TISA PROJECT REPORT NO. 26

THE SAVANNAH DISTRICT
MODEL TECHNICAL LIBRARY
(PHASE I)

OCTOBER 1968

This document has been approved for public release and sale; its distribution is unlimited.
This is the first in a series of reports concerning the development of a model technical information facility in the Savannah Engineer District, U.S. Army Corps of Engineers. The Army Research Office, in cooperation with the Office of the Chief of Engineers and the Savannah District, is sponsoring this effort as a part of the Army Technical Information Support Activities Project (TISAP).

The Savannah District was first introduced to this project by representatives of the Office of the Chief of Engineers on 11 April 1968. At that time, the District tentatively accepted the task, but the official directive was not issued until 6 June 1968. That directive established a two-fold goal for the project: "(1) To develop a modern, highly effective technical information facility in support of the District's mission that can be related to Army-wide use, and (2) to provide a facility for experimentation in new methods, equipment, and procedures."

This particular report, which covers the period June-September 1968, summarizes the planning and preparation for the project, proposes a project charter and an initial budget, and provides background information on the Savannah District and its existing technical library.

I wish to acknowledge the contributions which several individuals within the Government and without have already made to this project. Among them are Dr. Henry Voos of Rutgers University, Mr. Everett M. Wallace of System Development Corporation, Miss Eva Schekorra, a private consultant, and Mr. Alan G. Skelton of the Research Center Library, Waterways Experiment Station, U.S. Army Corps of Engineers. Also we are grateful for the help of Mr. Robert Blakeley, Mrs. Margrett Zenich, and Mr. Roger Graves, all of whom are members of the Office of Administrative Services, Office of the Chief of Engineers. Finally, I would like to recognize our own District personnel who are involved in this project. They include Major Larry Smalley, Mr. William Crump, Mr. Walter Schaaf, Mr. Fred Kitchens, Mrs. Marguerite West, Mrs. Ruth Elsom, and Miss Polly Kasper.

This project represents a significant challenge for the Savannah Engineer District since we are not normally involved in research and development projects. However, the concept of developing a model technical information facility in an engineering organization such as the Savannah District is very sound. There are throughout the Department of Defense many similar organizations which can greatly improve their operations and provide significant cost savings to the Government, if improved and efficient methods for handling technical information can be developed.

WILLIAM L. BARNES
Colonel, Corps of Engineers
District Engineer
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- F District Circular 70-1-1, dated 23 April 1968
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- K Extract of Dr. Voos' Letter on User Survey
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- M District Special Orders 28, dated 10 September 1968
- N Proposed Budget
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- P District Boundary Map
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DD Form 1473 - Document Control Data - R&D
Section 1

DEFINING THE PROJECT

One of the more difficult aspects of the project to date has been defining its scope. During the initial conference in Savannah on 11 April 1968, representatives of the Office of the Chief of Engineers submitted a proposed outline for the project (annex A). This outline clearly states the purpose of the project and lists a wide range of subjects which might be treated. Using the outline, District personnel produced a preliminary project plan (annex B) which was submitted to the Office of the Chief of Engineers on 29 April. On 6 June the official project directive (annex C) was issued by the Office of the Chief of Engineers.

The purpose of the Model Library Project as stated in the project directive is "to develop a modern, highly effective technical information facility in support of the Savannah District's mission that can be related to Army-wide use, and to provide a facility for experimentation in new methods, equipment, and procedures." The directive also included a tentative project charter and asked that it be expanded upon in this report. Therefore, a revised charter has been prepared and may be found at annex D. The significant changes in the charter are discussed below.

The initial and primary concern of the District Project Committee was the amount of money that would be made available. Basically, the costs were to be borne jointly by the Army Technical Information Support Activities Project and by the District. TISAF funds in the amount of $35,000 were made available with the project directive for the purpose of establishing the basic library facility during June and accomplishing detailed project planning with the help of consultants during July, August, and September. The funds available for these preliminary activities were quite ample, but the level of funding for later phases of the project had not been set. The project directive envisioned the renting of various items of hardware which would be utilized during the course of the experiment, but even with this approach the District Project Committee quickly learned through visits to other information facilities, meetings with manufacturers' representatives, and a perusal of current literature that the cost of sophisticated hardware, particularly automatic data processing equipment, would be a limiting factor. Consequently, District and OCE representatives agreed that for planning purposes a figure of $10,000 per month of TISAP funds would be made available, and to this amount the District would be able to add a maximum of about $5,000 per month. These figures were not estimates of what would be required, but merely a statement of the maximum amount that could be expected from each funding source. Because this planning factor was considered so important, an appropriate statement has been included in paragraph 2c of the revised charter.

Another concern of the District Project Committee was the use of automatic data processing equipment. Many organizations throughout the country are making heavy use of ADP in routine library operations and also in information
retrieval systems. However, it has been estimated that library applications would, at the maximum, account for about 15 percent of the justification for hardware. Therefore it would seem inappropriate for the purposes of this project to consider anything but the hardware which the District has already been able to justify. In addition, the length of time required to process a data automation request and the lead time for procuring the equipment also discourage the special acquisition of ADP equipment for this project. For the foregoing reasons, a statement on the use of existing ADP capability has been included in paragraph 2 of the revised charter and a list of the hardware currently on hand in the District may be found in section 4 of this report.

During the 11 April conference with OCE representatives, it was learned that this project was expected to run from two to three years, starting in June 1968. Our experience over the past four months seems to indicate that the project will move more slowly than had been expected because of somewhat austere staffing within the District at the present time. In addition, it was learned that the pace of the project will depend largely on District personnel in spite of the use of consultants.

Another important feature of the revised charter is paragraph 3 which deals with the scope of the project. The principal point of that portion of the charter is that the project will be limited to what is practicable in the Savannah District environment. In the discussion of ADP equipment above, for example, it was pointed out that the District could not justify some systems which are currently available, and therefore an evaluation of those systems would not be included in the project. Although it is not our intent to preclude the development and/or evaluation of techniques or systems which seem too costly or appear to have no application in an engineering organization such as the Savannah District, some discretion in these matters will have to be exercised to insure that the District will be able to support the project. In this connection, paragraph 3b of the revised charter states that no attempt will be made to conduct tests dealing with library decor, furnishings, or lighting conditions; neither will any attempt be made to compare different brands of equipment. Tests of this sort have been and are being conducted by other organizations, and also tests of this sort are more suited to larger libraries with larger user populations.

The project directive and the revised charter differ considerably with respect to phasing of the project. The directive called for three initial phases to be completed by the end of 1968. Phase I during the month of June called for the establishment of the basic library facility. Phase II during July, August, and September was to be devoted to planning a body of experiments that would be accomplished in phase III from October through December. A detailed description of these work units may be found at annex C as indicated above. The objectives of the phases described in the project directive have generally been met as will be discussed in section 2.

The District Project Committee has redefined the project phases not only because of the difficulty in complying with the original phasing, but also...
to insert in the sequence of events certain activities which are considered vital to the proper execution of the project. The principal activity omitted from the original phasing was the accomplishment of a user survey which is now scheduled for phase II. Structuring of the library collection and design of many new techniques and systems for serving the District users must await completion of this user survey. In the meantime, another vital activity will be accomplished. The existing District library, which is described at section 5, will be upgraded by weeding the collection and improvement of procedures so that it will be an efficient, conventional type technical library. Once the model technical library is properly established and the user survey has been conducted, it will be possible to move into full-scale development, evaluation, and experimentation. Until that time, experimentation and evaluation of new techniques must be held to a minimum for the following reasons:

a. The recently recruited library staff will be adjusting to their new responsibilities.

b. Accurate and complete information on the users will not be available until completion of the user survey.

c. Existing library operations and holdings should be improved before trying new ideas.

As indicated above, the District Project Committee estimates that the duration of the project will be a minimum of three years from June 1968. Phase I, which is now defined as planning and preparation for the project, will terminate at the end of October. Phase II, which involves the establishment of the model technical library and the conduct of the user survey, will last through June 1969. Phase III is expected to last at least a year and will involve the modification of the collection and library procedures in accordance with the results of the user survey as well as the development and evaluation of new techniques and equipment that may be applicable. Phase IV will last at least six months and will involve the preparation of a procedural handbook dealing with the relevant aspects of establishing a technical library. Also, development and evaluation of techniques and systems for handling technical information will continue. In the final phase, or phase V, a procedural manual on relevant technical library operations will be prepared along with a summary report on the equipment, techniques, and systems evaluated during the course of the project. This final phase is expected to last at least six months.

The significant changes in the charter have been discussed above. Other aspects of the revised charter simply reflect the guidance which was contained in the project directive.
Section 2

SUMMARY OF PHASE I

General

Phase I of this project was devoted primarily to planning and preparation in accordance with paragraph 4(a) of the revised charter (annex C). Detailed plans for the establishment of the facility and conduct of the project were prepared by District personnel assisted by consultants. A budget for the next phase of the project was prepared, a physical space was constructed and decorated, a basic package of furnishings and equipment was procured, and a library staff was recruited. These accomplishments generally fulfill the requirements of the project directive (annex C) with the exception that very few experiments have been planned for the next phase of the project. The reason for this deviation was discussed in the preceding section of the report.

Project Organization

On 23 April, shortly after the initial meeting with representatives of OCE, the District established a committee to direct the TISAP project. This committee had seven members, among whom were the Deputy District Engineer, the Chief of the Office of Administrative Services, the Chief of Management Branch, two engineers, an automatic data processing specialist, and the acting Librarian. In addition, a group of project coordinators were appointed to represent the various staff components in the District. These project coordinators were to provide an input of ideas on how the project might be interfaced with the operations of their respective sections, and also to advise the Project Committee on various matters relating to personnel, finance, and other technical requirements. On 14 October, District Special Orders No. 12, which established the original committee, was rescinded and replaced by Special Orders No. 33. This was done to reduce the size of the Project Committee and to add to it the new District Librarian and her assistant. In addition, the duties of the District Librarian with respect to the project were defined and the relationship of the Project Committee to the District's Technical Library Council was explained. The composition and function of this council will be discussed below in section 5 of the report. Finally, the new Special Orders converted the project name from ATLIS, Army Technical Library Improvement Studies Program, to TISAP, Technical Information Support Activities Project. District Special Orders No. 33 is attached to this report as annex E.

In addition to organizing the Project Committee and appointing project coordinators, a District Circular was published to inform the entire staff of the project. This Circular is attached as annex F.

The Library Organization

When the TISAP project was initiated in the District, the existing technical library was a Section within the Mail and Records Branch, Office of
Administrative Services. (The organizational position of the existing library will be discussed in greater detail in section 5 of the report.) On 6 May 1968, the Technical Library was established at branch level within the Office of Administrative Services. The District General Orders establishing the Technical Library Branch and stating its basic functions is attached as annex G. These functions were developed on the basis of known requirements and in-house experience. No elaborate study of user needs was made to determine what the precise mission and function of the technical library should be for maximum effectiveness. Consequently, revisions to the mission and functions of the District Technical Library will no doubt be made during phase II of the project and possibly as late as phase III when the results of the user survey are analyzed.

Recruiting the Library Staff

Within the new Technical Library Branch, positions were established for a GS-9 Librarian, a GS-7 Assistant Librarian, and a GS-4 or GS-5 Library Assistant. Both the GS-9 and GS-7 positions called for professionally trained librarians, preferably with Masters degrees in Library Science.

In recruiting the library staff, the first action was to obtain a machine listing of possible applicants registered under the career program. Only three applicants were registered, and two of these did not have the experience or the education desired. The other individual was not interested in the position. The next action was to obtain registers for the GS-9 and GS-7 positions from the Washington office of the Civil Service Commission. Registers for these positions are not maintained at regional offices. The first set of registers received produced no qualified persons, but a second set of registers did lead to the successful recruitment of an individual for the GS-7 position. The GS-9 position was ultimately filled by a local applicant for whom Civil Service certification was easily obtained. The GS-4 position was filled by the transfer of an experienced employee from the Mail and Records Branch to the Technical Library Branch.

Providing the Physical Space

Prior to the inception of the model technical library project, the District library occupied approximately 525 square feet of space on the fifth floor of the main office building. When the project directive was received, action was taken to make available the maximum amount of space which the District could afford in view of the generally crowded office conditions that existed. Ultimately the space provided amounted to approximately 800 square feet in the same fifth floor location previously occupied by the old library. Lack of time and uncertainty about the scope of the project precluded any sort of study of what the space requirements for the model technical library might be. It was determined, however, that the space provided would easily accommodate the current holdings and provide some room for additional acquisitions.

Building modifications and improvements included the moving of one partition, installation of new lighting fixtures and a suspended ceiling, and
repainting of the entire room. Single-tube fluorescent lights were installed above the suspended ceiling to provide 100 foot-candles of illumination. This level of illumination is greater than that specified in OCE guide specifications, but conforms to that recommended in the Illuminating Engineering Society Handbook. A uniform level of illumination was used in lieu of varying illumination for various functions, such as 70 foot-candles for reading areas, 30 foot-candles for stacks, and so on. This was done so that the room arrangement might be changed during the course of the project.

A uniform modular luminous suspended ceiling was utilized because it was the least expensive type of suspended ceiling available, and because it did not affect the uniformity of the illumination.

Basic Furnishings and Equipment

A list of the basic furnishings and equipment which were procured for this project as well as those which were on hand in the District may be found at annex H. The arrangement of this furniture and equipment in the available floor space was initially designed by District architectural personnel. Modifications to the original plan were made in accordance with recommendations received from consultants and requests made by the new District Librarian. The resultant floor plan may be found at annex I. This is by no means a final floor plan, of course, for many changes are anticipated during the course of the project.

Wood furniture was selected over metal as we could find no single source (GSA or open market) of metal furniture that could supply all the items required and a mixture of metal and wood furnishings was considered objectionable from the standpoint of decor. Solicitations were mailed to all library furniture manufacturers listed in the Thomas Directory and the bid was awarded to the Southern Desk Company, Hickory, North Carolina.

A carpet was procured to minimize the traffic noise and interruption to library users which would have resulted from an asphalt tile floor. This decision is justified in a study by the American Library Association entitled "The Use of Carpeting in Libraries." Also, the use of carpeting is in keeping with the decor and atmosphere desired in a library. Bigelow pattern No. 2552, color No. 04851, autumn brown tweed, was selected.

Visits to Other Organizations

Throughout phase I, several trips were made to other libraries and in some cases to manufacturers to gather information which would be useful in planning the model technical library project. The primary emphasis was on obtaining information concerning the hardware being used in other modern libraries, the availability of software for automating technical library procedures, other technical library projects, and possible sources of information which would be useful to the Savannah District Technical Library.

A trip was made to the Research Center Library at the Waterways Experiment Station, Vicksburg, Mississippi. Possible interfacing of the Savannah
District Library with that of the Waterways Experiment Station was discussed and Mr. Skelton, head of the Research Center Library, supplied a list of thesauri and subject heading lists as well as a list of reference sources which he thought would be useful in a technical library project.

Visits were also made to General Electric Corporation in Atlanta; Georgia Institute of Technology; the Lockheed Aircraft Corporation library in Marietta, Georgia; and the Redstone Scientific Information Center at Huntsville, Alabama. Information gathered on these trips led to the concern over the project budget and the use of automatic data processing equipment in connection with this project as discussed at section 1.

Information was also gathered on the IBM Technical Information Retrieval Center, on graphic communications equipment available from the Alden Electronic & Impulse Equipment Company, Inc., on microfilm storage and retrieval equipment available from the Mosler Corporation, on Project INTREX at MIT, on the DATATEXT system available from IBM, and on the MAGICALL, DATACALL, and DATABANK equipment available from the DASA Corporation.

The detailed information obtained on these visits is too voluminous to include in this report, but will be the basis of further investigation and discussion during subsequent phases of the project.

Use of Consultants

Dr. Henry Voos of Rutgers University and Mr. Everett Wallace of Systems Development Corporation assisted the District Project Committee during phase I by making recommendations on the conduct of the project. The specific recommendations of these gentlemen may be found at annex J and are reflected in the plans for phase II. Dr. Voos also assisted in preparation for the user survey which will be discussed below. Miss Eva Schekorra, a private consultant, has assisted the District Project Committee in drafting the plans for phase II and is currently working on the development of policies and procedures pertaining to the utilization of standards (except standard drawings) in the District. The results of her efforts will be included in the phase II report.

Preparation for the User Survey

From the inception of the project, the District Committee has felt that a survey of the users' needs for information is vital to the establishment of an effective information facility. Consequently, Dr. Henry Voos was asked to assist in the preparation of technical specifications for a contract that would require a professional, highly qualified firm to survey and report on the information needs of the District's user population. An extract of Dr. Voos' recommendations on this subject may be found at annex K and an extract of the proposed contract at annex L.

Preparation for Updating the Collection

A brief survey of the existing collection by the District Project Committee indicated that it contained a large amount of obsolete material and lacked
much of the reference material which should be a part of the core collection. For this reason a District Holding Committee was appointed to weed the current collection and to assist the TiSAP Project Committee in updating the current collection. A copy of the District Special Orders appointing this committee is attached as annex "A". It should be noted that the members of this committee are experienced engineers who represent the various disciplines with which the District is concerned.

Obligations and Expenditures as of 30 September

A deferred cost account was established for the project. The subaccounts included labor; equipment, furniture, and fixtures; materials, publications, and supplies; travel and transportation; reproduction; contract services; and physical facility improvements. Expenditures and obligations as of 30 September were as follows:

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<td>Luminous Ceiling</td>
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Subtotal $6,786.26 $1,858.25 $8,644.51

Overhead (11.2%) $760.06 208.12 968.18

Total $7,546.32 $2,066.37 $9,612.69

Funds received for this report period totaled $35,000 which leaves a balance of $25,387.31.
Section 3

PLANS FOR PHASE II

General

During phase II the user survey will be conducted and the model technical library will be established in its initial configuration by making selected improvements in the existing District library. The duration of phase II is tentatively set at eight months, or November 1968 through June 1969. The nature and purpose of the user survey has been previously discussed in section 2 and an extract of the user survey contract is attached as annex L. Therefore, the discussion which follows will deal with the specific activities planned for phase II and the budget required to support those activities.

Orientation and Training of the Library Staff

During phase II the library staff will receive a thorough orientation on the Savannah District, its organizational structure, the assignment of functions, and the handling of information. In addition, pertinent Federal laws as well as Army, Engineer, and District regulations will be reviewed. Job descriptions outlining the responsibilities of each member of the staff will be refined and appropriate indoctrination and training will be given in accordance with new or modified responsibilities.

It is anticipated that this training period will be relatively long since the recently recruited professional staff is inexperienced in the operation of a Government library. As a part of this training period, however, regulatory obstacles to the rapid acquisition and dissemination of information will be identified and analyzed.

The development of a library staff manual will be initiated during this phase. This manual will serve as the basic guide for the library staff in carrying out its responsibilities to the District and will deal with library policies and procedures, services rendered by the library, and library organization.

Cost Accounting

An effort will be made during phase II to determine what other requirements should be included in the budget, which is discussed below. Subaccounts will be established for individual experiments and system development projects. Finally, a detailed budget governing acquisitions will be developed.

Requisitioning, Procurement, and Property Accountability

Basic to any library operation are the policies and procedures for acquiring and disposing of materials which constitute the permanent library collection. These policies and procedures deal with the following questions:
a. Who makes the final decision regarding items to be added to the permanent collection?

b. What guidelines will be used to assist in this determination?

(1) Cost
(2) Number of copies in-house
(3) Out of print material
(4) Difficulty in obtaining
(5) Availability of items through interlibrary loan
(6) Publication date

c. Should satellite collections of library material exist on a permanent loan basis?

d. Should material which is on permanent loan be duplicated in the library?

e. Who will have authority to weed the collection?

f. What will be the policy on donations?

 g. Will foreign items be included in the collection?

h. How will the budget be administered and by whom?

Property accountability in the Savannah District library is governed by ER 735-2-1. The requirements listed in this regulation result in extensive clerical duties which are not encountered in non-Government library environments and which detract from the efficiency of the library. Currently each employee is required to initiate SAD Form 1608, Requisition and Abstract for Supplies and Services, for any new acquisitions. After the appropriate supervisor had approved this form, it was sent to the library for verification and ultimately to the Supply Division for procurement. Although this procedure is simple in principle, the average user often found it easier to do without the information than to go through this requisitioning process.

During phase II, the library staff will make a detailed in-depth study of all steps currently necessary to acquire and dispose of library materials under existing regulations. The librarian will be made responsible to the Accountable Property Officer for the library collection and a simplified workable acquisition policy will be developed and tested. The objectives of this effort will be to streamline administrative procedures, simplify the user's task in acquiring information, and consolidate to the maximum extent possible the responsibility for acquisition and disposal of library holdings.

**Updating the Collection**

During phase II the current library collection will be weeded by the District Holdings Committee as described in section 2. Large-scale acquisitions
will not be permitted until completion of the user survey. However, the library staff will be permitted to acquire basic library reference tools, plus other references recommended by the District Holdings Committee.

**Cataloging**

No new cataloging systems will be introduced during phase II. The existing catalog, which is described in section 5, will be put in proper order so that the library may be kept in operation.

It is expected, however, that a new type of catalog will be developed during the later phases of the project. In preparation for this, a study will be conducted during phase II to determine the answers to the following questions:

a. What is really needed on a catalog record, by the user and by the library staff?

b. Could the call number (classification number plus Cutter number) have meaning for other purposes?

c. Should all types of material be entered into one catalog?

d. Is it necessary to classify all materials?

e. How many subject headings should be assigned to one item?

f. How many personal authors are necessary on one record? Will this affect the gross rate in the author catalog? What author name entry rules will be followed?

g. What is the actual time it takes to enter one item completely into the current catalog?

h. If a book catalog is developed, what is the time required to prepare one data input record? How does this compare with item g?

i. How many copies of a book catalog would be needed? What is the reproduction time lag?

j. How often will the catalog be cumulated?

k. Could a microfilm catalog be produced?

l. What provision for weeding and updating can be made?

m. Should machine-produced catalog cards be considered for the catalog?

n. Should different forms for the catalog be tested simultaneously?

This study in addition to answering the foregoing questions will also define a group of experiments to be conducted during phase III.
In developing a new catalog and cataloging procedure, the cataloging system
and associated software being used by other Government and civilian libraries
will be studied, modified if necessary, and then tested. The results of
these tests will establish the catalog form, the cataloging format, and the
cataloging procedures to be used in the model technical library.

System Development

Even though the results of the user survey will not be available during
Phase II, it will be possible to develop certain systems basic to library
operations. The criteria in this development will be effectiveness, cost,
and acceptability to the user at the District level. Initial efforts in
this area will be devoted to the following systems:

a. Circulation control and maintenance
b. Periodical routing
c. Acquisition, storage, and dissemination of standards (less standard
drawings)

In developing the foregoing systems, experiments on the form content of the
collection (hard copy, microfilm, microfiche, and tapes) will be conducted
during Phase II.

Progress Reporting

Bi-monthly progress reports will be submitted to the District Engineer and
to higher authority during the course of Phase II. These reports will
describe accomplishments for the reporting period, goals for the next period,
and other items of special interest. General items of interest will be
published in a newsletter to the District staff to keep them informed and
interested in the model technical library project.

Budget

In preparing the budget, which is attached as annex N, approximately eight
libraries in and outside the Corps were contacted for assistance and
guidance. The basis for the budget is information received from the
Waterways Experiment Station at Vicksburg, Mississippi, the Los Angeles
District, and the U.S. Army Infantry School at Fort Benning, Georgia.

As prepared, the budget will provide a collection of approximately 6,000
technical volumes of which 3,000 are currently on hand. It will also provide
180 paid periodicals of which 130 are currently on hand. In addition, all
standard library reference material, such as the Engineer Index, will be
provided in hard copy or microfilm; similarly the commercial standards
required by the District will be provided in hard copy or on microfilm.
The budgeted cost for automation is based on utilizing the computer in the
configuration as it presently exists in the District. It is anticipated
that minimum systems for circulation control, dissemination, and catalog
automation will be designed initially and additional systems will be developed and tested during the fiscal year after phase I is completed. The cost of the users survey contract is based on the Government estimate inasmuch as the contract has not been awarded. Additional funds are included in anticipation of other contracts which may be let for system development or the conduct of selected studies.

As indicated at annex N, the total cost of phase II is set at $132,831. However, if the $25,387.31 not utilized in phase I (see section 2) can be retained, then the net amount of additional TISAP funds required for phase II would be $65,740.69. Also, it should be pointed out here that the District contribution to phase II represents the maximum amount which the District can afford.
The following discussion of the Savannah Engineer District has been provided for the benefit of those who will monitor the Model Technical Library Project and also for those who will utilize its results. The user survey will, of course, provide a more precise summary of the information needs of the District but this discussion is designed to provide some initial insight on the District's mission, type of work, workload, user population, and other special activities.

The mission of the Savannah Engineer District, its areas of responsibility, and its general organization are indicated at annexes O, P, and Q. The District has a background of nearly 140 years' experience in a wide variety of civil works and military construction programs. In recent years, these programs have provided a total annual workload in the neighborhood of $75 million. There are more than 900 civilian employees in the District and this figure includes approximately 600 engineers, architects, lawyers, managers, and other professional personnel. These career employees handle a wide variety of technical and administrative duties which result from the extensive spectrum of Corps of Engineers' responsibility.

In carrying out its responsibilities for a major portion of the Atlantic seacoast and the Intracoastal Waterway as well as the ports of Savannah and Brunswick, the District has developed considerable expertise in tidal hydraulics, beach erosion, and the handling of acute silting problems in rivers, waterways, and harbors. An increasing program of flood control studies is following a long history of constructing dams, levees, jetties, and other structures. At the present time the District is planning, designing, constructing, and operating major hydroelectric plants. Because of increasing Industrialization, the District has become more heavily involved in water quality control. Similarly, public demands have caused the District to become involved in the planning and management of recreational facilities in conjunction with water resources development programs.

The District has within its boundaries many of our country's major military complexes, both Army and Air Force. Over the past three decades, which have seen several wars, the District has established an exceptional military construction record. The variety of military projects and their required technology is almost beyond listing. They include satellite tracking stations, runways and taxiways, instrument landing systems, ammunition storage facilities, multistory hospitals, campus-type academic buildings, barracks complexes, family quarters, office buildings, TV systems, maintenance shops, industrial plants, tunnels, railroads, and bridges, and more recently, simulated Vietcong villages.

The foregoing information provides some insight into what will be required of a technical information facility in the Savannah District. While the
specific information needs of the District staff will ultimately be de-

fined by the user survey report (annex L), some of the basic requirements
can be stated as follows:

a. Professional employees must be kept aware of current developments
in their respective technical fields.

b. Economical and efficient means must be found to obtain, store,
disseminate, and retrieve technical information in a timely fashion so
that the efforts of professional employees may be continually devoted to
productive work.

The final items of information which may bear on the library project con-
cern the District's automatic data processing capability and its experi-
ence in the use of microfilm. The ADP equipment currently on hand is as
follows:

GE 225 Computer, 8K Words
GE 225 Peripherals
100 CPM Card Punch
400 CPM Card Reader
900 LPM Printer
4-200 BPI Magnetic Tape Handlers
IBM 077 Collator
IBM 514 Card Reproducer
IBM 026 Card Punches (3)
IBM 029 Card Punches (2)
IBM 059 Verifier (1)
IBM 056 Verifier (1)
IBM 082 Card Sorter (2)

Many procedures in the areas of personnel, finance and accounting, real
estate, and engineering design have already been automated and by the end
of the current fiscal year the District will have designed and put into
operation an automated management information system for more progressive
administration and control of its work.

Since 1963 the District has been doing developmental work in the use of
microfilm and color overprinting in connection with engineering drawings.
Work on the microfilm system is continuing and the use of visual search
microfilm files in lieu of hard copy catalogs in the Design Branch is cur-
rently being evaluated.
Section 5
THE SAVANNAH DISTRICT LIBRARY

History 1937-1968

This brief history of the Savannah District library was prepared in the hope that some lessons might be learned by studying the manner in which technical information has been handled in the past, particularly with respect to library organization and functions.

1937-1947

Records indicate that the first District library was established in 1937 under what is now the Office of Administrative Services. The first collection was primarily technical releases used in the preparation of reports on matters such as project location data, flood control data, and related material. In July 1944, this collection of materials was made the responsibility of the Library and Research Section within the same office.

In the early forties, the Office of Administrative Services hired a Records Management Officer and began to organize a collection of regulations, manuals, technical reports, etc. A few years later, the Engineering Division began a collection of plans and specifications which were considered "library material." This division of custodianship was the beginning of a trend toward decentralization which later resulted in the assignment of responsibility for technical materials to the Engineering Division. During this early stage of the decentralization movement, there was much duplicate filing of materials such as correspondence, technical references, and other records.

1947-1961

In July of 1947, the small collection of mainly technical material which had been the responsibility of the Office of Administrative Services was transferred to the Engineering Division and a reference library was established in that element. The collection was classified by the Dewey Decimal System and crossfiled by subject and author. This information was entered on 3" x 5" cards and served as a reference and shelf list. A simple card chargeout system was maintained. The collection and the use of it by technical personnel grew rapidly between 1947 and 1952 so that on moving to the present office building a space of 25' x 25' with approximately 1,000 linear feet of shelving was provided for the reference library.

When the Engineering Division reference library was initially established, a research analyst was placed in charge to personally assist engineers with their information requirements. Particular attention was given to providing information needed by engineers preparing reports and studies on civil works projects. In 1950, a library clerk was added to the staff, allowing the
research analyst to devote most of her time to assisting the users of the library. Mr. Cowgill, then assistant librarian and later chief librarian for the Office of the Chief of Engineers, regarded the Savannah District library as one of the outstanding information facilities in the Corps at that time. He was particularly pleased with the services provided by the research analyst.

In 1955, the research service function was abolished due to personnel limitations. The library was then staffed with a library clerk who was unable to continue the research services. In 1957, when this library clerk resigned, the position was staffed with one full-time library assistant (GS-4) and administrative support of the library was provided by the Service Branch of the Engineering Division.

1961-1965

In July 1961, organizational guidelines established by the Office of the Chief of Engineers caused the reference library to be transferred again to the Office of Administrative Services. In 1963, a team from the South Atlantic Division challenged the assignment of specification standards to the library since it was no longer a part of the Engineering Division. As a result, that division assumed responsibility for the standards and established a Criteria Unit which was staffed with an engineer and a clerical assistant. All standards except those which were printed in book form were then transferred to that Unit.

During this transition period, the library assistant worked with the Engineering Division to insure the proper transfer of materials and functions. Gradually, however, the decentralization movement caused technical material to be retained by various users within Engineering Division, and as a result, the library element per se within the Office of Administrative Services was abolished in 1965 with the approval of all staff elements. Its remaining functions were transferred to the Mail and Records Branch of that office.

1965-1966

The staff of the Mail and Records Branch attempted to catalog incoming materials requested by the technical staff using Susan Akers' Simple Library Cataloging as a guide, and the Engineer Joint Council's Thesaurus for subject headings. As new materials arrived, proper decimal classification was attempted. Many of these materials were misclassified, however, when old, but wrong, classification numbers were used in the rush to keep books in circulation. All holdings were checked against Books in Print, and obsolete materials were withdrawn. Also attempts were made to place in the library all technical reports published by the District. This was done by withdrawing extra copies of these reports from the Records Holding Area, and also by requesting the staff to submit copies of their technical reports to the library.

In spite of these accomplishments, many recommended improvements were not implemented during 1965 and 1966 due, in part, to budgetary restrictions.
and regulatory requirements. Among the recommendations not implemented were ideas concerning the use of Library of Congress catalog cards, an attachment to the Xerox machine to reproduce catalog cards, and the Engineering Encyclopedia. A specific budget for the library was not prepared; instead, all expenses were costed to the District overhead account (46020). Meeting of approved overhead targets limited the amount of funds available to the library. More recently, the library has been able to subscribe to Books in Print, the Engineering Index, and the Monthly Catalog of Government Publications.

The District Library Study

Colonel William L. Barnes, whose tenure as District Engineer began in February 1966, became concerned about the District's lack of a library element per se, and initiated a study to determine whether one could be justified and if so, what its functions should be. A study committee was established and a questionnaire was developed and circulated to certain key personnel to determine what services the users needed. This questionnaire and the results it produced may be found at annex R. Basically, the recommendations made by the study committee were as follows:

a. That a Technical Library Section be established as a part of Mail and Records Branch and be staffed by a professional librarian, GS-6, plus the required clerical support.

b. That commercial standards used in design functions be centralized as a part of the library holdings.

c. That a Technical Library Council be established to recommend to the District Engineer policy governing the functions and services of the Technical Library Section.

Recommendations a and c above were implemented by District General Orders 1, 1 March 1968 (annex S). Recommendation b has been held in abeyance for further study as a part of the TISAP project.

The Existing Library, July 1968

This brief description of the Savannah District Library at the beginning of the TISAP project is considered advisable in order to give a better understanding and basis for judging and comparing the overall results of this effort.

The existing facility was a small technical library and was located in a 25' x 25' area on the fifth floor of the Castle Building, headquarters of the Corps of Engineers in Savannah, Georgia.

The holdings of the library numbered approximately 6,000 titles divided into 2,000 hardback volumes, 4,000 paperbacks, and 300 periodicals. Primary emphasis was in the engineering area. A specialized collection of official
regulations issued by DOD, DA, OCE, SAD, and the Savannah District was housed within the space assigned the library.

Organizationall, the library was a section of the Mail and Records Branch within the Office of Administrative Services. The staff consisted of two part-time nonprofessional clerks whose primary job responsibilities were in the Mail and Records Branch.

The library itself ordered very little for the basic reference collection. The assigned library staff relied upon the professional staff members to order and recommend items which were recorded as part of the library holdings, but which were in fact the staff members' personal reference collections located frequently in their offices. Regulations required that all requisitions for library-type material be routed through the library before processing by the Supply Division (Procurement). The library ordered and renewed periodicals primarily. The library staff did assist the users in preparing a requisition form (SAD Form 1608) if bibliographic identification of library-type material was needed. No budget for basic reference materials or for other specialized materials was given the library. Acquisitions were made from the overhead account.

The catalog for the Savannah District Library was a divided, card catalog arranged by author, title, and subject. It was manually produced with the author entry as the main entry. Subjects were classified by the Dewey Decimal Classification System. All materials were entered in the one catalog. Descriptive cataloging was done following the rules outlined in Susan G. Akers' Simple Library Cataloging. Subject headings were assigned primarily from the Engineers Joint Council Thesaurus. The Dewey Decimal Classification System was used in conjunction with the subjects of this thesaurus. "See" and "see also" cross references were used in the subject catalog.

A shelf list also was maintained, separated into accountable and nonaccountable material. The shelf list for accountable material was arranged by the classification number and a quasi-Cutter number created by using the author's initial, the fiscal year, and the number sequence which began with the number one (1) on 1 July of each year. Nonaccountable material was filed by the classification number and the initial of the author. No further number was assigned. It was in the area of dissemination that the library staff was the most active. The operating procedure was primarily a selective group and/or individual interest system based upon the mission, functions, and job responsibilities of the professional staff bringing to their attention new information through the following media:

a. Periodicals

b. Indexes and abstracts

Engineering Index
Applied Science and Technology Index
Architectural Index
The information contained in the above sources was disseminated on a need-to-know basis by xeroxing excerpts and/or the title page. Periodicals, too, were routed on a need-to-know basis using DA Form 1222. The dissemination system served two purposes:

a. Acquainted the staff with some of the reference tools available to them in the library.

b. Kept the staff aware of current information.

During calendar year 1967, the Savannah District Library initiated approximately 400 interlibrary loan requests for the professional staff. Standard interlibrary loan procedures were practiced, and the results of this service were satisfactory due to the cooperation of other libraries which is the underlying philosophy of this mutual support service. However, Government regulations did not permit the loan of Government property, normally, to non-Government institutions. Books were considered U.S. Government property. Although most public and private libraries understood these limitations, it did prove embarrassing on occasions.

One regulation assisted in developing a circulation system. This regulation, ER 735-2-1, required a property accountability record for certain library materials (mainly hardback books). Other requirements of this regulation were:

a. Establish a continuous location record of each accountable item;

b. Conduct a yearly inventory of some part of the library collection (20 percent of the collection);

c. Maintain a clearance record system of accountable property for personnel departing the Savannah District.

These requirements were expanded to cover nonaccountable material so that an effective overall circulation control operation did exist using conventional library chargeout methods.

Research and search services were performed within the limits of the in-house collections, the competence of the library personnel, and the time allotted to this function by the part-time staff. Interlibrary loan service was used frequently. Literature research services were suggested from specialized organizations, associations, and libraries for reference requests beyond the capabilities of the local area.
Organizational changes, regulatory limitations, and the lack of personnel and funds, as discussed above, have caused a deemphasis of the support functions which a library is normally expected to provide.
ANNEX A

PROPOSED MODEL LIBRARY
U. S. Corps of Engineers
Savannah District

I. Purpose

A. Provides a test bed for new equipment and techniques in technical library services and operations.

B. Provides a controlled environment for evaluation and experimentation with techniques developed in the ATLIS project.

C. Provides a location for exercising information exchange and network studies.

II. Physical Facilities

Factors to be considered:

A. Physical space
   Stack area
   Processing Areas
   Administrative and technical office spaces
   Microfilm storage area
   Communications area
   Reproduction area

B. Equipment
   Processing equipment
   Reproduction equipment
   Microfilm Retrieval equipment
   Communication equipment
   (ADP, teletype, etc.)
   Administrative equipment

C. Furniture, fixtures and equipment
   Includes that which is normal to technical libraries.

III. Personnel

A. User Population
   Technical profiles
   Number and kind
   Organizational structure
   Scientific/Engineering discipline
   Research/Engineering projects

B. Library Personnel
   Acquisition
   Processing (microfilm & ADP)
   Periodicals
C. Other Personnel
   Information specialists
   System specialists
   Experimentalists
   Publication specialists
   Graphics specialists

IV. Library Activities

A. Processing
   Acquisition
      selection
      procurement
      processing
   Cataloging
      processing
      indexing
      labeling
      shelving
   Announcement
      acquisition
      abstracts
      SDI's
   Bibliographies
   Inter-library loans
      other CE
      DDC
      NASA
      AEC
   Library of Congress

Communications
   Processing (ADP)
   SDI
   R&D sources
   IAC sources
B. User Services

Circulation
  automatic
  on request
bibliographies
SDI's
  current awareness
microforms
Requests
  inter-library loan
bibliographies
microforms
IAC reports
periodicals
Reference
  special requests (SRI's)
bibliographies
periodicals

V. Experiments and Evaluation

A. Equipment

Equipment will be used on each function and the results reported showing the gains or losses in efficiency, effectiveness and cost of each.

B. Procedures

As a part of a technical library management manual, procedures manuals will be prepared, tested and revised as needed.

C. Interfaces with Other Information Sources

1. Interfaces with other information sources (e.g. TIACS, WES, other RD's) will be analyzed during operation.

2. Equipment will be evaluated, for example:

   Acoustic couplings to CPU's
   Auto Dyn
   Teletype
   Fax systems
   Microfilm (fiche)
VI. Reports

Equipment
evaluations
applications
costs
effectiveness
Techniques
by functions
as input to management SOP's

VII. Budget

-to be developed by phase or fiscal year
ANNEX B

PRELIMINARY PLAN FOR MODEL LIBRARY PROJECT
ARMY TECHNICAL LIBRARY IMPROVEMENT STUDIES PROGRAM

Primary Objective: To develop a model technical library over a three-year period for the Department of the Army.

Secondary Objective: To improve the Savannah District technical library so as best to meet the particular needs of the District.

Scope: During the course of this project a technical library suitable for use by appropriate Department of the Army activities will be designed, developed, and tested. This library is to be an information center with holdings that will be supplemented by those of other government or private information centers through appropriate connecting systems.

PHASE I

Duration: Six months (Jun-Nov 1968).

General Activities: Determine requirements; develop preliminary design of library systems; refine plan as necessary.

Specific Activities (listed in general order of precedence):

1.1 Using the District Technical Library Study completed in January 1968 and additional surveys as required, determine:

1.1.1 What books, periodicals, drawings, microfilm, and other data and materials currently on hand in the District will be added to the existing library.

1.1.2 What additional library references must be acquired for the purposes of this project.

1.1.3 User profiles.

1.1.4 How much research is done by District employees. Ascertain what the subject areas are as well as how and where research is done.

1.1.5 Subject and frequency of requests for data made to sources outside the District Office.

1.2 Review modern information codes being used in government and private technical libraries or other activities.

1.3 Review services and information available from other libraries or information centers both government and private which could support the District library.
ATLIS
Phase I

1.4 Define the services which the library should provide.

1.5 Develop preliminary design of information system to provide required services.

1.6 Establish the District technical library at branch level in the Office of Administrative Services.

1.7 Prepare position description of professional librarian; determine grade level of position; obtain approval from higher headquarters and recruit employee.

1.8 Develop funding program, obtain suballocations of funds, and establish a cost accounting system to give required breakout of information through regular cost accounting system maintained by Comptroller organization.

1.9 Refine plan as necessary.

PHASE II

Duration: Twelve months (Dec 68-Nov 69).

General Activities: Upgrade existing library; design subsystems; prepare for testing program.

Special Activities (listed in general order of precedence):

2.1 Establish what information will be stored locally and how it will be stored; i.e., hard copy, microforms, magnetic tape, etc.

2.2 Establish which outside information sources will be interfaced with the District library.

2.3 Establish time requirements for information retrieval.

2.4 Establish acceptable and/or desirable forms of output: i.e., visual display, hard copy, microform, etc.

2.5 Redesign the existing library floor plan and determine what building alterations, as well as additional furnishings and standard library equipment, will be required for this project.

2.6 Implement library improvements in accordance with new design.

2.7 Select and implement information coding system that is compatible with programming language, information sources, and requirements for retrieval.
ATLIS
Phase II

2.8 Acquire books, indices, and reference material which will be needed.

2.9 Place selected references on microfilm, magnetic tape, or other storage media.

2.10 Study means and/or feasibility of:

2.10.1 Automating all or a portion of each subsystem.

2.10.2 Retrieving stored data.

2.10.3 Establishing data links with Division Office, Charleston and Wilmington Districts, and one or more information analysis centers.

2.10.4 Utilizing CRT devices or facsimile to transmit information to users and to provide them with hard copy.

2.10.5 Disseminating information selectively.

2.10.6 Reducing time that professional personnel must spend on research.

2.11 Design subsystems and select equipment.

2.12 Formulate testing program in accordance with criteria established by Army Research Office.

2.13 Obtain proposals from equipment manufacturers with reference to cost sharing and times at which equipment can be made available.

2.14 Review District plant replacement program and coordinate project procurement.

2.15 Re-evaluate funding requirements.

Remarks:

2.16 Service contracts may be utilized to accomplish some of the foregoing design and study requirements.

2.17 Graduate fellows may be employed to assist in making some of the studies.

2.18 Guest speakers will be brought in to provide enlightenment and professional guidance during this phase.
ATLIS

Phase II

2.19 Existing technical libraries will be visited for the purpose of seeing the layout, equipment, and services rendered.

PHASE III

Duration: Fourteen months (Dec 69-71).

General Activities:

3.1 Conduct pilot tests of library subsystems.

3.2 Revise subsystem designs and make final equipment selections.

3.3 Conduct performance tests and evaluate each subsystem.

Remarks:

3.4 Evaluations will consider effectiveness of each subsystem from the standpoint of meeting user requirements, costs, equipment and staffing requirements, efficiency, interfacing with other subsystems and existing information sources, and compatibility of equipment made by various manufacturers.

3.5 As a matter of policy, equipment that is still in the early stages of development and not ready for production will not be tested during this project.

PHASE IV

Duration: Four months (Feb 71-May 71).

General Activities: Prepare final report and manual for Army Research Office.

Remarks:

4.1 Manual will present procedures for establishing and operating a technical library.

4.2 Report will present equipment evaluations and cost analyses of individual subsystems.
SUBJECT: ATLIS Model Technical Library

THRU: Division Engineer, South Atlantic

TO: District Engineer, Savannah

1. References:
   b. Savannah District Special Order No. 12, 23 April 1968.

2. Based upon referenced letter and inclosure, "Preliminary Plan for Model Library Project, Army Technical Library Improvement Studies Program," a plan for three phases of operation of the Savannah District Model Library has been developed and discussed with the Army Research Office. Agreement has been reached for the first two phases. Thirty-five thousand dollars ($35,000) of ATLIS funds have been assigned for this effort. Fund citation will be forwarded by DA Form 2544.

3. The goals of this project are two fold: (1) to develop a modern highly effective technical information facility in support of the Savannah District's mission that can be related to Army-wide use, and (2) to provide a facility for experimentation in new methods, equipment and procedures. Extensive use of contract personnel in the execution and reporting of these studies is envisaged.

4. Because of the nature of this project, we prefer to establish a technical channel directly between OCE and Savannah District. Unless advised otherwise, we will proceed on this basis with the assumption that locally the Savannah District will keep the Division Engineer informed.

5. Inclosure No. 1 includes a detailed statement of work for the first three phases of this project. The first two (presently funded phases) are scheduled for completion by 30 September 1968, at which time a report

Annex C
ENGAS 6 June 1968

SUBJECT: ATIS Model Technical Library

will be prepared describing in detail a long-range plan for the operation and experimentation to be performed by the model library. Phase one of the inclosure covers the establishment of a basic library facility. This includes the physical considerations of space, equipment, personnel and acquisition of a core collection of technical reference materials. Further details for this will be worked out in a series of technical meetings.

Phase two (July-September 1968) will be a planning period. A series of meetings will be scheduled at Savannah District. OCE, ARO and consultants will be employed to augment the Savannah District personnel designated in Savannah District's Special Order No. 12 (ref. b). Resumes of personnel being considered as consultants are included in inclosure no. I. The report developed during Phase two will include detailed descriptions and schedules for a body of experiments involving technical library procedures. These experiments will cover both human procedures and evaluation of equipment (from simple aids to ADF and Data Comm). Reports for each will describe methodology and application. The results and conclusions will be reported in terms of efficiency, effectiveness and user satisfaction or utility. From these experimental activities and the resulting body of reports, a detailed management and procedure manual will be developed. This will be prepared in a format suitable for Corps-wide and Army-wide guidance in the management and operation of technical libraries. The schedule of experiments will include distinct, realistically planned milestones that can be reported and will assist in project management. Milestones will be reported using the format of AR 70-9 (DD 1498) and supplemented by additional descriptions of funds expended, problems encountered and recommendations for further experiments if needed.

6. The physical furnishing of the Information Center may require procurement of special library furniture. If required, furnishings described in paragraph 2d, ER 715-1-4, may be acquired for this project.

FOR THE CHIEF OF ENGINEERS:

[Signature]

Gen'l. W. Blakely, Cdr.
Office of Administrative Services
Introduction:

This document describes the plans for establishing a model technical library to serve as a test and evaluation base for developing new techniques and procedures for use in Army technical libraries. It will provide a means of evaluating under unbiased conditions, the utility of the ATLIS efforts and describing in concise practical terms, methods of implementation that can be applied at any Army technical library. Preliminary planning and scheduling through the end of December 1968 is described. Because more detailed plans will be developed during the early phases of operation, this will be considered as an interim planning document and will be expanded upon by the September 1968 report.

Purpose:

The purpose of this ATLIS project is to establish a model library to serve as a laboratory or experimental test bed for library operations. Tests will be conducted using the results of other ATLIS work units. The results of these tests will be reported in terms of increased user service and support, cost effectiveness and utility for the Army family of technical libraries. Procedure handbooks will be prepared covering technical library functions, equipment will be analyzed for utility in relation to library functions of acquisition processing and user service.

Specifically the purpose of the project is to:

a. Provide a test bed for new equipment and techniques in technical library services and operations.

b. Provide a controlled environment for evaluation and experimentation with techniques developed in the ATLIS project.

c. Provide a location for exercising information exchange and network studies.
Discussion:

For preliminary planning, the project has been divided into three phases, covering the establishment of a basic operational facility, planning and a preliminary experimental period.

The Savannah District of the Corps of Engineers has been selected as the site for this experiment since it provides a sizeable professional user population and does not at present have a full scale technical library facility. This last is considered quite important because it results in an unbiassed environment not hampered by traditions and precedents. Preliminary talks with Savannah District personnel have been very encouraging in their spirit of full-scale cooperation. Savannah District has for several years been engaged in a Corps of Engineer microfilm development project and have demonstrated a high level of technical competence and an appreciation for good scientific methodology in R&D.

Phase I:

The model library will be marginally operational by 1 July 1968. Floor space will be allocated in a central area, easily accessible to users. Professional, technical and clerical personnel will be selected and assigned. A core collection of reference works will be assembled. Basic furniture fixtures and equipment will have been procured. Mission, scope and organizational relationships will have been stated.

Phase II:

During the period from 1 July through 30 September 1968 there will be a series of conferences involving the library personnel. Savannah District library committee specialists will be called in to act as consultants and augment the District library committee. Each specialist will attack a certain facet of the overall plan of operations and experiments contributing in his particular area of expertise.
At the end of this planning phase, a report will be prepared describing in detail the schedule of experiments to be conducted for the balance of the project.

Phase III:

Preliminary experiments and operations analysis will be conducted during the period from 1 October through 31 December 1968. These will be scheduled in accordance with the experimental/operational plan developed during Phase II and will cover equipment and techniques, processing functions and user services, local service and remote user modems. The results of experiment/evaluation will be prepared as a technical report for review by ATLIS and circulated. In turn each of these reports will contribute to the development of a body of procedure manuals and a technical library management manual.
Phase I - 1 July 1968

Objective: To establish a basic physical facility.

Tasks

1. Physical facility
   1.1 Design floor space
   1.2 Select and procure furniture and fixtures
   1.3 Telephones, supplies, etc.

2. Library personnel
   2.1 Prepare job descriptions
      GS-9/1410
      GS-7/1410
      GS-6/1411
      Assigned Engineer Information Specialist
      Summer student GS-5/301
   2.2 Establish library committee
      District personnel
      Division, OCE, ARO

3. Library Collection
   3.1 Basic reference list
   3.2 Professional references (user survey)
   3.3 Catalogs, specifications, standards (user survey)
   3.4 Selected library scientific/information technology

4. Funding
   4.1 Develop funding program, obtain suballocations of funds, and establish a cost accounting system to give required breakout of information through regular cost accounting system maintained by Comptroller organization
Phase II - 1 July - 30 September 1968

Objective: To develop a detailed overall plan for the body of experiments and operations analysis of the test library.

Tasks

1. Preliminary planning

1.1 Establish District Library Committee

1.2 Augment with consultants

- Library Science
  - E. Wallace, SDC
  - H. Voos, Picatinny

- Systems Analysis
  - B. Rock, Info Dynamics

- Exper. Design
  - R. Krumm, Bunker Ramo
  - R. Katter, SDC

- Data Comm/ADP
  - R. Chaillet, ARO
  - B. Rock, Info. Dynamics

- User Service & Thesaurus Development
  - A. Skelton, WES

- Training
  - E. Wallace, SDC

- Library Procedures
  - M. Zenich, OCE

2. Experiments and Evaluation

2.1 Equipment. Equipment will be used on each function and the results reported showing the gains or losses in efficiency, effectiveness and cost of each.

2.2 Procedures. As a part of a technical library management manual, procedures manuals will be prepared, tested and revised as needed.

2.3 Interfaces with other Information Sources. Interfaces with other information sources (e.g. TIACS, WES, other RD's) will be analyzed during operation.
3. Library functions for analysis and experiments

A. Processing
   Acquisition
   selection
   procurement
   processing
   Cataloging
   processing
   indexing
   labeling
   shelving
   Announcement
   acquisition
   abstracts
   .SRI's
   Bibliographies
   Inter-library loans
   other CE
   DDC
   NASA
   AEG
   Library of Congress
   Communications
   Processing (ADP)
   SRI
   R&D sources
   IAC sources

B. User Services
   Circulation
   automatic
   on request
   bibliographies
   SRI's
   current awareness
   microforms
   Requests
   inter-library loan
   bibliographies
   microforms
   IAC reports
   periodicals
   Reference
   special requests (SRI's)
   bibliographies
   periodicals
Phase III - 1 October - 30 December 1968

Objective: To conduct the first series of experiments and prepare a series of technical reports on the results.

Tasks: A detailed statement of tasks will be developed during Phase II.

Funding

Current ATLIS funds will be used for Phases I-II.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>15,000</td>
</tr>
<tr>
<td>Phase II</td>
<td>20,000</td>
</tr>
<tr>
<td>Phase III</td>
<td>20,000</td>
</tr>
</tbody>
</table>
ANNEX D

CHARTER

TISAP Model Technical Library Project

1. **Purpose.** This project has a two-fold purpose:
   
   a. To develop, test, and evaluate a modern, highly effective, technical information facility that may be related to Army-wide use.

   b. To evaluate relevant techniques and concepts of modern information technology.

2. **Conditions.**

   a. The proposed technical library will be established in the Savannah Engineer District, U. S. Army Corps of Engineers. Prior to this project, the District had a small technical library with approximately 6,000 holdings and a part-time staff. The potential user population consists of approximately 600 engineers, architects, lawyers, managers, and other professional personnel who are engaged in the planning, design, and construction of military facilities, as well as river and harbor, multipurpose and flood control works, and acquiring, managing, and disposing of a large amount of Federal real estate.

   b. The District will staff the library using its own space authorization, but this staff will be assisted by contract personnel who will perform selected surveys and studies.

   c. An equitable portion of the costs of establishing and operating this facility will be borne by the Savannah District. However, the project will operate largely on TISAP funds which, for planning purposes, will be made available at the rate of approximately $10,000 per month.

   d. It is envisioned that the project will utilize existing ADP capability. However, the District is authorized to procure special furnishings under the provisions of paragraph 2d, ER 715-1-4.

   e. The duration of this project is set at a minimum of three years.

3. **Scope.**

   a. The following activities are envisioned during the course of this project insofar as they are practicable with respect to the Savannah District environment and the project budget.

   (1) Evaluation of the utility of previous TISAP efforts.

   (2) Development and evaluation of new techniques in technical library services and operations.
(3) Development and evaluation of techniques for information exchange between the model technical library and remote information sources as well as remote users.

(4) Development and evaluation of methodology for relating the results of this project to other user populations.

(5) Development of procedural manuals covering the relevant aspects of establishing and operating a technical library.

b. The results of the foregoing evaluations as well as the equipment utilized will be analyzed in terms of the effectiveness, cost, and acceptability to the user.

c. No attempt will be made to conduct tests dealing with library decor, furnishings, or lighting conditions. Neither will any attempt be made to compare different brands of equipment.

4. Procedure.

a. Phase I of this project will be devoted primarily to planning and preparation. Detailed plans for the establishment of the facility and conduct of the project will be prepared by District personnel assisted by consultants. A budget will be drawn up, the physical space will be prepared, a basic package of furnishings and equipment will be procured, and a library staff will be recruited.

b. During Phase II the model technical library will be established. Its mission and organizational relationships will be stated. The library staff will be oriented and trained. A user survey will be conducted by contract. Culling and updating the existing holdings will be initiated based on known user requirements. Basic policies and procedures will be established. Prototype systems to provide primary user services will be developed and tested.

c. In Phase III the collection will be modified in accordance with the results of the user survey. Also, development and testing of new systems and techniques will be initiated based on the survey.

d. During Phase IV a procedural handbook on the relevant aspects of establishing a technical library will be prepared. Development and evaluation of techniques and systems for handling technical information will continue.

e. In Phase V a procedural manual on relevant technical library operations will be prepared along with a summary report on the equipment techniques and systems evaluated during the course of the project.
DISTRICT SPECIAL ORDERS
NO. 33

1. The Army Technical Information Support Activities Project (TISAP) Committee is hereby established in lieu of the Army Technical Library Improvement Studies (ATLIS) Project Committee. The following persons are appointed as members of the TISAP Committee:

   a. Major Larry F. Smalley - Chairman (DDE)
   b. Mr. W. J. Crump - Vice Chairman (Chief, OAS)
   c. Mr. Fred J. Kitchens, Jr. - Member (Struct Sec, Eng Div)
   d. Mr. Walter S. Schaaf - Member (Asst Chief, ADPC)
   e. Mrs. Marguerite A. West - Member (District Librarian)
   f. Miss Pauline E. Kasper - Member (Asst District Librarian)

Functions:

   a. Responsible for directing and controlling project operations, preparing progress reports, maintaining records, briefing official observers, and serving as a point of contact for other agencies and higher authority who may be concerned with the project. The TISAP Committee is authorized to act for the District Technical Library Council during the life of the project. Policies and plans established by the Committee will be coordinated with the Council and the District Engineer (Ref. DGO 2, 5 Apr 68, app A, par 11c).

   b. The District Librarian is assigned the following functions with respect to the TISAP Committee:

      (1) Directing project operations in accordance with general plans developed by the TISAP Committee.

      (2) Maintaining project records.

   c. Cost accounts, codes, etc., established for the ATLIS Committee will be converted to TISAP as this project is actually a continuation of the original ATLIS Project.

2. The following members are appointed as TISAP Coordinators for their respective staff components:

   a. Mr. L. A. Hagood, Jr. (Chief, Design Br).............. Eng Div
   b. Mr. G. E. Haltiwanger (Chief, Mil Cons Br)............ Cons Div
   c. Mr. William Clarkson (Chief, Opr Br).................. Opr Div
   d. Mr. F. J. Andrews (Acquisition Branch)............... RE Div
   e. Miss M. E. Blake (Contract Branch).................... Sup Div
   f. Mr. J. K. Lynn (Chief Cost Section).................... Ctr Org

Rescission: DSO 12, 23 Apr 68

Annex E
Functions: Provide the Project Committee a broad input of ideas on how the project might be interfaced with District operations and plant; facilitate the participation of their respective staff elements in project operations; solicit the cooperation of all District personnel in appropriate project activities; and advise the Project Committee on various matters relating to personnel, finance, technical requirements, etc.

DISTRIBUTION A
Plus ea named person
Ea named person's OPF
Chairman (20)
RESEARCH AND DEVELOPMENT

ATLIS Program

1. Purpose and Scope. The Savannah District has been asked to undertake a 3-year research and development project which is a part of the Army Technical Library Improvement Studies Program (ATLIS). The objective of this project is to develop a modern technical library which will serve as a model for various agencies throughout the Department of the Army.

2. The ATLIS project should not be confused with the Technical Library Study previously conducted within the District. That study was strictly a District project and was intended to benefit our own organization. The benefit which the District will derive from the ATLIS project are of secondary importance. The primary objective is as stated in par. 1 above.

3. A Project Committee has been established and Project Coordinators have been appointed by DSO 12, 23 April 1968, in which their functions are outlined. The District Technical Library Council established by DGO 2, 5 April 1968, will be given the opportunity to review policy and planning documents of the ATLIS Project Committee and to make recommendations when appropriate.

4. During the life of the ATLIS Project Committee, the Executive Office will be the office of record for the project. Accordingly, record copies of all correspondence, test data, reports, minutes of meetings and conferences, policy and planning documents, and other items pertinent to the project will be marked "ATLIS Project - File Copy" and submitted to the Executive Office. When the Committee is dissolved the records will be transferred to Management Branch, Comptroller Organization, where they will be held until retirement.

5. Research and Development funds will be made available for this project. Accordingly, a special cost account number has been established and will be given to Committee members.

WILLIAM L. BARNES
Colonel, Corps of Engineers
District Engineer

DISTRIBUTION A
1. Office of Administrative Services. The functions of Mail and Records Branch are modified to remove the Technical Library functions as a part of the Branch and a Technical Library Branch is established effective 6 May 1968. The functions of the Branches are as follows:

a. Mail and Records Branch. Basic functions include:

(1) Maintaining, classifying according to The Army Functional Files System (TAFFS), and servicing general interest files not subject to decentralization.

(2) Receiving, indexing, and routing incoming communications.

(3) Dispatching all outgoing communications.

(4) Operating intraoffice messenger service to distribute and collect communications introduced into internal distribution system.

(5) Operating the installation Classified Document Control Center including initial receipt, classify according to TAFSS, control, servicing, storage, accountability, and dispatching outgoing material.

(6) Operating the Records Holding Area (RHA) with responsibility for receipt, storage, servicing, processing for shipment of those records going to a permanent repository, and disposition of those records authorized for local disposition.

(7) Operating central correspondence suspense system for District.

(8) Preparing schedule collection (Remittance Register) of cash or check received through official mail channels.

(9) Posting notices and removing obsolete material from official bulletin board.

b. Technical Library Branch. Basic functions include:

(1) Operating a central reference library (administrative and technical publications, periodicals, technical books, manuals, reports, etc.) of both commercial and Government-issued material required in the conduct of the District's mission. Issuing material on request or long loan to requesting elements of the District.

(2) Coordinating procurement of new books, periodicals, etc. Initiating procurement of periodicals to be obtained on renewal basis.

Reissuance: Section XI C, District General Orders No. 2, 5 Apr 68

Annex G
Establishing liaison and performing clerical assignments in the conduct of Interloan library services involving material not available in the District's Library.

Collecting, reviewing, evaluating, cataloging, and distributing technical information in support of the OCE STINFO Program and the Defense Department Documentation System.

Determining needs of operating offices and circulating IO material received on a "need-to-know" basis.

Maintaining accountability records of books and performing periodic physical inventory as required by regulations.

Performing research for subject material requested by operating offices. Source documents, once located, are issued to requesting office for evaluation or extraction of specific information.

Extracting material from administrative and technical publications, periodicals, technical books, manuals, and reports (annual report) when called upon by operating offices.

Requisitioning and maintaining file of commercial standards which consists of one copy of all standards referred to in District Guide Specifications.

Receiving, distributing, and maintaining official centralized files of AR's, ER's, DvR's, DR's, Circulars, etc. Determining operating elements' decentralized needs and informing higher authority of supply requirements.

Serves as technical advisor to the Army Technical Library Improvement Studies (ATLIS) Project Committee. Participates in testing and evaluating systems employed in the DA-sponsored 3-year Research and Development project to design a model library for Army-wide application.

Serves as COR (Contracting Officer's Representative) in executing, administering, and evaluating contract services used in the study project (management and systems consultants in the Library field).

WILLIAM L. BARNES
Colonel, Corps of Engineers
District Engineer

DISTRIBUTION B
# ANNEX H

## Basic Furnishings and Equipment

<table>
<thead>
<tr>
<th>Item No.</th>
<th>Unit</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ea</td>
<td>Secretarial Desk, Right pedestal</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>ea</td>
<td>Secretarial Desk, Left pedestal</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>ea</td>
<td>Charging Desk, Double pedestal</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>ea</td>
<td>Card Cataloging Cabinet</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>ea</td>
<td>6-tray Card Catalog Cabinet</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>ea</td>
<td>Dictionary Stand</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>ea</td>
<td>Atlas Stand</td>
<td>1</td>
</tr>
<tr>
<td>8</td>
<td>ea</td>
<td>Study Carrel, 4-way</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>ea</td>
<td>Library Table</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>ea</td>
<td>Periodical Shelving</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>ea</td>
<td>High Shelves, double faced</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>ea</td>
<td>Low Shelves, single faced</td>
<td>2</td>
</tr>
<tr>
<td>12a</td>
<td>ea</td>
<td>Low Shelves, single faced</td>
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<td>13</td>
<td>ea</td>
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<td>High Shelves, single faced</td>
<td>1</td>
</tr>
<tr>
<td>15</td>
<td>ea</td>
<td>Swivel Arm Chair</td>
<td>4</td>
</tr>
<tr>
<td>16</td>
<td>ea</td>
<td>Library Arm Chair</td>
<td>8</td>
</tr>
<tr>
<td>17</td>
<td>ea</td>
<td>Display booktray</td>
<td>1</td>
</tr>
<tr>
<td>18</td>
<td>ea</td>
<td>Step Stool</td>
<td>1</td>
</tr>
<tr>
<td>19</td>
<td>ea</td>
<td>Microfiche Reader *</td>
<td>1</td>
</tr>
<tr>
<td>20</td>
<td>ea</td>
<td>Microfiche Reader Printer *</td>
<td>1</td>
</tr>
<tr>
<td>21</td>
<td>ea</td>
<td>Microfilm Reader (35 or 10mm) *</td>
<td>1</td>
</tr>
<tr>
<td>22</td>
<td>ea</td>
<td>Xerox, Model 720 *</td>
<td>1</td>
</tr>
<tr>
<td>23</td>
<td>ea</td>
<td>Office Desk, Double pedestal</td>
<td>1</td>
</tr>
<tr>
<td>24</td>
<td>ea</td>
<td>Carpet (approximately 89 sq. yds.)</td>
<td>1</td>
</tr>
</tbody>
</table>

### NOTES:

1. Item numbers correspond to numbers shown on library sketch and machine room sketch. (See annex I.)

2. Procurement of item 4 deferred until catalog type is determined.

3. Items marked by an asterisk were on hand or were procured for purposes other than the TISAP project.
Recommendations of Mr. Everett M. Wallace

a. Short Range Efforts

(1) Initiate study of the existing collection with weeding, to assess the useful parts that should be retained while the proposed user study is underway. The library staff should work closely with the study team and utilize this effort to become acquainted with their public and to be known by that public.

(2) I suggest that the user survey include a preliminary effort at building user profiles of enduring needs for library information that could be used for profile oriented routing and dissemination, as well as for adapting the system of description for the library collection to the kinds of needs that are particular to the prospective user population.

(3) Establish a descriptive system and set of procedures for processing material in the library through the use of existing thesauri, comparisons with profile vocabularies obtained through the users' survey, and further exploration with selective users to refine the initial perceptions of their requirements. This would lead to the initial establishment of authority files for cataloging practice and a beginning of processing new and old materials. I suggest that the use of EAM/EDP for building the catalog and the associated files be considered at the outset. This would involve assessment of the limitations on the character set available on a line printer and a working out of formats and procedures for inputting to the EDP service organization, as well as a programming effort.

A rationale for moving in the direction of machine-readable catalogs at the outset is that this would relieve the operations from a filing load, and provide many alternative means of producing announcements, special lists, and bibliographies. These could be matched against user profiles for routing and dissemination, and provide a practicable basis for testing alternative products, in a way that could not be provided readily by manual means.

(4) Develop preferred channels for communications with the user population, select media and establish services. This would include, if the foregoing is accepted, a machine-readable catalog that could be produced in page format rather than card format, reproduced and disseminated to users in various forms. This would lead in turn to various machine produced products for announcement and dissemination, and provide the basis for experiments with microform alternatives to full size hard copy products for announcements, catalogs, bibliographies, and complete documents.
The short-range planning outlined above would be co-extensive with the users' study that could, itself, be divided into two successive efforts. The first could be devoted to a study of the Savannah users per se, and the second to other users and dependencies in adjacent districts. The net effect of these efforts would be twofold. First, the user population would be made aware that an earnest effort is being made to assess their requirements for library services and that new services are being considered to serve them. Second, the direction of work suggested here would lead to selection of materials and cataloging practices that are modifiable through feedback from studying users' routing and circulation experience as services are developed.

b. Long Range Efforts

(1) Systematic experiments for the comparison of alternative products for announcements, catalogs dissemination, channels of communication and feedback with the user population.

(2) Alternative media for the presentation of announcements, dissemination profiles, thesauri, and catalogs should be studied, and tried as a part of the effort.

c. Other Recommendations

I suggest as the first kind of experiment to be mounted, an attempt to assess the effectiveness of dissemination via user oriented profiles, as against acquisition lists, and other forms of announcements that the library can create a given machine-readable catalog. This must wait upon the completion of the initial user studies and the establishment of an operating library. In view of Mr. Voos' assessment of six months being required for the users' study, the current phase III planning does not appear to be possible of completion by the target date of December 30, 1968.

A second part of the suggested experiment on dissemination would be a comparison of individual versus group profiles for those receiving profile directed dissemination, and a further comparison with a control group that might receive just what they are getting now, and possibly a fourth group that would receive simple acquisitions announcements or their equivalents.

The initial attempt to acquire some information about user needs through preliminary listing of words or descriptors for user interests in the initial users' study will need to be followed up by more thorough inquiry of the comparability of lists obtained in this manner against the kind of vocabularies contained in existing thesauri germane to the intended library. The means by which the vocabularies in use by the user population can be converted to thesaurus vocabulary, or the converse, should be made the subject of an extended study, and combined with experimentation directed to the problem of revising and maintaining up-to-date profiles reflecting current user requirements.
These efforts that have been described are quite enough for the first year's operation. They will require considerable contractor support in addition to the library staff and the cooperation and interaction of the user community in Savannah District.

I recommend that the attitude that should be held in appraising the initial experimentation and the kinds of alternative services that are developed is not in terms of immediate cost effectiveness, but rather in terms of leading to criteria for cost effectiveness judgments.

Recommendations of Dr. Henry Voos


(1) ATLIS report no. 19 (in press) states that the "effectiveness of an Army Technical Library is a function of the extent to which it supports the mission of the parent organization, and that (a) the mission of the Army Technical Library is a derivative of the mission of the Parent organization; and (b) the effectiveness of an Army Technical Library is a function of the adequacy and clarity of its mission statement in enumerating concrete goals and objectives as well as specific library services and products."

(2) To determine some of the facets to be considered in such criteria for effectiveness, one must compare the mission statements of the organization and the library. After ascertaining these relationships, one can examine the adequacy of the collection in terms of the mission for comprehensiveness, timeliness, and utility. Such an experiment requires personnel who are aware of the subject literature covered by the particular Army Technical Library. The experiment can also be structured by comparing the existing collection with standard lists and bibliographies (when such exist), and with the current acquisition media for all forms and types of information, i.e.:

(a) Books - Book Publishing Record (BPR) current or annual cumulations; Cumulative Book Index (CBI); Subject Guide to Books in Print, etc.

(b) Technical reports - Technical Abstract Bulletin (TAB); U.S. Government Research & Development Reports (USGRDR) and their indices; NASA's STAR, etc.

(c) Periodicals - Ulrich's Guide, World List of Periodicals, Engineering Index, New Serial Titles, etc.

(d) Government Documents - Monthly Catalog, Checklist of State publications.


(f) Specifications & Standards.

(g) Regulatory media.
(3) Product of such a study would be recommendations on weeding and building-up collection if it is inadequate. Then the effects of the change in collection can be studied. Important by-products of such a study would be recommendations as to cost-searching sequences for the various media; costs and methodologies of weeding; costs of acquisition by various means (control of funds by librarian as accountable officer, line item budget, ordering officer, blanket purchase order agreements, till forbid subscriptions, bids, etc.), a procurement manual for Army Technical librarians providing all options.

Time: 2 man-years


(1) One of the most important by-products of the previous study would be a procurement manual for Army librarians. The use of Mr. Falk's volume on library procurement which is now in press provides a policy guideline using federal laws such as the U. S. Code, but does not analyze it down to the ASPR's in most cases. An examination of the various means of procurement open to librarians, which ones to use for which materials at what time, etc., would also require time studies of order initiation, delay in libraries, delay in procurement offices, delays at dealers, etc. It would have to take into account file maintenance, costs of receiving, costs of making out the various reports considered necessary, etc. The volume should be loose-leaf so that it could be kept up to date with minimum effort.

Time: 1 man-year

(2) The abrogation of such internal forms, for example, as the SAD Form 1608-R, and what the elimination of such paperwork would mean to the user requires testing. Does easing the paperwork for user increase his requests for necessary material?

Time: 1 man-year

c. Regulations. A manual reflecting current regulations for libraries and impinging on libraries is necessary. The effect of using those regulations that permit the most effective functioning; the effect of using recommended forms, etc., requires verification. The compilation of laws and regulations on such items that are currently outside library province, but do have an effect on it, such as the one on microfilming (dating back to the 40's), the regulations on functional files, etc., will give library managers a tool to make effective use of those regulations that permit good management and a tool to initiate change if they provide for ineffective management.

Time: 1 man-year

d. Standardization.

(1) In order to use information generated by others, since no library can have all the information generated, or to have others benefit from information generated by oneself, a certain amount of standardization is necessary. This becomes all the more important if one considers automation. Current
examination of the library shows that non-standard formats are being used in processing, and in cataloging.

(2) A study of the costs of complying with the standards as an aid to being able to use available magnetic tapes and tape formats such as the MARC II, and DDC tapes for both cataloging and dissemination is important. The question to be answered is, is it cheaper to modify the materials as they are in the information facility, or to modify the programs? At which point in volume does one become more reasonable than the other?

Time: \( \frac{1}{2} \) to 2 man-years, depending on the option chosen.

e. Microfilm Formats.

(1) A study of the effect on the user of the different microfilm formats would provide useful information on both storage and retrieval of data and information. Information such as this is also valuable in the DOD decision making process on charges for hard copy versus free microfilm.

(2) It is suggested that an experiment be performed by dividing the population into various random groups:

(a) Receiving hard copy as they do now.
(b) Receiving hard copy from microfiche.
(c) Receiving microfiche.
(d) Using roll film (35mm and 16mm).
(e) Using aperture cards.
(f) Getting nothing automatically and having to choose whichever format that pleases them.

(3) In a study such as this, it is vital that the groups be randomly chosen and as equal as possible in terms of information needs, background, etc.

(4) Costs to the information facility must be considered, including the cost of making fiche-to-fiche copies, costs of making hard copy, cost of ordering hard copy, etc.

Time: 2 man-years

f. Dissemination Modes.

(1) The model library at this point has less than 5,000 titles, and even with increases it will have less than 10,000 unless reports are immediately added to the collection. Since we are primarily concerned with the effect on the users of information, the testing of the announcement and dissemination modes becomes important.

(2) The user population must again be divided into random, similar groups. The following experiments would provide useful information on announcement and dissemination:
(a) Continue library service as is currently being practiced by one group. They will find out about new accessions by coming, by word of mouth, or by scribbled notes from the librarian.

(b) Prepare an accession list, either in order by subject, or in random order, or both. Include announcements of tables of contents of periodicals and of meetings.

(c) Gather a user interest profile from a group and keypunch these. Do the same by using the same thesaurus for incoming material and keypunch this. Test the various SDI systems, such as weighted, statistical, etc., as suggested in pertinent ATLIS report. Break up the group to receive the SKI into two random ones, and provide one with only a title notification, while the other receives both title and abstract. Test and see if use and interest differ significantly.

(d) Using the keypunched material from (c) above, prepare a Keyword in Context (KWIC) index and use it as a dissemination tool.

(3) To test and compare the effectiveness of these announcement and dissemination modes it may be necessary to use a population larger than the Savannah District. Therefore, one should take advantage of the opportunity to act as a real information facility by including personnel from other Engineering Districts that have similar missions.

(4) After a valid period of time vary the groups and the outputs they receive to determine whether material is used because of the novelty of the approach, or whether the mode of announcement really makes a significant difference.

g. Bibliographies and Information Centers.

(I) There is no evidence that non-RDT&E personnel require as much bibliographic service as do RDT&E personnel. It would be worth taking the group interest profiles and ordering bibliographies from the Defense Documentation Center (DDC) which would correspond to these profiles. The bibliographies would then be sent to the groups. One then determines whether the groups order any of the material provided. At a certain point, discontinue the service and test whether there is a change in morale or production in the groups.

(2) Information centers such as the Water Resources Information Center should also be used to provide information to District personnel. If demand grows, then one can test whether direct contact between personnel and information centers is any better than using the information facility as the middle man.

h. Automation.

(1) Generally speaking, a library with a collection of less than 10,000 volumes, almost no technical reports, and a potential user population of about 600 personnel would not be one used to test automation. However, since
it is hoped that this facility will increase its holdings, increase the use of the information facility and become a model for other libraries, experimentation in automation will provide some needed information.

(2) Prior experiments, including clean-up operations of the current facility have required the putting into machine readable form the personnel records, the profiles, and the circulation and processing records. Such information provides patron master files, use files, and others from which much statistical information can be gathered, as well as providing a test bed for feasibility of automation versus size.

(3) The shelf list in its current state is a cumbersome, nonstandard document. Keypunching this and publishing it as a book catalog which can be dispersed throughout the District and to other Districts may show whether such an item increases information use, and whether it also concomitantly decreases personal visits to the library.

(4) The programs, or formats adopted will also permit the automation for acquisitions and for serials. In addition one should profit from the work of others. Putting out programs in languages which are other than program languages to permit ease of conversion might be tried.

(5) The inclusion of statistical use information on the tapes or discs will give insight into use, and also provide materials that can be used as weeding criteria, retention criteria, etc. Reserve actions will show need for additional procurement. Financial information will provide value of library and total expenditure versus use data.

(6) By-products can also be a viable thesaurus.

i. Serial Versus Random Microfilm.

(1) The DOD has long been experimenting with serial versus random microfilm on items which have characteristics and parameters which are used in engineering work. However, no definitive, scientific study of this problem has yet been done to provide guidelines to decide which system one would use under what circumstances.

(2) It is proposed to test a collection of data using serial recording with a book index versus random order coding on a Miracode or similar device.

(3) Information to be gathered includes input times and output times, number of cartridges that have to be scanned in each system, storage space required, etc. The result should be a mathematical equation that would permit one to graph two different systems using the same data base and then to determine at which point in volume of use, and volume stored, one system becomes more feasible than the other.

Time: 1 man-year
j. Microfilm Automation. The use of various large microfilm storage and retrieval systems has not been tested. Systems such as Diebold, Mosler, IBM, etc., must be proven cost effective versus conventional means. Information on size of file, minimum use of file to prove the feasibility of such systems is so far lacking.

k. Interlibrary Interfaces.

(1) One test of whether a collection meets the needs of its users is the volume of interlibrary loans requested. A study of the volume of interborrowing should be conducted. Information collected should be name of item, date of item, from whom borrowed, and for whom borrowed.

(2) Such information would provide a local facility with information as to whether its holdings are lacking some major items; whether this interlibrary business is serving only a few user, whether the user of the interlibrary loan facility differs from the user of other library services. It would also provide incentive to begin regional cooperation such as Union Lists, scheduled pick-up and delivery, data-phone link ups, etc.
ANNEX K

Extract of Dr. Voos' Recommendation on the User Survey
11 August 1968

Before new methodologies and techniques can be used for experimental purposes, one should first determine what information services and techniques are already in existence, and what their effects on the user population are. It is important to consider a technical library as a service-oriented information organization that should be responsive to the needs of its users, or its potential users.

I have been asked to prepare a request for proposal so that a user's needs study of the Army Engineering District, Savannah can be performed. User's needs studies have been performed for, and in, information facilities from the early 20th century until present. However, most extant studies suffer from a variety of shortcomings which lay the various techniques or results open to question. Some of these faults are:

1. Studies of actual use have been equated with need. This type of study generally ignores reasons for non-use, and generally ignores the fact that people use what is available, whether or not it is responsive to an actual need.

2. Methodology that has been used in these studies has often been unscientific. No control groups were used. Poor sampling was used. No pre-testing of questionnaires or interview guides has invalidated many of the studies, or made them difficult to use to base predictions on.

3. The above has permitted little use of past data since minimal extrapolation is possible. Therefore, each study stands by itself with very little relation to what has gone before, and is of very little use to studies following it.

4. The methods used have included checking of library visits by users, checking library records and statistics, using diaries, questionnaires and interviews, or a variety of combinations of the foregoing. These types of studies, although called "user's needs" have taken very little account of actual needs. They have either studied actual use or desire. Use is typically based on availability and accessibility. "Expressed" needs are usually based on past experience as to what the user or potential user considers to be available or what has been available to him in the past.

A slightly different approach to the problems was used by the Auerbach Corporation. Their study has provided two items that can be of use in the proposed study. The first item is a good random sampling technique over a large population. The sampling and its results have been reinforced...
References to these studies are included in the list of references appended.

The second item provided, which helps in user needs investigations, is the "information chunk" concept and the "critical incident" technique which was used in examining the communication mode. The results of these studies as well as others have shown that oral, face-to-face communication, personal files, etc., normally precede the use of an information facility. The above facts also back prior evidence that accessibility is of prime importance to the information seeker. It is easier to do without information than it is to expend a great deal of effort trying to uncover it. These studies have as one of their recommendations that the local information facility be built up to provide the required service.

I would, therefore, recommend that the Savannah Engineer District use the Auerbach Corp. questionnaire and interview guide as one of its media to gather information on users' needs and behavior. The use of these extant and tested tools will provide us with a large universe with which we can compare our user population, and they will reduce the cost of designing and testing an additional tool.
ARTICLE 1. CHARACTER AND EXTENT OF SERVICES. The Contractor shall perform a Library User Needs Survey which is described as follows:

A. BACKGROUND. The US Army Engineer District, Savannah is engaged in an Army Technical Library Improvement Study (ATLIS) project which is described at inclosure 1. The Savannah Engineer District is described at inclosures 2, 3, and 4.

B. PURPOSE. This user needs survey is a principal element of the ATLIS model library project. It will be used to compare the Savannah Engineer District with that of the DOD RDT&E community and to provide tools for comparing the District user population with that of other similar organizations, such as other Engineer Districts. It will measure the current use of information in the District and provide tools for measuring future use of information against the initial data base as the project progresses. Most importantly, it will provide an analysis of the information needs of the District user population as well as user profiles and tools for maintaining those profiles.

C. METHOD. The general methods and basic concepts utilized in this survey will be at the discretion of the Contractor except that the Auerbach questionnaire will be used in order to permit comparisons to be made between Savannah and DOD populations. Sample sizes shall be representative samples whose validity must be justified.

D. PRODUCT. The product of this contract shall be a report conforming to the format described in Army Regulation 70-31 (see incl 5). The report shall provide the following output:
1. A description of the Savannah District's information needs expressed in terms of:
   a. Kinds of information (books, periodicals, technical journals, etc.)
   b. Media (microfilm, hard copy, microfiche, etc.)
   c. Sources of information
   d. Desired time for filling of information requests
   e. Subject matter

2. A narrative description of the user population including individual and group user profiles.

3. An array of information concerning Savannah's user population which will be comparable to the one-way tables of the DOD user needs study, Phase I, Vol II.

4. A questionnaire(s) will be developed and tested to serve the following purposes:
   a. Determine the specific information needs of organizations similar to the Savannah Engineer District.
   b. Provide individual and group user profiles. This questionnaire(s) must be compact and capable of utilization without the employment of professional interviewers.

5. Recommendations from the Contractor as to how the information needs of the District should be met. These recommendations are to be based upon the Contractor's existing knowledge of information technology and his observations during the survey.
ARTICLE 3. PERIOD OF SERVICE. Six months will be allowed for completion of the contract. Interim progress reports will be submitted to the Contracting Officer each month. It is expected that the notice to proceed will be issued about 1 November 1968.

ARTICLE 4. COMPENSATION TO THE CONTRACTOR. Compensation to the Contractor will be a lump sum in the amount of $___________. This sum will be full compensation for all services, materials, and products rendered and will also compensate for all travel, overhead, and miscellaneous expenses incurred by the Contractor.

ARTICLE 5. METHOD OF PAYMENT. Payment will be made on a monthly basis, upon presentation of an invoice and a progress report by the Contractor.

5 incl
1. Charter of ATLIS project
2. Statement of District Mission
3. District Organizational Chart
4. District Boundary Map
5. AR 70-31
DISTRIBUTION F
Plus ea named employee
Ea named employee's CPF

Annex M
# ANNEX N

## TISAP Model Library Project

**Budget - 15 Oct 68**

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<th>Item</th>
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<tr>
<td>a. GS-9</td>
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<td>b. GS-7</td>
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<td>c. Clerical Help (1½M/Yr)</td>
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<td>d. TISAP Project Committee</td>
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<td>e. District Holdings Committee</td>
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<td>f. Systems Development &amp; Programming (In-House)</td>
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<td><strong>2. Travel:</strong></td>
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<td>b. Prof. &amp; Scient. Societies</td>
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<td>c. Thesaurus Searches</td>
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<td><strong>3. Supplies:</strong></td>
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<td>b. Periodicals</td>
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<td>c. Microfilm (Documents)</td>
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<td>d. Association &amp; NBS Standards</td>
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<td>e. Binding &amp; Repairs</td>
<td>100 books @ $7/book</td>
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<td>h. Standard Ref. Material</td>
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<td>b. Printing, Repro. &amp; Microfilming</td>
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Annex N
5. EQUIPMENT:
   a. Annual Depreciation of Following Items in District Equipment Account (15%)
      1. Tape Recorder ($475)  $1183  $1183
      2. Typewriter ($200)
      3. Microfilm Storage Cabinet ($150)
      4. Book Truck ($75)
      5. Filing Cabinet ($50)
      6. Library Furniture ($6934)
   b. TISAP Share of Above Equipment to be Amortized $1705  $140

<table>
<thead>
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<th>ITEM</th>
<th>PHASE II (FY 69)</th>
<th>FY 70</th>
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<td>TOTAL</td>
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<td>$41703</td>
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U. S. ARMY ENGINEER DISTRICT, SAVANNAH

STATEMENT OF MISSION AND BOUNDARIES

1. The U. S. Army Engineer District, Savannah is an operating component of the U. S. Army Engineer Division, South Atlantic to which the following broad missions have been assigned for performance and accomplishment within the established geographical limits of the district:

   a. Planning, designing, and constructing military facilities for the Department of the Army and the Department of the Air Force.

   b. Planning, designing, and constructing river and harbor, multi-purpose, and flood control works.

   c. Operating and maintaining flood control and river and harbor facilities and installations.

   d. Administering laws pertaining to civil works activities.

   e. Acquiring, managing, and disposing of real estate for the Savannah, Charleston, and Wilmington Districts - including pulpwood sales and timber harvesting; dedudding military reservations; and care and custody of surplus installations.

   f. Performing other functions assigned by law.

2. In addition to the above, Savannah District renders administrative and technical support to Charleston and Wilmington Districts except for Civil Works General Investigations.

3. The area for military construction includes the states of Georgia, South Carolina, and North Carolina. For real estate and timber activities the area includes Georgia, South Carolina, and North Carolina. The civil works area consists of all watersheds and harbors in the State of Georgia tributary to the Atlantic Ocean; the waterway between Port Royal Sound, South Carolina, and Fernandina Beach, Florida. The watersheds lie in the States of Georgia, Florida, South Carolina, and North Carolina.
IN REPLY REFER TO
SASCM

28 August 1967

SUBJECT: Study of Library Functions

TO:

1. A comprehensive study of library functions throughout the district has been initiated and your assistance is earnestly solicited in determining justifiable needs and benefits this support service can render.

2. It is requested that you furnish your objective comments or answers to the questionnaire, included as paragraph 5 below, to Chief, Management Branch by 25 September 1967. You may write your answers in legible long hand in the space provided. If additional space is required, continue on plain paper keying your answers to the sub-paragraph numbers.

3. Should you need additional information or clarification of some of the questions as they relate to your work, contact one of the following:

   Mr. James C. Hatcher, Chief, Management Branch
   Mr. William H. Leavengood, Engineer Division
   Mr. Clarke L. Carter, Engineering Division
   Mr. William H. Young, Office of Counsel
   Mrs. Ruth Elson, Office of Administrative Services
   Mr. W. J. Crump, Chief, Office of Administrative Services

4. In your reply be as specific as possible and do not use local colloquial or similar terms peculiar only to your occupational specialty.

5. Questionnaire on Library Functions:
   a. Do you have a work-related need for library support services? [Yes or No]

      63% Yes      37% No

SAS FL 253, 28 Aug 67 (One-time)
SASCM

SUBJECT: Study of Library Functions

B. Are the current library services and facilities available within the district adequate for your area of responsibility? ________ (Yes or No) If not, what additional services should we perform?

80% Yes 20% No
12% indicated need for additional services.

C. Briefly describe the nature or type of such additional services desired.

89% needed no additional services.
11% described additional services desired.

D. Give a reasonable estimate as to the frequency above services would be requested if made available. ________ (Requests per month)

13% gave frequency of requests

E. Do you have library material charged out on a long-loan basis? ________ (Yes or No) If you do, what is your preference toward centralizing this material under a permanently staffed library?

51% has material charged out.
49% does not have material charged out.
87% preferred centralization 15% preferred decentralization

F. Do you feel that the district is procuring professional, trade and other periodicals adequate for your needs? ________ (Yes or No) If not, list those you feel you need.

93% Yes 13% No
8% listed additional needs

G. Are you receiving those periodicals already being procured by the district on a timely basis? ________ (Yes or No) If not, briefly state problem.

81% Yes 15% No
11% indicated specific problems
SUBJECT: Study of Library Functions

H. Do you feel that there is a need for additional indexing and cross referring selected articles published in periodicals? (Yes or No) Give example.

8% Yes 92% No
8% gave examples of what they desired

I. Do you feel that you have a justifiable need for research services? (Yes or No) Give a brief description or typical example of your research needs identifying which of the following are involved: (1) Material to be charged out to you; (2) Material to be marked; (3) Material to be extracted.

14% Yes with examples
86% No

J. State any other improvements in the library functional range that you consider would be beneficial to your work.

10% listed beneficial improvements
90% did not list any beneficial improvements

K. If the changes or improvements you recommend are adopted, give your estimate of man hours that would be saved in your area of responsibility and used on other productive work. (Hours per month)

14% indicated man hour savings
86% did not indicate man hour savings

FOR THE DISTRICT ENGINEER:

Charles T. Williams
LTC, CE
Deputy District Engineer

181 employees sampled
1. Office of Administrative Services. The functions of the Mail and Records Branch are modified to establish a Technical Library therein, effective 1 March 1968.

   a. Mail and Records Branch. Basic functions include: Maintaining and servicing general interest files not subject to decentralization; supervising operation of Technical Library; receiving, classifying according to TAFS system, indexing, routing, and distributing incoming communications; collecting and dispatching outgoing communications; operating messenger service; receiving, routing, and administering classified correspondence in accordance with regulatory requirements; and operating the Records Holding area for receipt, storage, service, shipment, and disposition of non-current records.

   b. Technical Library. Basic functions include:

      (1) Operating a central reference library (administrative and technical publications, periodicals, technical books, manuals, reports, etc.) of both commercial and Government-issued material required in the conduct of the District's mission. Issuing material on request or long loan to requesting elements of the District.

      (2) Coordinating procurement of new books, periodicals, etc. Initiating procurement of periodicals to be obtained on renewal basis.

      (3) Establishing liaison and performing clerical assignments in the conduct of inter-loan library services involving material not available in the District's Library.

      (4) Collecting, reviewing, evaluating, cataloging, and distributing technical information in support of the OCE STINFO Program and the Defense Department Documentation System.

      (5) Determining needs of operating offices and circulating ID material received on a "need-to-know" basis.

      (6) Maintaining accountability records of books and performing periodic physical inventory as required by regulations.

      (7) Performing research for subject material requested by operating offices. Source documents, once located, are issued to requesting office for evaluation or extraction of specific information.

      (8) Extracting material from administrative and technical publications, periodicals, technical books, manuals, and reports (annual report) when called upon by operating offices.

Annex S
(9) Requisitioning and maintaining file of commercial standards which consists of one copy of all standards referred to in District Guide Specifications.

(10) Receiving, distributing and maintaining official centralized files of AR's, ER's, DvR's, DR's, Circulars, etc. Determining operating elements' decentralized needs and informing higher authority of supply requirements.

2. Technical Library Council is established effective 1 March 1968, and comprised of: Chief, Engineering Division, Chairman; Chief, Construction Division; Chief, Real Estate Division; and Comptroller. The basic functions and procedures of the Council include:

a. Developing and recommending, to the District Engineer, policy governing the functions and services provided by the Technical Library and its interrelationship with all District elements objectively to assure employment of sound management practices in its utilization and operation.

b. The Council will receive and make appropriate recommendations on proposals by others to effect improvements and better utilization of the Technical Library.

c. The Council will meet as deemed necessary and called by the Chairman, but not less than every six months to at least review for adequacy current policies, utilization, and operations. The Council is privileged to call upon others within the District to advise, provide facts, and otherwise assist them in their endeavor.

WILLIAM L. BARNES
Colonel, Corps of Engineers
District Engineer

DISTRIBUTION B
SELECTED BIBLIOGRAPHY


Annex T

This is the first in a series of reports concerning the establishment of a model technical library in the Savannah Engineer District, U.S. Army Corps of Engineers in accordance with Task 02, Work Unit 012, of the Army Technical Information Support Activities Project (TISAP).

The purpose of the Model Technical Library Project is to develop, test, and evaluate a modern, highly effective, technical information facility that may be related to Army-wide use and to evaluate relevant techniques and concepts of modern information technology.

This report summarizes the planning and preparation for the project and presents such topics as: recruiting library staff, providing physical space, basic furnishings and equipment, visits to other organizations, use of consultants, preparation for the user survey, and preparation for updating the existing collection. The report proposes a project charter, an initial budget, and provides background information on the Savannah District and its existing technical library.
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<th>Link C</th>
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