PD-ACB-827

AGENCY FOR
INTERNATIONAL
DEVELOPMENT

ANNUAL BUDGET SUBMISSION

FY 1981

DEVELOPMENT SUPPORT BUREAU

OFFICE OF ENGINEERING

DEPARTMENT
OF
STATE

MAY 1979

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ABS - FY 1981

NARRATIVE

GENERAL

The decisions made in the CPSS reflect the broad objectives and responsibilities carried out by the Office of Engineering basic to the A.I.D. Mission which is to provide professional engineering expertise and support to the Agency's field activities.

We estimate that over 60% of A.I.D.'s activities require some degree of engineering judgment. The efforts of the Office of Engineering, therefore, are defined by the engineering content of A.I.D.'s development and security supporting assistance programs. The resources of the office will be a staff of professional engineers offering a variety of highly specialized engineering skills, complementing and supplementing the general engineering expertise within Bureaus and Missions. Specialized disciplines will include transportation, equipment, sanitary, water resources, telecommunications, hydrology, mineral resources, electric power, environment and industry. In addition to the decentralized direct field support function, the office will maintain the Agency's central link to the construction and professional engineering community. The office also serves as the locus of support for the Agency's career development program for engineers.

ENGR's Major objectives include:

1. Engineering and technical support to A.I.D. programs.

2. Technical leadership in developing A/E and construction policy, procedures, and standards for A.I.D. engineers worldwide.

3. Career development of engineers assigned to engineering codes including dissemination of professional and technical information.

4. Engineering and construction technology to LDC development programs.

5. Representational liaison with the A/E and construction industry and its various associations.

These development objectives or functional role of this office are important for A.I.D.'s development goals today and for changes

anticipated by 1985. U.S. bilateral economic assistance financed by SSA and DA has always included infrastructure, technology transfer and institution building. Without these elements there cannot be meaningful development, and because engineering has a critical role to play in all of these areas, DS/ENGR will remain responsible for engineering guidance and direction.

We are currently authorized ten professional positions and three support staff. These include the following engineering disciplines:

Administration
Transportation
Equipment/Airport
Sanitary/Water Resources
Telecommunications
Electric Power
Architectural
Structural
Chemical/Industrial
Civil

For purposes of this discussion therefore, we shall consider for all three categories (1. Minimum, 2. Current, and 3. AAPL) that the position breakdown is ten (10) professional and three (3) support for a total FTEPP of thirteen (13).

From April 1, 1978 to April 30, 1979, the 12 professionals assigned to DS/ENGR have spent an average of 24% of their workdays in TDY status.

DISCUSSION

As noted in the ENGR CPSS, our capacity to respond to the Agency's many requirements has been made possible by the engineers assigned to the complement. This has been especially true in the fields of hydrology, administrative services and mineral resources. The imminent assignment of two engineers to the field and one loss to mandatory retirement means that the office will lose its capacity to serve in these three areas. Until these engineers are replaced, their loss will adversely impact on our programs and engineers world-wide, especially as the Agency pursues new initiatives in water, sanitation, and material resources and engineering.

1. Reduction of Staff by 10 Percent. A 10% reduction in the DS/ENGR staff would mean abolishing the position of one professional. Since DS/ENGR has only one engineer for each of the critical engineering functions, elimination of one specialized discipline of the ten above, would simply mean that we would be unable to provide services in that particular discipline of engineering. The engineers assigned to the bureaus are mostly generalists and, consequently, the Agency would be devoid of a needed technical specialty.

Due to the Office's skeleton staff of 13 positions, the Minimum, Current and AAPL levels shown in the workforce allocation tables are the same. As previously discussed, we are unable to reduce the staff without seriously affecting our ability to cover the Agency's engineering requirements worldwide.

2. An increase in staff is critical to fully carry out our mission.

First Priority

Water Resources Engineer (Irrigation)

The Agency continues to have a critical shortage of water resource engineers in AID/W and in the field. Expected retirements will increase our shortage and because recruitment is slow and uncertain, early efforts to locate suitable replacements are essential. With continued emphasis on rural development and agriculture, irrigation/land and water management has become an important feature in A.I.D.'s programs. Moreover, several multi-purpose river basin planning projects underway in West Africa will need water resources engineering. In the field of water supply and sanitation, A.I.D. must provide resources to implement the increased commitments planned for the next decade. It will be impossible to meet all of these demands with the one water resources engineer on board who is also doubling as sanitary and environmental engineer.

Second Priority

Deputy Director

The volume of administrative work performed over the last year has increased immensely for DS/ENGR with no signs that it will subside or level off. This is a superimposed workload which requires considerable management attention and continuity. Until recently, ENGR always had an Administrative Assistant and a Deputy Director. These two positions were eliminated during the reorganization. Fortunately, we have on the reassignment complement an engineer who has taken over and performed many of the functions. However, this is only a temporary relief situation. He is retiring within the next few months. Another essential function of a Deputy is to maintain the lines of communications with our engineers throughout the world and respond to their needs for technical and professional data.

The Director is almost totally engaged in administrative, policy, representational and staffing work. These activities and new initiatives cannot be properly pursued without assistance in the form of a Deputy Director to share in the work and to assist in professional interaction.

CENTRALLY MANAGED PROJECTS

DS/ENGR has managed three projects during the past year. These are:

Ultra Low Cost Shelter
Low Cost Roofing Utilization
Transportation Technology Support Services

Ultra Low Cost Shelter will phase out this fiscal year with a final report from the contractor due in June, 1979.

Low Cost Roofing Utilization was proposed during the FY 1980 ABS reviews and approved as the only new project for DS/ENGR. This project follows research which was successful in developing four types of roofing materials. With the concurrence of USAID/Manila and the Government of the Philippines, an expost facto evaluation is planned for this project. In an effort to consolidate responsibility within the DS Bureau and increase DS/ENGR field support capability, this project will be transferred to DS/ST.

Transportation Technology Support Services is currently on schedule, and we should continue to manage it through its completion in 1980.

One new project is proposed to be managed by DS/ENGR. This project is considered high priority, and because of its regional impact and that the engineering specialty in A.I.D. is located in our Office only, it is considered suitable for management by DS/ENGR. This project will not significantly affect our staff's ability to provide field support to the Agency in transportation engineering. The two engineers designated to manage the project have managed such activities for several years. Their services will still be available to regional bureaus, Missions and LDCs. The proposed project is:

Study of Engineering Properties of Arid Soils

The project is similar in scope and purpose to the recently completed A.I.D.-financed engineering study on "Laterite and Lateritic Soils and Other Problem Soils of the Tropics" which significantly contributed to tropical state-of-the-art design and construction of roads and other civil works. In the past several years, A.I.D. and other donors have become increasingly supportive of infrastructure projects in arid regions where unstable soils such as sands, silts, loams, alkaline and other problem soils dominate. Suitable materials for construction must

either be imported at great expense or the local materials must undergo expensive treatment to be usable. Therefore, we submit that a comprehensive study of such marginal or non-usable materials would greatly benefit the LDCs and should result in significant savings in investment costs. It is proposed to commence this project in FY 1981 with a study concentrating in the Sahel, Southern Africa, and Middle East regions. The project has support of the engineers in the geographic bureaus especially those in AFR and NE. As this project is directed towards field utilization and involves predominantly on-site evaluation and practical engineering research/adaptation concepts, it would not be suitable for undertaking by ISTC.

The project has been discussed with appropriate IBRD engineers and they support it. The World Bank, like other regional banks, while recognizing the problems, does not ordinarily finance such engineering studies. Bilaterally the U.K.'s Transportation Road Research Laboratory and the French have done some excellent work in some LDCs but limited in scope.

Exploratory discussions have been held with representatives of the Egyptian Ministry of Transport and Cairo University. They are highly enthusiastic about the proposed project and have promised support and cooperation if Egypt is approved as a site. A preliminary study, through an IQC contractor is planned to clearly define the locales and scope of work for this study.

SUMMARY

We know the problem - what A.I.D.'s projected requirements are through 1985, and we are prepared to provide the engineering resources needed to carry out the mission. To meet this challenge, DS/ENGR needs a professional engineering capacity supplemented with contract services and PASAs. Accordingly, our staff projections and resources required to carry out functions and A.I.D.'s objectives by 1985 as presented herein are conservative.

The broad objectives and responsibilities carried out by DS/ENGR basic to the A.I.D. Mission are to provide professional expertise and capacity for·

1. Engineering and technical support to A.I.D. programs.

2. Engineering and construction technology to LDC development programs.

3. Technical leadership in developing A/E and construction policy, procedures, and standards for A.I.D. engineers world-wide.

4. Career development of engineers assigned to engineering codes including dissemination of professional and technical information.

5. Representational liaison with the A/E and construction industry and its various associations.

The development objectives or functional role in this strategy are important for A.I.D.'s development goals today and for any changes which may occur by 1985. U.S. bilateral economic assistance financed by SSA and DA has always included infrastructure, technology transfer and institution building. Without these elements there cannot be meaningful development, and because engineering has a critical role to play in all of these areas, DS/ENGR will continue to be responsible for engineering guidance in the foreseeable future.

DISCUSSION:

As the engineer's role is imperative to insuring A.I.D. program success, it is felt that some elaboration is necessary, particularly as this effort contributes to a central program strategy. It must be clearly understood that over 60% of the A.I.D. budget requires engineering considerations and judgements.

Engineering and Technical Support:

AID's expanding role in both development and security supporting assistance (FAA sec. 103-106 and 531) has created a substantial increase for engineering services in all elements of the development and implementation processes. To meet this critical challenge, DS/ENGR provides the technical excellence and professional expertise to support the geographic bureaus and field missions, through its broad disciplinary and highly specialized staff of engineers.

The increases in the number of infrastructure projects (particularly rural) as well as a burgeoning supporting assistance program, has placed new responsibilities on DS/ENGR to determine how best to use the very limited professional resources available. Thus, is introduced new requirements for consultants, IQC's, Requirements Contractors, PASA's, and experts. When adding increased demands for extension of labor-intensive projects and more attention to appropriate technology, additional adaptions to normal engineering practice is an added burden calling for increased DS/ENGR information gathering and data flow to all field personnel, both direct hire and augmentees. All this is in addition to the basic requirement of law and common practice - to insure the best engineering in a timely manner for a fair cost.

DS/ENGR provides opportunities for engineers to be rotated from overseas and serve in AID/W for several years before they are reassigned abroad. Their resultant experience on central programs, policy matters, representational duties and their exposure to world-wide programs broadens their background and enhances their career development. This same experience becomes a valuable AID resource on policy and program matters.

Engineering and Construction Technology:

New technology for the developing world goes much further than simply what is known and practiced at present. In engineering and construction, what is now called for, is a whole package of new technology and practice. This course requires close linkages between engineers and those funding and developing research projects. When

the research is completed DS/ENGR's role will be to assist the geographic bureaus and overseas missions in designing appropriate pilot or field adaptation projects. The multidisciplinary capacity of the Office, - i.e., architectural, structural, water resources, sanitary, electric power, industrial, transportation, telecommunication, hydrology and mineral resources - allows full coverage for practically all sectors of development and the close working relatipnship of all engineers in A.I.D., and can provide the resources needed to incorporate research in the long range strategy of the LDCs. This diversity in engineering capability and world-wide integrated professional strength will facilitate the interaction between Washington and field operations.

DS/ENGR's program goals and responsibilities in appropriate technology application derive from three sources.

Firstly, is the need for field application of research performed by other DS offices or ITC. DS/ENGR will provide engineering assistance to these offices in project design and will support them during the contract stage as needed. When the research is completed DS/ENGR's role will be to assist the geographic bureaus and overseas missions in designing appropriate pilot or field adaptation projects.

Secondly, DS/ENGR answers the need to support field operations in technology transfer and utilization. Through its multidisciplinary capacity, DS/ENGR will provide expertise to the regional bureaus and field missions in identifying and designing engineering and construction projects. This effort involves considerable TDY for DS/ENGR staff for purposes of consulting with mission and host government officials and institutions. The projects developed for the most part are to be funded by the mission or the AID/W geographic bureau, with DS/ENGR acting as technical advisors with responsibility for the entire development phase.

ENGR can contribute most effectively toward the application of engineering and construction technology in LDC's because of our intimate association and knowledge of the field activities and our professional association with the staff responsible for monitoring them. Moreover, our multidisciplinary staff is better equipped to respond to the many varied programs. Their insights and close involvement with the geographic bureaus and missions makes them uniquely qualified.

Technical Leadership in Developing Policy:

A central focal point for internal and external professional engineering contact is of increased importance now that there are five or more separate engineering offices located within AID/W. Thus,

the bureau and mission engineers look to DS/ENGR carrying out this essential policy role. Some of the activities include, determining country ability or eligibility to carry out engineering functions, advising management relative to selection procedures for A/E and construction firms, construction bonding, construction monitoring, evaluation procedures relative to consultant and contractor performance, and recommending and clarifying changes in public laws and regulations relative to construction and engineering practice. Incidentally, these are all functions which must be performed by D.H. engineers, not by contractors.

As A.I.D. assumes a leadership role in assisting the world's needy in support of the UN's water and sanitary decade, new challenges are presented to the engineer. The water and sanitary decade initiatives by the U.S. will require the development of a whole new set of criteria for designing and implementing the water and sanitary systems for billions of needy people. This work is predominantly (engineering) infrastructure, technology transfer (training) and institution building.

An important realization concerning the respective role of DS/ENGR (Central) vis-a-vis the operational bureaus is that economy of personnel dictates that a central office be responsible for providing certain specialized services to all A.I.D. elements. DS/ENGR provides and manages these technical support services in hydrology, industry, equipment, airports, architecture, telecommunications and mineral resources.

Career Development of Engineers:

Professional engineers similar to doctors, lawyers and architects, are specialized disciplines with a package of federal, state and local regulations, registrations, language and societies. The Office of Engineering provides a central contact point for insuring that the Agency practices conform to law and uphold professional standards.

The Office of Engineering operating as a central office, offers opportunities to gain the advantages of closer linkage with engineers working at the operating level but at the same time taking steps to insure that there is no tendency to duplicate staffs and without infringing on the prerogatives or priorities of the Regional Bureaus or others served. In fact, it bolsters those staffs. DS/ENGR provides the management coordination and continuity for recruitment of professionals, IDI's and other needed disciplines, and for training and assignments world-wide.

This important task requires a great deal of interaction and can be performed best by ENGR because of our world-wide involvement in program and project assistance. This offers excellent overview of world requirements and experience for better advice and decision making.

Our bi-monthly News Letter is one example of the effective contacts we have maintained with our engineers by distributing technical data, news of A.I.D. engineers and professional information. All of this is directed towards making the A.I.D. engineer a more viable and effective professional.

Representational Liaison with Industry:

The continuing force of the A.I.D. program rests with Congress that naturally react to constituent demands and desires. One element that is heard from forcefully, is the construction and A/E industries and manufacturers, and others who supply goods and services to those industries.

The Office of Engineering is a key working element within A.I.D. that functions on a day to day basis with these elements of industry. Four out of five visitors to the office are from these industries. The bulk of incoming telephone calls come as a result of potential suppliers and others seeking project information.

DS/ENGR is in contact with the Associated General Contractors (AGC), American Consulting Engineers Council (ACEC), American Institute of Architects (AIA), National Constructor's Association (NCA) and a host of other discussing matters of mutual interest. It should be noted also that these organizations which represent a large segment of the U.S. export community are A.I.D. supporters. This office is uniquely equipped in A.I.D. because of our knowledge of engineering and construction activities in A.I.D. and industry. With rare exceptions, A.I.D. engineers have industry experience and professional society affiliations.

Finally, and certainly not the least important, is the fact that A.I.D. engineers are its working professional representatives with all USG agencies that have assigned professional engineers working with A.I.D. associated projects. Even our small staff has routine contacts with something over 30 IBRD professionals. Routine contacts

are maintained with DOE, Department of Defense engineers, Department of Commerce and other agencies. Our staff site on interagency committees working out the details of implementing new laws government-wide which information is disseminated to all AID engineers. They routinely touch base with professionals at UNDP, OECD and other supporting agencies such as VITA, BRACE, and a number of foundations and think tanks.

It is the areas of representation where the thin manning of personnel takes its toll. These representation functions cannot be contracted out. The immediate strategy naturally is to fill as quickly as possible the vacancies that currently exist on the staff that these important contacts will not be left uncovered.

CONCLUSION:

In summary, we know the problem - what AID's projected requirements are through 1985, and we are prepared to provide the engineering resources needed to carry out the mission. To meet this challenge, DS/ENGR strategy is to be ready with a professional engineering capacity supplemented with contract services and PASAs. Accordingly, our staff projections and resources required to carry out our functions and carry out AID's objectives by 1985 are,

RESOURCES:

Geographic bureau and mission demands for DS/ENGR services have increased substantially over the last year and this trend is expected to continue through 1985. Since the geographic bureaus' own engineering staffs are primarily generalists, our specialists in hydrology, industry, equipment, transportation, mineral resources, geology, architecture and architectural engineering are increasingly in demand, for both TDY overseas and for bureau assistance.

In telecommunications, we have borrowed the services of the N.E. telecommunications engineer to define requirements and have used a Requirements Contractor for specific technical work. This is an interim rrangement pending recruitment of a Telecommunications Engineer for DS/ENGR. The large portfolio of the N.E. alone requires the total attention of its engineer. In the other bureaus (Asia, AFR and LAC) there is also sufficient work to justify a full time engineer in telecommunications.

In electrical power, we have devised the same interim and part time services of the electrical engineer assigned to the ASIA bureau. We are actively recruiting for this specialty also.

In hydrology, we have been fortunate to have the services of an engineer on the reassignment complement. As soon as he is assigned overseas, we propose to substitute an expert consultant, PASA or other contract service under the management of our Water Resources Engineer.

In the interest of consolidating our D.H. staff, the water resources engineer will have responsibility for all water activities including irrigation, drinking water and multi-purpose river basin projects, sanitary and environmental engineering. In the field of water we envisaged a major effort by AID to implement the water and sanitary decade sponsored by the U.N. We are also using contract services for certain technical requirements in support of geographic bureaus and missions programs.

In consideration of the increases expected in water, natural resources and environment, it will be necessary to add at least one position in water and sanitary engineering.

DS/ENGR involvement in policy and procedures on engineering and construction continues to be a high priority. This is also expected to continue to rise as we increase assistance in small infrastructure projects and in technology transfer. In SSA, AID's major bilateral contribution to the Middle East countries is predominantly capital project and infrastructure. In this new arena, contract problems have surfaced on eligibility, bank guarantees and a variety of considerations dealing with ways of enforcing good standards and professional practices. This Office is also heavily engaged with the updating of our Handbooks, through the Procurement Policy Advisory Panel (PPAP).

DS/ENGR has also initiated new initiatives with the engineering, architectural and construction community to increase the dialogue and improve lines of communications between AID and Industry. As a result, DS/ENGR has increased its involvement in representational matters.

The volume of administrative work performed over the last year has increased immensely for DS/ENGR with no signs that it will subside or level of.. This is a superimposed workload which requires considerable management attention and continuity. The struggle to compete for funds on central programs is a time consuming and ever changing process. Until recently, DS/ENGR always had an Administrative Assistant and a Deputy Director. These two positions were eliminated during the reorganization. Fortunately, we have on the reassignment complement an

engineer who has taken over and performed many of the functions. However, this is only a temporary relief situation.

Another important function performed by this office relating to career development is world-wide dissemination of information to our engineers seeking technical and professional data. We are communicating with all of our engineers through a bi-monthly news letter. This work is also being coordinated by one of our engineers on the reassignment complement. When he leaves this important function will have to be drastically curtailed or eliminated.

At the present demand for field support, our entire professional staff in transportation, water resources, equipment/airports, industrial, civil, structural and architecture will not be able to handle any new work by 1980 without increase in staff.

DS/ENGR also has the primary responsibility for staffing and career development of AID's U.S. engineers. This important function involves recruitment of engineers including IDIs, reassignments, training and overall career and management. In the IDI program alone DS/ENGR has the responsibility for planning and coordinating the training and assignment.

The Director is almost totally engaged in administrative, policy, representational and staffing work. These activities and new initiatives cannot be properly pursued without assistance in the form of a Deputy Director to share in the work and to assist in professional interaction. The requirements for additional staff by 1985 are,

FY 1979 - fill vacancies for Electrical Engineer and Electronics (Telecom) Engineer.

FY 1980 - Deputy Director and Water Resources Engineer.

FY 1981 - General Engineer

FY 1982 - Office Engineer.

TABLE V - FY 1981 PROPOSED PROGRAM RANKING

DECISION UNIT
OFFICE OF ENGINEERING

RANK	DECISION PACKAGES/PROGRAM ACTIVITY DESCRIPTION	TERM/ NEW/ CONT.	LOAN/ GRANT	APPROP. ACCT.	PROGRAM FUNDING ($000) INCR	PROGRAM FUNDING ($000) CUM	WORKFORCE (Number of Positions) USDH INCR	WORKFORCE (Number of Positions) USDH CUM	WORKFORCE (Number of Positions) FNDH INCR	WORKFORCE (Number of Positions) FNDH CUM
	BASE									
	Administration of Office				0	0	13	13		
	MINIMUM/CURRENT/AAPL									
	Study of Engineering Properties of Arid Soils 936-2505	New	G	SD	250	250	-	13		

TABLE III - PROJECT OBLIGATIONS BY APPROPRIATION ACCOUNT
FY 1979 TO FY 1981 ($ THOUSANDS)

OFFICE: DS/ENG

APPROPRIATION ACCOUNT - SD

PROJECT#	PROJECT TITLE	FY 1979	FY 1980	FY-81 MINIMUM	FY-81 CURRENT	FY-81 AAPL
931-0221.	ULTRA LOW COST SHELTER	$26	$0	$0	$0	$0
931-1116.	TRANSPORTATION TECH SUPPORT SERVICES	$200	$40	$0	$0	$0
931-1161.	LOW COST ROOFING UTILIZATION	$0	$0	$0	$0	$0
936-2505.	SOILS STUDY IN ARID REGIONS	$0	$0	$250	$250	$250
TOTALS FOR SD		$226	$40	$250	$250	$250
* * OFFICE TOTAL:		$226	$40	$250	$250	$250

SUMMARY FY 1979 WORKFORCE ALLOCATION TABLE
(IN WORK-MONTHS)

OFFICE: 034 OFC. OF ENGINEERING — B SUMMARY FY 79 — 05/03/79

DIVISION	TOTAL STAFF	FY 79 ABS-OYB $000	FIELD SUPPORT	TECHNICAL REPRESENTATION	ADMINISTRATION	CLERICAL SUPPORT	PROGRAM MANAGEMENT	TOTAL
DS/ENG OFFICE OF ENGINEERING	2.66	0	9.00	2.50	8.50	12.00	0.00	32.00
TRAN COMM & NATURAL RESOURCES DIV	5.66	200	49.00	2.50	1.50	12.00	3.00	68.00
ARCHITECTURE UTIL & GEN ENGR	7.00	26	62.50	4.00	1.50	12.00	4.00	84.00
TOTAL	15.33	226	120.50	9.00	11.50	36.00	7.00	184.00

SUMMARY FY 1980 WORKFORCE ALLOCATION TABLE
(IN WORK-MONTHS)

OFFICE: 034 OFC. OF ENGINEERING — B SUMMARY FY 80 — 05/03/79

DIVISION	TOTAL STAFF	FY 80 ABSCPRED $000	FIELD SUPPORT	TECHNICAL REPRESENTATION	ADMINISTRATION	CLERICAL SUPPORT	PROGRAM MANAGEMENT	TOTAL
DS/ENG OFFICE OF ENGINEERING	2.00	0	4.00	1.50	6.50	12.00	0.00	24.00
TRAN COMM & NATURAL RESOURCES DIV	4.33	40	32.50	3.00	1.50	12.00	3.00	52.00
ARCHITECTURE UTIL & GEN ENGR	6.66	0	60.00	5.00	2.00	12.00	1.00	80.00
TOTAL	13.00	40	96.50	9.50	10.00	36.00	4.00	156.00

SUMMARY FY 1981 WORKFORCE ALLOCATION TABLE
(IN WORK-MONTHS)

OFFICE: OFC. OF ENGINEERING

ATTACHMENT B-2 05/03/79

DIVISION	TOTAL STAFF	BGT INCR $000	PROJ AGGR $000	FIELD SUPPORT	TECHNICAL REPRESENTATION	ADMINISTRATION	CLERICAL SUPPORT	PROGRAM MANAGEMENT	TOTAL
BASE									
DS/ENG OFFICE OF ENGINEERING	2.00			4.00	1.50	6.50	12.00	0.00	24.00
TRAN COMM & NATURAL RESOURCES DIV	4.33			35.50	3.00	1.50	12.00	0.00	52.00
ARCHITECTURE UTIL & GEN ENGR	6.66			60.00	5.00	2.00	12.00	1.00	80.00
TOTAL BASE	13.00			99.50	9.50	10.00	36.00	1.00	156.00

DIVISION	TOTAL STAFF	BGT INCR $000	PROJ AGGR $000	FIELD SUPPORT	TECHNICAL REPRESENTATION	ADMINISTRATION	CLERICAL SUPPORT	PROGRAM MANAGEMENT	TOTAL
MINIMUM									
DS/ENG OFFICE OF ENGINEERING	2.00			4.00	1.50	6.50	12.00	0.00	24.00
TRAN COMM & NATURAL RESOURCES DIV	4.33	250	250	32.50	3.00	1.50	12.00	3.00	52.00
ARCHITECTURE UTIL & GEN ENGR	6.66			60.00	5.00	2.00	12.00	1.00	80.00
TOTAL MINIMUM	13.00	250	250	96.50	9.50	10.00	36.00	4.00	156.00

SUMMARY FY 1981 WORKFORCE ALLOCATION TABLE
(IN WORK-MONTHS)

OFFICE: OFC. OF ENGINEERING — ATTACHMENT B-2 05/03/79

DIVISION	TOTAL STAFF	BGT INCR $000	PROJ AGGR $000	FIELD SUPPORT	TECHNICAL REPRESENTATION	ADMINISTRATION	CLERICAL SUPPORT	PROGRAM MANAGEMENT	TOTAL
CURRENT									
DS/ENG OFFICE OF ENGINEERING	2.00			4.00	1.50	6.50	12.00	0.00	24.00
TRAN COMM & NATURAL RESOURCES DIV	4.33		250	32.50	3.00	1.50	12.00	3.00	52.00
ARCHITECTURE UTIL & GEN ENGR	6.66			60.00	5.00	2.00	12.00	1.00	80.00
TOTAL CURRENT	13.00		250	96.50	9.50	10.00	36.00	4.00	156.00

OFFICE: OFC. OF ENGINEERING — ATTACHMENT B-2 05/03/79

DIVISION	TOTAL STAFF	BGT INCR $000	PROJ AGGR $000	FIELD SUPPORT	TECHNICAL REPRESENTATION	ADMINISTRATION	CLERICAL SUPPORT	PROGRAM MANAGEMENT	TOTAL
AAPL									
DS/ENG OFFICE OF ENGINEERING	2.00			4.00	1.50	6.50	12.00	0.00	24.00
TRAN COMM & NATURAL RESOURCES DIV	4.33		250	32.50	3.00	1.50	12.00	3.00	52.00
ARCHITECTURE UTIL & GEN ENGR	6.66			60.00	5.00	2.00	12.00	1.00	80.00
TOTAL AAPL	13.00		250	96.50	9.50	10.00	36.00	4.00	156.00

Bureau Code: Location Code:

TABLE V - FY 1981 PROPOSED PROGRAM RANKING

DECISION UNIT
DIRECTOR'S OFFICE

RANK	DECISION PACKAGES/PROGRAM ACTIVITY DESCRIPTION	TERM/ NEW/ CONT.	LOAN/ GRANT	APPROP. ACCT.	PROGRAM FUNDING ($000) INCR	PROGRAM FUNDING ($000) CUM	WORKFORCE (Number of Positions) USDH INCR	WORKFORCE (Number of Positions) USDH CUM	WORKFORCE (Number of Positions) FNDH INCR	WORKFORCE (Number of Positions) FNDH CUM
	BASE/MINIMUM/CURRENT/AAPL									
	Administration of Office				0	0	2	2		

FY 1979 WORKFORCE ALLOCATION TABLE
(IN WORK-MONTHS AND $000 DOLLARS)

DECISION UNIT: 0340DS/ENG OFFICE OF ENGINEERING B REPORT FY 79 05/02/79

RANK	WORK CATEGORIES	PROJECT TITLE	ABS-OYB $000	DIR	SEC	OPNS ASST COMP	N/A	N/A	N/A	N/A	N/A	TOTAL	RECNO
	FIELD SUPPORT			4.00		5.00						9.00	1229
	TECHNICAL REPRESENTATION			1.50		1.00						2.50	1228
	ADMINISTRATION			6.50		2.00						8.50	1227
	~~CLERICAL SUPPORT~~				12.00							12.00	1226
	PROGRAM MANAGEMENT											0.00	712 1225
	TOTAL		0	12.00	12.00	8.00	0.00	0.00	0.00	0.00	0.00	32.00	

FY 1980 WORKFORCE ALLOCATION TABLE
(IN WORK-MONTHS AND $000 DOLLARS)

DECISION UNIT: 0340DS/ENG OFFICE OF ENGINEERING B REPORT FY 80 05/02/79

~~RANK~~	WORK CATEGORIES	PROJECT TITLE	ABSCPRED $000	DIR	SEC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	~~TOTAL~~	~~RECNO~~
	FIELD SUPPORT			4.00									~~4.00~~	518 ~~1780~~
	TECHNICAL REPRESENTATION			1.50									~~1.50~~	518 ~~1779~~
	ADMINISTRATION			6.50									~~6.50~~	518 ~~1778~~
	CLERICAL SUPPORT				12.00								~~12.00~~	518 ~~1777~~
	PROGRAM MANAGEMENT												~~0.00~~	518 ~~1776~~
	TOTAL		0	12.00	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	~~24.00~~	

FY 1981 WORKFORCE ALLOCATION BY ZBB FUNDING LEVEL
(IN WORK-MONTHS)

DECISION UNIT: 0340 DS/ENG OFFICE OF ENGINEERING ATTACHMENT B-1 05/02/79

RANK	WORK CATEGORIES	PROJECT TITLE	BGT INCR $000	PROJ AGGR $000	DIR	SEC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	TOTAL	RECNO
BASE															
	FIELD SUPPORT				4.00									4.00	2655
	TECHNICAL REPRESENTATION				1.50									1.50	2656
	ADMINISTRATION				6.50									6.50	2657
	CLERICAL SUPPORT					12.00								12.00	2658
	PROGRAM MANAGEMENT													0.00	2659
	SUBTOTAL BASE		0	0	12.00	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.00	
MINIMUM															
	FIELD SUPPORT				4.00									4.00	2660
	TECHNICAL REPRESENTATION				1.50									1.50	2661
	ADMINISTRATION				6.50									6.50	2662
	CLERICAL SUPPORT					12.00								12.00	2663
	PROGRAM MANAGEMENT													0.00	2664
	SUBTOTAL MINIMUM		0	0	12.00	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.00	

FY 1981 WORKFORCE ALLOCATION BY ZBB FUNDING LEVEL
(IN WORK-MONTHS)

DECISION UNIT: 0340 DS/ENG OFFICE OF ENGINEERING ATTACHMENT B-1 05/02/79

RANK	WORK CATEGORIES	PROJECT TITLE	BGT INCR $000	PROJ AGGR $000	DIR	SEC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	TOTAL	RECNO
CURRENT															
	FIELD SUPPORT				4.00									4.00	2665
	TECHNICAL REPRESENTATION				1.50									1.50	2666
	ADMINISTRATION				6.50									6.50	2667
	CLERICAL SUPPORT					12.00								12.00	2668
	PROGRAM MANAGEMENT													0.00	2669
	SUBTOTAL CURRENT		0	0	12.00	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.00	
AAPL															
	FIELD SUPPORT				4.00									4.00	2670
	TECHNICAL REPRESENTATION				1.50									1.50	2671
	ADMINISTRATION				6.50									6.50	2672
	CLERICAL SUPPORT					12.00								12.00	2673
	PROGRAM MANAGEMENT													0.00	2674
	SUBTOTAL AAPL		0	0	12.00	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24.00	

TABLE V - FY 1981 PROPOSED PROGRAM RANKING

DECISION UNIT Transportation, Communications & Natural Resources Division

RANK	DECISION PACKAGES/PROGRAM ACTIVITY DESCRIPTION	TERM/ NEW/ CONT.	LOAN/ GRANT	APPROP. ACCT.	PROGRAM FUNDING ($000) INCR	PROGRAM FUNDING ($000) CUM	WORKFORCE (Number of Positions) USDH INCR	WORKFORCE (Number of Positions) USDH CUM	WORKFORCE (Number of Positions) FNDH INCR	WORKFORCE (Number of Positions) FNDH CUM
	BASE									
	Administration of Office				0	0	5	5		
	MINIMUM/CURRENT/AAPL									
	Study of Engineering Properties of Arid Soils 936-2505	New	G	SD	250	250	5	5		

FY 1979 WORKFORCE ALLOCATION TABLE
(IN WORK-MONTHS AND $000 DOLLARS)

DECISION UNIT: 0341TRAN COMM & NATURAL RESOURCES DIV — B REPORT FY 79 — 05/04/79

RANK	WORK CATEGORIES	PROJECT TITLE	ABS-OYB $000	TRANSPN ENGR (CHIEF)	EQUIP-MENT ENGR	TELECOM ENGR COMP	HYDRO-ENGR COM	WATER RESRCE ENGR	MINERAL GEOL COMP	SEC	N/A	N/A	TOTAL	RECNO
	FIELD SUPPORT			7.00	11.00	4.00	12.00	3.00	12.00				49.00	1382
	TECHNICAL REPRESENTATION			1.00	0.50			1.00					2.50	1381
	ADMINISTRATION			1.00	0.50								1.50	1224
	CLERICAL SUPPORT									12.00			12.00	1551
	PROGRAM MANAGEMENT			3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	502 1515
936-1404	ABS AND CP PREPARATION			(0.50)	( )	( )	( )	( )	( )	( )	( )	( )	(0.50)	2245
F 931-1116	TRANSPORTATION TECH SUPPORT SERVICES		200	(2.50)	( )	( )	( )	( )	( )	( )	( )	( )	(2.50)	1552
TOTAL			200	12.00	12.00	4.00	12.00	4.00	12.00	12.00	0.00	0.00	68.00	

ITEMS RETRIEVED 7

FY 1980 WORKFORCE ALLOCATION TABLE
(IN WORK-MONTHS AND $000 DOLLARS)

OK

DECISION UNIT: 0341TRAN COMM & NATURAL RESOURCES DIV — B REPORT FY 80 — 05/02/79

RANK	WORK CATEGORIES	PROJECT TITLE	ABSCPRED $000	TRNSPTN ENGR (CHIEF)	EQUIP-MENT ENGR	TELECOM ENGR COMP	WATER RES ENGR	SEC	N/A	N/A	N/A	N/A	TOTAL	REGNO
	FIELD SUPPORT			7.00	11.00	11.50	3.00	0.00					32.50	518 1775
	TECHNICAL REPRESENTATION			1.00	0.50	0.50	1.00	0.00					3.00	518 1774
	ADMINISTRATION			1.00	0.50		0.00	0.00					1.50	518 1773
	CLERICAL SUPPORT						0.00	12.00					12.00	518 1772
	PROGRAM MANAGEMENT			3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	502 1771
	936-1404	ABS AND CP PREPARATION		(0.50)	( )	( )	(0.00)	(0.00)	( )	( )	( )	( )	(0.50)	2250
F	931-1116	TRANSPORTATION TECH SUPPORT SERVICES	40	(2.50)	( )	( )	(0.00)	(0.00)	( )	( )	( )	( )	(2.50)	2143
	TOTAL		40	12.00	12.00	12.00	4.00	12.00	0.00	0.00	0.00	0.00	52.00	

ITEMS RETRIEVED 7 //

FY 1981 WORKFORCE ALLOCATION BY ZBB FUNDING LEVEL
(IN WORK-MONTHS)

DECISION UNIT: 0341 TRAN COMM & NATURAL RESOURCES DIV

ATTACHMENT B-1 05/02/79

RANK	WORK CATEGORIES	PROJECT TITLE	BGT INCR $000	PROJ AGGR $000	TRNSPTN ENGR (CHIEF)	EQUIP-MENT ENGR	TELECOM ENGR	WATER RESRCE ENGR	SEC	N/A	N/A	N/A	N/A	TOTAL	REGNO
BASE															
	FIELD SUPPORT				10.00	11.00	11.50	3.00	0.00					35.50	2695
	TECHNICAL REPRESENTATION				1.00	0.50	0.50	1.00	0.00					3.00	2696
	ADMINISTRATION				1.00	0.50		0.00	0.00					1.50	2697
	CLERICAL SUPPORT							0.00	12.00					12.00	2698
	PROGRAM MANAGEMENT							0.00	0.00					0.00	2699
	SUBTOTAL BASE		0	0	12.00	12.00	12.00	4.00	12.00	0.00	0.00	0.00	0.00	52.00	
MINIMUM															
	FIELD SUPPORT				7.00	11.00	11.50	3.00	0.00					32.50	2700
	TECHNICAL REPRESENTATION				1.00	0.50	0.50	1.00	0.00					3.00	2701
	ADMINISTRATION				1.00	0.50		0.00	0.00					1.50	2702
	CLERICAL SUPPORT							0.00	12.00					12.00	2703
	PROGRAM MANAGEMENT				3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	2704
F 936-2505	STUDY OF ENGR PROP OF ARID SOILS		250	250	(3.00)	( )	( )	(0.00)	(0.00)	( )	( )	( )	( )	(3.00)	2711
	SUBTOTAL MINIMUM		250	250	12.00	12.00	12.00	4.00	12.00	0.00	0.00	0.00	0.00	52.00	

502

FY 1981 WORKFORCE ALLOCATION BY ZBB FUNDING LEVEL
(IN WORK-MONTHS)

DECISION UNIT: 0341 TRAN COMM & NATURAL RESOURCES DIV

ATTACHMENT B-1 05/02/79

RANK	WORK CATEGORIES	PROJECT TITLE	BGT INCR $000	PROJ AGGR $000	TRNSPTN ENGR (CHIEF)	EQUIP-MENT ENGR	TELECOM ENGR	WATER RESRCE ENGR	SEC	N/A	N/A	N/A	N/A	TOTAL	REGNO
CURRENT															
	FIELD SUPPORT				7.00	11.00	11.50	3.00	0.00					32.50	2705
	TECHNICAL REPRESENTATION				1.00	0.50	0.50	1.00	0.00					3.00	2706
	ADMINISTRATION				1.00	0.50		0.00	0.00					1.50	2707
	CLERICAL SUPPORT							0.00	12.00					12.00	2708
	PROGRAM MANAGEMENT				3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	2709 502
F	936-2505	STUDY OF ENGR PROP OF ARID SOILS		250	(3.00)	( )	( )	(0.00)	(0.00)	( )	( )	( )	( )	(3.00)	2712
	SUBTOTAL CURRENT		0	250	12.00	12.00	12.00	4.00	12.00	0.00	0.00	0.00	0.00	52.00	
AAPL															
	FIELD SUPPORT				7.00	11.00	11.50	3.00	0.00					32.50	2710
	TECHNICAL REPRESENTATION				1.00	0.50	0.50	1.00	0.00					3.00	2713
	ADMINISTRATION				1.00	0.50		0.00	0.00					1.50	2714
	CLERICAL SUPPORT							0.00	12.00					12.00	2715
	PROGRAM MANAGEMENT				3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	2716 502
F	936-2505	STUDY OF ENGR PROP OF ARID SOILS		250	(3.00)	( )	( )	(0.00)	(0.00)	( )	( )	( )	( )	(3.00)	2717
	SUBTOTAL AAPL		0	250	12.00	12.00	12.00	4.00	12.00	0.00	0.00	0.00	0.00	52.00	

Attachment A

PROGRAM: CENTRALLY FUNDED — Project Manager: John P. Zedalis

TITLE Study of Engineering Properties of Arid Soils	FUNDS SD	Proposed Obligation FY 1981 $250,000	Proposed Life of Project Cost 1.15 M	Init. Oblig. FY 1981	Proposed Est. Final Oblig. FY 1985	Proposed Completion Date FY 1985
NUMBER 936-2505 Grant [X] Loan [ ] / New [X] Continuing [ ]	PRIOR REFERENCE None	FY 81 Oblig. Auth. by PP No PP	Life of Project per App. PP 1.15 M		Final Obligation per PP FY No PP	Completion Date per PP FY No PP
		Date of Last Intensive Evaluation: N/A				

Purpose: To enhance the technical know-how of LDCs to economically utilize arid and semi-arid soils for construction.

Background & Progress to Date

AID recently financed a worldwide engineering study of Laterite and Lateritic Soils and other Problem Soils of the Tropics for road building and other construction purposes. This study was extremely well-received by the LDC engineering community and significantly contributed to state-of-the-art design and construction. A similar study on how to utilize sands, silts, loam, alkaline and other problem soils in arid and semi-arid regions would be equally beneficial. Quality materials in such regions are usually not available locally and must either be imported at great expense or the local materials must undergo expensive treatment to be usable.

Host Country and Other Donors

Selected countries will contribute both professional and sub-professional manpower and existing laboratories/facilities.

FY 1981 Program

The study will be concentrated in three areas: the Middle East, Sahel Region, and Southern Africa, where extremely poor soils dominate. An approximate 5-year resident study program is planned and will include an evaluation of dry compaction techniques and development of appropriate engineering criteria and standards for usage.

Major Impact Countries & Approximate & $ Amount

Botswana	- 300	Egypt	- 300
Upper Volta	- 200	Syria	- 50
Mali	- 200	Jordan	- 100

Beneficiaries

By enhancing the state-of-the art and effecting more economical utilization of soils for construction, local LDC communities will benefit by improved routes of communication.

Major Outputs	Proposed
Country Reports	4
Consolidated Report	1
Seminars/Workshops	2

A.I.D. Financed Inputs

Key personnel & support staff	$200
Equipment/Supplies	40
Logistics & misc.	10

Technical Office Support (in person months)

FY	DH	IPA	Consult.	RSSA	Total
1981	3		3		6
1982	2				2
1983	2				2
1984	2				2
1985	1				1

	Obligations ($000)	Expenditures ($000)	Unliquidated ($000)	Funding Period	Principal Contractors or Agencies & Contract Number
Through September 30, 1978	-	-		XXXXXXXXXXXXXXXXX	A/E firm to be selected by RFP.
Estimated FY 1979	-	-	XXXXXXXXXXXXXXXXXXXX		
Estimated Through FY 1979	-	-		XXXXXXXXXXXXXXXXX	
Proposed FY 1980	-	-	XXXXXXXXXXXXXXXXXXXX		
Estimated Through FY 1980	-	-		XXXXXXXXXXXXXXXXX	
Proposed FY 1981	250	Future Yr. Obligation 900	Estimated Total Cost 1150		

TABLE V - FY 1981 PROPOSED PROGRAM RANKING

DECISION UNIT Architecture, Utilities & General Engineering Division

RANK	DECISION PACKAGES/PROGRAM ACTIVITY DESCRIPTION	TERM/ NEW/ CONT.	LOAN/ GRANT	APPROP. ACCT.	PROGRAM FUNDING ($000) INCR	PROGRAM FUNDING ($000) CUM	WORKFORCE (Number of Positions) USDH INCR	WORKFORCE (Number of Positions) USDH CUM	WORKFORCE (Number of Positions) FNDH INCR	WORKFORCE (Number of Positions) FNDH CUM
	BASE/MINIMUM/CURRENT/AAPL									
	Administration of Office				0	0	6	6		

FY 1979 WORKFORCE ALLOCATION TABLE
(IN WORK-MONTHS AND $000 DOLLARS)

DECISION UNIT: 0342ARCHITECTURE UTIL & GEN ENGR — B REPORT FY 79 — 05/02/79

RANK	WORK CATEGORIES	PROJECT TITLE	ABS-OYB $000	BLDGS ENGR (CHIEF)	CIVIL CONSTR ENGR	POWER ENGR	INDUS-TRIAL ENGR	SANI-TARY ENGR	CIVIL CONSTR COMP	BLDGS ARCH	SEC	N/A	N/A	TOTAL	RECNO
	FIELD SUPPORT			10.00	6.50	4.00	11.00	7.00	12.00	12.00				62.50	1518
	TECHNICAL REPRESENTATION			1.00	1.00		1.00	1.00						4.00	1380
	ADMINISTRATION			1.00	0.50									1.50	1223
	CLERICAL SUPPORT										12.00			12.00	1222
	PROGRAM MANAGEMENT			0.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	1379
	936-1404	ABS AND CP PREPARATION		( )	(1.00)	( )	( )	( )	( )	( )	( )	( )	( )	(1.00)	2309
F	931-0221	ULTRA LOW COST SHELTER	26	( )	(1.00)	( )	( )	( )	( )	( )	( )	( )	( )	(1.00)	1221
F	931-1161	LOW COST ROOFING UTILIZATION		( )	(2.00)	( )	( )	( )	( )	( )	( )	( )	( )	(2.00)	1220
	TOTAL		26	12.00	12.00	4.00	12.00	8.00	12.00	12.00	12.00	0.00		84.00	

FY 1980 WORKFORCE ALLOCATION TABLE
(IN WORK-MONTHS AND $000 DOLLARS)

OK

DECISION UNIT: 0342ARCHITECTURE UTIL & GEN ENGR — B REPORT FY 80 — 05/02/79

RANK	WORK CATEGORIES	PROJECT TITLE	ABSCPRED $000	BLDGS ENGR CHIEF	CIVIL CONSTR ENGR	ELEC POWER ENGR	INDUSTR ENGR	SANI-TARY ENGR	BLDGS ARCH	SEC	N/A	N/A	TOTAL	RECNO
	FIELD SUPPORT			10.00	9.00	11.00	11.00	7.00	12.00				60.00	2085
	TECHNICAL REPRESENTATION			1.00	1.00	1.00	1.00	1.00					5.00	2084
	ADMINISTRATION			1.00	1.00								2.00	2083
	CLERICAL SUPPORT									12.00			12.00	2082
	PROGRAM MANAGEMENT			0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2081
	936-1404	ABS AND CP PREPARATION		( )	(1.00)	( )	( )	( )	( )	( )	( )	( )	(1.00)	2314
	TOTAL		0	12.00	12.00	12.00	12.00	8.00	12.00	12.00	0.00	0.00	80.00	

FY 1981 WORKFORCE ALLOCATION BY ZBB FUNDING LEVEL
(IN WORK-MONTHS)

DECISION UNIT: 0342 ARCHITECTURE UTIL & GEN ENGR

ATTACHMENT B-1 05/02/79

RANK	WORK CATEGORIES	PROJECT TITLE	BGT INCR $000	PROJ AGGR $000	BLDGS ENGR CHIEF	CIVIL CONSTR ENGR	ELEC POWER ENGR	INDUSTR ENGR	SANI-TARY ENGR	BLDGS ARCH	SEC	N/A	N/A	TOTAL	REGNO
BASE															
	FIELD SUPPORT				10.00	9.00	11.00	11.00	7.00	12.00				60.00	2690
	TECHNICAL REPRESENTATION				1.00	1.00	1.00	1.00	1.00					5.00	2691
	ADMINISTRATION				1.00	1.00								2.00	2692
	CLERICAL SUPPORT										12.00			12.00	2693
	PROGRAM MANAGEMENT				0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	502 2694
	936-1404	ABS AND CP PREPARATION	0		( )	(1.00)	( )	( )	( )	( )	( )	( )	( )	(1.00)	2724
	SUBTOTAL	BASE	0	0	12.00	12.00	12.00	12.00	8.00	12.00	12.00	0.00	0.00	80.00	
MINIMUM															
	FIELD SUPPORT				10.00	9.00	11.00	11.00	7.00	12.00				60.00	2730
	TECHNICAL REPRESENTATION				1.00	1.00	1.00	1.00	1.00					5.00	2676
	ADMINISTRATION				1.00	1.00								2.00	2677
	CLERICAL SUPPORT										12.00			12.00	2678
	PROGRAM MANAGEMENT				0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	502 2679
	936-1404	ABS AND CP PREPARATION	0		( )	(1.00)	( )	( )	( )	( )	( )	( )	( )	(1.00)	2721
	SUBTOTAL	MINIMUM	0	0	12.00	12.00	12.00	12.00	8.00	12.00	12.00	0.00	0.00	80.00	

FY 1981 WORKFORCE ALLOCATION BY ZBB FUNDING LEVEL
(IN WORK-MONTHS)

DECISION UNIT: 0342 ARCHITECTURE UTIL & GEN ENGR

ATTACHMENT B-1 05/02/79

RANK	WORK CATEGORIES	PROJECT TITLE	BGT INCR $000	PROJ AGGR $000	BLDGS ENGR CHIEF	CIVIL CONSTR ENGR	ELEC POWER ENGR	INDUSTR ENGR	SANI-TARY ENGR	BLDGS ARCH	SEC	N/A	N/A	TOTAL	RECNO
CURRENT															
	FIELD SUPPORT				10.00	9.00	11.00	11.00	7.00	12.00				60.00	2680
	TECHNICAL REPRESENTATION				1.00	1.00	1.00	1.00	1.00					5.00	2681
	ADMINISTRATION				1.00	1.00								2.00	2682
	CLERICAL SUPPORT										12.00			12.00	2683
	PROGRAM MANAGEMENT				0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2684 502
	936-1404	ABS AND CP PREPARATION	0		( )	(1.00)	( )	( )	( )	( )	( )	( )	( )	(1.00)	2722
	SUBTOTAL	CURRENT	0	0	12.00	12.00	12.00	12.00	8.00	12.00	12.00	0.00	0.00	80.00	
AAPL															
	FIELD SUPPORT				10.00	9.00	11.00	11.00	7.00	12.00				60.00	2685
	TECHNICAL REPRESENTATION				1.00	1.00	1.00	1.00	1.00					5.00	2686
	ADMINISTRATION				1.00	1.00								2.00	2687
	CLERICAL SUPPORT										12.00			12.00	2688
	PROGRAM MANAGEMENT				0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	2689 502
	936-1404	ABS AND CP PREPARATION	0		( )	(1.00)	( )	( )	( )	( )	( )	( )	( )	(1.00)	2723
	SUBTOTAL	AAPL	0	0	12.00	12.00	12.00	12.00	8.00	12.00	12.00	0.00	0.00	80.00	

FUNDING AND STAFF PROJECTIONS

	FY 79		FY 80		FY 81 Min.		FY 81 Current		FY 81 AAPL		FY 82		FY 83		FY 84		FY 85	
	DH	PT	DH	PT	DH	PT	DH	PT	DH	PT	DH	PT	DH	PT	DH	PT	DH	PT
STAFF (Total)	13	1	13	2	13	2	13	2	13	2	14	3	14	3	14	3	14	3
Dollar Amount by Appropriation																		
Selected Development Activities	226		40		250		250		250		250		250		250		150	

FIELD SUPPORT
($000)

Project	FY '79 Total Cost	FY '79 Field Support (Dollars)	FY '79 Fld. Sup. Pers. Mos.	FY '80 Total Cost	FY '80 Field Support (Dollars)	FY '80 Fld. Sup. Pers. Mos.	FY '81 Minimum Total Cost	FY '81 Minimum Field Support (Dollars)	FY '81 Minimum Fld. Sup. Pers. Mos.	FY '81 Current Total Cost	FY '81 Current Field Support (Dollars)	FY '81 Current Fld. Sup. Pers. Mos.	AAPL Total Cost	AAPL Field Support (Dollars)	AAPL Fld. Sup. Pers. Mos.
Ultra Low Cost Shelter 931-221	26	26	6	0	0	0	0	0	0	0	0	0	0	0	0
Transportation Technology Support Services 931-1116	200	200	8	40	40	12	0	0	0	0	0	0	0	0	0
Study of Engineering Properties of Arid Soils 936-2505	0	0	0	0	0	0	250	250	20	250	250	20	250	250	20
TOTAL	226	226	14	40	40	12	250	250	20	250	250	20	250	250	20

TABLE IV PROJECT BUDGET DATA

DECISION UNIT: DS/Engineering

PROJECT NUMBER	PROJECT TITLE	G/L	OBLIGATION DATE INITIAL	OBLIGATION DATE FINAL	DATE OF NEXT PLANNED NON-ROUTINE EVAL	ESTIMATED U.S. DOLLAR COST ($000) CUM. PIPELINE AS OF 9/30/78	FY 1979 OBLIG.	FY 1979 EXPEND.	FY 1979 CUM. PIPELINE	FY 1980 OBLIG.	FY 1980 EXPEND.	FY 1980 CUM. PIPELINE	FY 1981 AAPL OBLIG.	FORWARD FUNDED TO (MO/YR)	FUTURE YEAR OBLIGATIONS FY 1982	FUTURE YEAR OBLIGATIONS FY 1983 & BEYOND
931-1116	Transportation Technology Support Services	G	77	79		336	200	200	336	40	376	-0-	-0-	9/80		-0-
936-2505	Soils Study in Arid Regions	G	81	85		-	-	-	-	-	-	-	250	1 year		900
931-0221	Ultra Low Cost Shelter	G	76	79		72	26	98	-0-	-	-	-	-	9/79		-0-

LISTING OF FY 1980 PROJECTS WITH EXPECTED DIFFERENCES

OF $50,000 OR MORE THAN SHOWN IN FY 1980 CP

Project	Funds	FY 1980 CP ($000)	Decrease Per FY 1981 ABS ($000)	Explanation
Low Cost Roofing Utilization 931-1161	SD	650	650	Possible transfer to other DS division.

DEVELOPMENT SUPPORT BUREAU
PROJECT ACTIVITY BY OFFICE

OFC	COUNTRY	PRO-JECT	TITLE	ACTI-VITY	ACTIVITY STATUS	PROJECT MANAGER	LOP DOLLARS ($ 000)	ITEM NO.
ENG	BOTSWANA	2505	SOILS STUDIES IN ARID REGIONS	DEV/ADAP	PROJECTED	ZEDALIS, J.	300	166
	EGYPT	2505	SOILS STUDIES IN ARID REGIONS	DEV/ADAP	PROJECTED	ZEDALIS, J.	300	1548
	JORDAN	2505	SOILS STUDIES IN ARID REGIONS	DEV/ADAP	PROJECTED	ZEDALIS, J.	100	1550
	MALI	2505	SOILS STUDIES IN ARID REGIONS	DEV/ADAP	PROJECTED	ZEDALIS, J.	200	722
	NIGER	2505	SOILS STUDIES IN ARID REGIONS	DEV/ADAP	PROJECTED	ZEDALIS, J.	200	176
	PERU	0221	ULTRA LOW COST SHELTER	DEV/ADAP	ACTIVE	STEARNS, P.	476	2689
	SYRIA	2505	SOILS STUDIES IN ARID REGIONS	DEV/ADAP	PROJECTED	ZEDALIS, J.	50	1549
	UNITED STATES	1116	TRANSPORATION TECH SUPPORT SERVICES	DEV/ADAP	ACTIVE	ZEDALIS, J	660	2771
CNT SUM							11 2436	