materially affect year around use of the road. This will be discussed further under maintenance.

3. Traffic Capability. The traffic carrying capacity does not appear to be affected by the reduction from G-1 to G-3 standards. This is because the critical part of the road--the part over 10 percent in slope--is the same with both alignments. Testing the road's capacity with the maximum projected annual average daily traffic figure from the Project Paper--1281 vehicles per day in the year 1999--shows that the road could carry that amount of traffic within one day.

One half of the average daily traffic, or 641, is the average number of vehicles going in either direction. The portion of the road with slopes over 10 percent is 30 percent of

189 km. or 56.7 km., rounded to 60 km. Half of that will be downhill, so slopes that will reduce trucks to crawl speed total 30 km. in length and 641 vehicles in line with 15 m from radiator to radiator would stretch out for 9.6 km. Under these conditions, the last vehicle in a line behind a slow truck would travel a total distance of 39.6 km. at crawl speed. Crawl speed at 6 km. an hour for 39.6 km. would take 6 hours and 40 minutes. The remaining 148 km. at 30 kph would take nearly five hours for a total time of 11 hours and 40 minutes. Not pleasant, but feasible. This example shows the dominant impact of the vertical slopes on speed and thus also shows that reducing the horizontal alignment to the G-3 standard does not materially change the through put capability of the road.

4. Maintenance versus Capital Costs. Changing the alignment from the better than G-1 standard to which the Consultant was designing to the modified G-3 standard now proposed, has made a significant change in estimated construction costs by reducing it from over \$120 million to \$41 million. The Consultant's comparison of the G-1 and G-3 costs for the cut-off between Mt. Moorosi to Mphaki illustrates the capital cost consequences of the change in vertical and horizontal alignment.

	<u>G-1 (27 km.)</u>	<u>G-3 (30 km.)</u>
Clearing	\$ 73,000	\$ 31,000
Topsoiling	456,000	639,000
Earthworks	4,239,000	2,037,000
Surfacing	360,000	405,000
Drainage	1,665,000	1,638,000
Culverts	74,000	44,000
Structures	1,410,000	780,000

Since the G-3 alignment follows the natural contours more closely, there is a dramatic decrease in the amount of earthwork. Costs of cutting and filling are more than halved, going from \$4,239,000 to \$2,037,000. The trade-off is an increase in length of 11 percent from 27 km. to 30 km. This is reflected in an increase in surfacing costs from \$360,000 to \$405,000.

The slightly longer road (189 km. versus 155 km.) would not, however, have greater maintenance costs. The surfacing, base course, sub-base, slopes and erosion controls are the same for the G-1 and G-3 roads. The G-3, however, has far less earthwork susceptible to water damage. This is because it is a much less

artificial piece of work; its construction will disturb far less of the natural terrain than the G-1 alignment would. The principal structure in the two alignments, the bridge over the Quthing River, also highlights this. Its length decreases from 200 m to 80 m. Instead of three piers, it needs only two, and they are both out of the water whereas the longer G-1 bridge had three piers in the water.* The Consultant found "no significant difference in maintenance" costs between the G-1 and G-3 alignments.

5. Construction Techniques. The March 1977 AID analysis of this project recommended upgrading the existing road using a force account with equipment and a 9-man management team provided by an AID grant. The Berger report and original Project Paper recommended using contractors to save time and money and because the cut-off, through virgin territory was a far more difficult job than upgrading the existing road. The presently proposed approach combines the techniques, using force account to upgrade the 151 km. of existing road and using contractors to construct the 38 km. cut-off and the Seaka Bridge. This raises the question of whether the GOL can reasonably expect real competition from qualified firms on small portions of the project.

Due to the specialized type of work, rehabilitation of the Seaka Bridge has been consistently regarded as unlikely to be done by a road contractor. It was originally estimated in the Project Paper to cost \$120,000 while the current estimate is \$232,000. The GOL intends to finance this cost from a Code 935 source where there would be real competition for a job of this size.

The 38 km. cut-off which includes the 80 m bridge across the Quthing River is not, in the judgement of the Consultant, a big enough job to attract a U.S. firm not already in the area. That does not, however, mean that there will not be real competition among qualified firms. There is a U.S. construction firm working in Malawi. At the request of the MOW the Consultant went to Zimbabwe and discussed the cut-off with a number of firms, the discussion

*Like the increased length of the G-3 alignment, the river crossings on the remaining 151 km. may seem to present a higher maintenance cost because in the G-1 alignment, rivers were to be crossed by eight bridges all built to pass a 50 year storm. Under G-3 standards the road will cross rivers on box or pipe dome culverts built to pass a 5 year storm. While there is little likelihood of the culverts washing out, damage to the road surface can be anticipated, but it should not be major. Moreover, even under the G-1 alignment, there were over 90 river crossings by culvert.

having been arranged by the construction contractors' association there. Three groups of firms were interested and in the judgement of the Consultant had qualified personnel and experience records. Working on the cut-off would offer such firms not only a chance to renew construction plant but would also offer foreign exchange earnings, both scarce commodities after the long embargo.

There are also some firms operating in Kenya which could apparently meet Code 941 criteria and which have the necessary professional qualifications. Thus even with the reduced portion of the project going out for bidding by contractors, there is a strong prospect of reasonable competition.

Experience with force account construction varies widely. Common criticisms are that force account pay scales are too low to attract competent workers, inefficient workers cannot be replaced, management is unprofessional, inexperienced and not cost-conscious, and equipment is not well maintained or effectively used. Such conditions are not irreversible.

To overcome those difficulties the Ministry of Works plans to create an autonomous entity to do the upgrading portion of the project. It will have the right to employ and lay off personnel, to pay wages comparable to those paid by construction contractors, to operate outside the budget, but under strict fiscal controls with grant funds. Professional personnel assigned to it from the Ministry will receive no additional compensation beyond their Ministry salaries. Key personnel to manage the force account would be provided under the grant as would its equipment. Personnel requirements are detailed in Annex III.D.6. The arrival of key personnel as well as the plan for mobilizing and training the force account team appear in Annexes I and II. While these annexes have been prepared by AID with the Ministry of Works, they will naturally undergo further refinement when the key personnel actually arrive and submit their overall and periodic work plans and budgets to the Ministry.

The authorities of the task force organization have been prepared for submission to the Cabinet for approval. While the daily field direction of the force account team will be the responsibility of the key field personnel, the Chief Executive Officer of the team will be the Chief Roads Engineer of the Ministry of Works. He will periodically report to and receive policy guidance from an Inter-Ministerial Board, with representatives from Finance, Planning, Labor, Works, and the Cabinet.

The equipment for the force account team was selected by the Ministry of Works after discussions with the Consultant and AID, (Annex III.D.3.) The controlling factor in selecting the equipment was its capacity to move the quantities of

earth estimated as necessary to do the upgrading. That estimate was made by the Consultant through combining aerial photography with computer analysis so that, in over-simplified terms, the upgraded alignment was imposed on a terrain model in the computer with the computer then giving the cubic meters of excavation for each kilometer of the road. While this has not been "balanced" (that is to say while the alignment has not been adjusted to equalize the volume of adjacent cuts and fills so as to minimize the haulage of spoil or borrow), the quantities are considered close enough for a reasonable cost estimate. This process indicates that upgrading would require the movement of 1,400,000 cubic meters of earth or rippable rock. Moving this earth is the critical task in upgrading the road. A bulldozer with the earthmoving capacity of a Caterpillar D-8 is deemed of an appropriate size and power to work the terrain. The hourly rated earthmoving capacity of such a machine at 100 percent efficiency is 550 cubic meters. There are, however, modifications to that efficiency to apply it to a given task. The modifications assumed are as follows:

Material - rocky, hard to cut	0.7
Operator skill - poor	0.6
Slot dozing capability (on machine)	1.15
Visibility - dust, rain, fog, darkness	0.8
Job efficiency - 40 min./hour	0.67
Direct drive transmission	0.8
Grade	<u>1.0</u>
Product	0.21

Multiplying the rated capacity of 550 m³/hour by 0.21 yields a production of 115.5 m³/hour. A further adjustment needs, however, to be made because of the diminution in fly wheel horsepower attributable to operating at an altitude of 3000 to 3800 m. This factor is 0.85 and thus reduces the hourly production to 100 m³.

Under local conditions the machines would be worked 6 hours a day for an average of a five day week during 34 weeks of the year. Annual hourly production would thus be 1020 hours. Rounding that down to 1000 hours times four dozers times hourly production per dozer of 100 m³ gives aggregate annual production of 400,000 m³. 1,400,000 m³ divided by 400,000 m³ gives three and a half years as a conservative estimate of the time required to do the critical job. The rest of the force account equipment was similarly determined. Upon completion of the project the force account team of skilled personnel and equipment can be absorbed into the Ministry of Work's maintenance and construction force.

B. Economic Analysis

The purpose of this economic analysis is to adjust the data in the economic analysis contained in the original project paper to reflect the changed costs and standards of the road. There was no attempt made to alter the underlying assumptions of the project paper analysis, nor were any changes made from the methodology used in that document (see Page 129 of project paper).

Traffic Count

Since little of the projected traffic count in the project paper was induced by the improved road in the original design, changes in the road standard design were assumed to have no impact on vehicle traffic projections. However, a reduction by one-half in induced traffic was considered in the sensitivity analysis discussed below. The travel time over the Southern Perimeter Road will now be longer and could lead to traffic from Maseru being directed to the Roma/Semonkong road (see project paper, page 136). However, since it is not clear that this road will be constructed, no reduction in usage of the Southern Perimeter Road from this source was considered.

Road Maintenance Costs

Maintenance costs of the original road design were projected to have been less than the maintenance costs of the current road, the savings being counted as a benefit of the project. Road engineers working on the project regarding design have concluded that maintenance costs for the proposed road constructed to the modified G-3 standards will not significantly differ from the costs of maintaining the road constructed to the G-1 standards. To be conservative, in the present analysis, road maintenance costs were assumed to be equal in the existing road and the proposed road. Thus, no benefits have been ascribed from this source.

Vehicle Operating Costs

Vehicle operating costs shown in the table below were adjusted from the 1978 basis in the project paper (Table V-E-25, page 138) to reflect 1980 costs. The depreciation and interest items were based on the increase in the dollar price of automobiles between April 1978 and April 1980. The insurance, maintenance, and fuel line items were based on actual cost increases during the same time period. Wages were assumed to have grown by two percent per year in real terms, and tires and overhead costs were assumed to increase at the overall rate of inflation.

Vehicle Operating Costs per Kilometer

(1980 U.S. cents)

	<u>Adjustment</u> <u>Factor</u>	<u>Vehicle</u>	<u>Bus</u>	<u>Truck</u>
Depreciation	1.40	4.33	6.65	4.27
Interest	1.40	1.72	2.14	1.36
Insurance	1.13	1.05	2.54	1.27
Wages	1.57	.23	9.15	3.45
Maintenance	2.33	5.39	12.51	9.58
Fuel	2.11	7.89	10.89	8.21
Tires	1.51	.45	1.69	2.20
Overhead	1.51	.89	7.46	4.74
Total		21.95	53.03	35.08

Internal Rate of Return Analysis

Project costs have been calculated on the same basis as in the project paper (page 136). Since equipment provided for force account construction will remain in Lesotho for use by the GOL, a salvage value based on a seven year useful life has been assigned to the equipment at the end of the investment period. No salvage value is associated with either earthworks or buildings at the end of the project period.

Project benefits derive solely from savings in vehicle operating costs. As in the project paper, the effective mileage saved per trip with the proposed road was calculated for each road segment using the Delta-L values in the project paper (page 139). Calculations were made on the basis of Harris-provided data. These differ markedly from the project paper data in estimation of total distance where gradients of 10% or more exist. The actual length of the proposed road is 23 kilometers shorter than the existing road due only to the shortened Mount Moorosi-Sekake's segment. All other actual distances are identical on the existing and proposed roads. The Quthing-Mount Moorosi and Mount Moorosi-Sekake's segments are assumed to open in 1983 and the remainder of the road in 1985. The project cost and benefit streams are presented in the following table.

Economic Costs and Benefits
(Thousands of 1980 U.S. Dollars)

<u>Year</u>	<u>Capital Costs</u>	<u>Vehicle Operating Cost Savings</u>	<u>Total Net Benefits/Costs</u>	<u>19 Percent Discount</u>
1979	1,146	-0-	(1,146)	(963)
1980	1,780	-0-	(1,780)	(1,254)
1981	11,731	-0-	(11,731)	(6,941)
1982	9,417	-0-	(9,417)	(4,685)
1983	5,716	3,459	(2,257)	(944)
1984	2,955	3,739	784	276
1985	1,039	5,639	4,600	1,361
1986	(2,200) ^{1/}	6,101	8,301	2,065
1987		6,683	6,683	1,395
1988		7,213	7,213	1,268
1989		7,769	7,769	1,146
1990		8,469	8,469	1,051
1991		9,136	9,136	952
1992		9,948	9,948	871
1993		10,847	10,847	798
1994		11,808	11,808	730
1995		12,851	12,851	668
1996		14,042	14,042	613
1997		15,416	15,416	566
1998		16,869	16,869	520
1999		18,944	18,944	491

Internal Rate of Return 19%

1/ Salvage value (40% of cost) of force account equipment.

The internal rate of return is 19% which is acceptable when compared to the opportunity cost of capital of 10-12 percent in Lesotho. This rate of return is higher than the 17.2% estimated in the project paper. The increase is derived primarily from the large increase in vehicle operating costs per kilometer (78% for light vehicles, 61% for buses, and 76% for trucks). The increase is partially offset by the lowered road standard and the resulting lowered effective mileage saved on any given trip, increased project costs, and a delay in the onset of benefits. Moreover, the rate of return analysis in the project paper is underestimated to the extent that the distance in steep gradients was underestimated (see above).

Sensitivity tests applied to the economic analysis assumed increased project costs, reduced vehicle operating cost savings, and a reduction in induced traffic counts are shown in the following table.

Sensitivity Analysis

<u>Assumption</u>	<u>Economic Return</u> (percent)
Best Estimate	19.0
Best Estimate Except:	
20% increase in costs	16.2
20% decrease in benefits	16.3
50% decrease in induced traffic	17.3

The results of the sensitivity analysis indicate that changes were small and the rates remained above the opportunity cost of capital in Lesotho in each test. Based upon the conservative approach taken on adjustments to the original economic analysis, which resulted in a revised internal rate of return of 19.0 percent, and results of the sensitivity analysis, it is concluded that the proposed project is economically feasible and viable.

C. Financial Analysis and Plan

The cost estimates summarized in this section are detailed in Annex III. The costs were developed with the close cooperation of the MOW and include provisions for inflation and contingency. Table I provides an analysis of total project cash costs of USAID and GOL project inputs by foreign exchange and local currency requirements. Table II provides a projection of USAID expenditures and planned obligations by fiscal year. Table III outlines the projected expenditures and obligations by the GOL for its cash project costs.

1. GOL Project Costs

Under the revised project the GOL will provide total cash financing of \$7,000,000 - an increase of \$2,000,000 or 40% over the original GOL cash contribution (compared to a 32% increase in the AID contribution). In addition the GOL will contribute approximately \$500,000 on an in-kind basis (see Annex III, Executive Summary). The significant increase in cash contributions serves as very tangible evidence of the high priority and commitment the GOL attaches to this project.

The GOL's largest investment will be a force account P.O.L. at \$4,135,800, followed by the costs of mobilization at \$1,586,200. Mobilization costs will be financed entirely by the GOL along with the costs of rehabilitation of the Seaka bridge estimated at \$232,000. The GOL will also finance \$800,000 of Engineering Design costs and \$246,000 of force account equipment.

2. USAID Project Costs

Total USAID project costs are now estimated at \$34,000,000 under the revised project - an increase of \$8,000,000. The major element of cost is the construction of the "cut-off" between Mt. Moorosi and Mphaki estimated at \$15,636,000 followed by procurement of heavy construction equipment for the force account team at \$5,254,000. Additionally, USAID will provide \$3,686,900 to finance force account personnel costs, \$3,552,300 for long-term technical services, \$2,469,500 for construction materials related to the force account operation, \$1,086,300 in P.O.L. costs and \$2,220,000 for design costs. Finally \$115,000 has been provided for interim and final evaluation. See Annex III for costing details of USAID inputs.

As noted earlier in this paper, the project's redesign and subsequent re-costing was initiated once detailed engineering design data indicated that original cost estimates, based on the preliminary feasibility study by Louis Berger Inc., were unrealistic. This revised financial plan is, therefore, not predicated on preliminary feasibility data but rather takes advantage of data developed by months of very detailed engineering design and analysis. With \$2,313,100 provided for contingencies and \$6,471,900 included for inflation for USAID inputs over the project's life, the current financial plan is deemed to be adequate and firm.

SUMMARY ANALYSISFOREIGN EXCHANGE AND LOCAL CURRENCY COSTS

(\$ 000)

	<u>FOREIGN EXCHANGE</u>	<u>LOCAL CURRENCY</u>	<u>TOTAL</u>	<u>%</u>
I. GRAND TOTAL	<u>30,260.0</u>	<u>10,740.0</u>	<u>41,000.0</u>	<u>100.0</u>
A. USAID	29,472.8	4,527.2	34,000.0	82.9
B. GOL	787.2	6,212.8	7,000.0	17.1
	<u>FOREIGN EXCHANGE</u>	<u>LOCAL CURRENCY</u>	<u>TOTAL</u>	
II. USAID INPUTS	<u>29,427.8</u>	<u>4,527.2</u>	<u>34,000.0</u>	
A. ENGINEERING DESIGN	2,200.0		2,200.0	
B. TECHNICAL ASSISTANCE	3,552.3		3,552.3	
C. "CUT-OFF" CONSTRUCTION	15,636.0		15,636.0	
D. FORCE ACCOUNT EQUIPMENT	5,254.0		5,254.0	
E. FORCE ACCOUNT POL		1,086.3	1,086.3	
F. FORCE ACCOUNT MATERIALS	2,469.5		2,469.5	
G. FORCE ACCOUNT PERSONNEL		3,686.9	3,686.9	
H. EVALUATION	115.0		115.0	
III. GOL INPUTS				
(Cash Contributions)	<u>787.2</u>	<u>6,212.8</u>	<u>7,000.0</u>	
A. ENGINEERING DESIGN		800.0	800.0	
B. SEAKA BRIDGE REHABILITATION	232.0		232.0	
C. FORCE ACCOUNT MOBILIZATION	555.2	1,031.0	1,586.2	
D. FORCE ACCOUNT POL		4,135.8	4,135.8	
E. FORCE ACCOUNT EQUIPMENT		246.0	246.0	

Table II

SOUTHERN PERIMETER ROAD
USAID EXPENDITURE/OBLIGATION SCHEDULE
(\$ 000)

	<u>FY79</u>	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	<u>FY85</u>	<u>TOTAL</u>
<u>USAID PROJECT INPUTS</u>								
ENGINEERING DESIGN	\$800.0	\$1,400.0	\$	\$	\$	\$	\$	\$2,200.0
TECHNICAL SERVICES (CONSTRUCTION SUPER- VISION AND FORCE ACCOUNT)			427.8	875.0	713.5	467.0	145.9	2,629.2
"CUT-OFF" CONSTRUCTION			3,150.0	5,402.0	2,252.0			10,804.0
FORCE ACCOUNT EQUIPMENT			4,946.0					4,946.0
FORCE ACCOUNT P.O.L.			393.4	522.0				915.4
FORCE ACCOUNT MATERIALS			87.1	522.6	522.6	522.7	174.2	1,829.2
FORCE ACCOUNT PERSONNEL			117.9	706.6	706.6	706.7	235.6	2,473.4
EVALUATION				45.0			59.0	104.0
CONTINGENCY			804.7	850.8	455.0	192.9	69.8	2,373.2
INFLATION			763.2	2,288.2	1,622.1	773.0	361.1	5,807.6
TOTAL EXPENDITURES \$800	\$1,400.0	\$10,608.1	\$11,212.2	\$6,271.8	\$2,662.3	\$1,045.6	\$34,000.0	
USAID OBLIGATION SCHEDULE:								
				FY 78	\$ 26,000,000			
				FY 80	<u>8,000,000</u>			
				TOTAL	\$ 34,000,000			

Table III

SOUTHERN PERIMETER ROAD
 GOL EXPENDITURE/OBLIGATION SCHEDULE
 (\$ 000)

	<u>FY79</u>	<u>FY80</u>	<u>FY81</u>	<u>FY82</u>	<u>FY83</u>	<u>FY84</u>	<u>FY85</u>	<u>TOTAL</u>
<u>GOL PROJECT INPUTS</u>								
ENGINEERING DESIGN	\$500.0	\$300.0	\$	\$	\$	\$	\$	\$800.0
SEAKA BRIDGE REHABILITATION			210.7					210.7
FORCE ACCOUNT EQUIPMENT			246.0					246.0
FORCE ACCOUNT MOBILIZATION			1,148.8					1,148.8
FORCE ACCOUNT P.O.L.				362.0	884.0	834.0	294.6	2,424.6
CONTINGENCY			192.7	36.2	88.4	88.4	29.5	435.2
INFLATION				90.5	427.9	707.9	488.4	1,714.7
TOTAL EXPENDITURE/ OBLIGATIONS	\$500.0	\$300.0	\$1,818.2	\$488.7	\$1,400.3	\$1,680.3	\$812.5	\$7,000.0

D. Social Analysis

The proposed revisions to the project do not change the conclusions of the social analysis in the Project Paper.

E. Environmental Analysis

The proposed revisions to the project do not alter or materially affect the benefits of the environmental protection measures described in the Project Paper. The substantial reduction in engineering design specifications described in this amendment in no way reduced the environmental impact mitigation measures called for in the original PP. In fact, this new, lower cost alternative will further reduce negative impacts by following the existing road alignment more closely and avoiding disturbance of the ground.

IV. Implementation Arrangements

A. GOL Project Administration

As described in the Project Paper, the Chief Roads Engineer of the Ministry of Works is the host country official in operational charge of the project. With the creation of the force account team and the Inter-ministerial Board, he will have both a significantly larger organization to manage and regular, direct access to relevant policy makers. As contemplated in the Project Paper, he will have the services of a U.S. engineering firm to prepare the invitations for bid, contract documents, construction drawings and specifications, to prequalify bidders, to evaluate bids and to supervise construction on those portions of the work to be carried out by a construction contractor.

B. AID Project Administration

USAID/Lesotho expects to have a senior General Engineer, experienced in road construction assigned to the Mission soon; who will serve as the AID Project Officer. He will be assisted by an Associate General Engineer. AID will be included as an observer on the Interministerial Board. The Project Officer will monitor the project, ensure that AID assistance is provided as planned, and provide liaison services with AID/Washington and REDSO/EA as necessary.

C. Implementation Plan

Details of the implementation plan and implementation schedule appear in Annexes I and II. The long lead time required to obtain heavy construction equipment from the United States is the critical factor deferring the start up of force account construction unit until August 1981. In the interim, however, the Ministry plans to employ the key field personnel and obtain from them long range and current work plans and budgets, as well as training plans for the equipment operators, mechanics, warehouse men and other skilled workers. Funds have been budgeted for renting one of each type of construction equipment for training during the period March to August 1981.

There may be an opportunity to shorten the time indicated in the implementation plan that would be required to complete project activities. This reduction of time would occur if the IFBs for the force account and Seaka Bridge rehabilitation were published one month earlier than scheduled (which now appears feasible) and all subsequent related actions could be advanced accordingly. The maximum amount of time savings that could be accrued by this accelerated plan would be 60 days. The PACD should, however, be extended to August 1, 1985.

D. Evaluation Arrangements

Two external evaluations are proposed for the project. The first is planned for January 1982 and the final for January 1985. Each evaluation would require 3 persons for a period of five to six weeks each.

The cost estimates for these evaluations are shown in Annex III.E.

The first external evaluation in January 1982 will take place too early to permit an assessment of the achievement of the project goal and purpose or the cost and time effectiveness of the force account construction method. Therefore, the first evaluation will include examination of the following major aspects of the project:

- Status of project implementation including reasons for any differences between status and implementation plan, as well as relevant recommendations.
- Examination and recommendations regarding performance and future capabilities of the Consultant; contractors, Ministry of Works and USAID/Lesotho to effectively implement and monitor the project.
- Review and update original implementation schedule, if necessary, and identify critical implementation issues or activities that may warrant specific discussion or actions by appropriate parties.

The final external evaluation in January 1985 will focus on an attainment of the project goal and purpose, and an assessment of the force account construction methodology. More specifically, it will examine:

- Whether an all-weather road will make a significant contribution towards the economic and social integration of a region which has traditionally traded in markets outside the national boundaries.
- Whether a low-speed, two lane, gravelled road will serve the communications needs of a rural area as well as a more expensive, higher speed road would in terms of carrying traffic and minimizing maintenance.
- Whether the traditional inefficiencies of force account construction can be overcome with the organizational, managerial and equipment measures applied in the project.

In addition to the Consultant's regular progress reports, the

and \$2.1 million for supervision of construction. The Consultant would under the revised project supervise construction only of the rehabilitation of the Seaka Bridge and construction of the 38 km cut-off including the 80m bridge across the Quthing River.

The Consultant has, at the Ministry's request, submitted a proposal for supplying the key field personnel to manage the force account team and has furnished the Ministry and AID with bio-data on proposed team members. If they are found satisfactory, the Ministry would seek to reach agreement with the Consultant on the costs of amending the contract to limit supervision of construction to the Seaka Bridge and the cut-off, including the Quthing River Bridge, and to provide eight key personnel to manage the force account team. This arrangement would preserve the continuity of the design engineer supervising construction and would permit some economy in personnel, since several of the force account team would assist periodically in supervising construction, thus reducing the permanent professional staff on the cut-off site to one resident engineer.

Amending the consultant's contract raises the issue of whether AID should get competitive bids for these management services. AID Handbook '11, Chapter 1, paragraph 2.4. indicates that competition should be sought for normal and predictable follow-on work, i.e., the provision of construction supervision which follows the engineering design, unless a waiver is obtained. This Handbook rule is not applicable to the present situation, however, because the management services are not predictable follow-on work but rather are being substituted for construction supervision services as a result of the change in project design.

The project team has concluded that it is neither practicable nor advantageous to the U.S. Government or the GOL to seek competitive bids in this situation for the following reasons:

1. Under the present contract the consultant will be supervising the construction of the new cut-off and there would be economies of personnel if the same firm supervised construction and managed the force account team.
2. The consultant's involvement in the project is so great as to preclude effective competition so that it could be a disservice to other firms to invite proposals.
3. Seeking competitive proposals would delay implementation of the project.

F. Source and Origin Waiver

A waiver of \$2,250,000 to permit procurement of construction materials, including petroleum products (POL) from Code 935 countries was included in the original Project Authorization. The revised project will require an increase of Code 935 waiver authority of \$1,972,000 to a new total of \$4,222,000. The table below outlines AID's proposed financing in terms of the probable source of procurement.

<u>AID INPUTS</u>	<u>Code 000</u>	<u>Code 941</u>	<u>Code 935</u>	<u>TOTAL</u>
ENGINEERING DESIGN	2,200.0	-	-	2,200.0
TECHNICAL SERVICES	3,552.3	-	-	3,552.3
"CUT-OFF" CONSTRUCTION	-	12,836.0	2,800.0	15,636.0
FORCE ACCOUNT EQUIP- MENT	5,219.0	-	35.0	5,254.0
FORCE ACCOUNT P.O.L.	-	-	1,086.3	1,086.3
FORCE ACCOUNT MATERIALS	-	2,168.8	300.7	2,469.5
FORCE ACCOUNT PERSONNEL	-	3,686.9	-	3,686.9
EVALUATION	<u>115.0</u>	<u>-</u>	<u>-</u>	<u>115.0</u>
	\$1,086.3	\$18,691.7	\$4,222.0	\$34,000.00

Whereas the original waiver envisioned purchasing such things as cement, lumber, asphalt and steel from South Africa; most of these materials can now be purchased from Zimbabwe, a Code 941 Country. It is estimated that only about \$300,700 of such materials will now be purchased in South Africa. However, the remainder of the original \$2,250,000 waiver will be used to purchase POL from South Africa, because South Africa is the only source of POL for Lesotho. In addition, because the cost of POL has increased so substantially in the last two years, an additional Code 935 waiver of \$1,636,300 is necessary to allow procurement of South African POL required under the project, for both the new cut-off construction and the force account construction.

A waiver of \$35,000 to permit procurement of five diesel pick-up trucks in Lesotho from Code 935 Countries of origin, probably Japan is also necessary. Right-hand drive vehicles are essential in Lesotho for safety reasons. Such right-hand drive pick-up trucks are not available from the U.S. Diesel fuel is readily available in Lesotho and is currently priced at a substantially lower cost than gasoline. Diesel vehicles are increasingly popular in Lesotho, and servicing appears to be satisfactory.

G. Conditions, Covenants and Negotiating Status

The collaborative approach between the GOL and AID demonstrates a shared conviction of the necessity of having external management for the force account team. Additionally, there is a need to proceed as quickly as possible with ordering equipment for the forces account team,

Annex I shows the mutual expectations of the GOL and USAID/Lesotho on the progress of negotiations and the time frame for implementation of the project.

SOUTHERN PERIMETER ROAD
REVISED IMPLEMENTATION PLAN

<u>DATE</u>	<u>ACTION</u>	<u>RESPONSIBLE ORGANIZATION</u>
1980		
7/2	Design of Seaka bridge rehabilitation completed	Harris
7/11	Finalize plan for force account up-grading of existing road	MOW/USAID
7/18	Project Paper amendment submitted to AID/Washington	REDSO/USAID
8/1	Force account/project team implementation approved by GOL	MOW
8/15	Establish Inter-Ministerial Coordinating Committee to monitor force account implementation	MOW
8/15	Finalize bid package/IFB for procurement of force account construction equipment	MOW/REDSO
8/21	Project Paper amendment approved	AID/W
8/29	Grant Agreement amendment executed	MINFIN/USAID
9/1	Final design of package B delivered to MOW	Harris
9/15	Publish IFB for force account construction equipment	AID/W
9/16 - 9/30	Complete negotiations with PRC Harris for revised technical services requirements for Title II of contract	MOW/Harris
9/30	Publish IFB for Seaka bridge rehabilitation	MOW
10/10	Final design and complete bid package for "cut-off" delivered to MOW	Harris
10/10	Prequalification completed for "cut-off" (including Code 941 firms) and data delivered to MOW	Harris
11/1	Publish IFB for "cut-off" construction	MOW/Harris/ REDSO

<u>DATE</u>	<u>ACTION</u>	<u>RESPONSIBLE ORGANIZATION</u>
12/1	Pre-bid conference for "cut-off" construction	MOW/Harris
12/1	Receive bids for Seaka bridge rehabilitation	MOW
12/15	Contracts awarded for force account construction equipment	MOW
1981		
1/1	Project Manager, Deputy Project Manager and Chief Superintendent arrive	Harris
1/2	Cut-off bids received	MOW
1/15	Contract awarded for Seaka bridge rehabilitation	MOW
2/15	Contract awarded for cut-off	MOW
3/1	Force account mobilization operations begin	MOW/Harris
4/1	Deputy Superintendent and Chief Surveyor arrive	Harris
7/1	Chief of Materials, Master Mechanic and Chief Surveyor arrive	Harris
7/1	Force account equipment arrives	USAID
7/15	Seaka bridge rehabilitation completed	MOW
8/1	Force account mobilization completed and R-4 upgrading begins	MOW/Harris
1982		
1/15	First external evaluation	AID
1983		
2/15	Cut-off construction completed	Contractor
3/1	Deputy Project Manager and Controller depart	Harris
4/1	Chief Surveyor departs	Harris

<u>DATE</u>	<u>ACTION</u>	<u>RESPONSIBLE ORGANIZATION</u>
7/1	Chief of Materials departs	Harris
1985		
1/31	Final external evaluation	AID
2/1	Force account R-4 upgrading completed	
2/1	Project Manager, Chief Superintendent, Deputy Superintendent and Master Mechanic depart	Harris

SOUTHERN PERIMETER ROAD

ANNEX II

REVISED

IMPLEMENTATION SCHEDULE

	<u>FY 80</u>	<u>FY 81</u>	<u>FY 82</u>	<u>FY 83</u>	<u>FY 84</u>	<u>FY 85</u>
A. Completion of Engineering Design	—————10/10/80					
B. Long-Term Technical Assistance Personnel						
1. Project Manager (49 Months)	1/1/81—————2/1/85					
2. Deputy Project Manager (26 Months)	1/1/81—————3/1/83					
3. Controller (24 Months)	3/1/81—————3/1/83					
4. Chief Superintendent - Construction (49 Months)	1/1/81—————2/1/85					
5. Deputy Superintendent - Maintenance (46 Months)	4/1/81—————2/1/85					
6. Chief of Materials (24 Months)	4/1/81—————4/1/83					
7. Master Mechanic (43 Months)	7/1/81—————2/1/85					
8. Chief Surveyor (24 Months)	7/1/81—————7/1/83					
C. Seaka Eridge Rehabilitation (6 Months)	1/15/81————7/15/81					
D. Cut-Off Construction (24 Months)	2/15/81—————2/15/83					
E. F.A. Mobilization Operations (5 Months)	3/1/81————8/1/81					
F. F.A. Equipment Order/Delivery (6.5 Months)	12/15/80—————7/1/81					
G. F.A. R-4 Upgrading (42 Months)	8/1/81—————2/1/85					

EXECUTIVE SUMMARY
SOUTHERN PERIMETER ROAD
REVISED PROJECT COSTS

<u>PROJECT INPUTS</u>	(\$000)		
	<u>GOL</u>	<u>AID</u>	<u>TOTAL</u>
Engineering Design	\$ 800.0	\$ 2,200	\$ 3,000.0
Technical Services (Construction Supervision & Force Account Management)	-0-	3,552.3	3,552.3
Cut-Off Construction	-0-	15,636.0	15,636.0
Seaka Bridge Rehabilitation	232.0	-0-	232.0
Force Account Mobilization	1,586.2	-0-	1,586.2
Force Account Equipment	246.0	5,254.0	5,500.0
Force Account P.O.L.	4,135.8	1,086.3	5,222.1
Force Account Materials	-0-	2,469.5	2,469.5
Force Account Personnel	-0-	3,686.9	3,686.9
Evaluation	-0-	115.0	115.0
TOTAL.	<u>7,000.0</u>	<u>\$34,000.0</u>	<u>\$41,000.0</u>
Funds Currently Available (\$ Million)	5.0	26.0	31.0
Additional Funding Required	<u>2.0</u>	<u>8.0</u>	<u>10.0</u>
TOTAL	<u>7.0</u> ^{1/}	<u>34.0</u>	<u>41.0</u>
PERCENTAGE	17.1	82.9	100.0

1./ In addition to \$7,000,000 cash contribution, the GOL will contribute approximately \$500,000 in-kind. In-kind contributions will consist of sites for construction camps, shop and warehouse construction. Also, the GOL will contribute management time of its officers (Inter-Ministerial Coordinating Committee, MOW, Central Tender Board, etc.) See original project paper.

CUT - OFF
 DETAILED CONSTRUCTION COSTS
 MOUNT MOOROSI TO MPHAKI
 (\$000)

<u>BILL NO.</u>	<u>TITLE</u>	<u>VIRGIN AREA CONSTRUCTION</u>	<u>UPGRADING 8KM EXISTING TRACK</u>	<u>TOTAL</u>
1	Mobilization	3,700.0	218.0	3,918.0
2	Clearing	31.0	8.0	39.0
3	Topsoiling	639.0	166.0	805.0
4	Earthworks	2,037.0	254.0	2,291.0
5	Surfacing	405.0	110.0	515.0
6	Drainage	1,638.0	467.0	2,105.0
7	Culverts	44.0	44.0	88.0
8	Structures	780.0	-	780.0
9	Miscellaneous	233.0	30.0	263.0
	SUB-TOTAL	\$ 9,507.0	\$ 1,297.0	\$ 10,804.0
	<u>Contingency (10%)</u>	951.0	130.0	1,081.0
	<u>Inflation (1981-1983)</u>	3,141.0	610.0	3,751.0
	TOTAL	\$13,599.0	\$ 2,037.0	\$ 15,636.0

NOTE: Cost Details Developed through Engineering Design by PRC Harris.

SEAKA BRIDGE REHABILITATION
DETAILED COST ESTIMATE

Activity	Cost
1. Performance bond and insurance	\$ 6,800
2. Mobilization/Demobilization	50,200
3. Accomodation for resident engineer and maintenance/ protection of traffic	22,100
4. Concrete speed bumps	520
5. Repair eyebars	2,460
6. Strengthening Diagonals	5,720
7. Strengthening top cord splices	74,880
8. Strengthening lateral braces	8,320
9. Replacing missing bolts	350
10. Remove and replace bolts	190
11. Replace structural steel members	590
12. New railing	17,400
13. Additional welding	260
14. Grouting bearing pads	1,150
15. Cleaning and field painting	<u>19,760</u>
Sub-Total	\$210,700
Contingency @ 10%	<u>21,300</u>
Total Seaka Bridge Rehabilitation	<u><u>\$232,000</u></u>

Note: Estimates based on detailed engineering design by PRC Harris

FORCE ACCOUNT
TECHNICAL SERVICES
DETAILED COST ESTIMATE

A. Long Term Technical Services

Two Year Tour - Family of Two

<u>Item</u>	<u>Two Year Cost</u>
1. Base Salary (\$3,200/Mo.)	\$ 76,800
2. Post Differential (10%)	7,700
3. Fringe Benefits (32%)	24,600
4. Overhead (60%)	46,000
5. Round Trip Travel (2,600 X 2)	5,200
6. Airfreight (450 lbs.X \$4 X 2)	3,600
7. Storage of Effects	1,400
8. Predeparture Expenses	300
9. Quarters Allowance (\$650 X 24)	15,600
10. Utilities (\$150 X 24)	3,600
11. Guard Services (\$75 X 24)	1,800
12. Furnishing Allowance	4,000
13. Workman's Compensation Insurance	8,600
14. R & R Travel (2,400 X 2).	<u>4,800</u>
Total, Two Year Tour	\$204,000
Average Annual Cost	\$102,000
Average Monthly Cost	\$ 8,500

Note: Based on biographic data supplied by PRC Harris, estimates of two person families is reasonable.

B. Home Office Support

1. Project Officer 1/4 time or 12 months @ \$ 4,000	\$ 48,000
2. Consultants - 8 one month TDY's @ \$3,500	<u>28,000</u>
SUB-TOTAL	\$ 76,000
3. Fringe Benefits @ 32%	24,300
4. Overhead @ 110%	83,600
5. Consultants travel and per diem @ \$3,800 x 6	<u>22,800</u>
TOTAL HOME OFFICE SUPPORT	\$206,700

C. Summary - Technical Services Costs

1. Long Term Technicians	
a. Project Manager, 49 MM (1/1/81 - 2/1/85) @ \$8,500	\$416,500
b. Deputy Project Manager, 26 MM (1/1/81 - 3/1/83) @ \$8,500	221,000
c. Chief Superintendent, 49 MM (1/1/81 - 2/1/85) @ \$8,500	416,500
d. Deputy Superintendent, 46 MM (4/1/81 - 2/1/85) @ \$8,500	391,000
e. Chief of Materials, 24 MM (7/1/81 - 7/1/83) @ \$8,500	204,000
f. Master Mechanic, 43 MM (7/1/81 - 2/1/85) @ \$8,500	365,500
g. Controller, 24 MM (4/1/81 - 4/1/83) @ \$8,500	204,000
h. Chief Surveyor, 24 MM (7/1/81 - 7/1/83) @ \$8,500	<u>204,000</u>
SUB-TOTAL, LONG TERM TA	\$2,422,500

2. Home Office Support Costs	<u>206,700</u>
SUB-TOTAL, TA COSTS	\$2,629,200
3. Contingency (Includes Fee) 15%	394,400
4. Inflation @ 10%	<u>528,700</u>
TOTAL TECHNICAL SERVICES COSTS	<u><u>\$3,552,300</u></u>

FORCE ACCOUNT
 MOBILIZATION OPERATIONS
 DETAILED COST ESTIMATE

Mobilization Operations 3/1/81 - 8/1/81 - 5 Months

A. Equipment Rental (Rental Prices Include Operators)	
1. D-8 Dozers (2) \$98 per hour x 45 hrs./week x 22 weeks x 2	\$194,040
2. Grader (1) \$52 per hour x 45 hrs./week x 22 weeks	51,480
3. Front End Loader (1) \$52 per hour, 45 hours/week x 22 weeks	51,480
4. Dump Trucks (6) \$15 per hour x 45 hrs./week x 22 weeks x 6	89,100
5. Water Tanker (1) \$15 per hour x 45 hrs./week x 22 weeks	14,850
6. Rollers (2) \$26 per hour x 45 hrs./week x 22 weeks x 2	51,480
7. Compressor (1) \$7 per hour x 45 hrs./week x 8 weeks	<u>2,520</u>
Total Rental Costs	\$454,950

B. Petroleum, Oil and Lubricants

1. D-8 Dozers (2) 45 hrs./week, 22 weeks, 1,980 hrs. @ 50 liters/hr., 99,000 liters @ \$.55/liter	\$ 54,450
2. Grader (1) 45 hrs./week, 22 weeks, 990 hrs. @ 25 liters/hr., 24,750 liters @ \$.55/liter	13,613
3. Front End Loader (1) 45 hrs./week, 22 weeks, 990 hrs. @ 20 liters/hr., 19,800 liters @ \$.55/liter	10,890
4. Dump Trucks (6) 45 hrs./week, 22 weeks, 5,940 hrs. @ 35 liters/hr., 207,900 liters @ \$.55/liter	114,345
5. Water Tanker (1) 45 hrs./week, 22 weeks, 990 hrs. @ 35 liters/hr., 34,650 liters @ \$.55/liter	19,058
6. Rollers (2) 45 hrs./week, 22 weeks, 1,980 hrs. @ 20 liters/hr., 39,600 liters @ \$.55/liter	21,780
7. Compressor (1) 45 hrs./week, 8 weeks, 360 hrs. @ 20 liters/hr., 7,200 liters @ \$.55	<u>3,960</u>
Sub-Total Fuel	\$238,096
8. Oil and Lubricants @ 20% of Fuel Costs	<u>47,620</u>
Total POL Costs	\$285,716

C. Local Personnel Costs - 5 Months

1. Foreman (1) (\$6,500 p.a.)	\$ 2,710
2. Assistant Foreman (1) (\$4,300 p.a.)	1,800
3. Field Clerk (2) (\$2,750 p.a.)	2,300
4. Accounts Clerk (1) (\$3,510 p.a.)	1,470
5. Guards (2) (\$1,950 p.a.)	1,630
6. Drivers (4) (\$2,600 p.a.)	4,350
7. Laborers (40) (\$1,560 p.a.)	26,000
8. Equipment Operator Trainees (20) (\$4,300)	<u>35,850</u>

Total Personnel Costs \$ 76,110

D. Construction

1. Workshop - Heavy Equipment, 600 m ² @ \$260/m ²	\$ 156,000
2. Warehouse Space, 12,000 m ² @ \$260/m ²	312,000
3. Field Huts @ \$800 each x 20	16,000
4. Security Fencing	<u>14,000</u>
Total Construction Costs	\$ 498,000

E. Office Furnishings and Equipment

1. Office Desks, 26 @ \$300 each	\$ 7,800
2. Chairs, 26 @ \$80 each	2,080
3. File Cabinets, 8 @ \$130 each	1,040
4. Calculators, 12 @ \$400 each	4,800
5. Typewriters, 6 @ \$1,200 each	7,200
6. Photocopier, 1 @ \$6,800	6,800
7. Safes, 3 @ \$600 each	1,800
8. Heaters, 25 @ \$80 each	2,000
9. Laboratory Equipment, various	5,000
10. Miscellaneous	<u>1,500</u>
Total Furnishings and Equipment	\$ 40,020

F. Training

1. Equipment Operators (20) @ \$30 per day for approx. 90 days	\$ 54,000
2. Miscellaneous costs - materials, travel, visual aids, etc.	<u>6,000</u>
Total Training Costs	\$ 60,000
Sub-Total Mobilization Operations	\$1,414,796
Contingency @ 12%	<u>171,404</u>
Total Mobilization Operations	<u>\$1,586,200</u>

FORCE ACCOUNTEQUIPMENT LIST

<u>DESCRIPTION</u>	<u>QUANTITY</u>	<u>\$ UNIT COST</u>	<u>\$ TOTAL COST</u>
Gradall - G660	1	135,000	135,000
Cat D8 (with ripper)	4	221,000	884,000
Backhoe 1½ cubic yd with Loader (Case 780)	1	62,000	62,000
Front End Loader 2 yd ³	1	71,000	71,000
Front End Loader 3 yd ³	2	109,000	218,000
Grader (Cat - 14G)	2	147,000	294,000
Roller - Pneumatic	1	54,000	54,000
- Smooth 12T/14T	1	46,000	46,000
- Grid	1	23,000	23,000
- Vibrating	2	75,000	150,000
Tractor (farm) for Grid	1	20,000	20,000
Crusher Plant (portable)	1	175,000	175,000
Concrete Mixer (10/14)	1	26,000	26,000
Concrete Mixer (7/10)	1	10,000	10,000
Compressor 742 CFM (Portable)	2	66,000	132,000
Compressor 425 CFM (Stationary)	1	43,000	43,000
Chip Spreader (Jersey) 9/12/Ft	2	9,000	18,000
Asphalt Distributor 1500 gal with Burners	1	40,000	40,000
Mechanical Broom	1	15,000	15,000
Generator - 50Kv	2	15,000	30,000
Generator - Portable	6	1,500	9,000
Fuel & Lubrication Truck	2	45,000	90,000

<u>DESCRIPTION</u>	<u>QUANTITY</u>	<u>UNIT COST</u>	<u>TOTAL COST</u>
Flat 1x1	2	20,000	40,000
Low Boy & Tractor - 40T (Low bed)	1	73,000	73,000
Dump Trucks - 8CY Back Tipper	4	27,000	108,000
Dump Trucks - 12CY Back Tipper	6	30,000	180,000
Water Tanker	2	27,000	54,000
Welder 300 AMP	2	3,000	6,000
Pump - 4 inch	4	1,500	6,000
Workshop Equipment & Hand tools	1	25,000	25,000
Pump - 2 inch	6	500	3,000
Jack Hammer	8	1,500	12,000
Stone Breaker	8	1,500	12,000
Bits and Steel	50	500	25,000
Drill Press	2	1,500	3,000
Air Filter Cleaner	2	500	1,000
Fuel Tank - 1000 gal	4	1,000	4,000
500 gal	4	500	2,000
Radios - single side band-4 channels	10	4,000	40,000
Concrete Vibrators	4	500	2,000
Hand Compactors	4	1,500	6,000
Shovels	500	12	6,000
Picks	300	20	6,000
Wheelbarrows	300	30	9,000
Hard hats	1000	5	5,000
Pick-ups $\frac{3}{4}$ T	5	7,000	35,000
Trailers - 40ft	10	12,000	120,000*

*To be procured with GOL funds.

<u>DISTRIBUTION</u>	<u>QUANTITY</u>	<u>UNIT COST</u>	<u>TOTAL COST</u>
Trailers - 20ft	10	9,000	90,000 *
Trailers - office 40f	4	6,000	24,000 *
- parts 30ft	4	3,000	12,000 *
Survey Equipment for one crew	1	10,000	10,000
			<hr/>
Total Equipment at factory			\$3, 464,000
Parts at factory (18%)			\$ 624,000
Total parts & Equipment			\$4, 088,000
Freight & Handling to Maseru @ 25%			<u>\$1, 022,000</u>
Sub-Total			\$5, 110,000
Contingency (7.5%)			390,000
			<hr/>
TOTAL ESTIMATED COST			\$5, 500,000

*To be procured with GOL funds:.

FORCE ACCOUNT
 PETROLEUM, OIL AND LUBRICANTS
 DETAILED COST ESTIMATE

<u>Equipment Item</u>	<u>No.</u>	<u>Unit Consumption lt.Per Hour</u>	<u>Total Consumption lt.Per Hour</u>
1. Gradall - G660	1	30.0	30.0
2. Cat D8 (with ripper)	4	51.1	204.4
3. Backhoe 1½ yd ³ (with loader)	1	19.3	19.3
4. Front End Loader 2 yd ³	1	19.3	19.3
5. Front End Loader 3 yd ³	2	23.8	47.6
6. Grader (Cat 14G)	2	27.3	54.6
7. Rollers - Penumatic	1	20.0	20.0
- Smooth 12T/14T	1	20.0	20.0
- Vibrating	2	15.0	30.0
8. Tractor (Farm)	1	15.0	15.0
9. Crusher Plant (portable)	1	30.0	30.0
10. Concrete Mixer (10/14)	1	8.0	8.0
11. Concrete Mixer (7/10)	1	5.0	5.0
12. Compressor 742 CFM (Portable)	2	25.0	50.0
13. Compressor 425 CFM (Stationary)	1	20.0	20.0
14. Chip Spreader (Jersey) 9/12/FT	2	10.0	20.0
15. Asphalt Distributer 1,500 Gal.	1	35.0	35.0
16. Mechanical Broom	1	5.0	5.0
17. Generator - 50 Kv	2	10.0	20.0

<u>Equipment Item</u>	<u>No.</u>	<u>Unit Consumption Lt. Per Hour</u>	<u>Total Consumption Lt. Per Hour</u>
18. Generator - Portable	6	5.0	30.0
19. Fuel & Lubrication Truck	2	30.0	60.0
20. Low Boy & Tractor - 40T	1	44.2	44.2
21. Dump Trucks - 8CY Back Tipper	4	35.0	140.0
22. Dump Trucks - 12 CY Back Tipper	6	40.0	240.0
23. Water Tanker	2	35.0	70.0
24. Pump - 4 inch	4	6.0	24.0
25. Pump - 2 inch	6	3.0	18.0
26. Concrete Vibrators	4	2.0	8.0
27. Hand Compactors	4	3.0	12.0
28. Pickups - 3/4 T	5	8.0	<u>40.0</u>

Total Consumption-Liters Per Hour 1,339.4

Average Annual Consumption @ 1,000 Hours
of Operation Per Year - Liters

1,339,400

Annual Fuel Cost @ \$.55/liter

\$ 736,670

Oil & Lubricants @ 20% Fuel Cost

147,330

P.O.L. Per Year

\$ 884,000

P.O.L. - 3.5 Year Operation

\$3,094,000

Contingency @ 10%

309,400

Inflation @ 20% P.A.

1,818,700.

Total P.O.L. - 3,5 Years

\$5,222,100

FORCE ACCOUNTMATERIALSDETAILED COST ESTIMATE

<u>MATERIAL</u>	<u>\$ COST</u>
A. Corrugated Metal Pipe Culverts and arch pipe culverts:	
1. 900 mm diameter - 550M @ \$60/M	\$33,000
2. 1200MM diameter - 1,500M @ \$80/M	120,000
3. 1500MM diameter - 900M @ \$120/M	108,000
4. 1800MM diameter - 600M @ \$180/M	108,000
5. Arch pipe culvers - 800M @ \$500/M	<u>400,000</u>
Sub Total Culverts	\$769,000
E. Bitumen Material:	
1. Prime Coat - 290,400 liters @ \$.55	\$159,720
2. First Coat - 290,400 liters @ \$.55	159,720
3. Second Coat - 448,800 liters @ \$.55	<u>246,840</u>
Sub Total, Bitumen	\$566,280
C. Dynamitz and Caps: Rock Blasting for crushing Material and Roadway Excavation, 100,000 M ³ @ \$1.00 1 M ³	\$100,000
D. Cement:	
1. Drop Inlets - 430 @ 5/50 kg bags each @ \$2.50/bag	\$ 5,375
2. Head walls - 1200 @ 25/50 kg bags each @ \$2.50/bag	75,000
3. Rip-Rap, Ditch and culvert apron - 250,000M ² or 75,000 50 kg bags @ \$2.50/bag	<u>187,500</u>
Sub Total Cement	\$267,875

E. Office Supplies/Upkeep, Materials, Equipment Repair, First-Aid Sup- plies and Maintenance @ \$3,000/ Month, 3.5 years	\$ 126,000
Sub-Total, Materials	\$1,829,155
Contingency @ 10%	182,845
Inflation @ 10% P.A.	457,500
Total Materials Costs	<u>\$2,469,500</u>

FORCE ACCOUNT

PERSONNEL

DETAILED COST ESTIMATE

<u>Organization/Position</u>	<u>No.</u>	<u>\$ Annual Salary Each</u>	<u>\$ Annual Salary Total</u>
A. <u>Head Office</u>			
Secretary/Administrative Assistant	1	4,300	4,300
Clerk	1	2,750	2,750
Custodian	1	1,560	1,560
Sub-Total	3		\$ 8,610
B. <u>Accounting Section</u>			
Cost Accountant	1	7,800	7,800
Payroll Clerk	1	3,510	3,510
Cashier/Paymaster	1	3,510	3,510
Chief Clerk/Time Keeper	1	3,510	3,510
Procurement Clerk	1	3,510	3,510
Typist	1	3,510	3,510
Messenger	1	1,560	1,560
Guard	1	1,950	1,950
Sub-Total	8		\$ 28,860
C. <u>Equipment Operators</u>			
Heavy Equipment	30	4,300	129,000
Drivers	28	2,600	72,800
Laborers	10	1,560	15,600
Sub-Total	68		\$217,400
D. <u>Materials and Tool Storage</u>			
Storekeeper	1	4,300	4,300
Clerk	1	2,750	2,750
Laborers	4	1,560	6,240
Sub-Total	6		\$ 13,290
E. <u>Survey Crew</u>			
Quantity Surveyor	1	4,300	4,300
Transit Man	1	4,300	4,300
Level Man	2	4,300	8,600
Chain Man	3	2,750	8,250
Laborers	6	1,560	9,360
Sub-Total	13		\$ 34,810

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<u>Organization/Position</u>	<u>No.</u>	<u>\$ Annual Salary Each</u>	<u>\$ Annual Salary Total</u>
II. <u>Construction Superintendent Section</u>			
1. <u>Earth Work Unit</u>			
Foreman	1	\$ 6,500	\$ 6,500
Field Clerk	1	2,750	2,750
Guard	1	1,950	1,950
Laborers	2	1,560	3,120
2. <u>Sub-Grade Unit</u>			
Foreman	1	\$ 6,500	\$ 6,500
Field Clerk	1	2,750	2,750
Guard	1	1,950	1,950
Laborers	8	1,560	12,480
3. <u>Surfacing Unit</u>			
Foreman	1	\$ 6,500	\$ 6,500
Assistant Foreman	1	4,300	4,300
Field Clerk	1	2,750	2,750
Laborers	20	1,560	31,200
Guards	2	1,950	3,900
4. <u>Structures Unit</u>			
Foreman	1	\$ 6,500	\$ 6,500
Field Clerk	1	2,750	2,750
Masons	15	2,860	42,900
Carpenters	5	2,860	14,300
Iron Man	1	2,860	2,860
Pipe Chief	1	2,860	2,860
Guards	2	1,950	3,900
Laborers	48	1,560	74,880
Sub-Total	115		\$ 237,600
Total Annual Personnel Costs			\$ 706,680
Contingency @ 10%			\$ 70,620
Sub-Total			\$ 777,300
Personnel Costs, 3.5 Years			\$2,720,550
Inflation @ 15%			<u>\$ 966,350</u>
TOTAL Personnel, 3.5. Years			<u><u>\$3,686,900</u></u>

PROJECT EVALUATIONDETAILED COST ESTIMATE

A. INTERIM EVALUATION (EARLY FY 82)

Two Persons for two months:

1. Salary @ \$3,500/month	\$ 14,000
2. Overhead and Fee @ 100%	
Base Salary	14,000
3. Per Diem @ \$50/day	6,000
4. Round Trip Travel @ \$2,500	5,000
5. Secretarial, Costs, Reproduaction, In-country Travel & Miscellaneous	<u>6,000</u>
SUB-TOTAL, INTERIM EVALUATION	\$ 45,000

B. FINAL EVALUATION (JAN. - FEB. 1985)

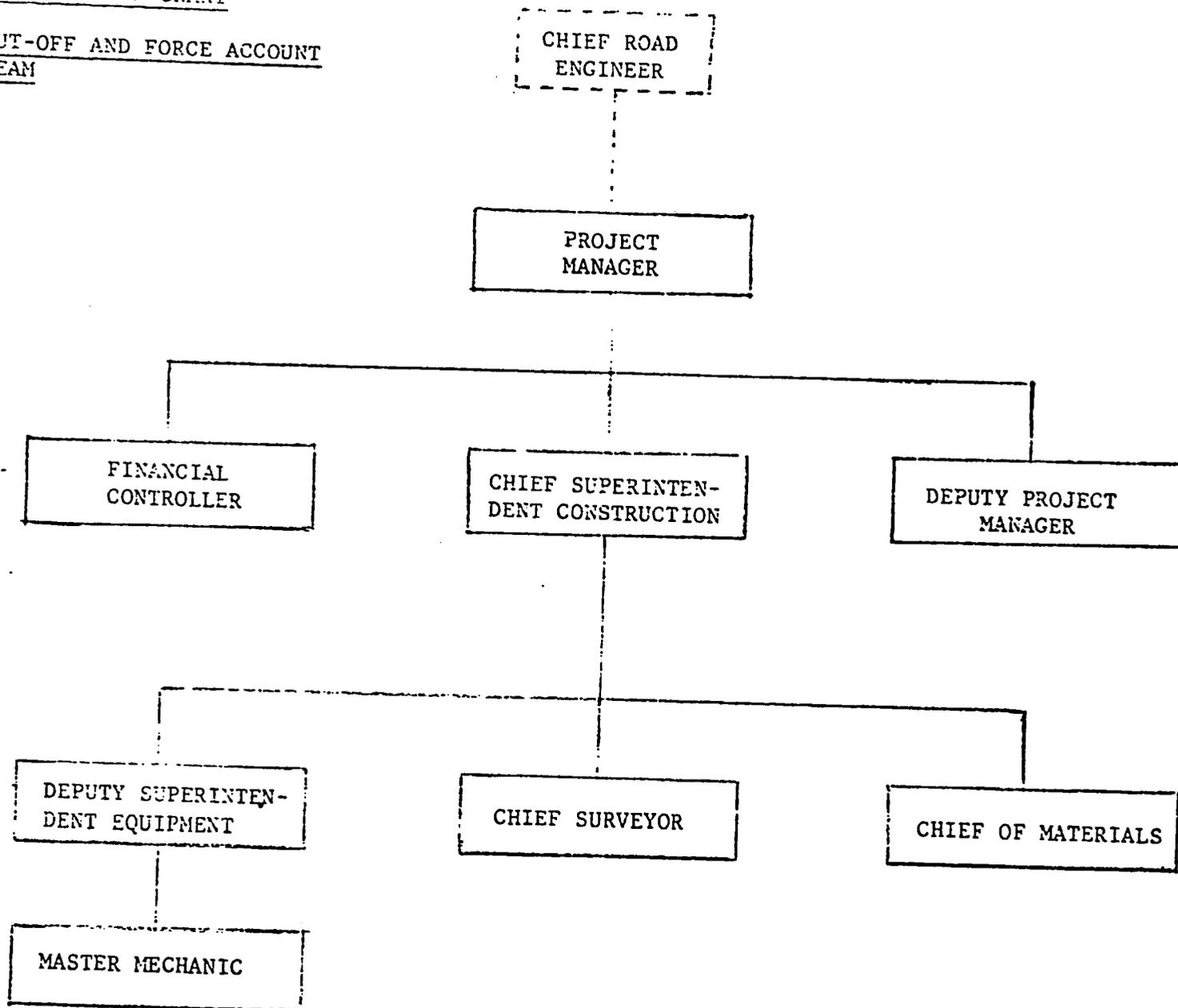
Two Persons for two months:

1. Salary @ \$4,500/month	\$ 18,000
2. Overhead and Fee @ 100%	
Base Salary	18,000
3. Per Diem @ \$65/day	7,800
4. Round Trip Travel @ \$3,500	7,000
5. Secretarial Costs, Reproduction, In-country Travel & Miscellaneous	<u>8,200</u>
SUB-TOTAL, FINAL EVALUATION	\$ 59,000
SUB-TOTAL PROJECT EVALUATION	\$104,000
Contingency @ 10%	<u>11,000</u>
TOTAL PROJECT EVALUATION COSTS	\$115,000

ORGANIZATION CHART

CUT-OFF AND FORCE ACCOUNT
TEAM

ANNEX IV



NB: Chief Road Engineer not financed by project
: Local personnel assigned to expatriate staff
shown in Annex III.D.6.

ANNEX IV

TECHNICAL SERVICES JOB DESCRIPTIONS

The Project Manager is the senior executive of the Consultant to direct the overall supervision of both the rehabilitation of the Seaka Bridge and construction of the road between Mt. Moorosi and Mphaki, including the 80m Quthing River Bridge, as well as the field management of the force account team upgrading the existing road from Quthing to Mt. Moorosi and from Mphaki to Qacha's Nek. He will report to, advise, and receive assignments from the Chief Roads Engineer, Ministry of Works, Government of Lesotho, with respect to engineering supervision and to management of the force account team. He engages the Consultant's professional responsibility with respect to engineering supervision and force account management.

He is the Consultant's representative directly responsible for the force account team's:

- timely and accurate preparation of work plans and related budgets - life of project, annually, quarterly, and monthly - and for obtaining MOW approval thereof and for their proper execution;
- timely and accurate progress reports showing actual work and expenditures against plans and budgets with recommendations for improving progress and cost effectiveness;
- compliance with design standards and achievement of planned tasks within the budget;
- professional conduct, work disciplines and morale;
- maintenance storage and effective use of equipment and materials exclusively for the project;
- procurement of supplies and materials within approved budget for the project;
- mobilization, including establishing base camp, recruiting, training, renting equipment, receiving, inspecting and transporting equipment and commodities from Maseru to the job site; and
- establishment of and adherence to systems, approved by MOW, for the accountability and control of property and funds.

The Deputy Project Manager is the resident engineer supervising rehabilitation of the Seaka Bridge and the construction of the road and bridge between Mt. Moorosi and Mphaki. He reports to the Project Manager with respect to controlling contractor work, certifying compliance with drawings and specifications and quantities performed and entitlement to payment, providing current and timely progress reports and notification of delay and difficulty, advising on proposed or actual changes and related equitable adjustments. He will provide appropriate training and work experience

to his assigned counterpart.

The Chief Superintendent (Construction) is the Project Manager's principal executive officer on site with the force account team. He is directly responsible to the Project Manager for the preparation of and adherence to approved work plans and budgets, progress reports, compliance with standards, use and safekeeping of equipment, materials and supplies, conduct of personnel, accountability for funds and property, organization of camp, recruitment and training. He will provide appropriate training and work experience to his assigned counterpart.

The Financial Controller is responsible to the Project Manager for financial controls and cost accounting and procurement records. He will develop and ensure the use of a cost accounting systems showing costs of labor, materials, supplies and equipment use against work items to permit, inter alia, the accurate and timely comparison of actual, accrued and budgeted expenditures against periodic work plans. He will supervise the task force's accountants, controller and payroll personnel.

The Deputy Superintendent (Equipment Maintenance) is responsible to the Chief Superintendent (Construction) for the procurement, reception, warehousing, maintenance and repair of equipment, materials and supplies. He should design the camp's warehouse and shop facilities, including inventory controls, timely provision and replenishment of spare parts and supplies, periodic maintenance. He supervises the preparation and execution of training programs for mechanics, maintenance workers and warehousemen. He manages their work and is responsible for their performance.

The Chief of Materials is responsible to the Chief Superintendent (Construction) for the establishment and operation of field laboratory and materials testing facilities. He shall advise the Chief Superintendent or as assigned the Deputy Project Manager with respect to the quality and other properties of materials to be incorporated into the project.

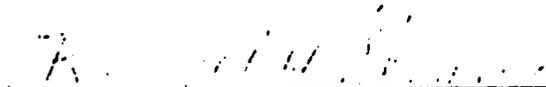
The Master Mechanic is responsible to the Deputy Superintendent for organizing and directing the maintenance and repair facilities in the field, including periodic maintenance programs for equipment and training for maintenance personnel. He directly assigns work to maintenance personnel, maintains order and quality control in the shops, and advises the Deputy Superintendent on the adequacy of the plant, supplies and spares.

The Chief Surveyor is responsible to the Chief Superintendent (Construction) for the proper alignment of the work including recommendations for balancing cut and fill, and for measuring quantities and distances.

FAA Section 611(e) Certification

LESOTHO SOUTHERN PERIMETER ROAD PROJECT

I, Kenneth H. Sherper, Acting Director, USAID/Lesotho, having considered the maintenance and utilization of projects in Lesotho previously financed in part by the United States and having noted the skill and determination of the Government of Lesotho in re-designing this road project as well as their commitment of both organizational and financial resources to the project including undertakings to provide for maintenance in annual budgets and being aware of the interests of other donors in related projects, do now certify that in my judgment the Government of Lesotho has and will have and employ both the financial and human resources to maintain and effectively utilize the capital assistance provided under the project.



Kenneth H. Sherper
Acting Director
USAID/Lesotho

Date: 0 0 1980

In reply please quote: CPO/63/030
Your Reference:



Cable address: PLANNOFF
Telephone: 23811 Maseru

CENTRAL PLANNING AND
DEVELOPMENT OFFICE
P.O. BOX MS 630
MASERU 100
LESOTHO

16th July, 1980

Mr. Kenneth Sherper,
Acting Director, USAID,
P.O. Box 333,
MASERU
LESOTHO

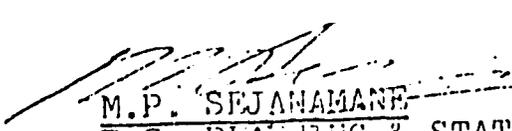
Dear Mr. Sherper,

SOUTHERN PERIMETER ROAD

Reference is made to your letter dated July 5,
1980 and our discussion of yesterday July 15,
1980 regarding the above subject.

We confirm that Government is willing to commit
an additional \$2.0 million towards execution of
the project. We request that AID consider provi-
sion of an additional \$3.0 million to finance the
project which as you know has been redesigned to
austere minimum compatible with achieving the
objectives of the original project.

Yours Sincerely,


M.P. SEJANAMANE
P.S. PLANNING & STATISTICS

STATUTORY CHECKLISTS

I. Country Checklist

A. Prepared and submitted as part of the Project Paper entitled "Land Conservation and Range Development (632-0215)"

II. Project Checklist

Listed below are statutory criteria applicable generally to projects with FAA funds and project criteria applicable to individual funding sources: Development Assistance (with a sub-category for criteria applicable only to loans); and Economic Support Fund.

A. GENERAL CRITERIA FOR PROJECT

1. FY 80 App. Act Unnumbered; FAA Sec. 634A; Sec. 653(b); (a) Describe how authorizing and appropriations Committees of Senate and House have been or will be notified concerning the project. (b) Is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than \$1 million over that figure)?

(a) \$8 million increase appears on page 531 of the FY 1981 Congressional Presentation.

(b) Yes.
2. FAA Sec. 611(a)(1). Prior to obligation in excess of \$100,000, will there be (a) engineering, financial, and other plans necessary to carry out the assistance, and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?

(a) Yes,
3. FAA Sec. 611(a)(2). If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?

No specific legislative action is required.

4. FAA Sec. 611(b); FY 80 App. Act. Sec. /501/
If for water or water-related land resource construction, has project met the standards and criteria as per the Principles and Standards for Planning Water and Related Land Resources dated October 23, 1973?

Not applicable

5. FAA Sec. 611(e). If project is capital assistance (e.g. construction), and all U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project?

Yes.

6. FAA Sec. 209. Is project susceptible of execution as part of regional or multilateral project? If so, why is project not so executed? Information and conclusion whether assistance will encourage regional development programs.

Project forms one discrete component of a large multi-donor effort to improve Lesotho's road network. The project will have little effect re encouragement of regional development program since its impact will be felt primarily within Lesotho.

7. FAA Sec. 601(a). Information and conclusions whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions.

The project will encourage international trade by providing an improved transportation route for Lesotho exports. Also it will serve to encourage competition in provisioning south and south-east Lesotho by improving access routes from western Lesotho.

8. FAA Sec. 601(b). Information and conclusion on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).

The project will fund U.S. source design, supervision and construction management, as well as U.S. source equipment except where waivers allow otherwise.

9. FAA Sec. 612(b); Sec. 636(h). Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services, and foreign currencies owned by the U.S. are utilized to meet the cost of contractual and other services.

Although Lesotho is listed by the U.N. as a "relatively least developed country" and has limited financial resources, the GOL will contribute approximately 15.4% of total project costs.

10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country, and if so, what arrangements have been made for its release?

Not an excess foreign
currency country

11. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise?

Yes.

12. FY 80 App. Act Sec. 521 If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar, or competing commodity?

Project will not assist
production of export
commodities.