

**HISTORY
of
UNITED STATES ARMY
ENGINEER DISTRICT
FAR EAST**

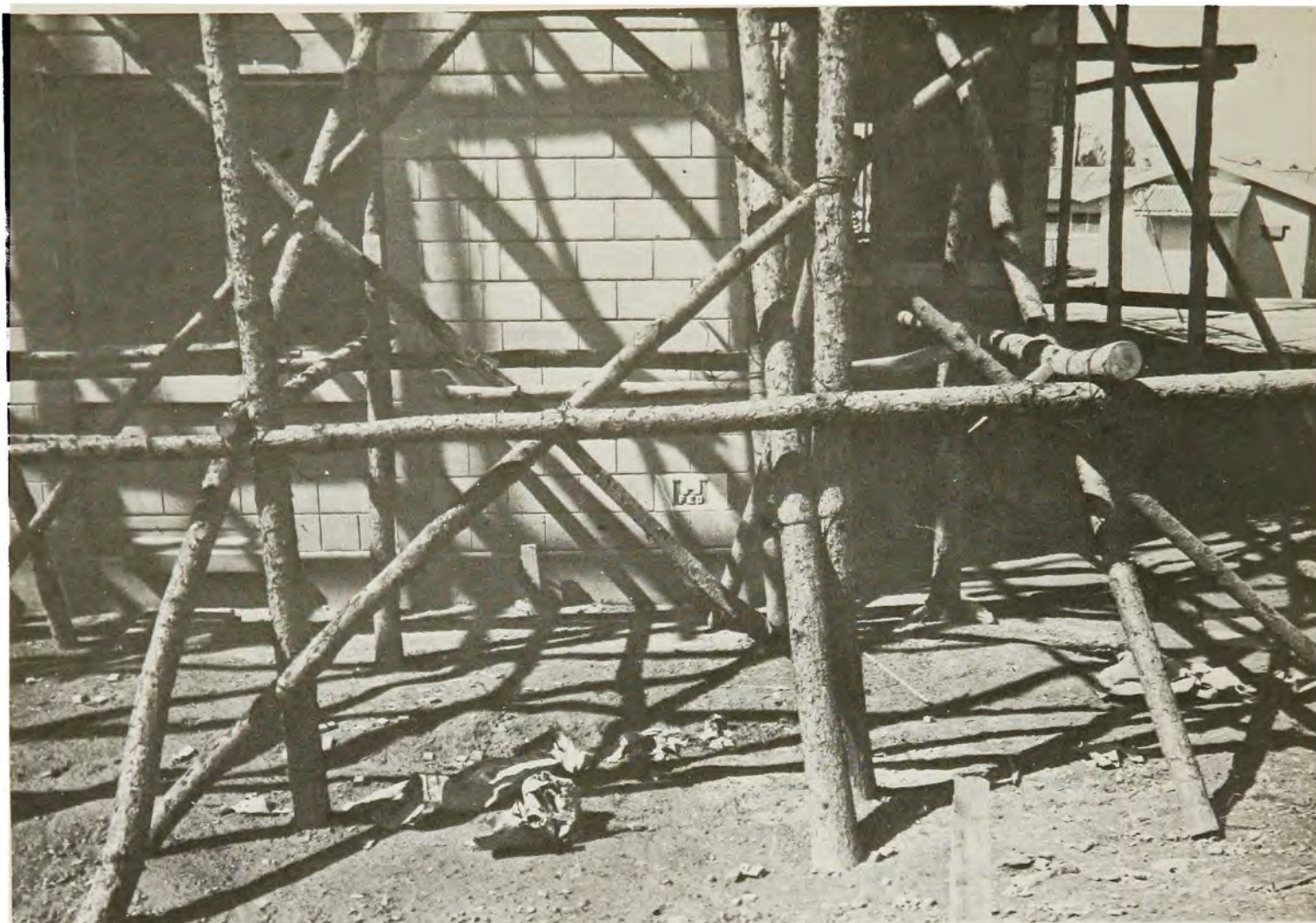
1957 TO 1975



Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE 1976		2. REPORT TYPE		3. DATES COVERED 00-00-1976 to 00-00-1976	
4. TITLE AND SUBTITLE History of the United States Army Engineer District Far East 1957 to 1975				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Corps of Engineers, Far East Division, Unit 15546, APO, AE, 96205				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 174	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

Withdrawn from USACE Library
Collections.

Do not return to HECSA Library.



OUR SUCCESSES HAVE NOT ALWAYS BEEN
SPECTACULAR, BUT, IN THE ENVIRONMENT IN
WHICH WE OPERATE, THE AVOIDANCE OF
DISASTER IS OFTEN A SIGNIFICANT
ACHIEVEMENT

COL ROBERT E SNETZER
DISTRICT ENGINEER
USAEDFE
19 JULY 1965

**HISTORY
of the
UNITED STATES ARMY
ENGINEER DISTRICT
FAR EAST**

1957 TO 1975

**BY
EARLE WHITMORE**

**SEOUL, KOREA
1976**

UG
23
W45

PREFACE

The writing of any book involves, perforce, many people besides the author. This fact is even more true of this book which had only a short period of time available for its completion. Without the cooperation of a myriad of people, I could never have finished this project in time. Unfortunately, space does not permit mention of all those who contributed materially to this book. For providing information about the early days of FED in Korea, I am particularly indebted to Euclid Snakenberg and James Anderson of POD and COL Tom Jones (Ret). Equally helpful with early history were John Ball and Murray Rothstein of POD and, from JED, Tsuneo Ichikawa, Koji Ishii, Tsutomu Mita, and Thomas Pedecine. At FED, Charles Bass, Mr. Cho, Nam Chung, Bernice Dorris, Colonel Ralph T. Garver, the late Albert Hetrick, Mr. Kim, Che Nam, Mr. Kim, Si Chung, Major James Martin, Ole P. Nielsen, Mr. Sakong, Yun, the late Mr. Yi, Tong Sun, and Mr. Yi, Wan Sik, also provided invaluable knowledge about USAEDFE. Roy Kamita and Judy Fujisue of POD were most gracious with their assistance. Rounding out my education were Colonel Robert Snetzer (Ret) and Colonel W. R. McCutchen (Ret). Providing equally valuable assistance in areas other than information were Captain Les Rose, Captain Joseph Papapietro and First Lieutenant Fred Schwing who enabled me to make the most of the research and photography trips in Korea via air. Finally, several who deserve special mention: Major Jerry Sollinger, a most capable and tactful editor, Merle Oxford, an enthusiastic and ever-ready assistant, Mr. Yu, Pyong Kwon, cartographer par excellence, and Miss Cho, Song Sun, my tireless secretary and indispensable aide. To those mentioned above and to the many others who have not been, my warm thanks, for only with your help was this book possible.

No attempt has been made to review each contract; the history emphasizes instead the flavor of the era through representative examples. Unless otherwise indicated, the monetary amounts of projects refer to the initial award.

Abbreviations are mentioned with the introduction of a term; a glossary has been included for additional reference. Those acronyms utilized with greatest frequency are FED, the District and USAEDFE for the United States Army Engineer District, Far East; POD for the United States Army Engineer Division, Pacific Ocean, FED's next higher headquarters in Honolulu; and OCE for the Office of the Chief of Engineers in Washington D.C. Administration refers to the current US Government.

Cited in the footnotes are some, rather than all, sources of further detail and research. Interviews, unless otherwise noted, were conducted by the author.

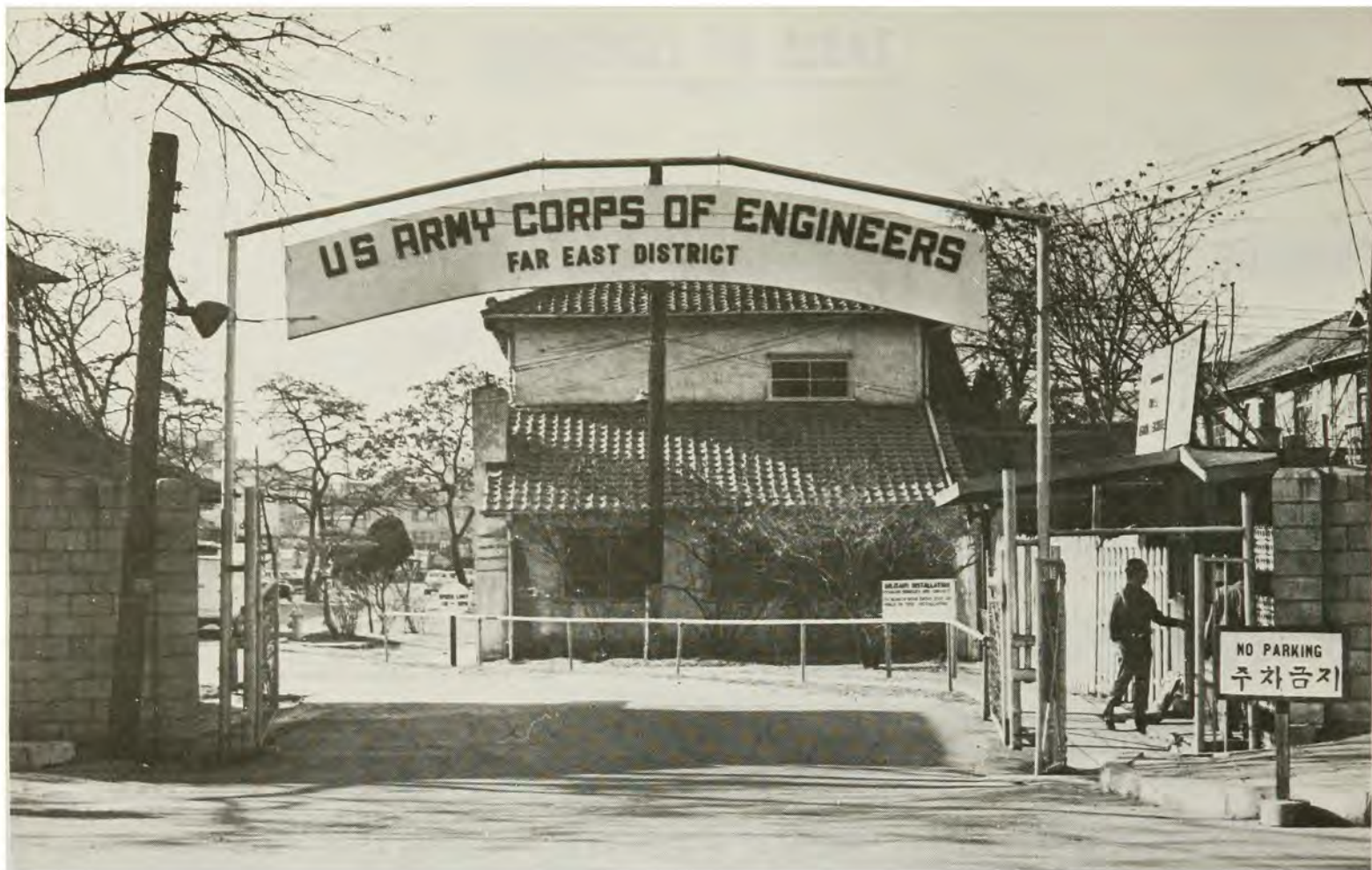
When perusing this volume, the reader should keep in mind that the American situation in Korea has been, and is, fluid: military units continually shift, bases of operation and compound designations change, and the personnel turnover rate is high because of the relatively short tour of duty.

Seoul, Korea
22 December 1975

Earle Whitmore
Historian
Far East District

TABLE OF CONTENTS

PREFACE	v
INTRODUCTION	1
THE INITIAL CHALLENGES	5
MAJOR PROJECTS IN KOREA	17
FOCUS ON JAPAN	38
68 SUPPLEMENTAL	61
THE WESTPAC ERA	94
FED IN KOREA	108
SUMMARY AND CONCLUSIONS	122
GLOSSARY	126
APPENDIXES	
I As it was in the beginning—Korea 68S	129
II Organization Charts	131
III FED District Engineers	148
BIBLIOGRAPHY	150
INDEX	158
BIOGRAPHY OF AUTHOR	164



Entrance to Far East District Compound, Seoul

CHAPTER 1 INTRODUCTION

Almost twenty years ago, in 1957, the Office of the Chief of Engineers published a General Order that formally activated the United States Army Engineer District, Far East (FED). In the subsequent years, FED accomplished a mission for which no other organization had the resources or capabilities: support US Forces in Korea (USFK) and Japan through supervision of military construction. In effect, the District was the centralized agency with both contracting authority and responsibility for planning and design of much of the post-1956 American construction in the Republic of Korea (ROK). In 1963, when it was designated as the Department of Defense (DOD) design and construction agent in Korea and Japan, FED's mission underwent fundamental changes. Seven years later, a reorganization of Corps elements in Northeast Asia divested FED of full powers as a district and of its responsibilities in Japan. The District became a semi-autonomous, augmented area office, the role it retains in 1975.

The circumstances in Northeast Asia make FED unique in the Corps of Engineers and have often added an extra dimension to the challenges of mission achievement. The District is located in an area that is strategically significant to American foreign policy and defense. Both Korea and Japan have long histories as separate countries and as enemies. And, FED has no civil works staff; most of its projects have been for



Korea

the military or related to the American presence on foreign soil.

Korea's recorded history begins in the fourth century A. D. However, local tradition dates its origin in the 24th century B. C. Because of its strategic position between the Asian mainland and Japan, the Korean peninsula has suffered numerous invasions and centuries of foreign domination which, in this century, include its 1910 Japanese annexation followed by thirty-six years as a vassal state of the island country. During this era, Koreans were not allowed to hold controlling or supervisory positions. The most recent invasion began on 25 June 1950 when the North Koreans attacked the ROK; hostilities halted on 27 July 1953 with the signing of a truce agreement which has become the longest military armistice in modern recorded history. As a result of the 1953 agreement, United Nations troops, including the American Eighth Army, remain on Korean soil, and a 155 mile border near the 38th Parallel divides the Korean peninsula.

The passage of time has not diminished Korea's strategic importance. It stands today at the apex of the triangle formed by the great powers of eastern Asia: China, Russia and Japan. Seoul, the ROK capital city, is less than 500 air miles from Peking and even closer to Vladivostok and Pyongyang, the capital of North Korea; Tokyo is a brief 740. And, most significantly, the Republic of Korea is the last non-Communist country in the eastern Asian land mass. Consequently, the machinations of the world powers and power blocs often directly affect American posture in Korea. A shift in world tensions or in US Administra-

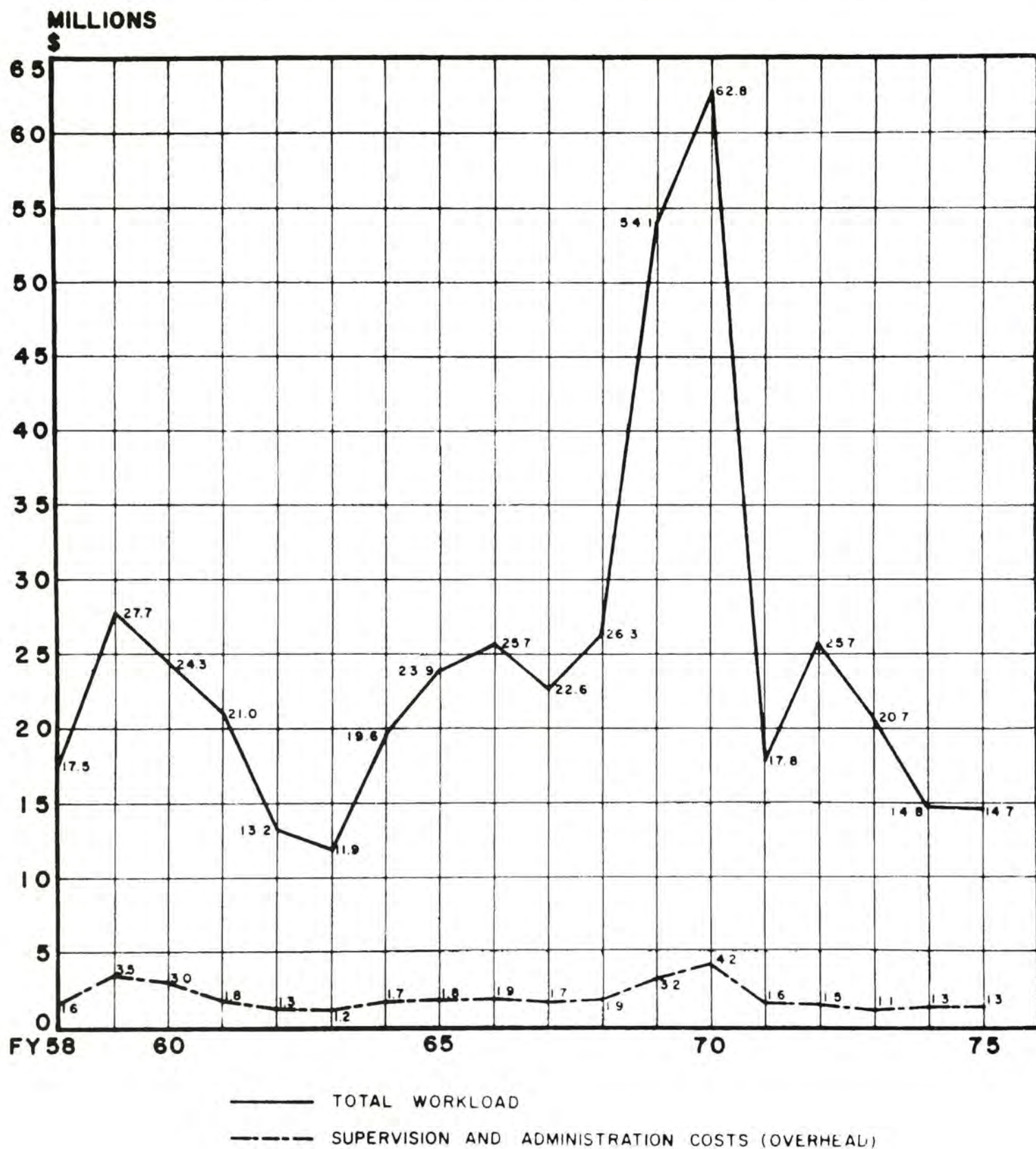


Typical rural village in the Republic of Korea



Korea in early summer

FAR EAST DISTRICT TOTAL WORKLOAD AND ANNUAL SUPERVISION & ADMINISTRATION COST



tion policy frequently translates into alterations of American troop missions or dispositions in Korea. These in turn determine the facilities required to house the Americans and the monies allotted to build and maintain them. At this point FED enters the scene as the agent to supervise design and construction activities for the armed services and other government agencies.

The Far East District is part of the Pacific Ocean Division (POD), one of thirteen divisional organizations in the Corps of Engineers. The same General Orders created both FED and POD in response to the changing United States military policy in Northeast Asia: since American troops were remaining in Korea after cessation of hostilities in 1953, it was decided to provide more permanent facilities than tents and slit trenches. Consequently, Congress appropriated millions of dollars for construction. This massive program required a centralized agency to coordinate and manage the projects, a task to which Corps districts with their depth of resources from the entire Corps of Engineers organization, years of experience with military programs, and ability to handle fluctuating workloads

characterized by variety rather than similarity, are particularly suited.

In the ensuing years, FED's responsiveness to the vacillating and diverse annual workloads was tested many times as the Military Construction Programs varied from \$16.3 million in fiscal year 1958 (FY 58) to a peak of the \$102 million FY 68 Supplemental Appropriation and to a nadir of less than \$15 million in FYs 74 and 75. Between 1957 and 1975, District projects ranged from mountain top sites to harbor complexes, housing developments to an exposition hall, towers to underground facilities, the northern tip of Hokkaido and the DMZ to Kyushu and Pusan, crash programs to multi-year schemes, floor, ceiling and furnace replacements to the trans-Korea pipeline complex, and utility systems improvements to the creation of whole compounds. Although each phase of these projects is important, it is the product which is most visible and lasting, and it is the total annual construction placement which, in the final analysis, determines the viability of a district. Consequently, this nineteen year overview of the Far East District emphasizes the result rather than the entire process.

CHAPTER 2

THE INITIAL CHALLENGES

1957 TO 1959

The establishment of the Far East District (FED, USAEDFE or the District) took place in 1957 in response to Eighth Army's requirement for a construction agency with depth of resources and experience. The ordinary problems of a nascent district, as it assumed a major construction program from its predecessors, United States Army Construction Agency-Korea (USA-

tary Assistance Advisory Group-Korea (PROV-MAAG-K or PMK), \$3 million to construct family housing for the Office of the Economic Coordinator (OEC), and \$2 million in non-appropriated funds (NAF) to build libraries, gymnasiums, clubs, swimming pools, and other recreational facilities for the soldiers.

The \$20 million total for the four categories resulted in a program beyond the capabilities of the Eighth Army Post Engineers and Engineer troops, especially if the soldiers were to maintain their combat readiness. Consequently, EUSA created the Korea



Three bedroom duplex built for PROV-MAAG-K, Seoul

CA-K) and United States Army Construction Agency-Japan (USACA-J), filled FED's first years. A geographical base in Korea and Japan and a war-devastated economy in the former country as well as user agencies which were subject to ever-changing world events and shifts in Administration policies made the District's task more complex and challenging.

FED's history actually began in June of 1956 when the Department of the Army notified the Armed Forces Far East/Eighth Army command (AFFE/8A or EUSA) of Congressional approval for a \$6 million fiscal year 1957 Army Military Construction Program (FY 57 MCA Program). The appropriation provided monies to improve the living standards of American troops in Korea, particularly those located north of Seoul with the 24th and 7th Infantry Divisions. Prior to the \$6 million appropriation, AFFE/8A had three programs underway in Korea: \$9 million to provide family quarters and operational facilities for the Provisional Mili-

Construction Agency (KCA) from the nucleus of personnel in their Engineers' Office Plans and Programs Section who devised the requirements for the FY 57 MCA Program. Eighth Army tasked KCA to be sufficiently operational by the spring of 1957, with the appropriate office staff, plans and specifications, and building materials, to commence the \$20 million construction program.¹

Initial KCA plans called for activation of a construction division and a small administration section and for design support from the in-house resources of the Engineer, Headquarters AFFE/8A Rear (AFFE/8A (R)) and Okinawa Engineer District (OED). Since in actuality contracted architect-engineer firms (A-E's) did most of the design work, at an early November 1956 conference, representatives of AFFE/8A (R) and OED decided to simplify matters and eliminate the Okinawa Engineer District responsibility.

A few days earlier, on 1 November 1956, KCA had



Service Club, Recreation Center Number 2, 1st Cavalry Division

¹ AFFE/8A G. O. No. 141, dated 15 October 1956, authorized the provisional establishment of KCA.

awarded its first construction contract to Han Sung Construction for the installation of warm air furnaces. The contractor completed the work less than two months later, and KCA turned over the new heaters to the using agency on 27 December 1956. Ten days prior to this seminal event, AFPE/8A General Order Number 173 (G.O. No. 173), formally established KCA with an authorized strength of 1 officer. G.O. No. 26, dated 26 February 1957, permitted an increase to 16 officers, 100 Department of Army Civilians (DACs), and 300 Korean nationals (KNs). In the interim, on 29 December 1956, KCA was redesignated USACA-K.²

The personnel, procurement, design, funding, and construction problems which developed with the first KCA construction contract beset KCA and USACA-K, and their successor FED, for a number of years. Of the utmost importance was the difficulty in recruiting qualified personnel to work in Japan and Korea because, for most individuals, it meant separation from their family and the comforts of home. The major contributing factor to this situation was the paucity of family housing, particularly in the Republic of Korea (ROK). Furthermore, the ROK had no ready reserve of experienced and proficient people from which potential employees could be obtained. The same was not true in Japan.

Another area of great concern was the procurement of building materials. The ROK produced nothing in quantity for construction besides cement, all of which was consumed domestically. Japan, the closest possible source of supply, theoretically had no trade relations with Korea, a result of the thirty-six year occupation. Korea also imposed stiff taxes for anything imported by local contractors and businesses. Since US Government-introduced supplies were not subject to the Republic of Korea tariffs, and, since an agreement could not be reached whereby contractors and their procurement (CFM-contractor furnished materials) would be free of ROK taxes, in November 1956, EUSA directed that the US Government procure the necessary items. The lengthy lead time of many materials further complicated the procurement pipeline. This, in turn, interfered with the progress and, often, the completion of projects. Despite these obstacles, on Thanksgiving Day 1956, USACA-K had its first supply and purchase requests ready so that by the following spring, with the assistance of the 8A (Rear) Engineer and OED for Stateside procurement, sufficient quantities of the required materials reached Korea to support the start of the initial \$20 million construction program.

KCA and USACA-K also encountered difficulties designing a "crash" program for using agencies which "as always changed or modified the scope of the project, requested changes in siting and delayed in approving plans."³ Besides the frustrations and lost effort resulting from design modifications, restrictions, slow ap-

provals and releases of funds caused additional delays, work and headaches. Altered guidance to EUSA from the Department of the Army (DA) of actual or potential relocation of US Forces in the ROK often prompted the financial recalcitrance.

The skills and abilities of the local contractors and their employees proved to be the greatest frustration for the construction agency. "Considerable training in American construction methods will be necessary" turned out to be an understatement.⁴ American specifications and plans, construction methods, power equipment, and materials were foreign in every sense of the word to the Koreans. Resolution of this situation involved a major effort on the part of USACA-K and, especially its successor, FED.

On 28 March 1957, a review of USACA-K problems, operations, and requirements in dealing with the enormous construction program was presented to Brigadier General Ellsworth I. Davis, a group of consultants from OCE (Office of the Chief of Engineers), and Brigadier General Phillip F. Kromer, AFPE/8A (R) Engineer. As a result of this meeting and subsequent extensive discussions with representatives of the various commands and construction agencies involved, it was decided that the local, theater-controlled USACA-K should be converted to an Engineer district, tentatively named the US Army Engineer District, Far East. Headquarters would be in Seoul with an area office in Japan. The new district would be responsible for construction in both Japan and Korea, and it would report to the Pacific Ocean Division, a new organization headquartered in Honolulu. The FED activation date was set for 1 July 1957, with a recommended strength of 23 officers, 3 warrant officers, 79 enlisted men, 190 DACs, and 631 local nationals. The OCE approved the proposed plan.⁵

The Office of the Chief of Engineers, General Order No. 11, dated 3 June 1957, stated "By authority of the Secretary of the Army, effective 1 July 1957, a new Corps of Engineers district to be known as the U.S. Army Engineer District, Far East, is established with headquarters in Korea, under the jurisdiction of the Division Engineer, U.S. Army Engineer Division, Pacific Ocean [POD]."⁶ The mission of this new organization was to "supervise and prosecute such work relating to military construction in Korea and Japan as directed by the Division Engineer."⁷ In effect, the general order created a centralized agency with both contracting authority and the responsibility for planning and design. With the utilization of Corps of Engineers resources, procedures and organization, many of the difficulties of the previous years could be eliminated.

In Korea, the initial FED structure consisted of three divisions: Engineering, Construction, and Supply; four branches: Personnel, Office Service, Safety, and Legal; the three resident offices; Security and Military Detachments; a Comptroller Office; and a con-

2 On 15 December 1956 AFPE/8A (R) published a Table of Distribution and Allowances authorizing one officer. AFPE/8A (R) G.O. No. 144. KCA and USACA-K contracts were negotiated.

3 US Army Construction Agency-Korea Booklet, c. 28 March 1957, p. 2.

4 Ibid.

5 USACA-K Booklet, pp. 1-3; COL E. W. Niles, U.S. Army Engineer District, First Anniversary, 1 July 1958, Seoul, Korea; Letter, BG Ellsworth I. Davis, future Division Engineer, POD, to Chief of Engineers, 19 April 1957, Subject: Organization for Contract Construction in the Pacific; Briefing: Organization for Major Military Construction in Korea and Japan, BG P. F. Kromer, Jr., 25 July 1957, prepared by Office of the Engineers, HQ USARJ; Letter, COL C. L. Landaker, Deputy Division Engineer, POD, to District Engineer, FED, OED, HED, 25 July 1957, Subject: Personnel Authorization.

6 Department of the Army, Office of the Chief of Engineers, G.O. No. 11, 3 June 1957, p. 2, paragraph a; POD G.O. No. 2, 1 July 1957; FED began operation 0001 hours 1 July 1957.

7 OCE G.O. No. 11, 3 June 1957.



Standard 72 man latrine, Light Truck Company area, 7th Infantry Division

tingent of employees at the EUSA cement block plant. Personnel to staff the nascent district came from elements of AFPE/8A which had supported USACA-K activities. To ease the transition from USACA-K to FED, BG Kromer reorganized the former agency during its last three months of operation. The newly created district prompted reorganization of Engineer activities in Japan as well. The Japan Area Office (JAO) became the FED construction agent in the island country. Formation of JAO involved a redesignation of USACA-J, a reassignment of USACA-J staff to FED, and a move of USACA-J personnel from AFPE/8A (R) Headquarters, Camp Zama, to the new JAO offices at Camp Burness in the Tsukiji area of Tokyo.⁸

During the first eighteen months of operation, the FED staff concentrated upon resolving the design, construction, funding, procurement, and personnel problems remaining from the USACA-K era and supervising multi-million dollar construction programs while trying to attain full operational strength.

According to COL E. W. Niles, the second FED District Engineer:

The Engineering Division began fiscal year 1958 with [the] objectives of finishing designs carried over from fiscal year 1957 and accomplishing new authorized designs for fiscal year 1958. Designs for Military Construction Army, PROV MAAG-K, Non-appropriated Fund and M&O [Maintenance and Operation] program were in effect with planned new designs of various programmed facilities.⁹

For several months in 1957, the future looked bleak for the Engineering Division and the resulting construction program: a freeze order was placed on the award of A-E contracts and no design directives were received

from Eighth Army for the FY 1959 MCA program. Several reasons existed for the absence of directives: EUSA neglected to issue a directive prior to 1 July 1957 and subsequently issued two improperly. In addition, anticipated changes in troop strength and disposition slowed Eighth Army's release of items to be designed and constructed by the District. These prospective changes in unit disposition and tactical plans and EUSA's desire to save money by withholding funds for facilities which shortly might be unused continued to impede FED's progress for much of FY 1958.¹⁰

By the spring of 1958, these problems were largely resolved, and work proceeded. Before the close of the fiscal year, FED engaged several A-E firms such as Pacific Architects and Engineers, Trans Asia Engineers, Hopkins and Munfrey, and Baker, Butler & Triplett. Their designs covered a wide spectrum of projects ranging from barracks and gymnasiums to dispensaries and from water supply to waste disposal. Nor were dependents neglected, for the drawings included housing, schools and many of the other necessities and amenities required to establish an Occidental community in the midst of an Oriental culture. Three primary sources provided the funds for these diverse projects: M&O monies, MCA funding, and NAF funds. At this juncture, the District limited its in-house engineering to small items such as improving FED offices and billets.

One of the products of the early FED design effort was the first standard drawings for Korea. The District developed the seventy-two man latrine and shower building and the 3- and 5-bay motor maintenance shops, for example, to conserve time and money in the engineering phase by reusing the plans and specifications and

8 Letter, BG Ellsworth I. Davis to Chief of Engineers, 19 April 1957, Subject: Organization for Contract Construction, p. 2; Message 14701, CG, 1st Cavalry Division, Tokyo, to CO, USACA-J, 15 July 1957; Letter, Major Robert J. Fitz, Area Engineer, JAO, to Postal Officer, APO 500, 6 August 1957; Message 655745, CG USAFFE/8A (R), Camp Zama, to CG, USAGA R, Camp Zama, 22 June 1957; Hqs 1st Cavalry Division Special Orders No. 170, 18 July 1957; Interview, Charles P. Bass, 16 October 1975. JAO, like its predecessor USACA-J, supported AFPE/8A (R). EUSA established the cement block plant through necessity. Since metal and wood were scarce in Korea and expensive to import, and the ingredients of cement blocks plentiful, Eighth Army commenced local manufacture.

9 Niles, *Anniversary*, p. 4.

10 Letters, BG Davis to MG Emerson C. Itschner, Chief of Engineers, 1 August 1957, p. 3, 22 November 1957, p. 2, 26 February 1958, p. 2, and 27 March 1958, p. 2.



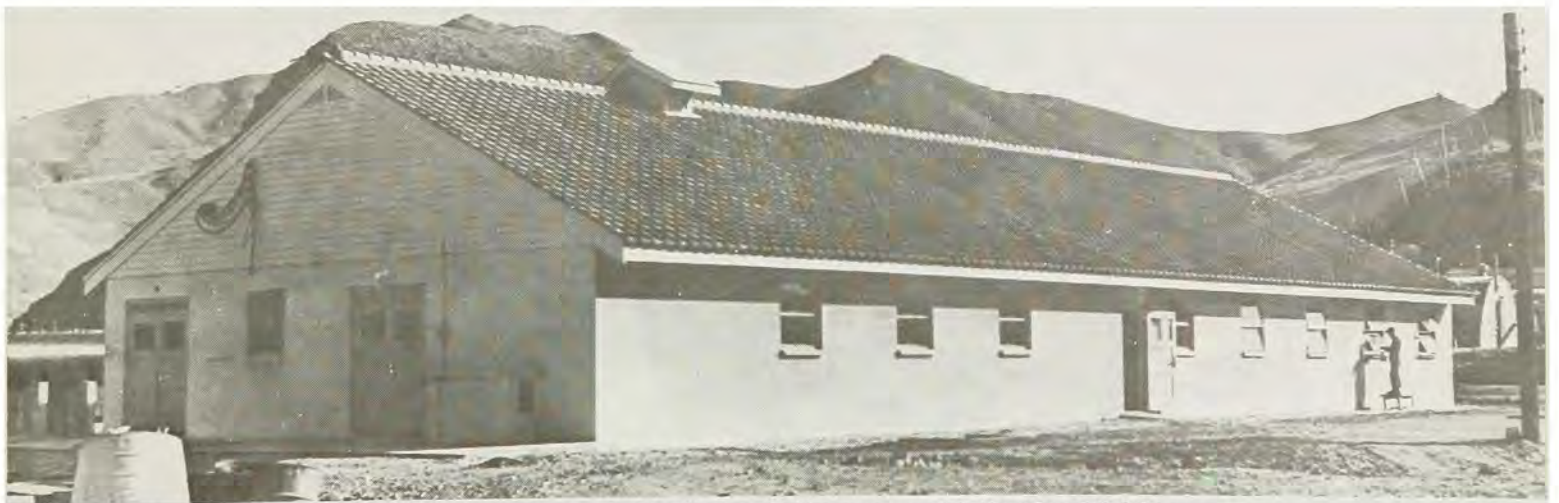
5-Bay maintenance shop, Transportation Battalion area, 7th Infantry Division

by standardizing the construction materials.¹¹

At the close of the fiscal year, Engineering Branch had many projects underway, two of which would shortly become important major construction: the Inchon tidal basin rehabilitation and the Pusan cold storage plant erection. A four man team from the Seattle District, North Pacific Division, supplied the designs to repair the Inchon harbor locks and piers and to dredge the tidal basin. The responsiveness of the Corps in assisting FED with projects which could not otherwise be accomplished was and is one of the District's greatest resources. In the flurry of activity in the last FY 58 quarter, the District awarded a total of 153 contracts—A-E, construction, and several procurement—123 of them in the concluding six weeks. Between mid-May and 30 June, District members ran off 150,000 ozalid sheets and obligated \$11 million. Because of the surge of design activity at the close of FY

58, the following year looked bright for Construction Division.¹²

During the previous twelve months, work in the field consisted primarily of small contracts (mostly well under \$100,000) at widely scattered sites throughout the ROK from the DMZ to Pusan. Projects in the forward areas continued those initiated in the KCA era to make Korea a more habitable duty station for US troops: living, recreational, and operational facilities formed the bulk of the workload. Construction activity in Seoul and to the south resembled that in the Divisions and I Corps areas. It also included basic support structures such as warehouses, the EUSA laundry plant, and communications stations. The OEC and PROV-MAAG-K family housing plans profited by many District contract awards near the close of FY 58 and the early fall of 1958. Work for these two agencies spread throughout Korea and ranged from the com-

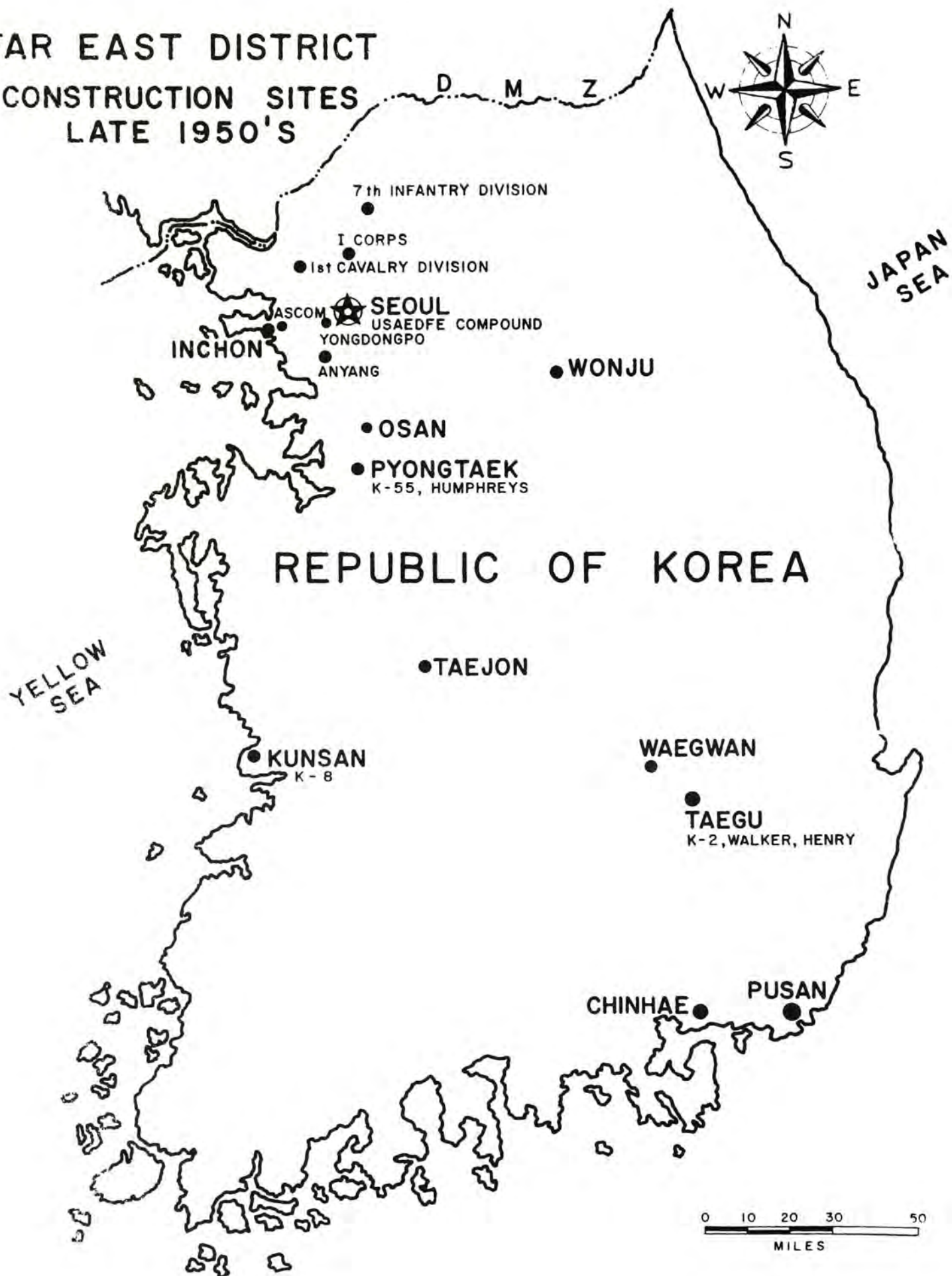


Nearly completed augmented Company size mess hall, Mortar Battery area, 1st Cavalry Division

11 Interviews, Gordon Best, 12 May 1975, and Charles E. Christ, 16 May 1975. The standard 72 man latrine was planned so barracks could subsequently be added as wings.

12 Niles, *Anniversary*, pp. 4-5; District Memorandum, No. 4, 1 July 1957, pp. 1-18; Contract Register; Letters, BG Davis to MG Itschner, 2 June 1958, p. 4, and 11 July 1958, p. 2.

FAR EAST DISTRICT CONSTRUCTION SITES LATE 1950'S





Telephone exchange, Hialeah Compound, Pusan, in 1975, microwave equipment is a recent addition

missaries, dispensaries and telephone exchanges at Chinhae and Pusan, to the water system at Taegu and the hospital and high school at Seoul. FED work for the Fifth Air Force (5AF) embraced more than \$1.3 million in contract awards. Among the projects were billets, a hospital, mess halls, a fire station and a water system. The airfield pavement upgrade at Osan Air Base (K-55) was one of the largest contract amounts designated in FY 58: \$302,401.80, which in June 1958

went to the Great Chemical Construction Company.¹³

To supervise this workload, FED activated three resident offices in the Seoul, 7th Division and Pusan areas on 1 July 1957. It soon became evident that the distances between the 24th Infantry Division (re-designated the 1st Cavalry Division in October 1957) and the 7th Infantry Division projects precluded proper accomplishment of the FED mission. Consequently, the 24th Division Resident Engineer Office (REO) began operation in September 1957. Several months earlier, FED transferred the Pusan office to Taegu to utilize more economically transportation facilities and available project inspectors. The efficient disposition of field personnel was an ever present concern for all Resident and Project Engineers during this period of many small, widely-dispersed jobs. In April of the following year, the District created a fifth resident office at Osan Air Base to manage the work for the newest FED user agency: Fifth Air Force.¹⁴

Problems in profusion erupted with the commencement of construction. None was unique with FED since most of them originally surfaced when KCA began negotiating contracts in 1956. Some of these difficulties, however, were peculiar to Korea. They challenged FED greatly and absorbed a disproportionate amount of time and effort.



Family housing under construction for the Office of the Economic Coordinator, Seoul. The units consist of locally-procured roof tiles and concrete blocks.

13 Contract Register; FED Data Brochure: USOM-P-MAAG-K Programs, c. 31 December 1959.

14 Organization Charts; Niles, *Anniversary*, p. 5; Letters, BG Davis to MG Itschner, 30 January 1958, p. 2, and 13 June 1958, p. 2.

In 1957 the Korean economy was just beginning to recover from the years of war and occupation. No construction industry with experienced contractors and plentiful building materials and equipment existed. Inexpensive, unskilled labor comprised the greatest natural resource. As a result, District personnel assumed unaccustomed roles, and FED employed unusual construction techniques, negotiated rather than advertised contracts, and separated projects into small individual parcels. In addition, FED personnel spent an inordinate amount of time trying to persuade its contractors that the District wanted the projects constructed according to the plans, with the specified materials, and within the time span and monetary limit determined during negotiation. Finally, the inability of Korean contractors to obtain performance bonds further complicated the situation.¹⁵

Korean unfamiliarity with American methods, plans and specifications was one of the greatest problem sources. Traditionally, Koreans adapted both a building to the particular site and the available construction materials to the task momentarily at hand. The tools they utilized were relatively primitive and often accommodated to suit the need. Because of a paucity of heavy machinery and power tools and an abundance of cheap labor, local contractors normally accomplished most projects manually. The few available pieces of heavy equipment were moved between sites on a rental

basis. These circumstances placed a tremendous burden on FED field personnel. District inspectors essentially became "straw bosses." In reminiscing, one District employee said, "How well something turned out was the result of the inspector, Resident Engineer, and his staff."¹⁶ Contractor employees had to be taught how to handle power tools and machinery, how to follow the plans, and how to build with American methods and materials. Basically, District personnel managed construction projects through on-the-job training; the necessity for such close supervision increased proportionally with the distance from Seoul or any other city.

The language difference provided further confusion during negotiations and construction. FED members soon learned that it was necessary to issue all instructions in Korean so that there were fewer misunderstandings.

Job site safety was another ongoing concern of District personnel. The Korean and American outlooks were diametrically different. In addition, since Korean law placed little responsibility and liability with local contractors, laborer welfare received almost no attention.¹⁷

FED also had difficulty convincing contractors, particularly as a project neared completion, that the using agency needed the facilities under construction. Therefore, the work should be completed as rapidly



Water treatment plant, Osan Air Base

15 Letter, BG Davis to MG Itschner, 22 November 1957, p. 2.

16 Best Interview.

17 Letter, BG Davis to MG Itschner, 4 September 1957; Briefing, US Army Engineer Division, Pacific Ocean, Mission, Organization and Functions, for Mr. Julian Hartt of the Los Angeles Examiner, 26 May 1958; Niles, Anniversary, pp. 5-6; Interviews, Best & Christ; Major Robert E. Rich, "Engineer Activities in Korea," *The Military Engineer*, September - October 1960, vol. 52, no. 349, pp. 361-362.



3-man shovel

as possible within the stipulations of the plans and specifications. The frequent inertia of the contractor near the conclusion of a job can be attributed to several factors: cultural differences and overextension of resources on the part of the contractor, to include "wheeling and dealing" with the materials furnished by the Government (GFM).¹⁸

To help solve the contract completion situation, the District separated the projects into as many individual jobs as possible. In the fall of 1957, for example, of the fourteen contracts let for water systems, latrines, and recreational facilities in the I Corps, 7th Division, and 1st Cavalry areas, only three were over \$50,000 and none was greater than \$70,000. And for the 1st Cavalry Division, in February 1958, FED awarded three separate contracts in the \$20,000 to \$30,000 range for gymnasiums.¹⁹ This solution prevented some defaults and enabled the contractors to gain needed experience and financial stability; it also kept FED field personnel hopping.

Because of the problems with English comprehension, unfamiliarity with American procedures, construction inexperience, and a general lack of resources on the part of local contractors, the Far East District negotiated most of its early contracts rather than formally advertising them. The POD Division Engineer, BG

Ellsworth I. Davis, wrote that the state of the Korean construction industry made "mandatory some measure of negotiation to assure that we get a contractor who understands what we want him to build and who has the capability of building it."²⁰

Despite these attempts on the part of District personnel to clarify all aspects of working for FED, many contractors bid exceedingly low thinking that FED was not entirely resolute in its requirements. Employing to-them-normal logic, the local businessmen reasoned that some accommodation could be effected when the contract terms could not be met. The president of the Construction Industrial Company, for example, wrote a letter to the District Contracting Officer, Thomas Spicknall, on 13 November 1959:

We had been incapable of completing the work on our Contract No. 92-800 Eng-151 [awarded 26 June 1958 for a 3 bay maintenance shop, 1st Cavalry Division area] because we couldn't prepare for enough money, about five thousand dollars [of \$102,392] for the completion of the work. Finally it was terminated by default by the letter dated 9 October 1959.²¹

Mr. Kwon went on to explain that a financial adjustment was needed and offered several specific suggestions.

18 Niles, *Anniversary*, pp. 5-6; Letters, BG Davis to MG Itschner, 4 September 1957, p. 2, 22 November 1957, pp. 1-2, and 30 January 1958, p.1; Interviews, Best & Christ; POD Claims and Delinquent Accounts Files.

19 Contract Register.

20 BG Ellsworth I. Davis, draft of a talk to be given to American Legion Post #13, 27 February 1958. FED was authorized to negotiate contracts for construction under the provisions of 10 USC 2304 (a) (6); Letters, MG Itschner to BG Davis, 17 October 1957, p. 1, and BG Davis to MG Itschner, 26 February 1958, p. 1, 30 October 1957, pp. 1-2, and 5 September 1958, p. 2.

21 POD Uncollectible Accounts File, DACA 92-800-ENG 151.

The problems of supervising construction in Korea demanded much time and energy from District members. The outcome, however, was rewarding for both Koreans and Americans. Mr. Park Sung Kyu, president of Sam Il Enterprise Co., Ltd., said in the spring 1975, "I have gotten my experience through many years of construction for the Far East District, Corps of Engineers."²² Sam Il's association with FED began on 6 March 1958 with the award of \$1,124.36 for a quonset at Taegu (ENG 48). By 1975, Sam Il had completed nineteen projects for FED valued at more than \$2.3 million.²³

Even after the District surmounted contract, local labor, and language barriers, they often found even greater frustrations and delays in procurement, an integral facet of any construction program. The pre-FED inability of the local economy to supply building materials which met District standards was unchanged, and the high duties still in effect discouraged local importers. Consequently, with the exception of sand, aggregate and roof tiles, the American Government continued to procure the necessary items.

In order to commence the FY 58 construction program as soon as the funding was released, the contracts were awarded, and the weather permitted, members of Engineering Division forecast what materials would be necessary for the coming year. With the assistance of the San Francisco Liaison Office (SFLNO), which OCE activated the summer of 1957 specifically to aid the POD districts obtain Stateside materials and to facilitate receipt of CFM, and the San Francisco District, which had contracting officer authority, Procurement Branch of FED Supply Division placed over \$3 million in orders. The District established three supply points to receive, store and issue the GFM: Pusan, Seoul (Yong Dong Po), and Oujongbu.²⁴

Initially the GFM arrived so slowly from the States and Japan that by August 1957 almost every FED project was delayed. However, within a month the District had to let a stevedoring contract to handle the deluge of materials. During the first year of activity, FED received 119,000 tons of material and issued 68,000 tons. The immensity of this operation, particularly the storage of 50,000 tons in supplies, exacted enormous effort from District members who trained and supervised the inexperienced Korean employees and from those in Supply and the Comptroller's office who accounted for its whereabouts.²⁵

Since the Pacific Ocean and the Sea of Japan separate Korea from its sources of supply, GFM was subject to the vagaries of weather, labor disputes, misrouting and shipping damage. Delays also resulted from the inability of Stateside companies to fill orders rapidly because of work backlogs, strikes and scarce raw materials. Furthermore, improper use or acceptance of GFM caused the termination of many contracts and the dismissal of some District employees. Since Korean

construction firms, as a rule, dissolved instantly with the termination of a contract, recovery of materials was problematical at best. The case of Sam Sung Construction Co. Ltd., which built one 3-bay and one tank maintenance shop in the 1st Cavalry Division area (ENG 136, \$58,525.62), exemplifies this theme. Sam Sung completed the buildings by 18 September 1959, and the District made final payment on 3 March 1960. Several months later, when irregularities were noticed and investigated, FED discovered that a member of Procurement issued cement and reinforcing steel for ENG 136 sixteen times without authorization. Both the District employee and Sam Sung vanished before legal action could be taken.²⁶

Despite problems of procurement, storage and distribution, GFM was an essential element in the early Far East District construction program.

Allied with the challenges for Engineering, Construction, Supply, Safety, the Legal office and the Comptroller was that for Personnel: locating talented and experienced people who were willing to serve in Korea. Active recruiting drives in the States, Japan and Okinawa still left numerous staff vacancies in late 1957 and early 1958. In November 1957, for example, 38 DAC job positions had not yet been committed, and it was not until mid-1958 that the District succeeded in filling most of these positions. Even with a full staff, a lack of continuity existed because the civilian tour lasted one year; that of active duty personnel was sixteen months until mid-1958 when the Department of the Army shortened it to thirteen. In an attempt to reduce the constant turnover, FED began submitting requests to EUSA for family housing. Availability of housing would enable longer tours of duty and enhance the desirability of service with the District.²⁷

With the establishment of the FED Real Estate Division on 1 July 1958, the basic District organization became totally operational. At that time, the Department of the Army assigned certain EUSA real estate functions to FED:

- (1) Processing of papers and documents relating to acquisitions and release of real estate for all services.
- (2) Liaison with foreign government officials on real estate matters other than major command policy.
- (3) Consolidation and submission of reports on real estate required by higher authority except those which Army regulations specify must be submitted by the Army Commander.
- (4) Central office of record for all military controlled real estate.
- (5) Promulgation of real estate plans and procedures necessary to accomplish the foregoing.²⁸

22 Pacific Ocean Division Information Bulletin, 7 April 1975, Vol. VIII 75-1, p. 11.

23 Ibid.; Contract Register.

ENG 48 means FED contract number 48. The sequence of contracts began on 1 July 1957: See the Contract Register.

24 Letter, 19 April 1957, BG Davis to OCE, p. 2; Letter, 13 May 1957, BG Davis to Engineer AFPE/8A, etc., Subject: Information Letter No. 1 on Pacific Ocean Division Organization Status, p. 3.

25 Niles, *Anniversary*, p. 5; Interviews, Bass and Al Hetrick, 15 October 1975; Letter, 4 September 1957, BG Davis to MG Itschner, p. 2.

26 POD Uncollectible Account File, DACA 92-800-ENG 136.

27 Contract Register; Claims and Uncollectible Accounts File; Interview, Euclid Snakenberg, 23 September 1975; Letter, BG Davis to MG Itschner, 11 July 1958, p. 3, and BG Davis to MG Itschner and responses, FY 58; Christ Interview.

28 FED Real Estate Division Position Paper, 7 November 1968, p. 1; Letter, BG Davis to MG Itschner, 11 July 1958, p. 3; Mutual Defense Treaty between the United States and the Republic of Korea and Agreement on Economic Coordination between The Republic of Korea and The Unified Command.



200,000 gallon water storage tank under construction at Camp Saint Barbara. The Officers' Open Mess, the Projectile Inn, is behind the tank.

This mission meant that FED prepared and executed the appropriate real estate documents for the land required by Eighth Army. The District dealt directly with the ROK Ministry of National Defense which handled transactions with landowners. The Meyer-Paek Agreement and the Mutual Defense Treaty between the US and the ROK, signed respectively on 24 May 1952 and on 1 October 1953, stipulated that the American armed forces occupy Korean land without purchasing or leasing it. Thus, these real estate transactions required no additional financial arrangements on the part of FED.

By the end of its first year of existence, the Far East District in Korea had encountered numerous challenges. The problems and frustrations of designing and constructing a program in excess of \$17 million on 1 July 1957 and \$27.7 million on 1 July 1958 were legion,

but not insurmountable. The District obligated more than \$11 million in funds for FED user agencies, EUSA, UN Command, PROV-MAAG-K, OEC and 5AF, via 123 contracts. By 1 July 1958, FED had supervised the completion of 117 of the 281 contracts awarded since the activation of KCA. In the field, the District directed continual efforts toward equipping FED contractors and their personnel with the necessary skills and experience to complete District projects adequately and safely.²⁹

Simultaneously, the Japan Area Office staff was busily supervising approximately three-quarters of a million dollars worth of major military construction. This work consisted primarily of Army Security Agency facilities and Public Law 480 (PL 480) projects, such as the family housing at Camp Zama and Chitose and the



Pouring concrete for operations building framework, ASA 90, Hakata, Japan

²⁹ Total Workload FYs 58-79; Contract Register, Niles, Anniversary, p. 5.



Final stages of auditorium and home economics areas of Camp Zama, Japan, Junior High School

junior high school at the former. The JAO, like FED, assumed the workload of its successor, USACA-J.

Contractors and procurement problems were not as serious in Japan as they were in the ROK. The Japanese economy was in better condition than that of its neighbor, contractors were more experienced, laborers were better trained, and many construction materials were available locally. No great difficulties prevailed with GFM since JAO did not store construction materials. The Area Office, however, was very active in the procurement field since its mission description stipulated, in part, that it

Co-ordinates the procurement in Japan of all materials to be procured in Japan by the District Engineer and insures expeditious procurement and shipment; Inspects as directed all materials going to Korea; Obtains the prices on all types of materials manufactured in Japan for purchase by the District Engineer.³⁰

Between November 1957 when this JAO function became operational until the close of the fiscal year, the District committed approximately \$1,500,000 for procurement in Japan.

The JAO mission also included the supervision and coordination of District A-E awards to firms based in Japan. During FY 58, for example, JAO followed to completion approximately \$2 million in engineering designs.³¹

Recruiting for the Area Office was also not as difficult as in Korea. Conditions were pleasant in Japan, and economy housing was readily available. Consequently, people were much more willing to serve for longer periods of time. In addition, many qualified Japanese engineers were at hand for District employment. Because of the ease in obtaining a full design staff in Tokyo as compared with Seoul, on 1 December 1958, Design Branch of Engineering Division moved to Japan.

This transfer split Engineering, but it also permitted Design to function at full capacity. Moreover, it saved money for FED since the tour of duty in Japan was 24 months, as opposed to 12 in Korea, and Japan-based DACs did not receive the 25 per cent pay differential and separation allowance authorized for the US Forces in Korea. To accommodate the additional people, JAO relocated from Hardy Barracks to Camp Oji (both in Tokyo) and reorganized. The new organization would subsequently include a rear element of the District headquarters, FED (R), to coordinate and administer activities of the various District elements in Japan.³²

In April of the following year, JAO assumed, on a reimbursable basis, the duties of Okinawa Engineer Dis-



Interior framing for 3 bedroom unit, Sagami-hara, Japan

30 Niles, *Anniversary*, p. 19.

31 Contract Register; JAO Booklet, 1 August 1957; Interviews, Fujio Moteki, 24 July 1975, and Thomas Pedecine, 22 July 1975; Niles, *Anniversary*, pp. 18-19. PL 480: US law which permits family housing to be built overseas. Funded with money which had to be expended in the host country; counterpart funds.

32 Letters, BG Davis to MG Itschner, 8 January 1959, pp. 3 & 5, September 1958, p. 2; FED (Rear) Briefing, 1968 or 1969, p. 1; Interviews, Pedecine and Moteki; FED (R) Booklet, 1968-69, p. 1; USAEDFE (Rear) Booklet, c. July 1962; Letter, 22 April 1958, Robert J. Fitz to CG USARJ, Subject: Request for buildings 20 and T-18, Hardy Barracks, Area III, Tokyo, Japan; Interview, Tsuneo Ichikawa, 25 July 1975; USAEDFE General Orders 1957 to 1960. Several months earlier, JAO moved from its activation station, Camp Burness, to Hardy Barracks.

trict's Tokyo Liaison Office, which Pacific Ocean Division abolished.³³

After eighteen months of operation, the Japan Area Office was actively fulfilling its mission of supervising construction in Japan, assisting FED with procurement in Japan, aiding OED in many ways, and managing A-E work in-country.

In 1956 and 1957, AFFE/EUSA activated several agencies successively to manage the \$20 million post-Korean War construction programs. Their final solution to the effective supervision of the multi-million dollar programs was establishment of a Corps of Engineers district. When the Far East District began operations on 1 July 1957, it inherited the uncompleted portion of the FY 57 construction program of its predecessors KCA and USACA-K: more than \$17 million of the original \$20 million, and the remnants of their problems in personnel, procurement, design, funding and construction. The emphasis of the earlier agencies was upon the rapid building of facilities to improve the living and working conditions for the troops and to house the OEC and PROV-MAAG-K staffs. The mission of the new organization, FED, was somewhat broader than that of USACA-K since OCE tasked the District with the supervision and prosecution of military construction in Korea and Japan. By the end of its first year, all divisions, branches and detachments were fully operational, most staff vacancies were filled, and the District was looking forward to a busier following year.

The Engineering, Construction and Supply Divi-

sions faced a considerable number of frustrations. Engineering contended with a freeze order on A-E contracts and no design directives at the beginning of the year. Nine months later, work reached the frenzy level in the attempt to obligate as much as possible of the remaining released funds. By 30 June, FED had committed \$11 million. Construction coped with the numerous complications of working in Korea: a devastated economy; few local sources of materials; an undeveloped construction industry with inexperienced contractors, unskilled laborers and little heavy machinery; unfamiliarity with American methods, plans and specifications; and language and cultural differences. The resolution of these problems engendered unusual, and often unique, construction techniques, contract negotiation, and on-the-job training. Because of the condition of the Korean economy and the stiff import taxes for local contractors, Procurement had to deal with all the ramifications of ordering, receiving, storing, and issuing GFM.

The state of the Korean economy also made it difficult, if not impossible, to recruit qualified and talented personnel to staff the new District. This circumstance, plus the availability of trained engineers in Tokyo, prompted the transfer of Design Branch to Japan in December 1958.

With the activation of Real Estate Division in July 1958 and the shift of Design Branch to Japan at the end of the year, the formative period for the Far East District terminated. The challenges encountered by FED members during this initial period were excellent preparation for the tasks ahead.



4 bedroom dependent house, Sagamihara, Japan

33 POD G.O. No. 3, 10 April 1958.

CHAPTER 3 MAJOR PROJECTS IN KOREA

1959 TO 1963

In the years between 1959 and 1963, the entire Far East District workload totaled more than \$70 million. A decline in the annual construction placement, however, characterized the period with the high in FY 60 of \$24.3 million dropping to \$11.9 million in FY 63. Since the majority of contracts continued to be small and scattered throughout Korea, rising supervision and administration costs (S&A) became a major concern. Shifts in US Government policies resulting in a freeze on awards, a new international balance of payments program, and funding restrictions for overseas construction projects only aggravated FED attempts to lower costs. Local monetary reforms and an embargo on Japanese imports also complicated the District's solutions to excessive overhead. And political unrest in both host countries served as a reminder that FED efforts were subject to

foot by 1,490 foot basin under Japanese direction between 1911 and 1923 to provide a port facility for Seoul which was not as subject to the vagaries of the thirty foot tides as was the natural harbor. The 25 acre dock space could accept three 4,500 ton and four 2,000 ton vessels which entered the basin through a 430 foot by 60 foot lock formed by a pair of mitred gates measuring 36 feet and 46 feet respectively. The Korean War rendered the basin inoperable.

During the late 1950's, in response to the requirement for a usable port somewhere north of Pusan, the US Government authorized funds to rehabilitate the man-made harbor at Inchon. Corps of Engineers districts possessing sufficient expertise assisted FED with the design phase of the project; Seattle District, for example, contributed the lock and pier plans and a method for dredging the basin. The assemblage and integration of the non-FED designs resulted in some mismatches and delays. The District, however, solved the design problems, and on 27 June 1959, Hyun Dai Construction



Inchon Tidal Basin rehabilitation. The mitre gates are undergoing repair on the south side of the lock. The piles used in the replacement of the south wharf can be seen in the right background.

events beyond its control. Problems remaining from previous years included those associated with GFM, constantly changing user agency programs, and the peculiarities of construction in Korea.

Nonetheless, the year 1959 marked the beginning of a new era for FED because it saw the award of the District's initial major construction contract: the Inchon tidal basin rehabilitation. At about the same time, the Far East District commenced development of two large depots which subsequently became entire posts: Camp Ames and Camp Carroll. The following year, FED assigned its second major contract, the Pusan cold storage plant.

The combination of District and contractor inexperience with a major project, nonavailability of machinery, and funding delays made the Inchon tidal basin rehabilitation an extremely challenging experience for FED personnel.

The Koreans constructed the approximately 700

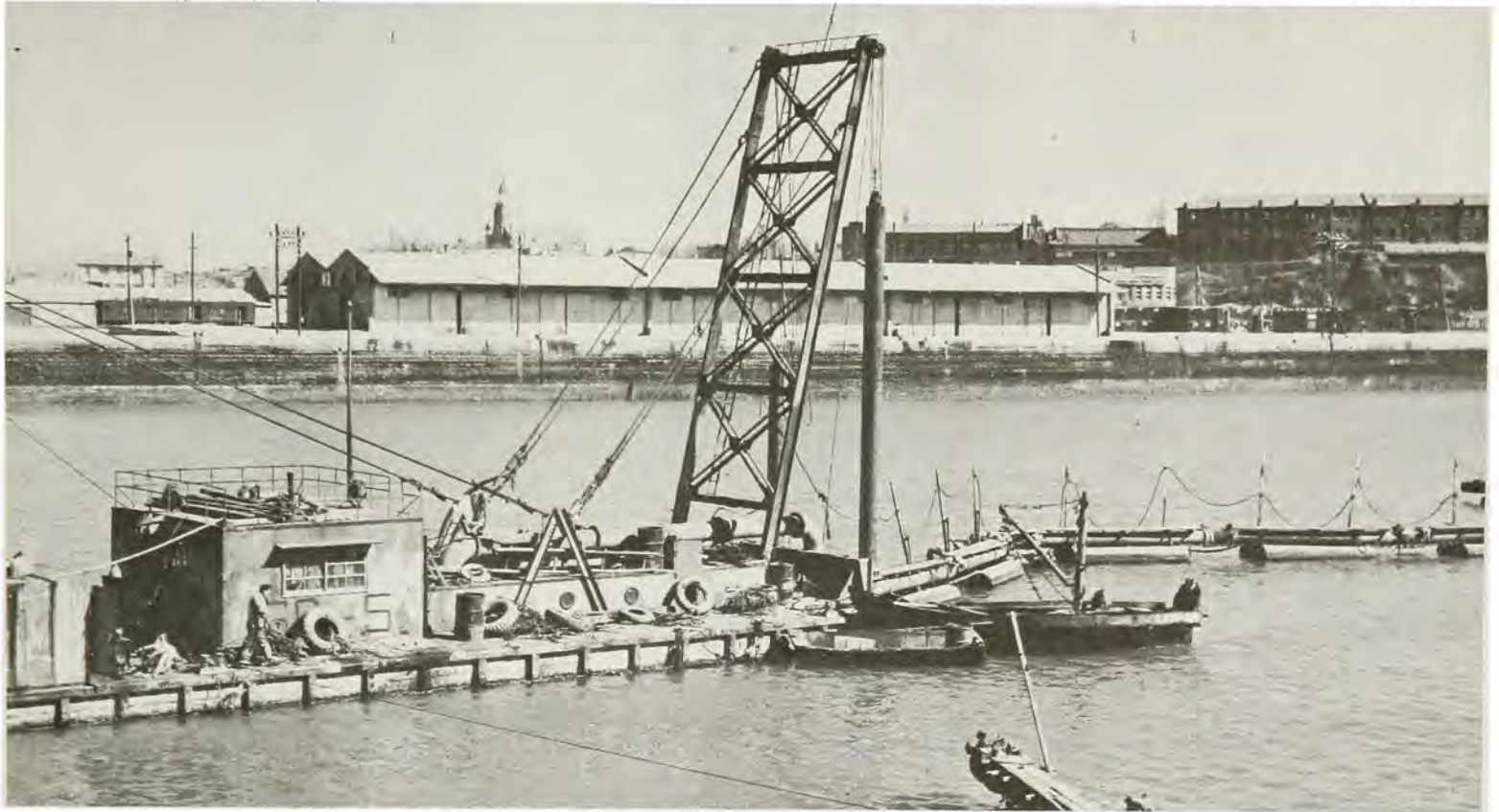
Co. Ltd. received the Inchon project award (ENG 405). Sources of the \$1,939,443.39 contract amount consisted of \$1,344,670 in International Cooperation Administration, or ICA, AID money and 500 million hwan in counterpart funds. The hwan provided for the acquisition of local labor and materials. Since the original plans included much off-shore CFM by Hyun Dai, a United States Overseas Mission-Korea (USOM-K, local agency for ICA) interpretation of current procurement restrictions that \$824,670, or the dollar portion, of the total monies could not be utilized for any local procurement or for off-shore procurement by the contractor complicated the disbursement of ENG 405. FED rejected the alternative to the USOM-K interpretation of the District furnishing the supplies. In late 1959, ICA finally determined that dollar payment to Hyun Dai was not considered expenditure in Korea. Therefore, Hyun Dai, rather than FED, obtained the necessary laborers, machinery, and materials for the project.

The rehabilitation consisted of several phases:

dewater and dredge the basin and lock, repair the gates and seawall, rebuild the south wharf and ramp, and construct a new harbormaster building. The dredging segment proceeded smoothly; after draining the harbor, Hyun Dai removed almost 130,000 cubic yards of debris, including coal and metal scraps.

sixteen new precast piles received damage. FED incurred no additional cost since the plans called for replacement of the wharf.

Despite the numerous obstacles, delays and the skeptical belief that so young a district could accomplish such an immense task in eighteen months, the Far

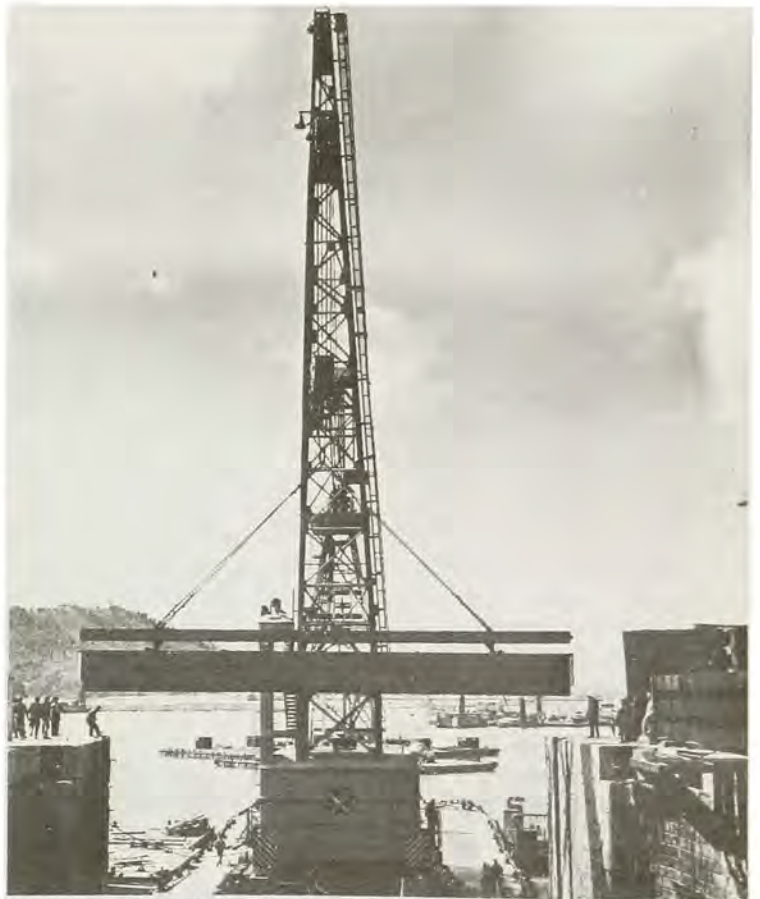


Suction dredge in operation at the Inchon Tidal Basin

The gate repair involved lifting each section of the lock from the water and replacing it with a metal stop-log to prevent the basin from refilling. Since each metal door weighed more than 100 tons, this task required the presence of a gigantic crane. The gate refurbishing entailed scraping more than an inch of rust from the metal surfaces.

Replacement of the pier posed the greatest problem of the project for a number of reasons: lack of proper equipment, contractor inexperience, and misleading subsurface findings. Because of these complicating circumstances, difficulties arose when Hyun Dai's laborers attempted, but were unsuccessful, to drive the precast concrete pier piles to the depths required by the contract. This failure prompted a second subsurface soil investigation which revealed highly cemented, decomposed granite instead of the sand initially reported. At this point, FED discovered that the earlier probes were wash borings, instead of the needed core borings, and that the first samples were not taken along the pier alignment as they should have been. The need to change the design to coincide with the actual soil composition further delayed the project. In response to the altered situation, Mr. Napier, Inchon Project Engineer, and Mr. Christensen, POD Foundations and Materials Branch Chief, developed a modified pile structure that conformed to the subsurface conditions and provided a sound base for the pier. They also devised an alternative method of pile driving, which involved pre-drilling the hole and drilling with a jet pump.

A collapse on 29 March 1960 of 200 feet of the old south wharf concrete platform caused another delay in the pier replacement phase. No injuries resulted, but



A seventy-two ton floating crane placing a 60 foot section of stop-log into the canal lock to protect the Inchon Tidal Basin from the effects of the tide while the mitre gates undergo repair



Completed Inchon Tidal Basin rehabilitation as seen through partially open mitre gates

East District turned over the newly rehabilitated 700 foot by 1,490 foot Inchon tidal basin to the 7th Logistics Command on 15 December 1960 with no cost overrun.¹

Interestingly, the FED demand for precast concrete piles at this and other projects resulted in the establishment of a local factory to produce them. With the assistance of District personnel in learning how to prepare concrete and form the piles that consistently met FED standards, the Koreans began making the centrifugally spun piles at a plant on the Han River near the best in-country source of aggregate. Their products supplied district projects throughout Korea, saved FED off-shore procurement expenses and headaches, and boosted the local economy.

At the same time, FED was in the process of transferring buildings to the using services ahead of schedule and troops were moving in at Camp Ames and Camp Carroll. The Camp Carroll Logistics Center, a supply and maintenance depot officially named in honor of an enlisted Engineer killed during the Korean conflict, began as a combined effort by the Far East District and Company B, 44th Engineer Battalion (Construction). The Engineers, who started work in April 1959, received the assignment of erecting the base camp and of preparing the roads and hardstands for commercial pavement and the building sites for the FED contractors. The District's responsibilities included the final inspection of all troop projects and the supervision of permanent construction.

The basic site layout separated the depot into three distinct sections: a cantonment area of barracks, mess halls, and support facilities; a shop section of mainte-

nance and repair buildings; and a storage zone with all the hardstands and warehouses. Plans called for the construction to be accomplished in seven phases: the first 2 in FY 59 and the remainder in the ensuing six years.

Company B spent the fall of 1959 building the earthworks for the road network, the perimeter security fencing, and the temporary camp of prefabricated structures. Simultaneously, the District opened its depot project office — a tent — to direct the progress of contracts ENG 418 and 419. The former was a 29 June 1959 award of \$512,690 to Sam Bu Construction Co. Ltd. for a 350 man mess hall, two 146 man barracks, eight latrines, a 200 man mess hall kitchen, a 50 foot by 625 foot warehouse, and two 100 foot by 350 foot warehouses with loading aprons. On the same day, FED designated Shin Kun Industrial Co. Ltd. as the contractor to erect one 5-bay and two 2-bay vehicle maintenance shops for \$59,998.24 (ENG 419). The two local firms finished their work well ahead of schedule so that by June 1960, depot troops began limited operation of Camp Carroll.

During 1960, the 44th finished the basic road net and the security fencing while District contractors concluded installation of the initial utility systems, a 16,200 square foot tank maintenance structure with a 30 ton overhead crane, other ordnance and maintenance buildings, and a dispensary with a two-bed ward.

Construction continued to proceed ahead of schedule throughout 1961. Because of a lack of funds, however, FED could not initiate any new projects. The following year more than compensated for this absence with a \$2.8 million program consisting of projects in all three depot areas to include heated and unheated ware-

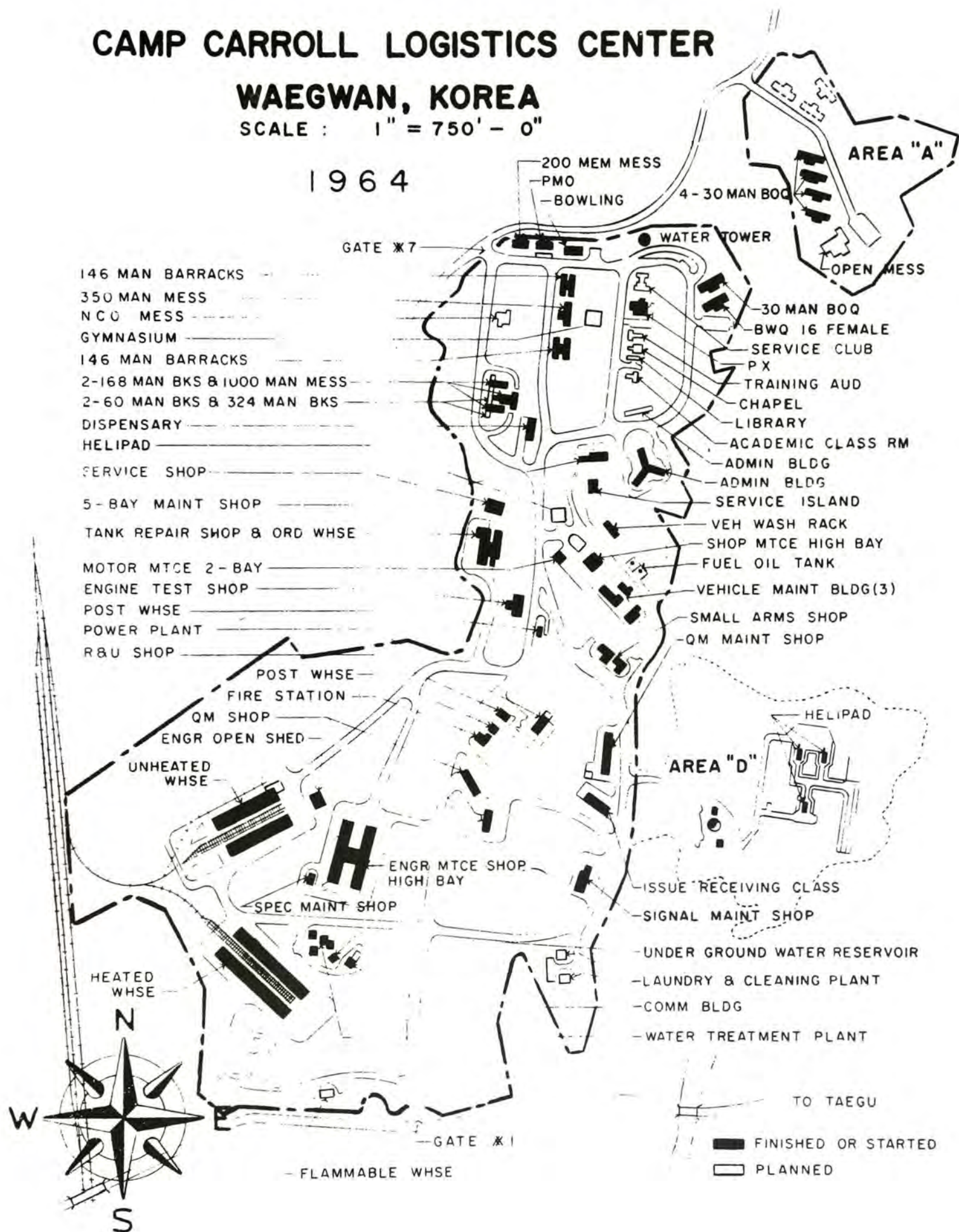
¹ USAEDFE Booklet, Visit of Major General Gerald E. Galloway, POD Division Engineer, to USAEDFE and USAEDFE (R), 19 October to 2 November 1960, p. 16; Letters, MG E. C. Itschner to BG Ellsworth I. Davis, 7 July 1959, p. 1, and between MG Itschner and BG Davis, and COL Daniel A. Richards, District Engineer, FED, and BG Davis, 1959 to 1960; *Port of Inchon*, Inchon Marine Bureau, Ministry of Transportation, ROK, October 1974; Interviews, John Ball, 29 September 1975, Charles Christ, 16 May 1975, Kisuk Cheung, 2 June 1975, and Son Tae Pak, 16 September 1975; Kwang Il Yi, Briefing: Inchon Tidal Basin, 25 August 1975; *POD History*, p. 41; Contract Register; MAJ Robert E. Rich, "Engineer Activities in Korea," *The Military Engineer*, September-October 1960, no. 349, pp. 361-363.

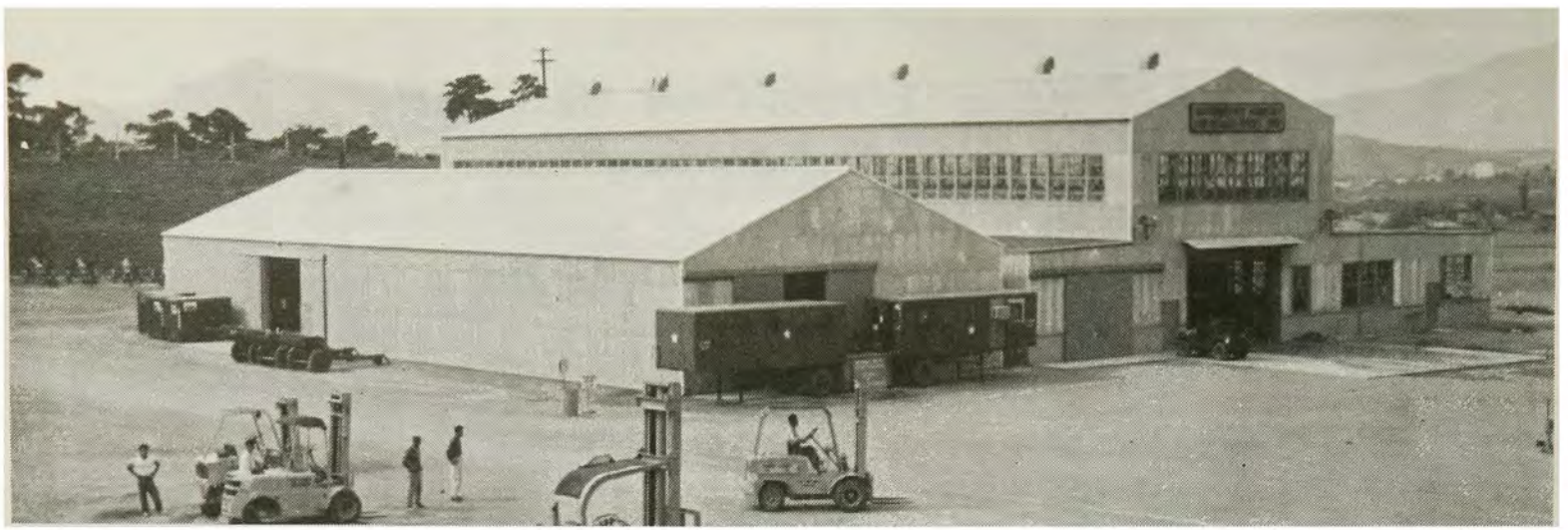
CAMP CARROLL LOGISTICS CENTER

WAEGWAN, KOREA

SCALE : 1" = 750' - 0"

1964





Tank maintenance shop and warehouse, Camp Carroll



Unheated warehouse, Camp Carroll

houses, an open storage shed, supplementary railroad spur work, and repair and maintenance structures; POL storage and facilities; recreational, service, and operational buildings; Quartermaster and signal facilities; and additional utility work. District contractors maintained the precedent of rapid project completion so that FED could conclude the FY 62 program by the early part of the calendar year. Simultaneously, Company B continued to improve and expand the road system by widening streets, increasing their load carrying ability, and adding new ones. They also graded the areas designated for open storage.

By June 1963, \$8,805,426 of the \$10,723,000 in authorized MCA construction funds and approximately \$735,600 of MCA design money were either obligated or expended at Camp Carroll. Repair and administration buildings, various maintenance and supply shops, two 168 man barracks, a 1,000 man mess hall, and four 30 man BOQ's comprised the final projects in this period.



BOQ's, Camp Carroll

When complete, the depot would have almost 300,000 square feet of warehouse space and 2.5 million square feet of open air hardstand lots.

Although construction at Camp Carroll progressed unceasingly ahead of schedule, some problems did exist. An early fall 1959 typhoon slowed work and did some damage. Furthermore, the presence of three Engineer agencies, FED, the 44th, and the Carroll Post Engineers, plus the user services dictated the creation of a board to coordinate construction activities among both Engineer forces and depot requirements. Finally, the absence of a firm site plan and limited funds resulted in designs which fell short of intended goals and which required significant field changes.

The rugged terrain of the site, near Waegwan, offered further complications. Eighth Army chose the Camp Carroll location, 160 miles southeast of Seoul and 100 miles northwest of Pusan on the main rail line and Main Service Route 1 (MSR 1), as part of the policy to displace logistic installations out of range of the North Korean guns. Comfortable distance from the forward area and easy access to rail and road transportation

made the placement tactically ideal. Pragmatically, however, the site choice required the movement of more than one million cubic yards of earth. Almost every building had to be situated with a hill cut on one side and a steep fill on the other. Consequently, Carroll had an atypical depot layout with storage areas and buildings, at varying elevations, occupying most level areas. In addition, because of the terrain, erosion control and proper drainage had to be a major consideration in both design and construction phases.²

The rapid and successful completion of the basic MCA program at Camp Carroll was a triumph for the youthful Far East District. Supervising the construction of Korean contractors whose results and methods of obtaining them showed little improvement from the previous years and working with Company B challenged the FED Project Engineer and civilian and military field inspectors. The result was an immense supply and maintenance complex carved out of the rugged terrain of the hills near Waegwan.

The second major complex constructed by the Far



Site of Camp Ames

2 Galloway Visit, p. 16; COL Robert E. Snetzer, *Camp Carroll, A Case Study of the Korean Construction Industry*, 1 July 1964; Contract Register; US Army Auditing Agency, Pacific District, Report No. PA-65-14, *Audit of Military Construction, Eighth US Army Korea*, 1 July 1961 to 30 June 1963, 9 December 1964; "Camp Carroll — It's Big and Still Growing," *Pacific Stars & Stripes*, Wednesday, 15 April 1964, p. 7; USAEDFE Booklet, Visit of DOD Survey Team, Project 32, November 1962; USAEDFE Taegu Resident Engineer Office Booklets, October 1960 and 31 March 1964, Waegwan Sections.

East District during this era was the Camp Ames Ordnance Depot at Wadong-ni seven miles north of Taejon. Originally known as Spring Valley Ordnance Depot because of the thousands of natural springs at the construction site and its presence in a very remote area called Hidden Valley, the installation was renamed in the early 1960's to honor 1st Lieutenant Richard C. Ames, a Second Infantry Regiment company commander killed in action in Korea in 1951. When complete, Camp Ames provided an 800 acre ammunition storage complex for the US Army Ordnance Corps.

The initial 1959 and 1960 construction program consisted of seven contracts with a total value of more than \$1.5 million. FED awarded the first group of projects in late June 1959. Construction for this phase of development began on 20 July 1959 and proceeded ahead of schedule with no significant problems aside from the by-now expected difficulties encountered with work at rather inaccessible and rugged sites. By the following summer, Ordnance troops were able to move in. These early Ames projects included a helipad, maintenance and ordnance shops, a POL facility, Stradley magazines, fencing, roads, erosion control, utility systems, a 200 man mess kitchen, and rehabilitation of seventeen houses. FED received requests for construction of additional Stradleys several years later and again in



Stradleys, Camp Ames

1965.

The only real obstacle the District faced during the development of Camp Ames was the 1960 Military Construction Appropriation Act (Public Law 86-275) which required that contract payments be made in foreign currency rather than in dollars. Because of the difference in the actual and official values of hwan, this stipulation halved the worth of the construction dollar. The District was in the process of awarding the ammu-



Laborers screening aggregate for road construction, Camp Ames. New enlisted barracks in background.

dition igloo projects at Ames and at Wonju when news of the fund restriction reached Seoul. According to Colonel Daniel E. Richards, DE, the message hit the Far East District "like a bomb shell" especially since the bids were favorable, a District goal which, despite much advice, discussion, and instruction with local contractors, was seldom attained.³ However, a 15 January 1960 clarification of the Act stated that "Use of foreign currencies will not be considered feasible in instances where the cost of the contract is increased by virtue of the fact the contractor is required to accept foreign currencies in payment thereof."⁴ Within two weeks FED signed the Stradley contracts and several others which the announcement of the Act temporarily deferred.⁵

By 1963, the basic facilities were essentially complete at both Camp Ames and Camp Carroll, the two depots created in the rugged terrain of middle Korea in

building was a separate structure. Baker, Butler & Triplett designed the plant to be serviced by trucks on one side and railroad cars on the other. The proximity of a railroad spur, roads, and the Pusan port facility made the site choice seem ideal. Initiation of construction proved this impression to be only partially accurate.

Duplicating the mistakes at Inchon, workers took misleading subsurface soil samples which eventually necessitated design modifications. At Pusan, the first probe indicated firm bearing ground. Subsequent investigations revealed an upper shell layer which was quite dense, a middle zone of mud, and, at a much lower depth, firm bearing strata. Consequently, the foundations had to be redesigned; the new plans required that the piles be driven through the upper two layers of subsoil into the solid ground beneath. This modification created a need for precast concrete piles which, when



Pusan cold storage plant

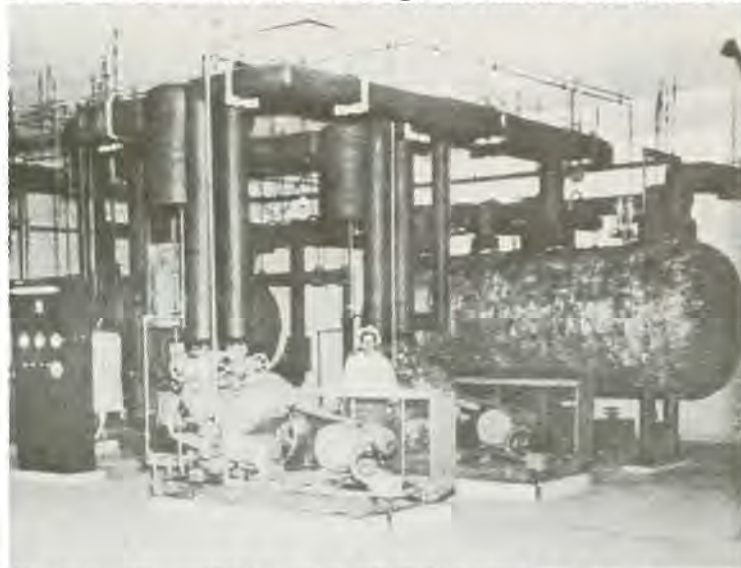
response to the EUSA policy of situating logistical facilities further away from the DMZ. The District and, in particular, project office personnel were justifiably proud that the work proceeded smoothly and user agency troops moved in well ahead of schedule.

Unfortunately, the building of the cold storage plant at Pusan, the second major construction contract of this era, was more troublesome than the construction of the two depots. Because of numerous difficulties, some of them similar to those at the Inchon tidal basin rehabilitation, this project has been called the Pusan Folly.⁶

The A-E firm, Baker, Butler, and Triplett, completed the warehouse design in 1958 (Far East Command contract 268, FEC 268). But it was not until two years later, on 31 May 1960, that the District could sign the construction contract with Kong Yong Enterprise for \$978,429.75 (ENG 549). Like the case of the Stradleys at Ames and Wonju, the 1960 Appropriations Act caused this delay.

The project involved the erection of a 61,000 square foot cold storage warehouse consisting of chilled air and freezer space, a machine room, loading platforms and ramps, an icing tower, and exterior utilities; the utility

combined with the requirement for additional equipment, put the project further behind schedule. The redesign and the concomitant changes also greatly increased costs. Two and one-half years later, Kong Yong finished the Pusan cold storage warehouse at a cost of



Equipment imported from the United States for the Pusan cold storage plant

3 Letter, COL Richards to BG Davis, 31 December 1959, p. 1.

4 Multiple Letter, 15 January 1960, Subject: Use of Foreign Currency, quoted by LTG Itschner to BG Davis, in a 28 January 1960 letter.

5 Galloway Booklet, pp. 20-21; Taegu 1960 & 1964, Taejon Sections; Letters between LTG Itschner & BG Davis, BG Davis & COL Davis, and COL John R. Clifton & LTG Itschner, 1959 to 1963.

6 Christ Interview.

approximately \$1.7 million; the pile foundation accounted for almost half of this amount. MG James B. Lampert, Director of Military Construction, OCE, dedicated the plant during his January 1963 visit to Korea with the Command Inspection Team. With the completion of the plant, the ROK had the first permanent cold storage structure.

Several positive aspects stemmed from the warehouse construction. It was one of the first times a Korean contractor acquired a significant portion of the materials from the United States. In this case, Kong Yong imported the mechanical equipment. Contractor procurement relieved FED of its GFM responsibility, a role which the District assumed only of necessity, and indicated some maturing of the Korean construction industry. Several District members later commented that "The larger contractors have mastered the intricacies of dealing with local traders, customs clearances, and bank credits sufficiently to import large quantities of specialized equipment,"⁷ and they were willing and able to obligate the large sums of money required by Korean and American international trade laws. In addition, local procurement of the foundation piles by Kong Yong illustrates the survival of the newly established Korean industries which produced Corps-acceptable products.⁸

The two depots at Camp Carroll and Camp Ames, the Inchon tidal basin rehabilitation, and the Pusan cold storage plant were the first major Far East District projects. Following a multi-year program, FED supervised the creation of the two camps from the rugged sites selected by EUSA for their strategic importance. The District completed these tasks far in advance of the most optimistic timetable and with no appreciable delays or difficulties. At Inchon and Pusan, on the other hand, FED members encountered numerous delays and frustrations. The basin rehabilitation fell six months behind the original schedule; the cold storage plant, two years. However, the successful conclusion of these projects marked an important achievement for the Far East District and the Korean construction industry. It proved that such tasks could be done despite great ob-



Suspension bridge carrying water pipe over ravine at Camp Kaiser



Support structure for Camp Saint Barbara hangar

stacles and with a dispersed working force. Since these four projects were by no means the entire FED workload for this period, the District accomplishments seem even more laudable.

At the same time, many other projects besides those at Ames, Carroll, Pusan and Inchon were underway throughout Korea. The pre-FED MCA, O & M, and NAF programs to improve the troop living and operational facilities continued in the forward area and elsewhere in-country; FED contractors erected entire compounds at several locations. In addition, construction for the six year EUSA plan of building twenty-seven tactical (TAC) sites in the ROK progressed. The same period also saw the basic completion of the OEC and PROV-MAAG-K housing schemes. Finally, work for the Air Force decreased after the conclusion of the previously contracted projects at Kunsan and Osan.

Numerous small contracts continued to characterize construction in the forward area. Between 1 July 1959 and 1 January 1960, for example, the District had almost 30 active contracts each for the 1st Cavalry Division and the 7th Infantry Division areas; the awarded monies for this work totaled almost \$2 million. Latrines, mess halls, barracks, maintenance sheds, utility systems, and recreational facilities were still the predominant jobs. On 30 June 1960, for instance, the District awarded \$22,952.70 to Korea Enterprise for water and sewer construction at Camp Casey. A few days earlier, FED negotiated contracts for work at Camp Saint Barbara: Sam Il Enterprise agreed to build one 6 man BOQ, three 46 man barracks, and one 5-bay maintenance shop for \$95,516; and Sam In Enterprise consented to construct a company-size latrine, a 6 woman billet, and two 46 man barracks for \$84,000. The following April and June, the District assigned contracts in the \$20,000 to \$30,000 range to four Korean firms for renovation of gymnasiums at Camp Beavers, the 31st Field Artillery headquarters, Camp Kaiser, and Camp Hovey. Hansen Field House at Camp Casey was one of the largest awards for a single building in the forward area during this era: \$135,815.70. On 11 March 1960, FED concluded negotiations with Paik Hak Construction Co. Ltd. for this structure.

An example of a newly created compound was Camp Ori, or Alexander Williams as EUSA later renamed it. Between September 1961 and May 1962, the

7 COL Wilmot R. McCutchen and LTC Thomas T. Jones, "Construction in the Far East District," *The Military Engineer*, January — February 1964, no. 369, p. 11.

8 Taegu 1960 & 1964, Pusan Sections; Galloway Visit, p. 21; Contract Register; McCutchen & Jones, "Construction," pp. 10-11; Christ Interview; Letter, COL McCutchen to Earle Whitmore, 25 August 1975; POD Booklet, OCE Command Inspection Team Visit, January 1963, FED Section; Yun Sakong, Briefing: Pusan cold storage plant, 9 September 1975.

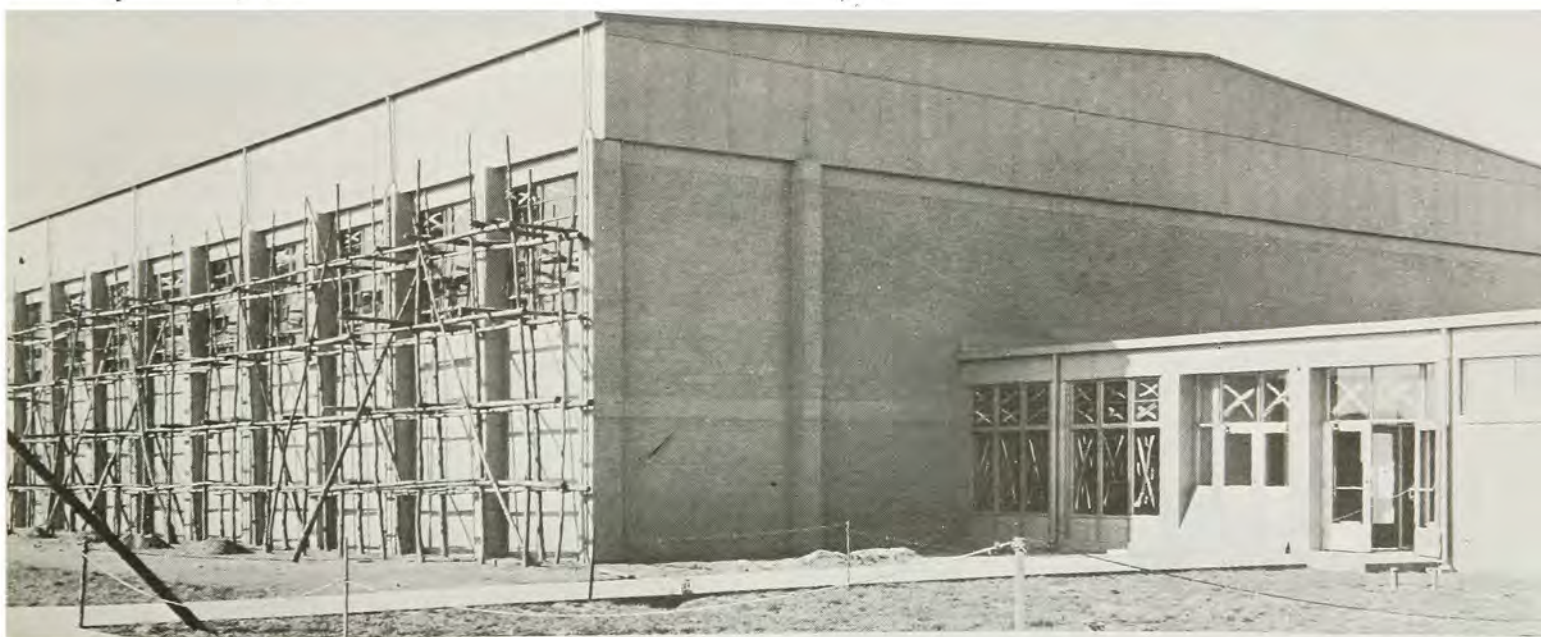


View of Camp Ori (later renamed Alexander Williams)

District signed three contracts valued at less than \$350,000 with Shin Heung Construction Company, Sin U Construction Company, and Mido Commercial and Industrial Company for basic facilities. The work included barracks, a mess hall, BOQs, and latrines; utilities; operations, administrative, maintenance, and recreational structures; kennels; and security fencing, guard houses and towers.⁹

In Seoul, in addition to the living and operational upgrade program, some other District projects consisted of Collier Field House, Moyer Recreation Center, a dry cleaning plant, warehouses, a water treatment facility, and an ACAN (Army Command Administrative Net-

work) Communication Center. The last was a component in a Signal Corps program which also involved the erection of other structures at Taegu and Camp Drake, Japan. FED signed the Seoul ACAN contract (ENG 464) with Dong Sung Enterprise on 31 December 1959 for \$223,973.48. Two weeks later in Japan, the District put the Drake facility under contract to Inoue Kogyo and Sanko Kogyo. The utilization of two Japanese firms, a joint venture, for this \$1.4 million job was a new concept for the Far East District. In addition, the size of the project indicates the difference in the level of skill and experience between Korean and Japanese contractors.¹⁰



Collier Field House, Seoul

9 Contract Register; CIT Visit 1963, FED Section; Galloway Visit, pp. 17-19; Interviews, Christ, Best, and COL Ralph T. Garver, 7 July 1975.

10 Galloway Visit, pp. 14-16; Contract Register; Pak Interview; Letter, COL Tom Jones to Earle Whitmore, 7 August 1975; CIT Visit 1963, FED Section; LTC Thomas T. Jones, "Engineer Field Notes: Water Supply from the Shifting Han," *The Military Engineer*, March - April 1964, no. 370, pp. 96-97; Taegu March 1964, Taegu Section; Letters between MG Itschner & BG Davis and BG Davis & COL Richards, 1959 to 1960.



TAC Site

A profusion of small contracts also characterized the Eighth Army TAC site program. In the two years between June 1960 and June 1962, FED placed thirty-seven construction contracts worth just under \$3.2 million. None of the contracted amounts exceeded \$200,000, 19 were less than \$100,000, and several were below \$3,000. Supervising and inspecting these jobs was quite a task for FED field personnel since many of the twenty-seven sites were positioned on mountain tops and in fairly inaccessible areas of Korea. The introduction of helicopter travel saved much time and money for the District because FED inspectors could spend more hours at the construction sites rather than on the road. In good weather to reach many of the locations by land, field personnel often had to spend hours on winding, dirt roads. A helicopter ride usually reduced travel time by several hundred percent. The trip to one of the sites near Camp Red Cloud, for example, used to take at least two hours by road or twenty minutes by helicopter. Besides the frustrations of reaching the sites, once there contractor problems with obtaining and training laborers persistently tested the patience of FED inspectors.

Slope stability at these installations was a primary consideration in the design phase of the sites and a constant concern during construction. Colonel Tom Jones,



Signal Site in Forward Area

then the Seoul Area Resident Engineer, wrote:

When building on tops of hills and mountains, space is usually at a premium. Also, because of technical and tactical considerations, the allowable room for locating and resting buildings is very limited. This is especially true at the Hawk missile sites where line-of-sight requirements between certain parts of the equipment impose siting limitations . . . the combination of the mountainous terrain, the effects of erosion due to heavy rainfall, the freezing weather, the rapidly changing nature of the decomposed granite after it is exposed, and the construction of installations in small areas on the mountains, contribute to potential embankment slides and provide interesting problems in practical day-to-day soils engineering in slope stability analysis.¹¹

In addition to the obstacles of the elements, locations, and unskilled labor, EUSA complicated District tasks through a "lack of reasonably firm plans, frequent



Signal Site in Forward Area

changes in design and siting criteria, and inadequate site preparation by troop units."¹² Some of this was unavoidable since unexpected and untimely decisions frequently affected the mission, funding, and criteria received by Eighth Army. Also, troop units had to be trained. This education, even for the most ordinary tasks, was often on-the-job just like that for Korean laborers. The results sometimes needed major repairs. In the case of the TAC projects, some facilities had to be abandoned, and others required extensive additional work. The total lost effort and extra construction cost the US Government almost \$700,000. In fact, since the difficulties and obstacles of construction in Korea appeared in their most exaggerated state at the 27 TAC sites, these projects might be considered a microcosm of FED work in the Republic of Korea.¹³

Defaulted contracts continued to plague the \$20 million OEC and PROV-MAAG-K housing programs until their completion in the early 1960's. The termination of the 50 bed Seoul hospital contract, for example, had a great impact on Eighth Army. Despite the availability of numerous sets of quarters, dependents were

11 LTC Thomas T. Jones, "Engineer Notes: Slope Stability in Korea," *The Military Engineer*, July — August 1965, no. 378, pp. 243-244.

12 U.S. Army Auditing Agency, Pacific District, Audit Report No. PA-65-14, 9 December 1964, p. 4.

13 *Ibid*; Contract Register; LTC Jones, "Slope Stability," pp. 243-244; Letter, COL Tom Jones to Earle Whitmore, 30 June 1975.



121st Evacuation Hospital, Seoul

not authorized in-country until the contractor finished this medical facility. FED reawarded the project as rapidly as possible. However, some slippage could not be avoided, and the hospital had to be turned over to the using agency in parts. Pressure to keep construction on schedule because of the desire to bring dependents to Korea also existed with other OEC/PROV-MAAG-K projects, such as the Seoul high school, which had a 15 August 1959 deadline, the day school commenced. The final significant work in the PROV-MAAG-K program consisted of family housing in Chinhae (for the Naval Advisory Group) and Pusan.

Aside from the joint OEC/PROV-MAAG-K facilities, which included the Seoul hospital, commissary, elementary school and sewerage and water treatment plants, the OEC limited its program for Korea to family housing. OEC, which was renamed USOM-K or USOM (United States Overseas Mission-Korea) about this time, gave no additional projects to the District because it thought that FED overhead was too costly. This feeling on the part of potential user agencies was a perennial attitude with which FED had to cope.¹⁴

After the completion of the work at Osan and Kunsan, the same attitude of excessive costs with District

projects plus a declining construction workload also kept the Fifth Air Force from giving further important jobs to the Far East District.¹⁵

In this era, two other major aircraft facilities received attention: K-14, or Kimpo Airfield, and K-6, or Camp Humphreys (at Pyongtaek). The funding for rehabilitation of the Kimpo runway was funneled through Air Force channels although it was not an "Air Force job" so to speak. Mutual Aid Program (later renamed Military Assistance Program, or MAP) monies paid for this project. Baize International received the resurfacing contract for \$286,050 on 28 January 1959; the District planned a completion date of mid-summer. Since the majority of equipment and materials were GFM, contractor costs for this project were limited primarily to expenditures for management and labor. Because of a District paucity of experienced paving inspectors, Honolulu Engineer District dispatched a complete crew familiar with soils, base course work, and asphaltic concrete to assist with the runway rehabilitation.¹⁶

During the Korean War, the US Air Force established Camp Humphreys as an air base on a site adjacent to a Japanese built airfield. In May 1958, Eighth Army reactivated Humphreys as a support facility un-



Elementary school, Seoul

14 USAEDFE Data Brochure: USOM-P-MAAG-K Programs, 31 December 1959; Contract Register; Letters between LTG Itschner and BG Davis, 1958 to 1961.

15 Letters between MG Itschner & BG Davis, 1958 to 1960, between BG Davis & COL Richards, 1959 to 1960, and between LTG W. K. Wilson, Jr., Chief, OCE, & COL Stephen E. Smith, Division Engineer, POD, 1960.

16 Letters between MG Itschner & BG Davis, 1958 to 1959; Contract Register.



FED employee inserting core rod prior to taking sample for moisture content, Hialeah Compound, Pusan



Aircraft hangar, Camp Humphreys

der the control of the Seoul Area Command. Construction plans for K-6 included its development as a primary aircraft maintenance facility with an adjoining US Army Security Agency (ASA) site. With the exception of ENG 155, which Koomi Industrial and Trading Co. Ltd. received on 23 June 1958 for a mess hall and subsequently defaulted, the only District activity for Humphreys was A-E work until the spring of 1960. At that time, FED concluded negotiations for the defaulted mess hall (ENG 479), a repair and utility shop (ENG 486), and an ASA site fence (ENG 496), and construction at K-6 proceeded. The next several years witnessed erection of aircraft hangars, repair shops, and a general purpose warehouse. The development of this Army post continued into the mid-1970's with a concentration of activity from 1963 to 1966. At that time, it became the largest US Army aviation facility in Korea.¹⁷

Several other construction projects of this period further illustrate the variety of FED projects and the

flexibility which District user agencies required. Of political significance were the BOQ and two sets of general officer quarters erected at Panmunjon in 1959 by Sam Duk Industrial Co. Ltd. The UN Command responded to North Korea's erection of permanent structures for their DMZ forces by replacing temporary dwellings with these three buildings.¹⁸

The POL facilities at Pohang and Inchon required skills unlike those previously needed. The work at the latter port involved the rehabilitation of the existing off-loading liquid fuel dock complex. Heung Hwa Machinery Co. Ltd. began the upgrade in June 1961 and finished the job in November 1963. Entirely different was the concept for the facility at Pohang 60 miles due east of Taegu on the Sea of Japan. This complex provided off-shore unloading rather than the standard dockside arrangement. It also solved the problem of finding a suitable harbor in a country noted for its absence of them, and it fulfilled the mission of moving supply depots



Partially complete submarine line, Pohang

17 USAEDFE, Seoul Resident Engineer Office Booklet, 1964, p. 1; Contract Register; USAEDFE, Korea Area Engineer Office Booklet, March 1966; Pak Interview; POD Booklet, OCE Command Inspection Team Visit Booklet, January 1965, FED Section.

18 M. O. Smith, "Panmunjon Today," *The Military Engineer*, July - August 1960, no. 348, pp. 264-265.

away from the DMZ. On 30 June 1961, Dae Lim Industrial Co. Ltd. received the contract for the sea unloading facilities and submarine line (ENG 738), and Sam Bu Construction Company, the one for the basic POL setup which included a booster pump house, a 240,000 barrel dispensing area, transfer lines, and a railroad spur subgrade (ENG 739). Troops from the 44th Engineer Battalion did the basic site preparation — a significant accomplishment in the rugged terrain of Pohang. By 1964, with the first phase of construction nearing completion, FED let contracts for the railroad spur and the 340,000 barrel tank farm. The ROK Ministry of Transportation, by requirement, laid the tracks; Rand Corporation, a Tokyo based firm which more usually did District work in Japan, built the storage containers for the tank farm. District contractors had the Pohang POL facility fully operational by August 1965. The past POL construction experience of the Project Engineer, Ole P. Nielsen, was



Workers hand washing aggregate

an essential component of this project since the Korean contractors and their employees had to be trained before they could accomplish the work. In addition, practical knowledge gained by FED field personnel, as well as that of Mr. Nielsen, proved extremely valuable later in the decade when the District installed the trans-Korea POL pipeline.¹⁹

Construction methods and techniques in this period continued to be unusual and peculiar to Korea. Machinery such as pile drivers, cranes, and bulldozers was still scarce and expensive while common laborers remained plentiful and inexpensive. As a result, local contractors devised some ingenious construction techniques, and many things were done manually. Rock crushing and aggregate washing, for example, often became a hand process. And anything which could be carried, such as water, cement, sand, mortar, concrete blocks, and aggregate, was hauled by Korean workers employing a variety of back packs. The laborers carried loose materials in a trapezoidal box with a hinged bottom and released the contents of the box by loosening the latch rope looped over their shoulder. Resourceful ways of utilizing wooden poles, lashing and perforated steel planking were the rule rather than the exception. The continuous pour for arched ammunition magazines in the forward area, for instance, became possible because of a platform the workmen constructed using the three components. District contractors built high rise structures with the aid of wooden scaffolding, gin poles, and capstans. Laborers normally used a combination of a gin pole and capstan, for example, to lift any heavy objects or materials. Retaining walls, an essential element at many District project sites, were usually the traditional Korean type: hand-cut granite wedges held in place by gravity.²⁰

These ingenious solutions to the problems resulting from an absence of machinery and equipment coupled with the Oriental views about responsibilities of the em-



Transporting material by pack-box

19 Taegu, March 1964, Pohang Section; Interviews, Christ, Sakong, and Ole P. Nielsen, numerous occasions 1975; CIT Visit 1963, FED Section; Contract Register.

20 LTC Thomas T. Jones, "Korean Ingenuity in Construction," *The Military Engineer*, May-June 1964, no. 371, pp. 159-164. These methods continue into the present.



Road building at Camp Ames

ployer to their employees, stimulated FED personnel to increase measures to reduce safety hazards and accidents. Improvements in this area came slowly. Not until 1960 did a Korean contractor make a sizeable purchase of protective equipment.²¹

One method utilized by the Far East District to improve safety and all other aspects of construction was to organize training programs. The initial in-house twenty lesson construction inspector training session, to include accident prevention, began on 4 January 1960. At the same time, in response to a request from the Construction Association of Korea, FED held classes for Association members. About eighty Korean engineers attended the first six hours of instruction in mid-January. Subject matter discussed during the classes consisted of job organization, quality control of construction, safety, earthwork, masonry, and plastering. Subsequent schools for the Koreans dealt with estimation, preparation of bids and proposals (which FED hoped would help make their bids more realistic and complete and would reduce the possibility of default), and concrete mixture and placement.²²

FED education of the ROK contractors was not always received without complaint. On 20 December 1960, representatives of local construction firms submitted an appeal for relief to the Commanding General EUSA, FED District Engineer, Chief of Engineers, and POD Division Engineer. The contractors thought the District demanded too much of them. Lengthy discussions the following month abated the predicament.²³

In addition to the civilian education program, in 1962 the District commenced on-the-job training for selected ROK Army junior Engineer officers. After they

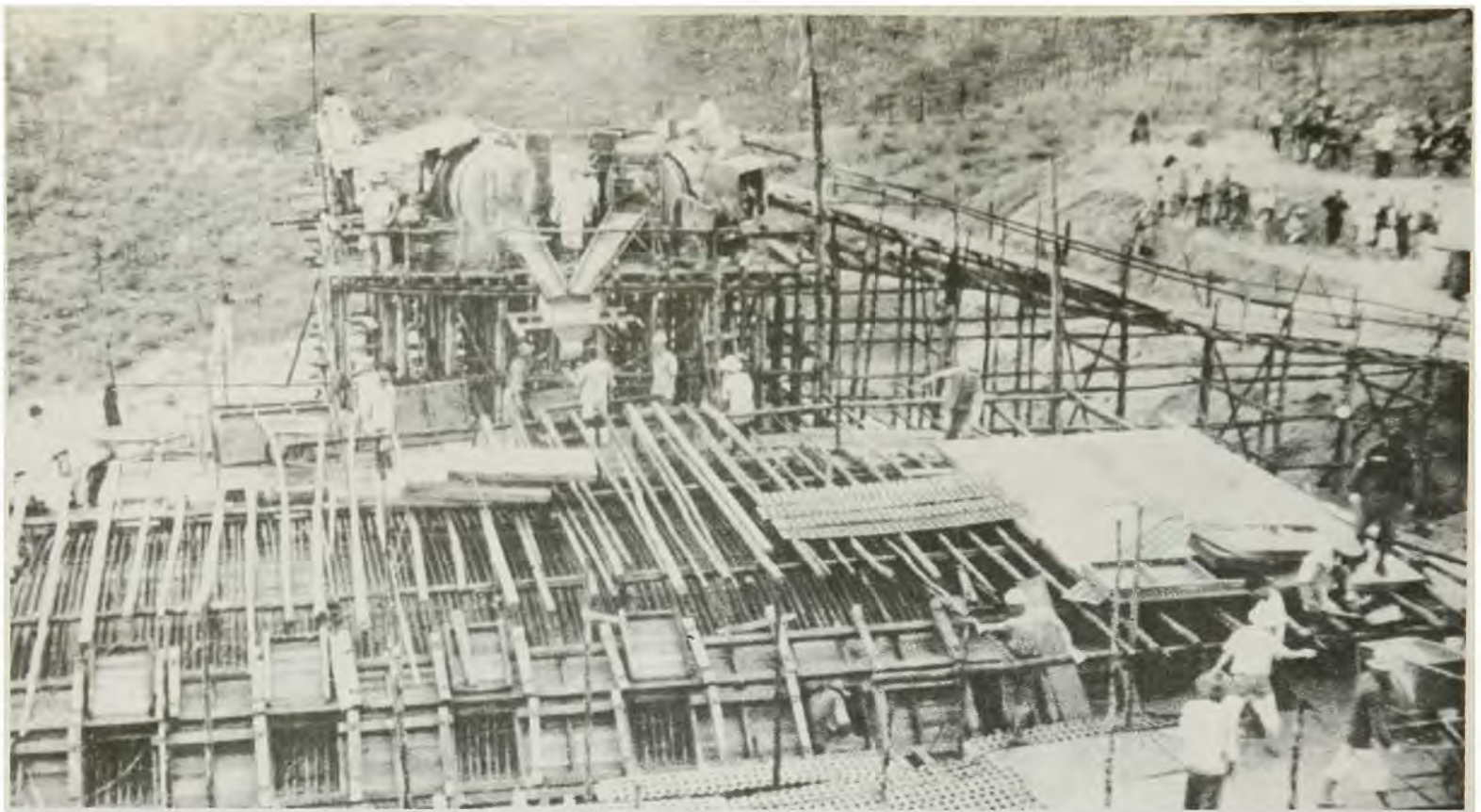


Defaulted maintenance building, TAC Site

21 Letter, MG G. E. Galloway to LTG Itschner, 28 September 1960, p. 4.

22 Letters between BG Davis & COL Richards and BG Davis & LTG Itschner, January and February 1960.

23 Letter, MG G. E. Galloway to LTG Itschner, 10 February 1961, pp. 4-5.



Platform structure for continuous pour for arched ammunition magazine

completed basic Engineer School, the initial group of nine 1st Lieutenants joined FED for seven months. Following a week of orientation concerning Far East District operation, the men spent periods of several weeks at various field job sites in order to become familiar with all aspects of construction work. This successful program has continued to the present.²⁴

FED members also continued their assistance to the Korean construction industry and the ROK economy by encouraging the local production of materials needed for District projects. By 1963, local firms manufactured a great variety of things ranging from hot-dip zinc coated steel sash and corrugated asbestos siding and roofing to concrete blocks, plywood, glass and small sizes of reinforcing steel bars, which met rigid FED standards, in sufficient quantity to eliminate the need for off-shore procurement or, in the case of concrete blocks, the EUSA plant. These circumstances saved the District money and helped to reduce the requirement for GFM.²⁵

As a result of FED support, encouragement, counselling, and training, the Korean construction industry matured, and on 1 July 1960, the Far East District was able to begin limited formal advertising, instead of negotiating each contract, and to consider the feasibility of advertising larger packages. Larger contracts meant a reduction in inspection, contract administration, and other costs which, in turn, decreased government overhead. Moderating the rising S & A costs was one of the most exasperating problems for District personnel in this period. A number of reasons militated against reducing overhead: a declining construction workload, many small building contracts, GFM and the supply points, shifts in US Administration policies, local monetary reforms, and an embargo.²⁶

The embargo, monetary reforms and US Govern-

ment policy changes raised expenses because their consequences stalled FED projects. The ROK Government lifted its 1959 limitations on imports from Japan not long after announcing them. In the interim, however, the decision affected all materials including those on order when the prohibition began. Monetary reforms meant extra paperwork, and the one in 1962 caused some slow-down of construction.



Worker hauling concrete blocks on a back pack for 6-man BOQ Seoul

24 McCutchen & Jones, "Construction," p. 9; Letter, COL Smith to LTG Wilson, 31 July 1962, p. 6.

25 Snetzer, Camp Carroll, pp. 6-10; McCutchen & Jones, "Construction," p. 11.

26 Letter, MG Galloway to LTG Itschner, 28 September 1960, p. 3.

United States Administration policy shifts, however, were the primary source of project delays. The 1960 Military Construction Appropriations Act, for example, deferred the award of numerous contracts until the new procedures could be clarified. And the 1962 International Balance of Payments plan (IBOP, or Buy American) and the resulting award freeze raised havoc with FED attempts to lower S & A rates. The program as stated in a message from OCE read that as of 25 July 1962:

Effective immediately, supplies and services purchased with appropriated funds which will result in dollar expenditures outside the United States will be held to absolute minimum . . . Requirements for overseas areas will be provided as follows: (A) when estimated price of an item, including handling and transportation costs or service does not exceed \$10,000 procurement will be restricted to U.S.-source end products or services of a domestic concern without regard to price differential and (B) procurements which are estimated in [excess] of \$10,000, including handling and transportation costs, will likewise be restricted to U.S.-source end products or services of a domestic concern provided the cost does not exceed the foreign cost by more than 50 per cent and if it exceeds 50 per cent the matter will be referred to OCE for determination.²⁷

Exceptions included local procurement governed by treaties and agreements; things costing less than \$500 or, in an emergency, less than \$10,000; perishables; and items not available in the United States. The impact of IBOP was immediate and far-reaching. Even after elimination of the award freeze, the District placed few contracts until the end of FY 63 because authorizations and guidance remained unclear. Consequently, District S & A costs soared.

Additionally, in the early 1960's, the District was in the process of phasing out its GFM role of obtaining, storing, and issuing materials for construction work and had no desire to resume those headaches. IBOP put greater pressures on the Korean contractors because of the local availability of many construction materials and the elaborate procedures and financial obligations necessary to import from the US. This policy change also increased construction costs because of the added expenses from commercial shipping, storage, and ROK import taxes. Later directives permitted local procurement of some bulk items such as aggregate, cement, sand and concrete blocks. The IBOP program continues to cause additional paperwork and expense since it has never been rescinded.²⁸

Phasing out of the GFM business took FED almost two years. As of 30 June 1959, the District had a multi-million dollar excess. FED's initial goal aimed to eliminate all GFM by the end of FY 60. In the interim, a complication developed: the burden account (carrying charges) continued to increase instead of diminish as it should. In July 1960, Euclid Snakenberg, Etsuo Sanyama, and Daniel Cronin from POD came to Seoul on temporary duty (TDY) to help the District dispose of excess GFM and distribute the materials burden account. By December 1960, the financial matter was properly adjusted; two months later, the District transferred the remaining stock to the District Compound in Seoul and closed the last of its three supply points.²⁹

Despite efforts to lower S & A costs, they continued

to remain inflated. As a result, FED transferred Engineering Division to Tokyo, reorganized the FED field offices, and implemented two RIFs (reduction-in-force). Furthermore, a consolidation with Okinawa Engineer District (OED) received consideration.

The transfer of Engineering Division to Japan offered several attractions. Tokyo had a wealth of skilled engineers and other technical and administrative people. Also, both personnel and administration costs were lower in Japan. Finally, more competent American engineers would more readily locate to the island country than to Korea. Consequently, the District moved the remainder of Engineering Division, with the exception of Foundations and Materials Branch, to Camp Oji on 22 March 1960. FED created an Engineering liaison office in Seoul to coordinate the design and construction phases performed by the newly separated Divisions and added small rear detachments of Office Service, Supply, Contract Administration, Budget and Fiscal to the District organization at Oji. To unite the various staff elements then in Japan, the Far East District (Rear) came into being. Splitting the District between two distant locations caused some hardships for FED members because it required continual commuting between Seoul and Tokyo.

At the same time, FED initiated two RIFs. The first, which began in December 1959, involved more than forty employees, most of whom were assigned to field offices. A declining workload made such a step necessary. The second RIF followed shortly thereafter; effective 10 March 1960, FED released twelve civilian employees. If the 1962 award freeze had not been lifted, a third more drastic RIF would have been necessary; instead, District Engineer Colonel McCutchen avoided the additional reduction by eliminating nineteen spaces.

Also in the spring of 1960, studies were being made to determine the magnitude of savings expected from consolidation of the two Corps of Engineers districts in the Far East. Pacific Ocean Division held a merger planning conference in Tokyo from 9 to 20 May. After considering all variations on the theme of joining the two, the group meeting in Tokyo recommended a consolidation of FED and OED into one district with headquarters in Japan and area offices in Okinawa and Korea. BG Davis, POD Division Engineer, concurred and requested that OCE direct an effective date of 1 December 1960 for the new district. OCE approved the plan, but the consolidation did not take place. One reason for discarding the idea was the current political unrest in Japan as a result of treaty renewal negotiations with the United States. This concept, however, was not forgotten. A decade later, a merger of the two organizations did occur, and in the intervening years the proposal received much thought.

FED field offices underwent two basic reorganizations in this period. Effective 1 February 1960, the District reduced the number of resident offices to two and upgraded them. The result divided Korea into two sectors separated along a SW/NE diagonal south of Chuncheon and Kunsan. The Northern Area Engineer Office assumed the responsibilities for the forward zone, Seoul, Seoul Area Command, and the air bases and surrounding areas on the west coast. In preparation for this reorganization, in the fall, FED consolidated the 1st Cavalry and 7th Division Resident Engineer Offices (REOs) and redesignated Taegu REO as Southern Area Engineer Office.

27 OCE multiple message, 2 August 1962.

28 *Ibid.*; CIT Visit 1963, p. 58; Letters between Chief of Engineers & POD Division Engineer and POD & FED District Engineer, 1958 to 1963.

29 POD Report of POD Team Regarding Assistance to FED on Disposal of Excess GFM—Distribution of Materials Burden Account, August 1960.

The following June, FED downgraded the area offices, split the northern in two, I Corps REO and Seoul REO, and reinstated Taegu REO. An over-extension of forward area District personnel who supervised and inspected projects and a workload that was not declining as fast as anticipated necessitated this second rearrangement.³⁰

None of these cost reduction actions had instantaneous results because the implementation of each involved extra expenses: those of the physical move and reestablishment of Engineering Division in Japan, the lump sum leave payments and other expenditures for the separated personnel, and lost work days of transferring the records and office equipment for the field reorganizations.

Expense was also a problem in the design phase of projects because of delays and dissipation of effort caused by constantly shifting programs and resulting changes in criteria and siting. In addition, firm guidance often came late in the fiscal year making it difficult for FED to obligate the funds by 30 June and causing a tremendous imbalance in the District workload with a major portion of jobs awarded in the fourth quarter and with slippage into the following fiscal year. O & M monies were a prime cause of this imbalance since a large portion of these funds became available in April or May. In the effort to obligate the O & M money, regular MCA work frequently had to be carried into the next year. Also, alterations in funding were common. Consequently, jobs had to be stopped when partially designed, and numerous designed structures never reached the construction stage. Many of these perennial user-caused engineering problems, however, resulted from modifications to the user services operational requirements, something over which the local command had little control.

During peak periods (normally the last months of the fiscal year), FED Engineering Division members worked an enormous number of hours. In the late spring 1960, for example, Engineering personnel labored ten hours a day and seven days a week to meet the year end deadlines. Some relief came from seven Japanese national engineers from the Chitose Post Engineers, part-time typists from the Army Map Service, and several A-E firms. Reproduction had three shifts per day and supplementation from several Map Service machines, a local blueprint shop and an A-E company.³¹

The award freeze accompanying the announcement of the 1962 IBOP policy also significantly affected Engineering Division because designs for about \$2.8 million worth of projects were finished and ready to be advertised. After the freeze-prompted deferral, some projects had to be revised in response to the guidance to reduce the gold flow, and some became lost effort since they were never constructed.³²

The 1960 Appropriations Act also necessitated slippage and resulting redesign since restrictions pending the establishment of new procedures accompanied its announcement.

However, by 1963, Engineering Division was functioning at full capacity in Japan. Their greatest frustrations, ones present since the formation of the District, continued to be user agency alteration of criteria and siting, the annual workload imbalance and resulting slippage.

During this era, Real Estate Division remained very active fulfilling its mission from EUSA. In July 1962, the District decided that previous methods of determining property occupied by US/UN forces were not sufficiently accurate (initially field sketches, then plane table method) and that the survey was going too slowly (less than 10% complete). Consequently, FED adopted the UTM grid rectangular system and began producing third order surveys. By February 1963, six teams consisting of a driver and three members, most of whom were locally experienced surveyors or Korean national engineer graduates trained by a FED NCO, were busy in the field. The coldest winter in fifty years, learning to use theodolites, transferring the findings to local cadastral maps of varying scales, and survey priority for gun positions rather than whole areas, all slowed progress. In the last quarter of FY 63, however, Real Estate surveyed 5,737 acres, redescribed 21,596 acres, and prepared maps of these areas.

Real Estate Division also continued to process land acquisition and release actions for Eighth Army at a rapid pace; in 1962, for example, FED submitted 466 requests to the Korean Ministry of National Defense. Opposition to loss of property to the Ministry of Defense was growing among Korean land owners for several reasons. Compensation monies from the ROK were usually tardy or non-existent. Traditionally land in Korea determined a man's worth and status. Thus, the Koreans did not readily part with their land, particularly without remuneration. An illustration of this strengthening opposition occurred in 1960 during President Eisenhower's visit to the ROK. An association of Korean property owners presented the American leader with a petition requesting rental payment of \$446 million for use of their land from 1950 to 1958. The US Government responded by disclaiming responsibility under the Meyer-Paek Agreement of 24 May 1952.³³

During this period in Japan, FED had an extremely light in-country construction workload. With the completion of the Surplus Commodity Fund housing projects in early FY 59, building came to a standstill. The only significant activity commenced a year later at Chitose. As a result, in 1961 the District reduced JAO to

30 USAEDFE Organization Charts; USAEDFE Personnel Authorization, 1959 to 1963; *The New York Times*, 1959 to 1962; Letters, LTC W. B. Wooten, Jr., to FED & OED District Engineers, 23 August 1969, and between OCE & POD Division Engineer and Division Engineer & FED District Engineer, 1959 to 1960; USAEDFE General Orders; Letter, COL McCutchen to Earle Whitmore, 25 August 1975; FED (R) Booklet, 1968-1969; USAEDFE (Rear) Booklet, c. July 1962; FED Team Special Study, FED-OED Merger, 9 May 1960; Okinawa Engineer District Material for POD-FED-OED Study Merger Planning Conference 9 to 20 May 1960, Tokyo, Japan. Variations of the merger theme: 1/ status quo, 2/ retain OED & transform FED & JAO into OED area offices, 3/ supporting district in Okinawa & operating district in Korea, 4/ supporting district in Korea & operating district in Okinawa, 5/ supporting district in Japan with an area in Korea & an operating district in Okinawa, 6/ supporting district in Japan and operating district in Korea & Okinawa, 7/ retain FED with area offices in Japan & Okinawa, 8/ establish single district in Japan with area offices in Okinawa & Korea. (ref: USAED, PO Staff Study, Reorganization of Far East and Okinawa Districts, June 1960.)

31 Audit 1964, p. 3; MAJ Tom Jones, DOD Project 32, p. 3; Letters between Chief of Engineers & POD Division Engineer and POD & FED District Engineer, 1958 to 1963.

32 Letter, COL Stephen E. Smith to LTG W. K. Wilson, Jr., 16 October 1962, pp. 1, 3.

33 Interview, John E. Walther, 23 September 1975; Briefing for COL E. J. Withers and Mr. Samuel D. Blaeuer, Real Estate, OCE, 10 June 1964; Briefing Draft, February 1963; Letter, COL Smith to USAEDFE District Engineer, 19 December 1963, Subject: Real Estate Staff Visit to Far East District, 14 to 29 November 1963.



Fire station, Chitose

Japan Resident Engineer Office.

Chitose, on Hokkaido, was separated by the military into three parts. A former Japan Naval Air headquarters comprised the oldest, Chitose I. Chitose II and III were built for the 45th Infantry Division (Oklahoma National Guard) during the Korea conflict; the 1st Cavalry Division later occupied these areas. In the late 1950's and early 1960's, JAO assisted the 12th US Army Security Agency (ASA) Field Station move its operational and support facilities to Chitose III from the other two installations.

In the first five months of 1960, FED negotiated seven contracts totaling \$836,020, six of them with Ohki

Construction Company, a firm which had been working in the Chitose area for many years. Projects included a 660 man barracks, a dependent school, a BOQ, a gas station, storage sheds, a headquarters building, and utilities. The 12th ASA planned further construction for Chitose, and FED had design work for a \$4.5 million program complete and ready to award when a 1 September 1960 directive cancelled the bid opening because of a lack of funds. The using agency later found a monetary source for some of this construction. And, between 16 May 1961 and 22 June 1962, the District negotiated eight contracts with Ohki and one with Shimizu Construction Co. Of the total awarded amount of \$1.8 mil-



Early stage of construction, dispensary and dental clinic, Chitose, Japan



NCO Open Mess, Chitose

lion, the smallest contract was for \$142,000; the largest, \$383,000. The experience and capability of the Japanese construction industry was a considerable advantage to FED in Japan as compared with the situation in Korea. Among the structures built at Chitose between 1961 and 1963 were barracks, a BOQ, an NCO Open Mess, a service club, a bakery, a dispensary, a dental clinic, general purpose and cold storage warehouses, and maintenance, administration, and support facilities. The District also supervised the commencement of Project Bankhead, a classified job.

The only other noteworthy construction in Japan during this era consisted of three communication sites in the Pacific Scatter System: Chiran, Itazuke, and Se-buriyama. The preponderance of the FED construction workload remained in Korea.³⁴

In the years between 1959 and 1963, the Far East District directed much construction activity toward the EUSA program of improving the living and operational facilities for the troops. As the duration of American military presence in Korea lengthened, the need for more permanent and elaborate installations intensified. In response to this additional user agency requirement, the District supervised the establishment of new camps, compounds, and sites, and the refurbishing of existing ones. Four projects upon which FED members expended much effort were the Inchon tidal basin rehabilitation, the Pusan cold storage warehouse, Camp Ames, and Camp Carroll. As the first major construction contracts, the awards for Inchon and Pusan marked the beginning

of a new era for the District. And the development of Carroll and Ames gave FED members experience with creating whole posts from the rugged Korean countryside. The variety within the total FED workload indicated the flexibility required of the District by its user agencies: POL, communication, and harbor complexes, mountain top sites, politically sensitive billets on the DMZ, airfield runways and structures, supply and storage depots, utility systems, dependent housing areas and related buildings, and recreational facilities. An integral part of these projects, especially at Camp Carroll, the TAC sites, Pohang and the forward area, was troop construction, an element absent from many Corps of Engineers districts.

In a 29 July 1963 letter, the acting POD Division Engineer summarized the challenges facing District personnel, "I believe that the Far East District is more difficult to operate than any in the Corps of Engineers."³⁵ Despite problems resulting from a declining construction workload and rising S & A costs, from shifts in Administration policies and changes in Korean governments and programs, from funding restrictions and user agency criteria and siting alterations, and from an undeveloped ROK construction industry and economy, the District placed more than \$70 million in projects. In the process of completing these jobs and through the encouragement, supervision, training, and management of FED, the Korean construction industry, like the District, matured and the ROK economy received a boost. In the following years, the concentration of FED construction placement would follow Engineering Division to Japan.

34 Contract Register; Galloway Visit, pp. 22-23; FED (R) Summary, c. 1968-1969; Interviews, Fujio Moteki, 24 July 1975, Thomas A. Pedecine, 22 July 1975, John Sakaguchi, 30 September 1975; Letters between LTG Itschner and POD Division Engineer, 1960; CIT Visit 1963, FED Section; USAEDFE Japan Area Office Booklet, mid-1967, Camp Chitose III Section.

35 Letter, COL Smith to LTG Wilson, 29 July 1963.

CHAPTER 4

FOCUS ON JAPAN

1963 TO 1968

Between 1963 and 1968, the focus of Far East District construction activity shifted from Korea to Japan. The American buildup in Southeast Asia and the District's new assignment as Department of Defense design and construction agent for Japan and Korea prompted a sharply increased program in Japan and a corresponding drop in Korea. Support of the US mission in Indochina, which peaked in Vietnam in the late 1960's, created numerous projects throughout the Pacific; designation as DOD representative in Northeast Asia directed many of these to the District for accomplishment. A new task for FED accompanied this unexpected workload: crash programs. In addition, the variety within the District's



1975 view of BOQ Camp Carroll, now a BEQ

range of duties increased with its new assignment as supervisor of major construction for all three services: Army, Navy and Marines, and Air Force.

Interestingly, the period began and ended with a freeze on contract awards. The earlier one followed the announcement of the new International Balance of Payments procedures. The later control deferred most regular MCA and MCP work during the fiscal years spanning the height of the Vietnam conflict and gave priority to facilities related to the American efforts in Indochina. Several other Administration policies impacted upon FED activity: a RIF of foreign national employees, a corollary of IBOP, and a new Status of Forces Agreement (SOFA) with the ROK Government.

Recruitment, IBOP procedures, funding, Stateside procurement, and vague user agency guidance continued to trouble the District. While difficulties with the peculiarities of construction in Korea and high S&A rates still existed, the situation improved considerably as contrasted with the previous era. In an attempt to resolve these two difficulties completely, FED began advertising larger construction packages and, thereby, attracting more reliable firms. Sources of concern in Japan outwardly resembled those in Korea; however, the causes were very different since the island country had an established and booming construction industry. The Japanese neither needed nor particularly desired District contracts, especially in the remote areas.

In Korea, the Far East District initiated a policy of advertising larger construction projects with two aims in

mind. It wished to lower the S&A rate through a reduction in inspection, contract administration, and other expenditures and to attract reliable, well-established and preferably American contractors. This new policy successfully lowered costs, but failed to interest new blood. Consequently, the contracts were either placed with American companies experienced in Far East construction or with Korean firms, many of whom had to band together in joint ventures to obtain sufficient capital. Between 30 May and 25 October 1963, for example, FED let ten contracts totaling approximately \$7.1 million. The awards consisted of three to American and three to Korean individual construction companies and four to local joint ventures. The District signed the largest of these, the installation of an auxiliary airfield at Suwon (ENG 908), with D. F. Fischer and Sons, Inc. on 27 June 1963 for \$2,195,000. Work included building a 12 inch thick concrete runway 150 feet wide and 9,000 feet long with a 1,000 foot bitumen surface overrun at either end, 200 foot wide stabilized shoulders, connecting taxiways, warm-up pads, parking aprons, and airfield lighting. Fischer completed the runway at this primarily ROK Air Force base by December 1964; MAP monies financed the project.

Facilities at Camp Carroll (a continuation of the master plan to include barracks, BOQs, a mess hall, maintenance shops, utility systems, and storage buildings), Kumori Ordnance Center near Oujongbu (a technical supply warehouse and mess hall), Pohang (a POL tank farm), Koyank-Gok (a troop installation), and Camp Humphreys (further development of aviation maintenance and support buildings which ranged from various shops to barracks, a mess hall, and administration structures) comprised the other eight consolidated awards.

FED separated the Carroll projects into four packages, the largest of which (ENG 904) went to an American firm, Hood International, for \$1,686,013.21; Trans Asia provided the design. To interest Stateside bidders in this contract, FED had lumped together miscellaneous maintenance shops, utility systems, a boiler plant, and roads. The increasing capability of Korean firms reflects in Shin Heung Constr. Co. Ltd.'s successful completion of a 1,000 man mess hall and a 336 man barracks (ENG 878, \$507,176) at the depot. Still, contracts such as this one at Carroll or that at Koyank-Gok (Camp Colbern) for tactical troop facilities (ENG 891, \$737,915.45) were the exception rather than the rule since most Korean contractors lacked the substantial amounts of money needed to launch a major job. The four BOQ's (ENG 877, \$308,000) built at Carroll by Sam Bu Constr. Co. Ltd., Poong Jun Industrial Co. Ltd.,



Camp Colbern, from left, FED Inspectors Kim, Paik, Cho, Chung, Kim, Kang and Pak

FAR EAST DISTRICT CONSTRUCTION SITES MID - 1960'S



and Dae Lim Industrial Co. Ltd., or the mess hall and warehouse (ENG 910, \$221,833.40) erected at Kumori by Tae Wha Constr. Co. Ltd. and Korea Machinery & Constr. Co. Ltd. are more typical of this period. But a lack of capital for individual projects did not preclude participation in concurrent activities; Sam In Enterprise, for example, worked at several Waegwan job sites simultaneously.

FED's continued utilization of larger packages to lower FED costs and to interest new construction firms, begun in 1963, demonstrated that the local contractors learned their lessons well in previous years' work with the District because there were far fewer defaults. Obtaining sufficient money to initiate a project was an ever-present problem for ROK construction companies. In addition, during the early years of this period, the smaller contractors experienced greater difficulties than the larger ones in obtaining letters of credit from the Korean Government to purchase materials in the United States.¹

Success with bigger contracts and no terminations encouraged the District to continue in this vein in Korea. However, events intervened which changed the situation radically: FED, as an element of the Corps of Engineers, became the DOD design and construction agency in its host countries, and Congress eliminated all FY 64 MCA Korea from the annual appropriation. The District's new designation, effective 1 July 1963, resulted from DOD efforts to eliminate duplication of responsibilities and inefficient use of talent in the Far East. An 8 March 1963 memorandum assigned design and construction responsibility for all but minor building and O & M work in Japan, Korea, Taiwan, the Ryukyu Islands and the Marshall Islands to the Army Corps of Engineers, and that in the Philippine Islands, Mariana Islands, Thailand, Vietnam, Laos, and Cambodia to the Navy Bureau of Yards and Docks. Subsequently, PACAF (US Air Force, Pacific) and POD reached a Memorandum of Understanding concerning FED takeover of Air Force programs. They agreed that the Air Force would complete the design of all FY 64 and prior Military Construction Program (MCP) projects and FY 63 and prior MAP work except the redesign of the FY 62 Wakkanai electric power plant. The Corps would handle all FY 65 MCP, FY 64 MAP and all subsequent fiscal year construction programs. Current Air Force construction projects (FY 63 and earlier) were divided among the services to complete; the Army assumed post-FY 63 construction work. Because of this memorandum and consultations between the involved local offices and FED, the transfer of responsibility went smoothly. A similar agreement was not necessary with the Navy since they had not and were not anticipating any major construction.²

The US Congress based its elimination of all Korea MCA projects from the FY 64 bill upon the multi-million dollar carryover of FY 63 and prior MCA work un-

warded by 30 June 1963. The difficulties, such as delayed fund release, EUSA criteria and siting alterations, and heavy year-end workload, which FED faced annually in attempting to obligate all available funds, were not considerations even though the Corps continually requested a flexible Korea program to meet EUSA's changing needs as economically as possible. Also ignored were the peculiar circumstances in 1963 of a huge backlog of previous programs, a result of the deferrals that the IBOP policy announcement prompted in the execution of FYs 61 and 62 work.³

At the time these events transpired, the Army construction workload in Korea was dropping to a FY 63 total of approximately \$9 million because of the award freeze accompanying the initiation of IBOP the previous year. Work in the forward areas slowed to a complete halt by early 1964. Active projects at other locations in the ROK included those at Camp Carroll, the TAC sites, Pohang, Taegu, Camp Humphreys, and Kumori. The District continued to consolidate jobs into large contracts, such as the \$2,128,669 award on 7 February 1964 to Vinnell Corporation (ENG 943) for a power plant, ACAN transmitter installation, POL facility, and 148 man barracks in Taegu and the \$957,300 one on 2 March 1964 to Hood International (ENG 948) for TAC site structures and aviation facilities in the Kunsan and Humphreys areas. However, the magnitude of total placement diminished considerably from that of the preceding years. In FY 61, for example, the construction total of more than \$17 million was almost double that of FY 63. With the cancellation of the FY 64 MCA program, the future for the District in Korea looked bleak. The DOD decision of March 1963 altered this outlook considerably.⁴

The most important Air Force project transferred to FED on 1 July 1963, Project Rocktop, caused more problems and frustrations for all concerned, both during the five years of its construction and subsequently, than any other job in the history of the Far East District. Even today, District oldtimers shake their heads in disbelief when reminiscing about the travails of that job. Project Rocktop began as Air Force designed Aircraft Control and Warning sites (AC & W) at five locations: Palgong San, Uisang Bong, Mangil San, Yongmun San, and Irwol San. Because of the agreement covering pre-FY 1963 work, FED awarded the initial contract (ENG 869, \$931,000) to Peterson-Sharpe Engineering Corp. on 21 June 1963. The contractor agreed to build a gatehouse, security fence, utility systems to include underground POL and water storage tanks and a generator building, operations and transmitter-receiver structures, several towers, and roads. They had to cut a rudimentary road to the sites before commencing work. Things went poorly from the beginning and got worse. On 25

1 Contract Register; Letters, COL Stephen E. Smith, Division Engineer, POD, to LTG W. K. Wilson, Jr., Chief, OCE, 29 July 1963, pp. 6-7, and 11 October 1963, p. 1; Letter, COL Tom Jones to Earle Whitmore, 30 June 1975; USAEDPO Command Inspection Team Visit Booklet, 14-29 January 1965, FED Section; USAEDFE Seoul REO Booklet, 1964 and 20 January 1965, General Information.

2 Memorandum, Thomas D. Morris, Assistant Secretary of Defense, Installations & Logistics, to Secretary of Army, Navy & AF, 14 December 1962, Subject: Design and Construction in the Far East; Message, OCE to POD, 24 March 1963; Letter, Edward J. Sheridan, Deputy Assistant Secretary of Defense, to Assistant (I & L) Secretaries of Army, AF & Navy, 8 March 1963, Subject: Design and Construction in the Far East; Letter, L. W. McBride, OCE, to Division Engineer, POD, 25 March 1963, Subject: Design and Construction in the Far East; Letters, COL Smith to LTG Wilson, 12 April 1963, p. 2, and 16 January 1964, p. 2, and LTG Wilson to COL Smith, 28 October 1963, p. 1; Memorandum of Understanding between PACAF and The Pacific Ocean Division Engineer Concerning Assignment of All DOD Design and Construction Work in the Far East (Japan, Korea, Taiwan) to the Corps of Engineers.

3 CIT Visit 1965, Problems; Letters, LTG Wilson to COL Smith, 1 May 1964, p. 1, COL Smith to LTG Wilson, 16 January 1964, p. 3, MG R. G. MacDonnell, Acting Chief, OCE, to COL Smith, 31 January 1964, pp. 1-2.

4 POD Total Work Placement Charts FY 58 to FY 70 and FY 58 to FY 79; Contract Register; Letter COL W. R. McCutchen to Earle Whitmore, 25 August 1975; USAEDFE Seoul REO Booklet, 20 January 1965, Seoul Project Office Section; USAEDFE Taegu REO Booklet, 31 March 1964, Taegu Section.

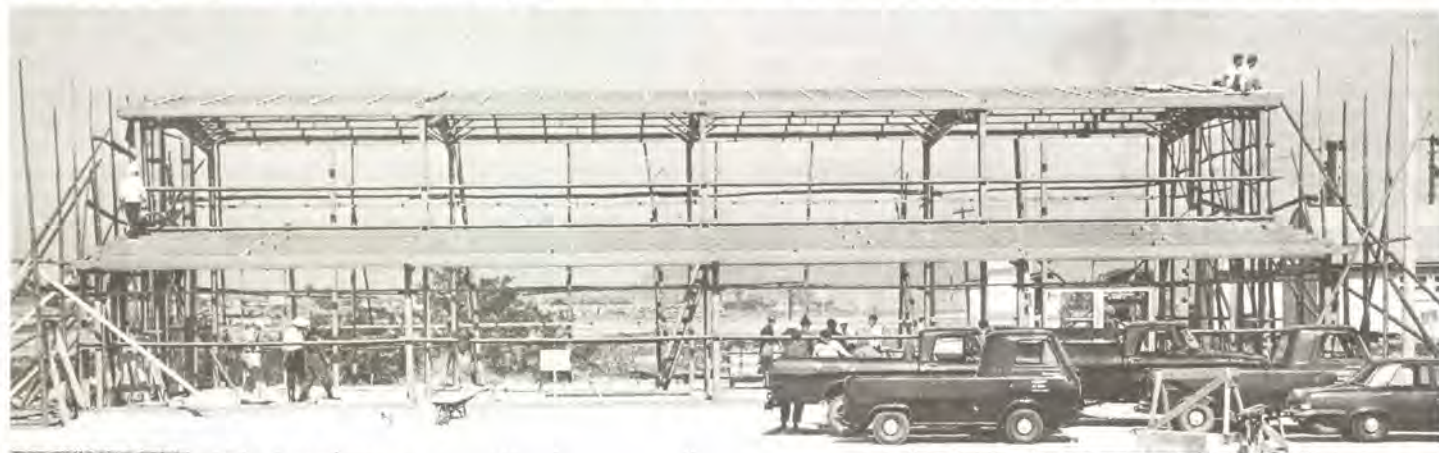
September 1963, the day FED issued the notice to proceed, construction was suspended at Palgong San because of the near impossibility of constructing partially buried structures on the rocky terrain. Shortly thereafter, the District halted work at Uisang Bong for the same reason. On 31 January 1964, the FED contracting officer sent Peterson-Sharpe a stop work order for all activity and operations including procurement. An Air Force decision to make the facilities more compatible with the site by raising all buildings to ground level prompted the suspension and necessitated a District redesign of the facilities. The A-E firm of Daniel, Mann, Johnson and Mendenhall, or DMJM, (ENG 975 and 992) revised the Air Force drawings. In the interim, Peterson-Sharpe resumed limited procurement so that construction could begin as soon as the revisions were final and the contract renegotiated. During the late 1964 negotiations, the District and the contractor could not reach a mutually agreeable figure. Consequently, on 18 December 1964, ENG 869 was terminated and readvertised. Stolte, Inc. submitted a proposal almost \$180,000 below the government estimate. This American contractor and FED completed discussion on 11 March 1965. The new contract, ENG 1044, for \$4,590,001.40 in MAP funds involved a project with a considerably enlarged scope than that of ENG 869, and before it was closed in 1968, eighty further modifications expanded the new program and raised the contracted amount to more than \$8.3 million. FED divided construction into eight schedules or phases, one for each site. Some locations now had multiple projects. All of the original sites, Palgong San, Uisang Bong, Mangil San, Yongmun San and Irwol San, had revised AC&W technical facilities consisting of a concrete and concrete masonry unit (CMU) operations center and pump and security gate houses, a steel-framed generator structure with asbestos cement board roof and sides, prefabricated transmitter-receiver building, three arctic towers, and exterior utilities to include roads, bulk fuel storage tanks, storm drainage, water, electrical and sewerage systems, and security fencing. In addition, the new designs co-located an Army Flight Activity Ground support facility (AFAG) at each of the five sites. A prefabricated training, recreation and dining hall, administration and vehicle maintenance buildings, and a concrete and CMU two-story dormitory were part of the AFAG segment of each ENG 1044 phase. The enlarged scope increased the

number of AC & W sites to eight: Kangnung, Cheju Do, and Pyong Yang-Do. Since the additional three were at much lower elevations, the District permitted the use of less substantial construction materials and all prefabricated buildings. Each of these sites also offered challenges to FED: at Cheju Do, for example, aggregate had to be transported from the mainland since the local sources did not meet District specifications.

Unfortunately, the difficulties with the AC & W sites did not terminate with completion of construction at each location. By August 1966, the USAF and ROKAF (US Air Force, and ROK Air Force) occupied the original five. With the onset of winter, problems, mostly with utility systems, erupted along with the pipelines. An investigation revealed that inexperienced and technically uneducated ROKAF personnel trying to operate the systems and use summer grade fuel caused the heat and power failures. The water pipes and distribution lines froze for a number of reasons, such as ROKAF and USAF removal of ground cover to site new facilities, and contractor incompleteness because of delayed GFM. By late May 1967, the District concluded its study for rectification; work commenced in the summer. A year later ENG 1044 was finally complete with all deficiencies corrected. In 1968 the Yongmun San and Palgong San access roads received permanent improvements; a year later that of Uisang Bong also underwent an upgrade.⁵

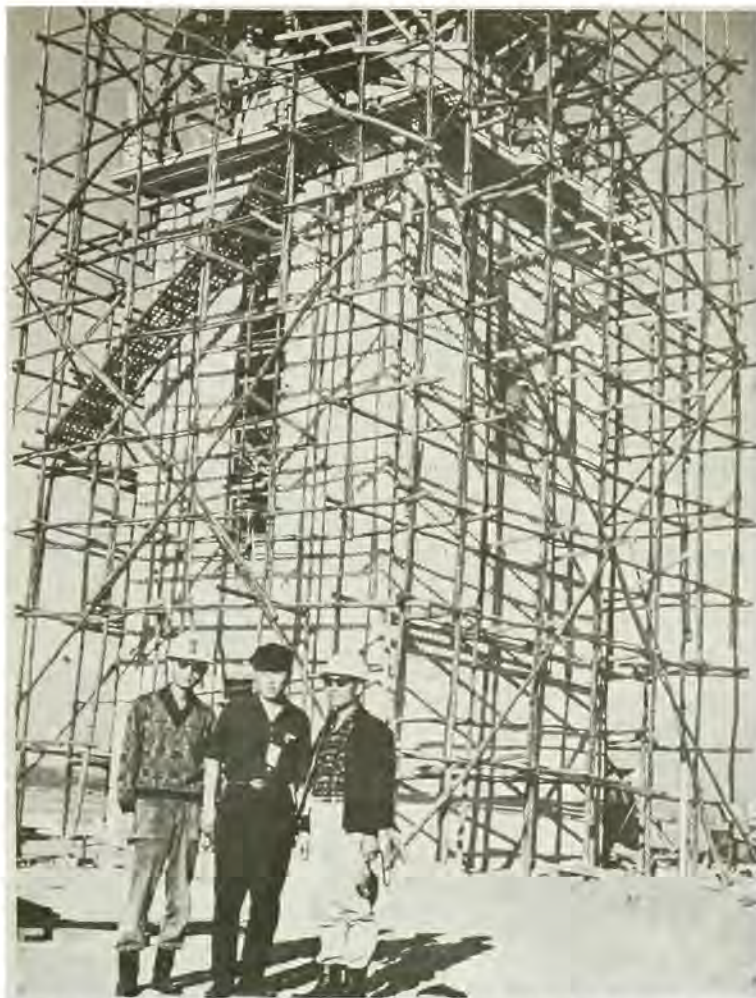
The headaches with Project Rocktop stemmed from the District's attempt to construct a project designed and initiated by another service and from the subsequent radical alterations. The effect of the latter was a contract termination with an accompanying loss of construction time, a significant increase in cost, and seemingly endless problems. Despite these difficulties and frustrations, the paucity of work in Korea in 1963 made this and other Air Force projects, most of which did not involve such obstacles, very desirable. They enabled the District to keep a staff functioning without a significant RIF during a very slack time in project requests from its primary user agency, Eighth Army.

The remainder of Air Force projects in this period, like those for the Army, also consisted of small jobs which FED consolidated into larger packages to attract experienced contractors. The \$1,594,960 award to Stolte, Inc. on 29 June 1964 (ENG 962), for example, included



Kimpo gymnasium under construction

⁵ Taegu 1964, Taegu Section; Memorandum of Understanding, p. 4; Interviews, Bert Pettinato, 26 September 1974, Ole P. Nielsen, 4 September 1975, Yun Sakong, 4 September 1975, Si Chung Kim and In Chung Chong, 9 October 1975, and Major James Martin, 20 October 1975; Contract Register; USAEDFE Korea Area Engineer Office Booklet, late 1967, AC & W Section; CIT Visit 1965, FED Section; Letters, COL Robert E. Snetzer to Earle Whitmore, 26 October 1975, COL William M. Boardman, DE, FED, to COL Walter L. Winegar, Division Engineer POD, 26 August 1966, p. 1, 25 May 1967, p. 3, 1 December 1966, p. 4, 10 February 1967, p. 4, and 31 August 1967, p. 5, COL Winegar to LTG W. F. Cassidy, Chief, OCE, 8 June 1967, p. 4, and 8 March 1967, p. 4.



Wooden scaffolding and steel planking were an integral part of every project. Control tower, Osan Air Base. FED members Cho and Park flanking a contractor representative

numerous items at Osan and Kunsan Air Bases, such as an NCO Open Mess, gymnasium, motor maintenance shop, brigade headquarters, general officer quarters, BOQ, chain link fence, drainage system and five 2-story airmen's dormitories at the former, and a navigational aids structure at the latter. During the subsequent eighteen months, District contractors, individually or in groups, began combined projects at Kimpo (airmen's billets and a gymnasium), Kunsan (an ammunition storage complex; base rocket assembly installation; and utility systems, airmen's dorms and an aircraft maintenance shop), Taegu (an ammunition storage complex), and Osan (a control tower, barracks, and an auto maintenance shop; and an ammunition storage facility and a theater). The largest of these FED contracts, \$689,000 and \$739,910, went respectively to Kong Yang Enterprise Co. Ltd. for the Kunsan ammunition storage and to the joint venture of Dae Lim Industrial Co. Ltd., Sam Bu Constr. Co. Ltd., and Kyong Dong Industrial Co. Ltd. for the similar facility and a theater at Osan.⁶

These projects for the Army and Air Force in Korea were not without problems, as the AC&W contract more than amply illustrates. The general construction situation in Korea, however, continued to improve. Local contractors, with District assistance, gained experience and financial stability; they became capable of under-

taking ever increasing workloads. FED responded to these accomplishments by encouraging the firms to further expansion and development. In addition, the District attempts to interest American construction companies stimulated the local ones to improve their capabilities in order to be competitive for the major projects and profit.

At the same time, the Korean economy was responding to the District-instituted boosts. Many more construction materials were available in-country. Unfortunately, for those in the Far East, the Administration announced its IBOP policy; numerous restrictive guidelines followed. IBOP, in effect, prevented FED from foreign procurement with the exception of a few bulk items. In addition, District costs rose because of the increased administrative requirements, the longer delivery times of off-shore materials, and the general slowdown caused by the more cumbersome methods accompanying the gold flow limitations. By 1965, spiraling expenses and redesign and procurement delays forced the District to request and to receive exceptions to the Buy American directive.⁷

A spin-off of IBOP, one which dealt a severe blow to FED in Korea and Japan, was the DOD requirement for a 26% reduction-in-force of foreign national employees by 30 June 1964. The District had to release sixty Korean and sixteen Japanese nationals and was not permitted to hire DAC replacements. This RIF produced effects diametrically opposed to those desired: instead of decreasing costs and thus gold flow, they increased by \$140,000 and \$100,000 respectively. Work that was accomplished by salaried employees now had to be completed by more expensive contract agencies. To finish the real estate survey for EUSA, for example, FED had to seek commercial sources; a \$111,600 award on 13 August 1964 to R. M. Towill Corporation replaced the twenty Korean employees released from Real Estate Division because of the 26% quota. Since Towill employed foreign personnel, however, the gold drain grew over \$53,000. In addition, response to user agency requirements diminished because the real estate survey was now confined by a legal document. The remainder of the 60 RIFed Korean nationals came from FED headquarters rather than the field. As a result, the District had to extend the regular work week for Korean employees from 40 to 48 hours with no change in salary. The impact of the personnel reduction staggered morale, particularly because the FED construction workload expanded as a result of the new DOD responsibilities.⁸



Osan theater as it looks in 1975

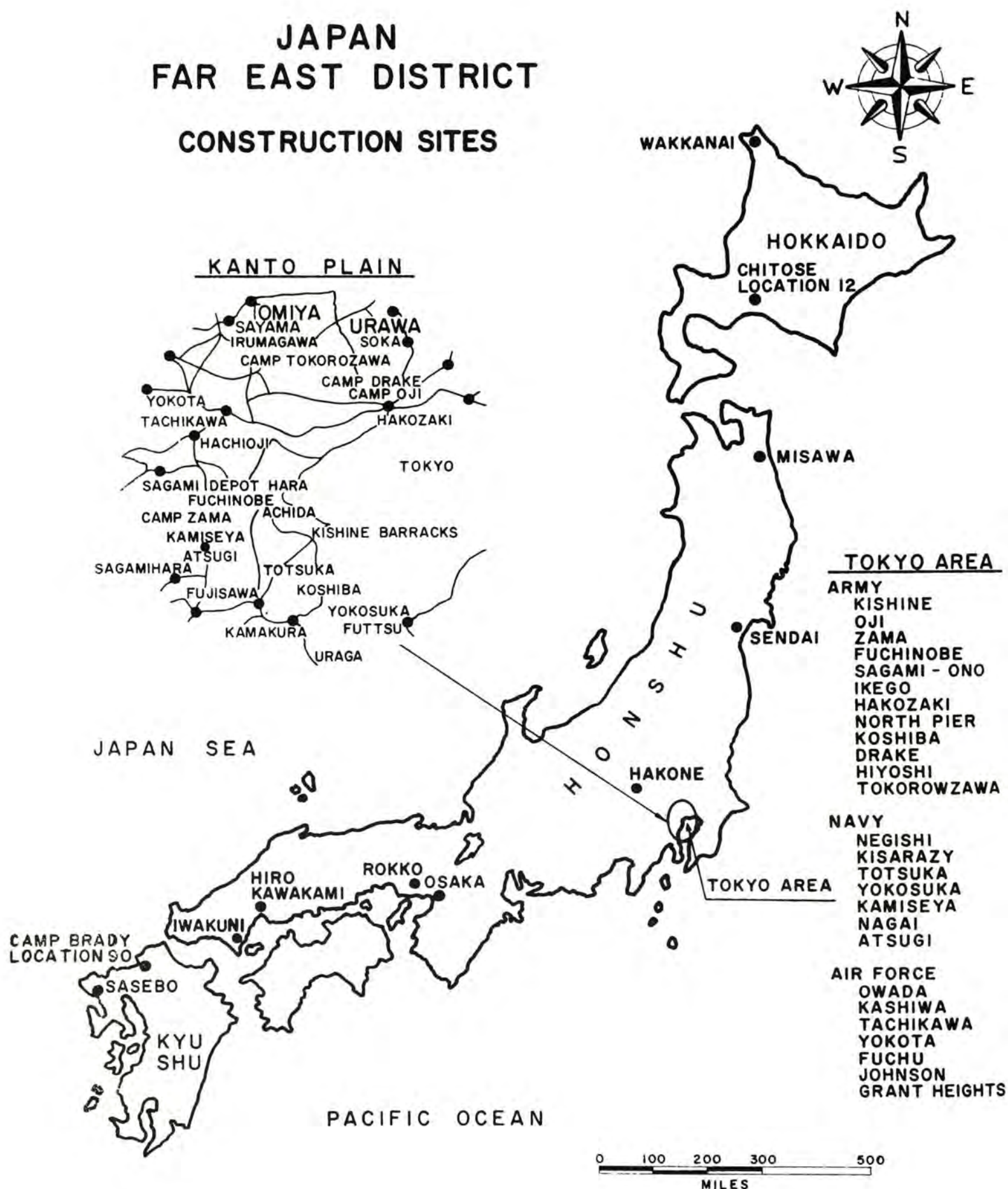
⁶ Contract Register; Seoul 20 January 1965, Seoul Project Office Section.

⁷ Letter, COL Smith to LTG Cassidy, 20 July 1965, p. 3; CIT Visit, 1965, Problems.

⁸ Letters, COL Smith to LTG Wilson, 17 April 1964, pp. 1-2, and 3 August 1964, p. 3, and MG MacDonnell to COL Smith, 18 August 1964, pp. 1-2; CIT Visit 1965, Problems; Interview, J. E. Walther, 23 September 1975; Contract Register; Briefing for COL E. J. Withers and Mr. Samuel D. Blaeuer, Real Estate, OCE, 10 June 1964.

JAPAN FAR EAST DISTRICT

CONSTRUCTION SITES



With the escalation of the conflict in Southeast Asia, complications resulting from an understaffed District intensified, civilian and military vacancies remained unfilled longer, and many employees resigned for more enticing jobs elsewhere. The apex of resignations occurred in FY 67 when, by March, twenty-seven Korean technicians left the District to work for contractors in Vietnam. The allure of employment in Vietnam was great for these men; a month's labor in Southeast Asia brought the equivalent of a year's salary in Korea.⁹

The frustrations with IBOP procedures and staff vacancies plagued FED for the entire period.

By early 1966, the majority of Far East District construction was no longer in Korea. This shift in focus accompanied FED's receipt of the already-initiated projects delegated to the District as DOD design and construction agent in Japan, and the current user agency requests prompted by the program supporting the US mission in Indochina. Before the crash programs and priority projects of the Vietnam years, JAO work at Chitose for the Army and Navy Security Agencies, at the newly assumed FYs 61, 62 and 63 Air Force job sites, such as the Air Force Security Service (AFSS) facilities in northern Japan at Wakkanai and Misawa, and at a number of other projects of varying magnitudes throughout Japan for the three services kept District members in Japan busy.¹⁰

At Chitose, the \$4.5 million program designed in 1960 was still being awarded in parcels. In the two years



Chitose Chapel

between 23 November 1963 and 21 October 1965, FED signed ten construction contracts valued at almost \$3 million. Most of them fell within the quarter to half million dollar range, amounts much more familiar to Japanese contractors than their Korean counterparts. Four of the awards went to an American concern, Rand Corporation Inc. Japanese firms who received the remainder included Ohki, an experienced District contractor, Toyo Kensetsu Co. Ltd., Ohbayashi-Gumi Ltd., Sumitomo Shoji Kaisha Ltd., and Nisshin Kako Kensetsu K.K. These six construction companies agreed to build BOQs, barracks, a chapel, a PX, a post office, a bank, a school, dependent housing, and POL facilities, and to continue Project Bankhead. The housing consisted of 48 two-story multifamily dwellings of three and four bedrooms, which in keeping with new IBOP guidance were manufactured, pre-finished, and packaged in the United States and shipped to Japan on American

vessels. In the process of completing these USAHOMES (United States Army homes) so that the 156 military families could move in, many complications arising from construction in Japan developed: delays with funding approval and release and with off-shore procurement, CFM damage enroute, and Japanese contractor indifference and interference.

Waiting periods of more than two months between fund request submittal and a response, at various stages of construction, were common with this and subsequent USAHOMES projects. Consequently, the jobs got underway behind schedule and remained so. Since the severe winters in northern Japan limited the construction season to six months, the funding-caused obstacles often pushed the project completion date into the following year. Sea transportation added an element of the unknown because of the shortage of US ships and the drawbacks associated with this mode of conveyance. At Chitose, for example, all the units arrived in some state of damage. Accordingly, the supplementary funds necessary to repair the quarters created additional delays.

Because of the booming state of the Japanese construction industry, local contractors could choose when they wished to work with the District. The larger firms decided to avoid FED projects at this stage. Their reasons included the remote project locations, a scarcity of skilled laborers, an abundance of work elsewhere, and the lack of major District projects. Many of the contractors who sought FED construction awards were marginal, and their work was often sufficiently unsatisfactory to require contract termination. Nisshin, who agreed to build an enlisted men's barracks and filter plant and rehabilitate the heating facility at Chitose (ENG 1099) in 1965, is just one illustration.

In addition, the American firms working in Japan had difficulties with many aspects of their construction: subcontractors, labor, and suppliers. Indications were that all elements of the local building industry were putting a "subtle squeeze" on them. At Chitose, for instance, this interference affected Rand, who could not meet its financial obligations. In July 1965, the District had to terminate all but one of the four Rand contracts at the installation: ENG 995. FED later combined the trio and completed negotiations with Niitaka Co. Ltd. on 10 December 1965 for \$950,801.

In reaction to these terminations and numerous others, in May 1966, the Far East District initiated the requirement that all future FED contractors obtain performance bonds. At the same time, pre-award surveys became more thorough and exhaustive. Because of the tendency for all Japanese bids on any project to be significantly higher than the government estimate, FED also considered resumption of negotiated contracts instead of the formal advertising method instituted in March 1964.

From the Japanese contractors' point of view, working for FED in northern Japan offered few attractions. They felt government estimates were too low and failed to consider the high cost of labor and materials, most of which had to be imported from Honshu, and the unexpected problems associated with the normally severe weather. They thought that District on-site inspections were extreme and unwarranted considering the site conditions. And, perhaps of vital importance, District contracts yielded particularly low profits as a result of all the extra expenses incurred in Stateside procurement and deficiency corrections. Consequently,

⁹ Letters between OCE & POD and POD & FED, 1963 to 1968; Letters, COL Winegar to LTG Cassidy, 14 June 1966, p. 4, and 8 March 1967, p. 1.

¹⁰ USAEDFE Brochure Prepared for COL Walter L. Winegar, Division Engineer, POD, 1 March 1966, p. 8; Memorandum of Understanding.



USAHOMES, Wakkanai Air Station

many FED contractors, Americans included, went bankrupt. In addition, since US Government contracts were sporadic, they lacked the security of a steady commercial workload. And finally, plenty of work was available without District projects.

The situation from the Japanese contractors' standpoint got worse when another group of USAHOMES was due for installation at Chitose in 1966. Delays in fund approval were so lengthy that Ohki, the successful bidder, considered rejecting the job at their original \$340,330 quotation. Since the sixty day option period expired long before, Ohki was under no obligation to maintain its bid. On 17 March 1967, the District finally received fund authorization, and on the tenth of the following month, FED awarded contract 037 of FY 67 (67-37) to Ohki. Like the initial group of USAHOMES, the components of the pre-engineered quarters arrived late and damaged. However, Ohki managed to erect the 66 sets of USAHOMES III by December and to correct deficiencies the following spring.

The repetition of funding approval and release delays at USAHOMES III and similar occurrences at other projects coupled with a forecast price increase, which contractors could not avoid by ordering materials immediately because their FED contracts were not formally awarded, reinforced Japanese views about working for the District. Ironically, at the same time, the Far East District was in the midst of a campaign to stimulate interest among large local firms in FED construction projects and to encourage lower bids through discussions in pre-bid conferences. As a result of these efforts, five of the top ten Japanese contractors submitted reasonable bids, and three of these five made voluntary bid reductions. Because a sequence of events like that at Chitose reduced profits, in the future the leading Japanese building companies looked elsewhere for projects.¹¹

The problems and frustrations with obtaining time-

ly fund release and undamaged materials and with attracting reliable contractors troubled District members at all the northern Japan construction sites and, to some extent, at all JAO project locations. At Wakkanai Air Station, for instance, the aggravations of the USAHOMES project were more intense than those at Chitose, primarily because of the unfavorable climate. The Wakkanai USAHOMES headache began in the summer of 1965 when funding approval for the early site development arrived more than two months after the District requested it. By then, the last week of October, it was too late in the year to commence any exterior work. In addition, shipping schedules for the prefabricated structures needed rearrangement since there was no available storage at Wakkanai. The 39 homes, which finally arrived late the following November 1966, could not be assembled until spring because the shipment included no matching units. Delays by the manufacturer and by ocean shipping prevented the remaining 41 from reaching Wakkanai until late summer 1967. By 29 February 1968, Mitsubishi completed work except for replacement of items in the two units which they cannibalized to ready the others for occupancy and for deficiency corrections.

Like at Chitose, shipping damage and manufacturer's defects created problems that required additional funding, on-site changes, and further Stateside procurement. These USAHOMES difficulties precipitated an extensive District report which defined and delineated manufacturing defects, shipping damages, and responsibilities of the Stateside maker and the Japanese contractor.

Erection of the eighty sets of quarters at Wakkanai was one of five items in a package FED advertised during 1965 to attract established Japanese construction firms. The only bidder for this "all or nothing" package was Mitsubishi, one of the ten largest contractors in

11 Contract Register; CIT Visit, 1965, FED Section; POD Command Inspection Team Visit Booklet 29 August-20 September 1966, FED Section; Letters, between Chief, OCE, & POD, Division Engineer, and POD & FED, DE, 3 August 1964 to 1967; USAEDFE (R) Memorandum for Record, T. A. Henningsen, 28 October 1964, Subject: Report on Collusive Bidding; USAEDFE (R) Memorandum for Record, John R. Sakoguchi, 20 October 1966, Subject: Investigation Trip to the City of Sapporo, Hokkaido, Japan, in Connection with District Construction Activities in the Area; Interview, John Sakoguchi, 30 September 1975.



Wakkanai Air Station, school in foreground and housing in the center

Japan. By the completion of the \$1,340,456 contract in 1969, the Japanese firm also had constructed several clubs and additions to the commissary and school. Each of these four MCP-funded structures, like the other non-USAHOMES facilities at the air station, consisted of reinforced concrete with concrete block curtain walls, materials utilized here because of the severe weather. As a result of the delays and reduced profits, Mitsubishi exemplified the drawbacks encountered by the five established building companies who responded to the FED campaign and regretted the decision.

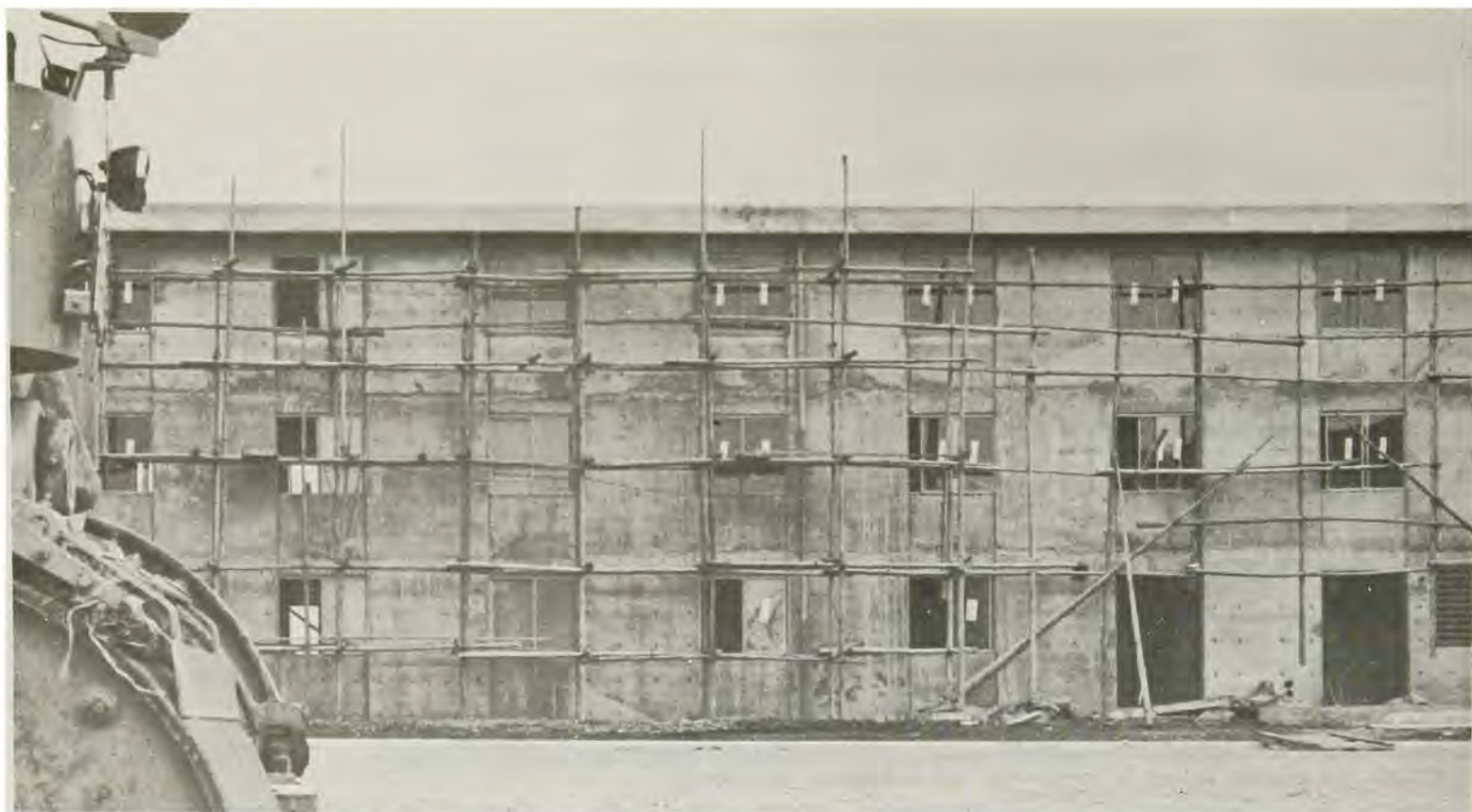
Winter at the 6986th Air Force Security Group (AFSS) post on the northern tip of Hokkaido meant 200 inches of snowfall and a construction season of only six months. During the cold weather, exterior work was impossible. In addition, strong winds and driving rain restricted activity the remainder of the year. The USA-

HOMES contract was not the first District project at Wakkanai. The initial award, \$1.48 million to Nishimatsu Corp. Co. Ltd. of Tokyo (ENG 1323) for an operations facility, was one of the pre-FY 63 jobs that FED took over from the Air Force. By September 1964, the District negotiated another \$1.9 million worth of construction with Nishimatsu and divided the work into three phases. The first phase consisted of a school, dispensary, PX, post office, heating plant, storage, a telephone exchange and maintenance shops. Airmen's dormitories comprised the second one, and an electrical power plant, the last. In less than two and one-half years, all of these facilities were complete and turned over to the 6986th.

In addition to the complications caused by funding and off-shore procurement, two other elements typical of FED construction in northern Japan were present at



Partially complete commissary addition, Wakkanai, with winterized portion on the left



Final stages of an airmen's dormitory project, Tachikawa Air Base

Wakkanai: commercial assistance compensating for the shortage of District personnel and mediocre contractors. Work on a warehouse and road by Sagawa Gumi Co. Ltd. (ENG 1071) started off well in the fall 1965. The following construction season, however, Sagawa failed to resume work by early summer 1966. Consequently, FED terminated ENG 1071 and, on 19 August 1966, reawarded it to Mitsubishi, who, at the time, was the successful bidder, but not yet the contractor, for the USAHOMES and MCP package at Wakkanai. A supplemental agreement to the reaward provided funds for Mitsubishi to build an addition to the Wakkanai power plant. Under circumstances such as these, a supplement to an active contract without having to expend the time and money of initiating a separate process was very useful for the Corps and its user agency. The project Mitsubishi assumed also involved lost construction time since, during the 1967 summer, skilled laborers and qualified supervisors were scarce. The current boom in the Japanese construction industry and economy created a demand for these trained employees greater than the available supply. This boom and an accompanying escalation of costs were reaching the state in 1967 that the Japanese Government considered methods and regulations to curb the expansion.

The use of Title II agreements emerged from the pre-FY 63 Air Force programs; they were necessities for the District in this period of strong IBOP guidelines, foreign national employee RIFs and hiring restrictions. On 3 August 1963, for example, FED placed a \$179,800 contract with DMJM for assistance in supervising and inspecting District projects at Wakkanai. A similar arrangement began the same day at Misawa Air Base on northern Honshu. Since DMJM designed many of the projects at these Air Force installations, they were thoroughly familiar with the plans, speci-

cations, and government methods and procedures. Because of the desire to have in-house S&I and as a consequence of the IBOP restrictions, the District signed the final annual Title II contract in February 1965. Replacement of the A-E inspectors was difficult because the Tri-Service wage scale, which determined FED foreign employee salaries, did not compare favorably with current local wages. Even the Japanese declared excess by the former Title II firms looked elsewhere for employment.¹²



FED Project Office, Wakkanai Air Station, 1966

12 USAEDFE Japan Area Office Booklet, mid-1967, Wakkanai REO Section; Contract Register; USAEDFE Briefing Data, March 1968, pp. 18-19; Interviews, Fujio Moteki, 24 July 1975, and Thomas Pedecine, 22 July 1975; Letters between Chief, OCE, & POD, Division Engineer, and POD & FED, District Engineer, 1965 to 1968.

At Misawa Air Base, headquarters of the 39th Division and the 6921st Security Wing (AFSS), the situation resembled that at Wakkanai except the winter on Honshu was less severe. A \$3.3 million operations facility to house the 6921st was one of the pre-1963 Air Force responsibilities assumed by the District. Since this installation was more elaborate than that at Wakkanai, Nishimatsu took two years longer to complete it (1963 to 1969). Between 15 July 1963 and 5 October 1965 nine awards, several of them negotiated, valued at \$1.5 million were made by FED for projects at Misawa. The District resorted to negotiation rather than formal advertisement for the last two contracts because of the need to terminate several of the earlier awards. Stateside contractors, Rand Construction Inc. and Thomas E. Spicknall, Inc., held these terminated contracts. Consequently, FED was more cautious in reawarding these and assigning other projects at Misawa. By March 1968, completed new construction at the air base included various billets, a power plant, utility systems, aircraft maintenance and training structures, and area search radar and weather facilities. The Air Force continued to expand and develop Misawa throughout the 1960's.¹³

Construction in northern Japan posed a considerable challenge to Far East District personnel. Contractor mediocrity and indifference, delays in funding approvals and releases, remote locations, mandatory procurement of Stateside materials and other IBOP procedures, and insufficient field personnel caused complications and frustrations. Attempts to attract some of the large, experienced Japanese construction firms ultimately failed because award delays caused by slow fund arrival reduced contractor profits and because commercial projects were plentiful and less bothersome for

local companies. A boom in the Japanese economy, particularly in the building industry, only aggravated the District's predicament.

These generalizations were true to a lesser degree in the Tokyo area and in southern Japan. In this region between 1963 and 1965, construction activity centered on Tachikawa and Yokota Air Bases. Atsugi Naval Air Station, Iwakuni Marine Corps Air Station, Totsuka Naval Radio Station, Camp Brady (ASA Location 90), Fuchu Air Station, and Green Park, a housing area in Tokyo, also received District attention.

Tachikawa and Yokota Air Bases are a few minutes drive from each other on the Kanto Plain, a large geographical area in east central Honshu which sweeps down to Tokyo Bay. Both bases served the Japanese air forces before and during World War II; the latter was initially an annex to Yokota for the Japanese Army aviators. The United States took control of the two in 1945 for the Air Force.

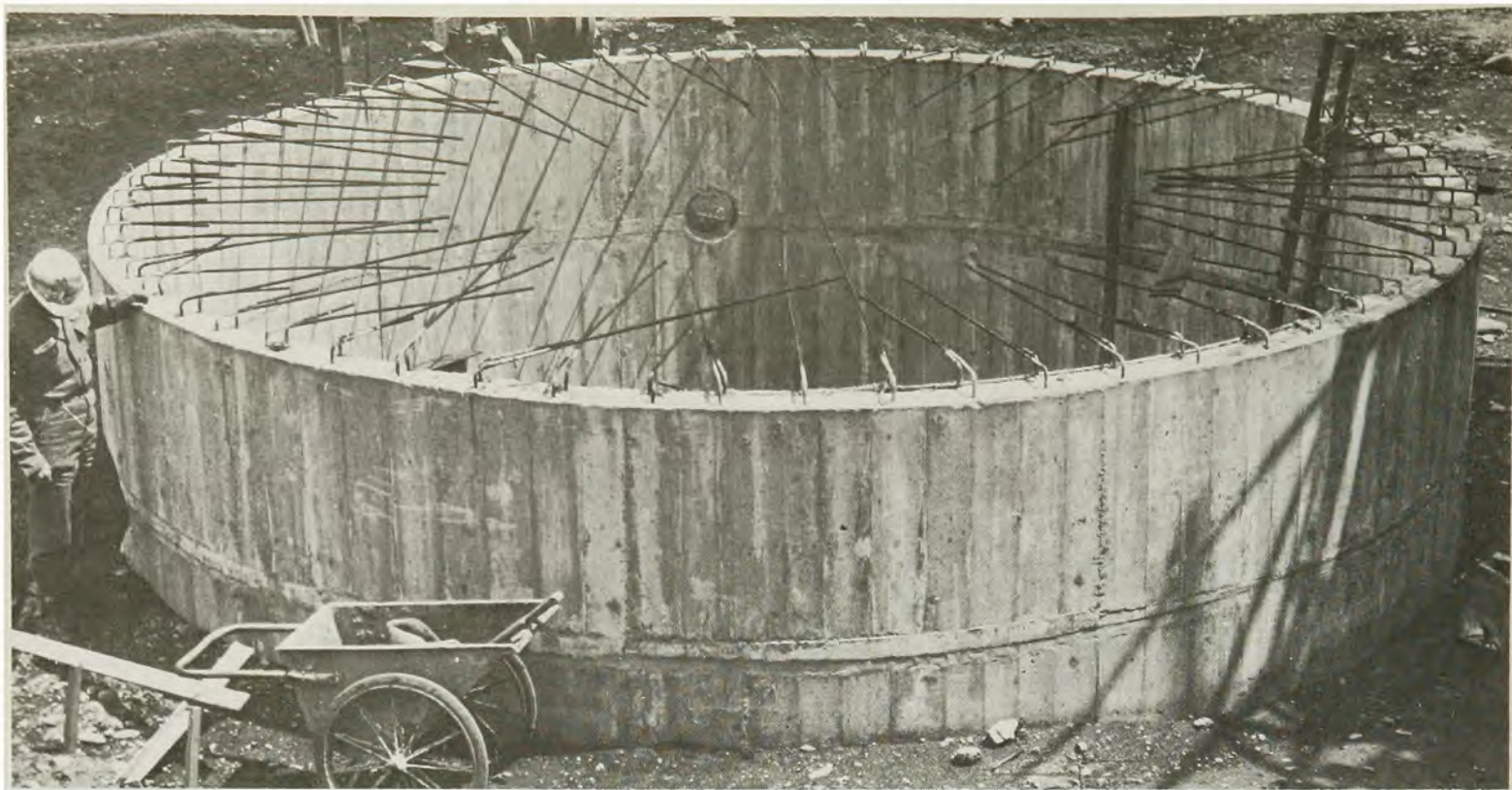
At Tachikawa, FED signed six contracts amounting to almost \$2 million between 4 August 1964 and 13 April 1965. Three of these and over \$1.44 million went to Mabuchi Kensetsu Co. Ltd. for officers' and airmen's housing. The smaller awards included work by Keystone Corp. of Japan and Nikko Construction Co. Ltd. Both contractors had trouble meeting commitments at other FED sites, and by early 1966, Nikko's contract for the RAPCON building at Yokota required termination. The RAPCON center project at Yokota not only involved a contract termination, but also, after negotiations were final and Sumitomo Shoji Kaisha resumed work on the almost completed structure in September 1966, a typhoon caused damage to the roof and the anticipated completion date slipped again.¹⁴



Building for Air Force Security Service, Yokota Air Base

13 Contract Register; JAO mid-1967, Misawa REO Section; CIT Visit 1965, FED Section; Letters, COL Smith to LTG Cassidy, 20 July 1965, p. 3, COL Boardman to COL Smith, 23 February 1966, pp. 2-3, and COL Winegar to LTG Cassidy, 13 June 1966, pp. 5-6, and 14 June 1966, pp. 2, 6.

14 Contract Register; JAO mid-1967, Yokota REO Section; CIT Visit 1965, FED Section; Letters, COL Boardman to COL Smith, 23 February 1966, p. 2, and COL Winegar to LTG Cassidy, 13 June 1966, p. 5.



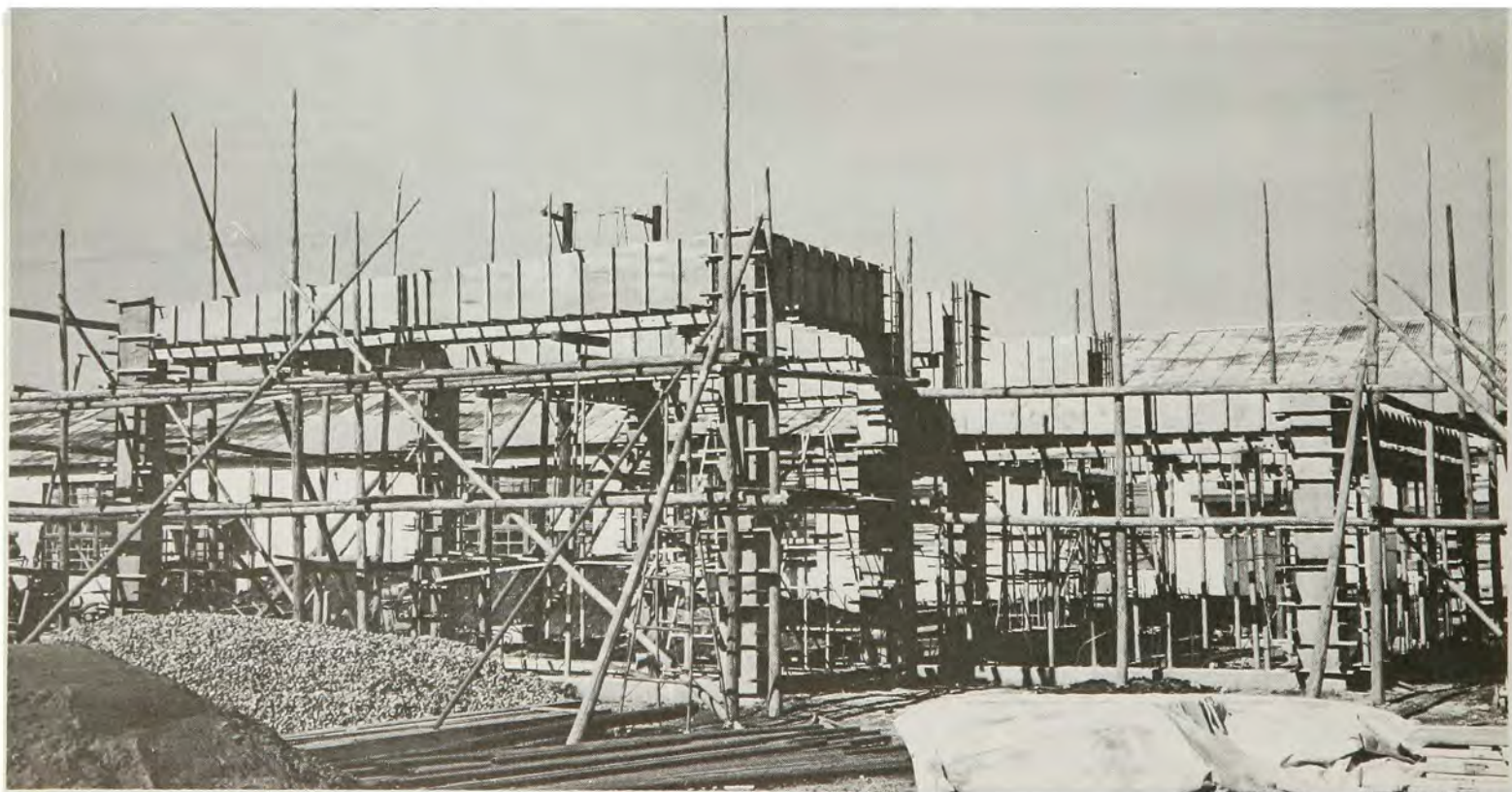
Freshly poured concrete tank of a sewage treatment and disposal system, Yokota Air Base

The District Project Engineer at Yokota had more than his share of worries with contractors during these years: progress at several other job sites also necessitated stop work orders and reawards. The contractor in this case was a former FED employee, Thomas Spicknall. Some of the claims and suits arising from these and the numerous other defaults in the mid-1960's took years to settle; some are not yet resolved.

Discounting the \$.73 million in defaulted projects, the Far East District construction workload amounted to almost \$1.43 million in contracts at Yokota during the

middle months of FY 65. An AFSS operations building like those at Misawa and Wakkanai, an ammunition storage area, power and sewage plants, maintenance shop additions, training buildings, a dispensary, and an area search radar installation were among the facilities being erected. The operations building was another prior FY 63 Air Force job the District assumed.

These projects at Tachikawa and Yokota along with the airfield lighting at Iwakuni and Atsugi, an air conditioning plant at Fuchu, a chapel at Green Park, a radio facility at Totsuka, operations structures at Camp



Camp Fuchinobe element of Kanto Plains Communication System

Brady, and barracks at Hakata and Iwakuni indicate the variety within the FED (R) construction workload just prior to the crash programs in support of the Southeast Asia buildup. The geographical spread of District activity from northern Hokkaido to western Kyushu plus the difficulties with Japanese and American contractors, funding, procurement, and personnel demanded great flexibility on the part of each FED (R) member. In the next few months, the District would begin receiving crash program and high priority regular construction requests which would demand even greater sensitivity and rapidity of response to Army, Navy and Air Force requirements.¹⁵

With the fall of 1965 came a flurry of activity for the Far East District (Rear). Engineering Division struggled to complete the largest workload to date, including many rush projects. An emergency job resulted from a fire at Kamiseya. And before the end of the year, District placement jumped to \$13 million with the majority of it in Japan. Shortly thereafter, Congress deferred most FY 66 and FY 67 MCA projects not directly related to the Indochina war. As a result, the District focus of construction shifted to Japan. This shift, in turn, dictated reconsideration of the geographical placement of FED office elements: should the headquarters and other major elements move to Tokyo or remain in Korea? To complicate matters further, as the Southeast Asia support projects grew in number, so did vacancies on the FED staff.

By mid-winter 1965-66, Engineering was busy with the largest design load in the history of the District. The numerous Vietnam-related projects in Japan for all three services more than offset the loss of the Congressionally deferred FY 66 and FY 67 programs. This high level of activity continued into 1967 as the United States escalated its efforts in Indochina. Crash programs and emergency efforts combined with the normal workload to spell long hours for FED engineers and A-E firms.

The September 1965 fire at Kamiseya Naval Security Group Activity that destroyed the communications center and its operations buildings and took a number of lives was an unexpected test of FED responsiveness to an emergency situation. A replacement complex was urgently needed; the Navy requested a ninety day completion for both design and construction. In the amazingly short time span of less than two weeks, the design was finished. And, on 27 October, FED concluded negotiations with Mitsubishi Shoji Kaisha Ltd. for Project Running Light (ENG 1104). The District turned over two of the four buildings to the Navy less than 65 days from the date of the original request. FED's rapid accomplishment of this top priority project resulted in much deserved praise from the Navy.¹⁶

The Kanto Plains Communication System offered another challenge to Engineering and Construction Divisions. FED placed a portion of this DMJM designed project under contract on 10 August 1966 to the joint venture of Kinki Electrical Constr. Co. Inc., Nissei Kohji Co. Ltd., and Kanagawa Engineering Co. Ltd. Basic facilities included standard concrete block buildings

with utilities at Totsuka NRS, Atsugi NAS, Kamiseya NSGA and Yokosuka NB and a 350 foot steel microwave tower at the last. The District also scheduled structures at Negishi and Owada as a part of this phase. However, FED had to delete Negishi and Owada prior to the bid opening because the Air Force underestimated their requirements. Consequently, both needed complete redesign. The District let the remainder of the projects at Camp Zama and fourteen other locations to five firms: Kinki, Kanagawa, Taisei Constr. Co. Ltd., Tekken Kensetsu Co. Ltd. and Toshiba Electrical Constr. Co. Ltd., for a System total of \$765,003. Construction consisted of erecting concrete block buildings similar to the earlier ones or rehabilitating extant structures to meet the new requirements. Shortly after the District signed these contracts, a stop work order had to be issued because the using agency increased the power requirements 30% to 40%. This change entailed alteration of wire size, panel boards, and motors to make them compatible with the additional power load. After these and numerous other modifications, FED turned over the communications system in its entirety to the Air Force by August 1969.¹⁷

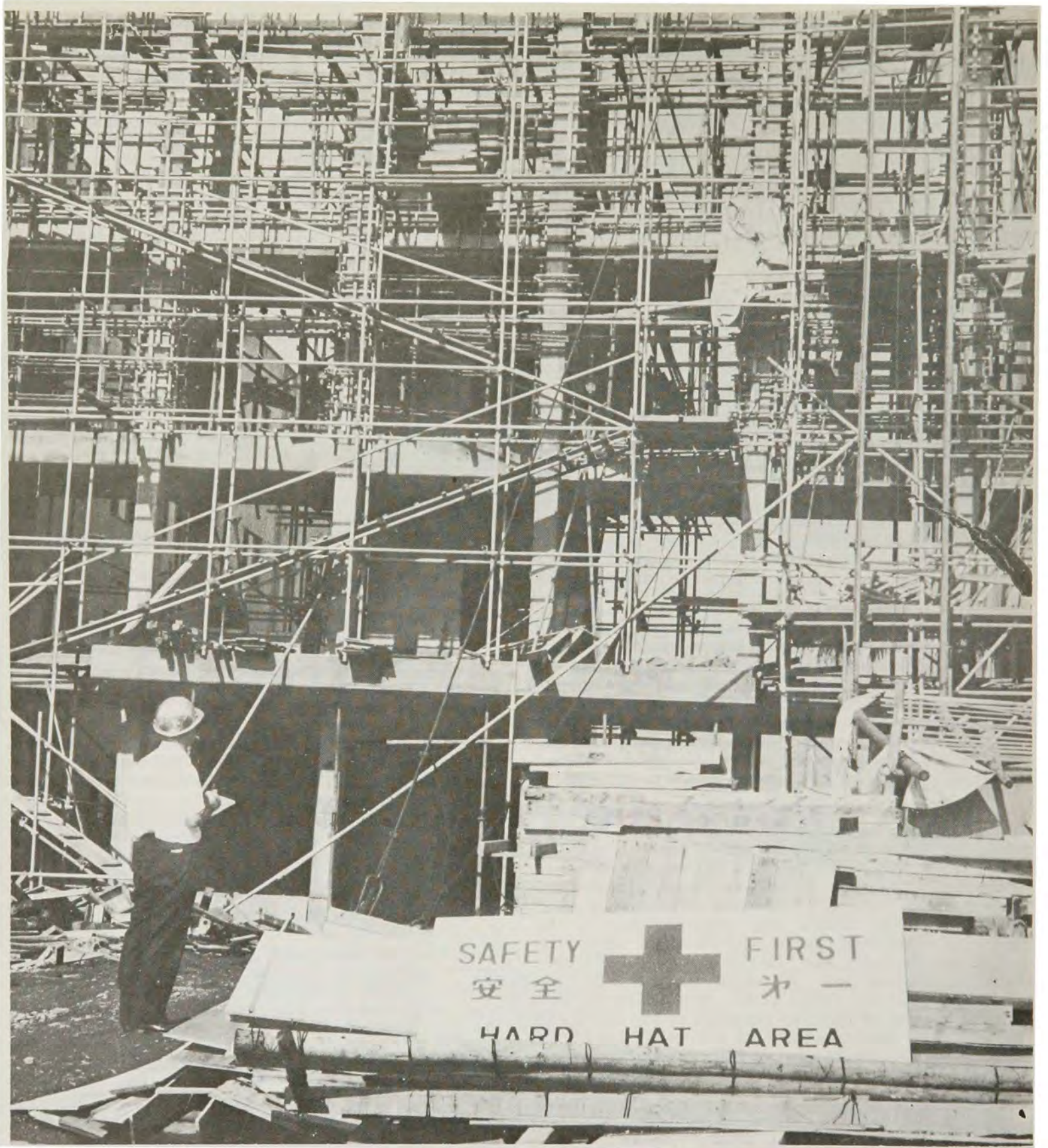
At the same time Project Running Light and the Kanto Plains System were being rushed through Design Branch, the Army presented its first crash program to the District: the military hospital rehabilitation. The requirement for beds to accommodate the sick and injured increased each month as the war in Vietnam escalated. USARPAC determined that rehabilitation of extant Army structures provided the most rapid and inexpensive method of gaining additional hospital spaces even though many of the buildings were old barracks and warehouses. The sites selected were Camps Oji, Tokorozawa, and Drake in greater Tokyo and Kishine Barracks in Yokohama.

In December 1965, FED assigned two A-E contracts to initiate the program: one to DMJM for the rehabilitation at Kishine and Oji, and one to Adrian Wilson Associates for Tokorozawa. The District had the first increment of 1,000 beds ready for advertisement within 38 days, but a USARJ (US Army, Japan) revision forced an extensive redesign. Consequently, this contract was not awarded to Tekken Kensetsu Co. Ltd. until 28 June. In the meantime, by 4 January, FED completed negotiations for the 1,200 bed complex at Kishine, and Hori Komuten Co. Ltd. set about construction. By October 1966, FED contractors had the surgical facility and recovery ward at Oji (ENG 1124, assigned to Tekken on 10 March 1966) finished but not yet occupied and the repair and alteration plan for the sixteen buildings at the 106th General Hospital complex at Kishine well underway. The 2,000 bed project at North Camp Drake was in its second month of progress. The DMJM-engineered Drake upgrade involved the refurbishing of twenty-one structures on the 249th General Hospital compound to provide barracks, hospital wards, and surgery, supply, x-ray, and dental facilities. New utilities to support the Drake patient increase included rehabilitating two wells and building a 100,000 gallon water storage tank, sewage treatment plant, a million-BTU-per-hour boiler, and helipad. Local traffic congestion prevented

15 Contract Register; Pettinato Interview; Letters, COL Boardman to COL Winegar, 1 December 1966, p. 4, and 10 February 1967, p. 4, and COL Winegar to LTG Cassidy, 9 December 1966, p. 3.

16 Contract Register; *POD History*, p. 46; CIT Visit 1966, FED Section; Interview, Koji Ishii, 24 July 1975; Letter, COL Smith to LTG Cassidy, 12 October 1965, p. 4.

17 Contract Register; JAO mid-1967; Moteki Interview; Letter, COL Winegar to LTG Cassidy, 8 March 1967, p. 5. The fifteen locations for the final phase of the System were Camps Zama, Fuchinobe, Oji and Drake; North Pier; Sagami, Ikego, Tokorozawa and Hiyoshi Depots; Johnson, Yokota and Tachikawa Air Bases; Grant Heights, Kashiwa, and Kisarazy.



FED Project Officer Jim Calhoun inspects the progress of work at the Kishine Barracks phase of the hospital rehabilitation project

the use of Japanese roads for incoming patients, making the helipad necessary.

By late summer 1966, FED had the second phase at Oji and the several thousand bed project at Tokorozawa ready for award. The CINCPAC and CINCUSARPAC, however, advised a suspension of further action because of a probable curtailment of the total hospital bed requirement; the funds authorized had already been cut from \$8 million to \$4.1 million. With the cancellation of the second increment at Oji and the entire project at

Tokorozawa, the magnitude of design changes for the first phase at Oji and Drake increased radically. In the fall of 1966 alone, for example, there were 36 individual modifications at these two job sites. Subsequently, it was decided to add air conditioning to the rehabilitated structures. In less than four months, DMJM completed the plans and specifications, and work began at Kishine in August 1967 and at the other post in the following month. The 406th Medical Laboratory and the hospital at Sagami-Ono were

added to the four air conditioning contracts which amounted to more than \$1.1 million and brought the Army hospital rehabilitation project total to approximately \$5.1 million. Despite delays in delivery and incorrect shipments of GFM, the herculean efforts of Hitachi Constr. Co. Ltd., Tekken Kensetsu Co. Ltd., Mitsubishi, Kinki, Sanwa Denki Kogyo Co. Ltd., and District personnel resulted in temporary provisions to permit operation of all the air conditioning systems by late June 1968. With the completion of this program in 1969, the District demonstrated that it could launch a large project rapidly and still keep construction costs within reason. The average price per bed for the hospital upgrade was a low \$2,822, and the expenditure per square foot of floor space, \$5.95. FED also accomplished the task without closing any of the already functioning areas.¹⁸

Funds for these and other crash projects for the Army, Navy, and Air Force came from two special Congressional Appropriations: FY 66 Supplemental (66-S) and FY 67 Supplemental. And, to facilitate rapid arrival of the Stateside materials and equipment for the rehabilitation, the District assumed the task of obtaining them. The scarcity of ships sailing to Japan and manufacturer inability to keep up with demand constantly frustrated the FED staff as they attempted to meet the high priority completion dates.

In addition to the crash hospital rehabilitation projects, another facet of the Southeast Asia support program was the projects reassigned to the 66-S appropriation because of their importance to expanded operations in Indochina: the Camp Drake autodin message

switching center, the Koshiba and Hakozaiki POL mooring facilities, the Yokosuka Naval Base shore-to-ship installation, and several jobs at Yokota Air Base.

Adrian Wilson & Associates (ENG 1086) designed the autodin complex at Drake, and Mitsubishi Shoji Kaisha Ltd. built the half million dollar center (67-11). Construction of the 17,000 square foot concrete structure began in October 1966. Because of delays caused by contractor tardiness in ordering materials from the US, Mitsubishi finished the center in December 1967 instead of September as planned. The US Government provided the raised floor system and the prefabricated electromagnetic shielding enclosure for the 15,000 square foot operations area.¹⁹

The off-shore buoy contract for the POL terminals at Koshiba and Hakozaiki Depots went to IMODCO of Los Angeles as sole source procurement (67-23). Initiation of work for the Hakozaiki buoy had to be postponed because of uncertain siting by the user agency. Under the terms of a separate contract, Kinki and Mitsubishi constructed the 1,200 foot long submarine pipeline at Koshiba and the 4,039 foot one at Hakozaiki. These conduits connected the floating oil terminals to the shore storage tanks and related facilities. When completed in late 1968, the mooring facilities cost more than \$1 million.²⁰

In mid-January 1967, FED awarded the \$2.4 million shore-to-ship project at Yokosuka Naval Base (67-36) to the joint venture of Mitsubishi, Kinki, and Hitachi. This dockside complex provided steam and electricity for ships anchored at Yokosuka for repair. The



Camp Drake autodin complex

18 Contract Register; POD History, p. 47; Interview, Pedecine, Ishii, and William Meyers, September 1975; JAO mid-1967, Camp Drake REO Section; Briefing Data 1968, pp. 20-21; Letters, COL Boardman to COL Winegar, 25 May 1966, pp. 2-3, and COL Winegar to LTG Cassidy, 13 June 1966, p. 6, 14 June 1966, p. 5, 23 September 1966, pp. 2-3, and 9 December 1966, p. 3; Directives, 1965 to 1970; Letters, COL McCulloch to BG Podufaly, 13 May 1968, p. 4, and BG Podufaly to LTG Cassidy, 11 June 1968, p. 5. CINCPAC: Commander-in-Chief, Pacific; CINCUSARPAC, Commander-in-Chief, US Army, Pacific.

19 Contract Register; JAO mid-1967, Drake REO Section; Letters, COL John J. McCulloch, DE, FED, to BG Edward T. Podufaly, 14 November 1967, p. 4, and 31 August 1967, pp. 4-5; Directives, 1965 to 1970.

20 Contract Register; JAO mid-1967, Yokosuka REO Section; Interviews, Ishii and Arnold Ivener, 17 September 1975; Letters, COL Winegar to COL Boardman, 15 June 1966, p. 1, and COL Boardman to COL Winegar, 25 May 1966, p. 3, and 1 March 1967, pp. 1-2; Directives, 1965 to 1970.



Submarine line for off-shore terminal

ability to shut down shipboard systems without having to vacate the vessel aided in speeding the ships back to sea. The District divided the project into two phases: the first consisted of construction of a generator plant and electrical distribution system, and the second, a boiler plant and steam distribution system. Like most of the contracts in this period, FED procured the specialized equipment—the two generators and the boiler—from the States.²¹

Numerous projects were underway or planned for Yokota Air Base in these years. The increased military involvement in Southeast Asia and resulting change in strategic importance of US bases in Japan demanded a realignment and, in some cases, acceleration of these plans. On the first of April 1966, the District signed contracts with DMJM and Trans Asia Engineer Associates, Inc. for facilities at the air base; the former designed the FY 66-S work, the latter, FY 67 MCP. Less than three months later, on 28 June, FED awarded the most urgent of these, a concrete taxiway and runway access and a control building with supporting utilities to Takano Constr. Co. Ltd. (ENG 1152, \$450,742) and an

air freight terminal to Nihon Kokudo Kaihatsu K. K. (ENG 1156, \$469,832.56). The Japanese firms completed the projects by the end of the following year despite numerous design modifications and limitations on the employment of local materials. The IBOP policy restricted local procurement to aggregate, cement and concrete products and 5 per cent of the total contract price. In October, Taisei Constr. Co. Ltd. began alterations of the fleet service building and construction of several aircraft maintenance shops, special operations buildings and an aeromedical evacuation patient holding structure (67-20, \$232,500). In spite of the by-now-usual alterations in design, by spring FED was able to turn over to the Air Force all but the operations structures of these SE Asia support projects.

In late 1967, the District finalized designs for the complex hydrant fueling and defueling systems, which consisted of a 1,700 square foot pre-engineered metal pumphouse with an eight inch thick concrete floor, six underground steel fuel tanks and accompanying turbine fuel pumps, and five refueling hydrants with 4,200 linear feet of steel pipe. The system also included a contiguous fuel, passenger and cargo apron composed of 50,260 square yards of 18 inch thick concrete plus base. When finished, this facility would be able to service simultaneously several of the largest cargo planes then planned: the C-5A. Taisei joined with Taisei Road Constr. Co. Ltd. to construct the project (67-25, \$1,045,318). The former firm also took over the defaulted Spicknall jobs, crash fire station, heating plant, and general purpose and ground support equipment shops, when the funds became available in January (67-26, \$522,222). Taisei Road had the successful bid for the runway shoulder stabilization, one of the three contracts FED awarded near the end of 1967. Nihon Kokudo Kaihatsu K.K. built the other two, an air passenger terminal (68-33, \$518,900) and an open storage yard adjacent to the freight depot just completed (68-40, \$58,357).



Koshiba Depot off-shore POL buoy

²¹ Contract Register; JAO mid-1967, Yokosuka REO Section; Ivener Interview; Letter, COL Winegar to LTG Cassidy, 8 March 1967, p. 4; Directives, 1965 to 1970.



Pumphouse and three hydrants, Yokota Air Base fueling system

In these months between early 1966 and December 1967, the Air Force took a fresh look at its schedule of future construction projects, revised and reordered them to enhance its Southeast Asia support mission, and presented FED with a range of jobs, many of them major construction. Nine contracts worth almost \$3.7 million resulted. These projects did not lack complexities. District personnel had to cope with the usual problems of delayed imports, user agency requirements for rapid



Air passenger terminal, Yokota Air Base, under construction

occupancy, frequent changes in criteria or scope, and uncooperative weather. Fund release was also a factor as in the case of the reaward of the Spicknall defaults or of the initiation of the open storage job.²²

In addition to the Yokosuka shore-to-ship installation, Navy projects in this period included construction at Totsuka, Kamiseya, Yokosuka, Sasebo, Atsugi, and Iwakuni. Improvement of the power systems at the first three added up to more than three-quarters of a million dollars in contracts to Nissei, Reynolds and the joint venture of Mitsubishi and Kinki. In September 1966, Tokyu Constr. Co. Ltd. and Kajima Constr. Co. Ltd. combined to install a mine facility, airfield lighting, and aircraft parking aprons and to rehabilitate and expand the power plant at Atsugi. Jobs such as this urgent multi-million dollar one at Atsugi tested District and contractor personnel because regular operations could not be shifted or slowed to accommodate the construction forces. The majority of work for the runway center line lighting systems, for example, could only be done during slack traffic hours, namely at night. Yet the contractors completed the project on schedule without accidents. A crash fire station and landing control facility built by local firms were also part of the Southeast Asia upgrade at the Naval Air Station.

Iwakuni rests on the southern tip of Honshu. It is

presently a US Marine Corps air station and was originally a Japanese Naval cadet flight school. In June 1950, Iwakuni became known as the Gateway to Korea because of the numerous daily jet flights shuttling between it and the front line troops. Twelve years later, after hosting successively the Air Force and Navy, Iwakuni became a Marine Corps air station. Between 5 August 1963 and 22 September 1966, FED awarded more than \$1.5 million in contracts for construction of airfield lighting, a communications building, an aircraft maintenance hangar and facilities, a truck refueling installation, and fuel storage; modification of LST ramps; and rehabilitation of barracks and maintenance structures. Unfortunately, mediocre Japanese contractors compelled District termination of the ramp and hangar projects. These less-than-topnotch firms would continue to annoy FED with future Iwakuni projects. At Sasebo, on nearby Kyushu, the utility system, ammunition wharf, and harbor received attention.

Besides these facilities for the Navy and Marines, there were several other water-related projects between 1965 and 1967, one for the Army and one for the Air Force. The Army reactivated and refurbished Kawakami Ammunition Storage Depot and the adjacent Hiro Port in southern Honshu not far from Iwakuni. In April 1967, Chugoku Denki Koji Co. Ltd. commenced the upgrade of more than 57 structures, utility systems, a fence, roads,

and bridges. Initially Chugoku had difficulty obtaining a complete work force; however, they regained lost time rapidly once construction commenced.

An example of District assistance outside its normal line of duty and responsibilities was the rush job for the Air Force of replacing two fuel unloading buoys and anchors at Iwo Jima. Honolulu Engineer District performed the off-shore soundings; FED prepared the de-



Yokota passenger terminal, Summer 1975

²² Contract Register; JAO mid-1967, Yokota REO Section; Interviews, Moteki, and Tsutomu Mita, 23 July 1975; Letters, COL Boardman to COL Winegar, 10 February 1967, pp. 3-4, and COL Winegar to LTG Cassidy, 9 December 1966, p. 3; Directives, 1965 to 1970.



LST ramp modifications, Iwakuni Marine Corps Air Station

sign, awarded the construction contract to Dae Lim Industrial Co. Ltd. in less than two months, and provided TDY personnel to supervise installation. Despite unfavorable weather and rough seas, the Air Force received a completed facility on 8 June 1966. The first tanker arrived several weeks later.²³

By the end of FY 67, Japan had received the majority of Far East District construction for more than a year. The difficulties encountered with funding, criteria and siting changes, contractor mediocrity and indifference, and shortages of contractor field personnel coupled with the alteration of priorities and the new programs in support of the US mission in Southeast Asia tasked every member of FED. IBOP procedures, fluctuations within the revised Japan program, and insufficient District staff further enlivened the years between 1965 and 1968.

The delays and complications resulting from the requirement to Buy American were particularly frustra-

ting for FED in Japan where even some of the highly specialized equipment could be obtained locally. The four large 50 to 60 cycle frequency converters with switch gear and accessories necessary for the power improvements at Kamiseya, for example, were available in Japan for \$199,000 with delivery at the job site as compared with the lowest Stateside bid of \$404,000 delivered to a West Coast port. Moreover, the anticipated arrival time for materials procured in the US was longer than that of the local one. Yet, an IBOP regulations exception had to be secured for local purchase. A 1966 Engineering Division study listed thirteen non-specialized and frequently utilized items which were much cheaper locally such as acoustical tile and plywood.²⁴

A corollary of the crash programs for Engineering Division was the numerous redesigns and the many discarded projects. Much of the cancelled construction consisted of rush jobs, such as the hospital rehabilitation at Tokorozawa and the second phase at Oji or the intensive

²³ Contract Register; JAO mid-1967, Atsugi, Yokosuka and Iwakuni REO Sections; Ishii Interview; Letters, COL Boardman to COL Smith, 25 February 1966, p. 3, COL Boardman to COL Winegar, 25 May 1966, pp. 3-4, and 25 May 1967, pp. 2-3, COL Winegar to LTG Cassidy, 13 June 1966, p. 3, and COL McCulloch to BG Podufaly, 31 August 1967, p. 2.

²⁴ Letters, COL Boardman to COL Winegar, 25 May 1967, pp. 2-3, and Eugene Groden, Engineering Division Chief, FED, to Division Engineer, POD, 20 October 1966, Subject: Local Procurement of Certain Construction Materials.

therapy unit at Yokosuka. The reasons for project deletion varied. The therapy unit, for example, was withdrawn because the actual job estimate exceeded the programmed funds by 50 per cent. Underfunding was a common problem with items in the hastily gathered Southeast Asia support program. And alterations in the projects on the drawing board or on-site were often consequences of higher level decisions.²⁵

To further spice the lives of District engineers and A-E firms, in early 1967, portions of the deferred FY 66 program were released unexpectedly, thus creating many additional MCA jobs in Korea and Japan.²⁶

Recruitment of a full complement of personnel also troubled FED in Japan in these years. The District discovered, when the attempt to hire replacements for Title II inspectors in 1966 failed, that FED wage scales were no longer competitive for local talent. The foreign national employee RIF of 1963 and subsequent restrictions on hiring replacements did nothing to ease the situation. Relief was unavailable from the States because the Vietnam war boom caused a scarcity of engineers and other highly trained people. In addition, the flourishing Japanese construction industry and economy led to a shortage of local housing which, coupled with the increase in US military and civilians in Japan to support the American effort in Indochina, eventually forced USARJ to consider restricting concurrent travel and to ration the number of government quarters authorized each agency. And the early 1967 implementation of a five year limit on overseas tours for DACs made Japan even less desirable. The result was position vacancies of six months and longer. Local labor union strikes during the initial stages of the crash program exacerbated the situation. FED resorted to augmentation with numerous TDY people from POD and elsewhere in the Corps and design assistance by other districts and A-E firms to accomplish the job.²⁷

Thus, shortages of people, ever-changing crash and high priority projects, and the effects of IBOP were additional facets to the situation in Japan between 1965 and 1968.

To supervise the heavy construction workload in the island country and more easily cope with the resulting problems, in February 1966, Construction Division followed Engineering Division to Japan. By May, Procurement and Supply Branch and the Safety Office also transferred to FED (R). A joint liaison office for Construction and Engineering remained behind in Korea. At the same time, FED made Korea an area office, deactivated Seoul and Taegu RE Offices and divided Japan into two area offices: North and South. After the peak of the Southeast Asia support construction passed in 1967, the field organization for FED (R) reverted to its former state. By early 1968, the work load dropped sufficiently and the desire to eliminate an excess layer of supervision intensified so that the District consolidated

JAO with Construction Division. At the same time the study preceding this merger was being prepared, another formal consideration of the geographical placement of Far East District staff elements underwent scrutiny. The recommendation of the later study was the same as 1960 and subsequent ones: move FED headquarters to Japan and leave an area office in Korea. This proposal seemed particularly justified in 1967 with the focus of District activity in Japan and the probability for it to remain so.

Shortly before Construction Division arrived in Japan, FED (R) concluded an extended and troublesome move from Oji, which DOD planned to phase out by June 1966, to Camp Zama, which was the USARJ headquarters compound and had ample vacant office space and quarters. Concurrent with the December 1966 completion of this transfer was the alteration of Oji's status to that of an active post with millions of dollars worth of scheduled Southeast Asia support program construction, such as the hospital rehabilitation and the microwave station. The shift from Tokyo to Zama had the advantages of better working conditions, family housing, travel arrangements, communications, and Civilian Personnel Office (CPO) support and of close proximity to two of FED's primary user agency headquarters, Army and Air Force. Later recruiting problems and the escalating Japanese economy negated some of these benefits.²⁸

Even though Japan had the lion's share of the construction activity, FED in Korea did not remain idle. During the last few years of this same period, construction in the ROK continued, but on a much smaller scale than in previous times. The entire placement in FY 67, for example, was barely \$7.1 million and one-third of that was O&M work. The 12 awarded contracts accounted for less than one-seventh of the \$22 million FED total. Earlier programs at locations like Ames, Carroll, Humphreys and Pohang still represented a number of active contracts; the more important new projects were at Taegu, Kunsan, Osan, Kimpo, and the 2nd Infantry Division area.²⁹

In 1966, District contractors and Engineer troops had almost finished work at Camp Carroll, and user agency requests at Camp Humphreys were tapering off. At Ames, Sam Whan Enterprise Co. Ltd. and Tong Wha Co. Ltd., with the assistance of Engineer troops, were in the midst of adding more Stradleys (ENG 1041). And, by the end of the period, the POL facility at Pohang, begun in 1961, was complete. In the summer of 1965, the ROK Ministry of Transportation started construction of a railroad spur, and Hyup Hwa Constr. Co. Ltd. and Nam Kwang Constr. Co. Ltd. initiated work on the housing and support complex (ENG 1064). The latter project entailed erection of prefabricated living, dining, recreational, maintenance and support buildings, fencing, roads, utilities, and site work. This construction

25 Letter, COL McCulloch to BG Podufaly, 31 August 1967, p. 2.

26 Letter, COL Winegar to LTG Cassidy, 8 March 1967, p. 1, COL Smith to LTG Cassidy, 10 March 1966, p. 1, and LTG Cassidy to COL Smith, 10 January 1966, p. 2.

27 Letters, between OCE & POD and POD & FED, 1966 to 1968; *POD History*, p. 85.

28 FED General Orders, No. 1, 14 February 1966, No. 9, 21 April 1966, No. 10, 6 May 1966, and No. 1, 11 January 1968; Organization Charts; Letters, COL Smith to LTG Cassidy, 20 July 1965, p. 2, 12 October 1965, p. 2, 14 December 1965, p. 4, and 8 March 1966, p. 1, COL Boardman to COL Winegar, 25 May 1966, pp. 5-6, and COL McCulloch to BG Podufaly, 1 December 1967, Subject: Far East District Organization Staff Study; USAEDFE Staff Study, Reorganization of the Construction Division, Far East, 5 December 1967; USAEDFE (R) Change in Duty Station; Letters, LTC John C. Ogilvie, DDE (R), to CG USARJ, 13 December 1965, Subject: Relocation of USAEDFE (R) from Camp Oji to Camp Zama, and Major Richard J. Low, XO, to FED (R) Personnel, 23 July 1965, Subject: PCS [permanent change of station].

29 USAEDFE Brochure, Prepared for Colonel Walter L. Winegar, 1 March 1966; Letters, COL Boardman to COL Winegar, 25 May 1966, p. 2, and COL Winegar to LTG Cassidy, 13 June 1966, p. 5, and 8 March 1967, p. 5; Contract Register.

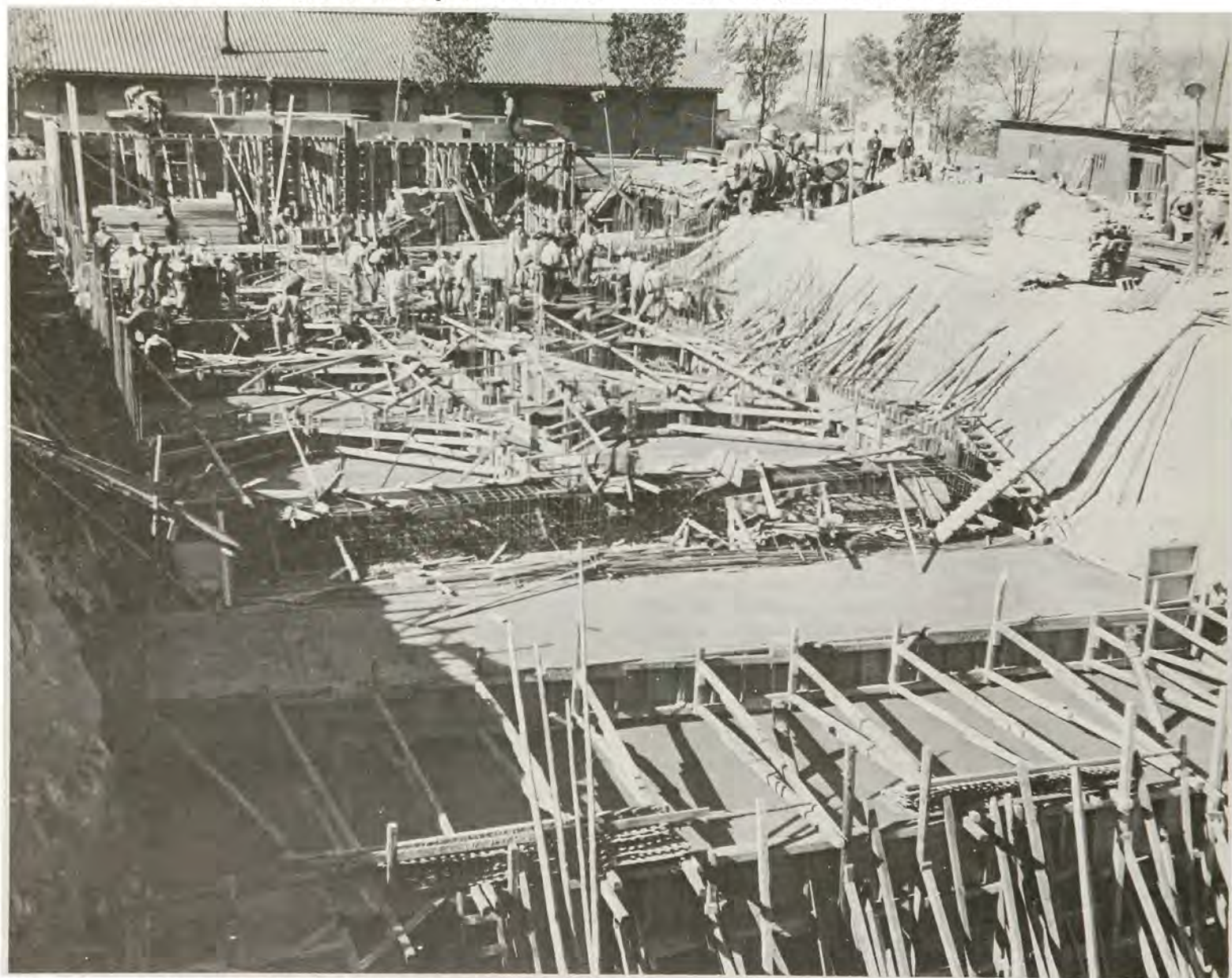
concluded the development of the early 1960's master plan at Pohang. In the process, Engineer troops, a Korean Government agency and one American and a number of Korean contractors, individually and in joint ventures, worked with FED to create the facility.

The 2nd Division, which replaced the 1st Cavalry when it returned to the States for deployment to Vietnam, now occupied the forward area northwest of Oujongbu. Much needed troop housing for the Division was one of the few projects salvaged from the DOD cutbacks in the FY 66 and FY 67 MCA programs for Korea. FED signed more than \$1.3 million worth of contracts in December 1966 and February 1967 with three local joint ventures. When complete in 1968, the nine BOQs and five barracks added billets for 120 officers and 450 enlisted men. Another project in the forward area, one employing Engineer troop labor, was the replacement of flood destroyed bridges on the Main Service Route (MSR). The District designed a prestressed concrete girder that could be manufactured locally, an example of FED encouragement of the Korean economy in line with IBOP exceptions for local procurement of bulk items.

The only other major job in-country before the re-

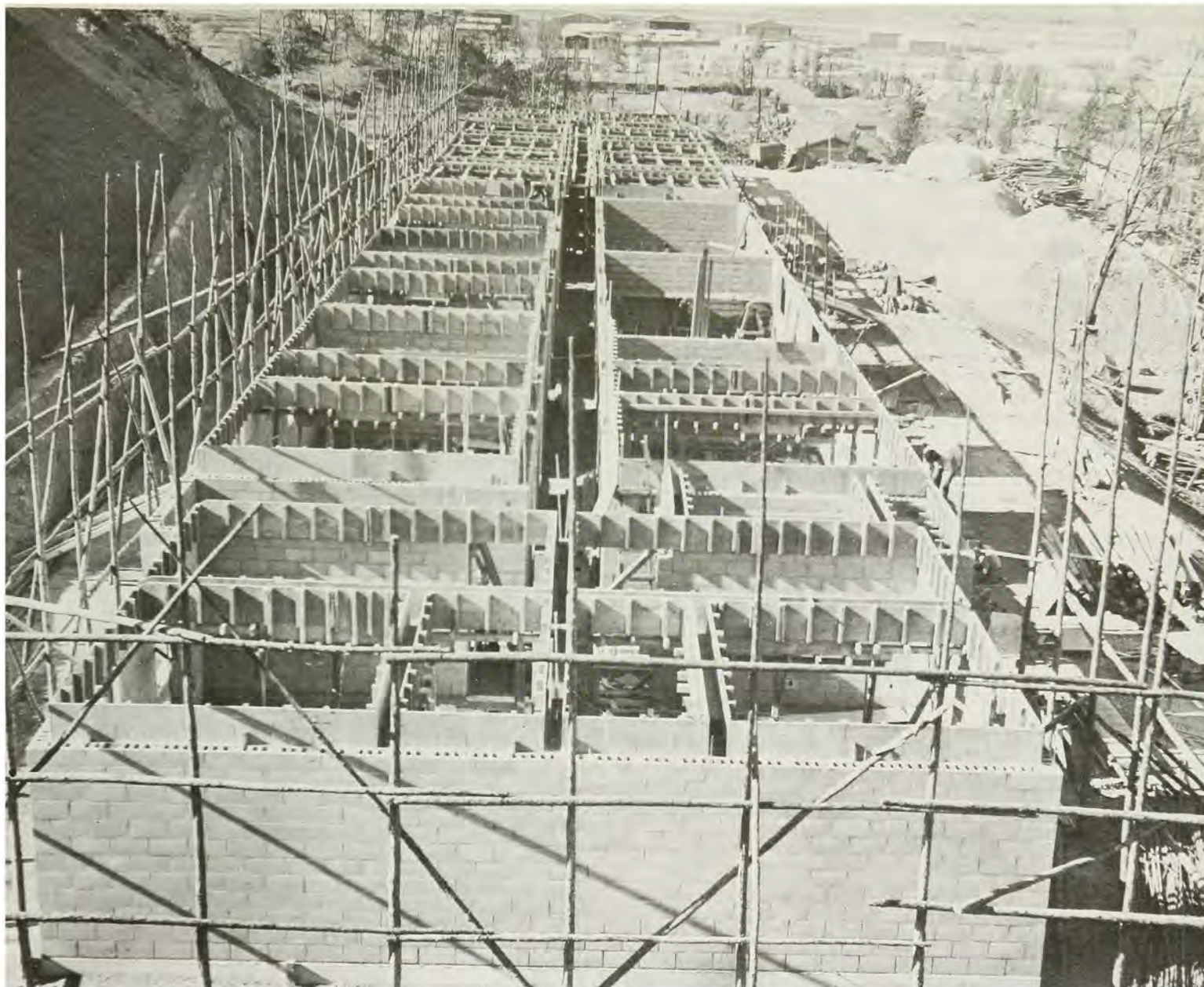
lease of deferred FY 66 items in early 1967 was the construction of the auxiliary airfield at Taegu, a multi-million dollar operation (ENG 1135) awarded to D. F. Fischer and Sons Inc., the American firm that completed a similar project at Suwon in 1964. Work consisted of repaving the existing 9,039 foot by 150 foot runway and taxiway and of building 1,000 foot overruns, lighting systems, a regulator-generator building and accompanying grading and drainage. Since the scope of the project demanded an American contractor, unlike most contracts in Korea, the District required a performance bond.

With the FY 66 MCA/MCP fund release, FED could proceed with building the two officers' billets and the division headquarters at Osan and the operational apron at Kimpo. Local joint ventures erected all three two-story concrete block structures at Osan. And Hyun Dai Constr. Co. Ltd. and Kun Sul Indust. Co. Ltd. combined for the successful bid of \$477,946.10 on the 38,000 square yard, 14 inch thick pavement apron at Kimpo. The Korean contractors completed this MAP funded contract (68-C-26), which also included an access road and shoulder, in fourteen months.³⁰



Initial phase of Osan division headquarters project

30 Contract Register; USAEDFE Korea AEO Booklet, mid-1966, mid-1967, late 1967, and Spring 1968; Interviews, Kon Il Chong, 28 August 1975, Song Tae Pak, 16 September 1975, Charles Bass, 16 October 1975, Sakong and Nielsen; Letters between OCE & POD and FED & POD, 10 October 1965 to 31 August 1967; Unit Histories: 44th & 802nd Engineer Battalions (Construction); Winegar Booklet 1966, Active Construction Contracts as of 31 January 1966; CIT Visit 1966, FED Section.



First floor of officers' quarters, Osan Air Base

Besides this construction at the air bases, Pohang and the 2nd Division area, the District also received a new mission from Eighth Army: deep well drilling. In early 1965, EUSA asked FED to engage in a vigorous program of developing a water supply for more than 150 installations throughout Korea. In the previous eight years, the water well project for Eighth Army was less than successful with only five wells producing a significant amount of water. Without on-site wells, the command spent millions each year in water hauling contracts. The Eighth Army assignment went to the District's Exploration, Laboratory and Survey Branch, which was the only organization in Korea capable of undertaking such a monumental drilling task. EL&S enjoyed much more favorable results than its predecessors: all of the first ten wells, for example, were successful. In the peak well drilling years of 1968 to 1969, EUSA estimated that FED saved in excess of \$2 million annually. Most initial problems and delays resulted from slow processing of newly hired well drillers and EUSA inability to maintain pace with EL&S in con-

necting the new wells to the extant water system. Eventually FED installed the pumps and all pipelines shorter than 500 feet and contracted for longer conduits. EL&S personnel trained a number of enlisted men assigned to the District in this specialty. The training program helped to alleviate the perennial turnover frustrations since many of these men rejoined FED as DACs.³¹

A sidelight of this period which would have a much greater impact when construction escalated in Korea in 1968 was Article XIV of the new Status of Forces Agreement between the US and Korean Governments. The article made invited A-E firms wholly dependent upon the United States Government for work. As a result, projects could not be parcelled out in small doses to many concerns because there would not be enough work to keep all of the A-E firms in business. In addition, the new SOFA would foster an important change in the mission of Real Estate Division.³²

In the years between 1963 and 1968, designation as

31 USAEDFE Briefing, EL&S Section, Drilling/Construction Activities, c. 1970; Interview, Michael King, October 1975; Letters between OCE & POD and POD & FED, 9 December 1966 to present.

32 Letters between OCE & POD and POD & FED, 25 February 1966 to 23 September 1966; Mutual Defense Treaty between the USA and the ROK, Regarding Facilities and Areas and the Status of U.S. Armed Forces in the ROK, Signed 9 July 1966, and Effective 9 February 1967.

the design and construction agent for the Department of Defense in Korea and Japan and the buildup to support the United States mission in Southeast Asia impacted significantly on the Far East District. The most obvious changes were the sudden increase in total workload, reversing the previous trend, and the shift of construction concentration from Korea to Japan. As a consequence of the latter, FED reorganized with Construction Division, elements of Supply Division, and the Safety Office joining Engineering in Japan. At the same time, Korea became an area office and JAO, two.

Problems caused by economic policies, personnel shortages, and the turbulence associated with the increased support of military operations in Vietnam taxed FED members. The crash projects for the Army, Navy, Air Force, and Marines and the supplementary Congressional appropriations engendered by the escalation in Indochina were new phenomena for the District.

The Southeast Asia support projects commenced in late 1965 with a flurry of rush design and construction jobs in the Tokyo area. Realignment of construction priorities by FED's user agencies in these months, and subsequent alterations in plans as Administration policies for Indochina shifted, kept District personnel and A-E firms busy day and night. The range and urgency of these projects varied considerably from the hospital bed rehabilitation, autodine message switching center, and POL mooring buoys for the Army to the shore-to-ship installation for the Navy and the numerous aircraft support and maintenance facilities for the Air Force, Navy, and Marines. Upgrading and expanding Yokota Air Base to include the loading apron, fueling system, and air passenger and freight terminals proved the most ambitious of these. In the process of completing this task, District personnel gained valuable experience with compressed schedules and fluid programs.



EL&S well drilling crew at work, from left, Kim, Pae and Pak

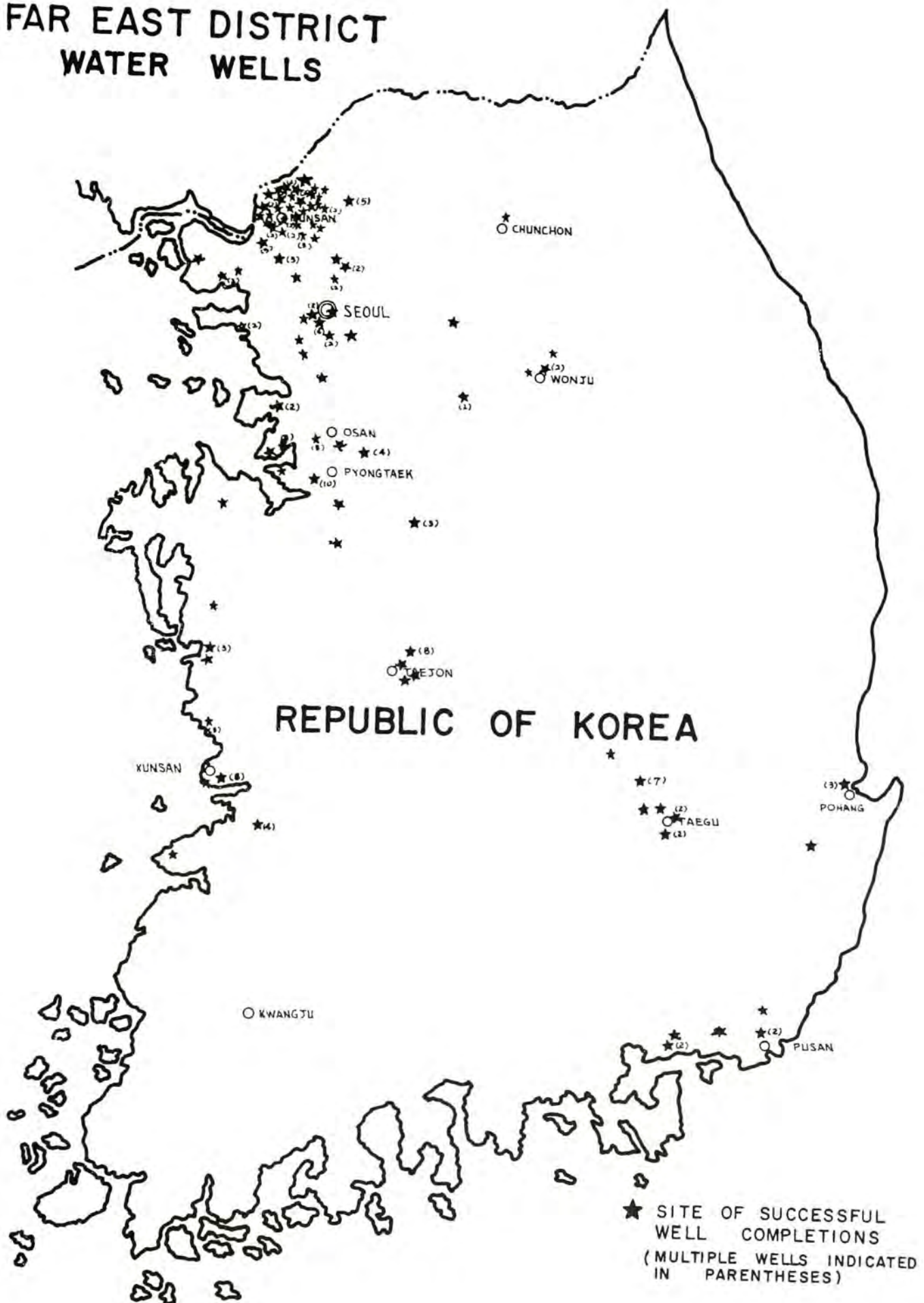


New well at Camp Casey

By the end of the era in Korea, FED was regularly employing an idea introduced in 1963: consolidation of many small projects into one package to attract larger, more reliable construction firms. A prime example of such grouping was the AC & W contract, a project which the District took over from the Air Force in 1963 and which caused many headaches and frustrations. The District also assumed several large Air Force contracts for AFSS facilities in Northern Japan. The difficulties encountered there and at the other sites on northern Honshu and Hokkaido were allied with those in Korea. However, Japanese contractors did not need or especially want US Government business, and this independence actually increased the number of on-site delays and terminations. The prefabricated USAHOMES contracts at Chitose and Wakkanai exemplified the worst problems with IBOP procedures and illustrate why large local construction firms did not wish to work for FED.

The era concluded with resumption of limited MCA/MCP construction in Korea and a tapering off of the massive effort in Japan. The experiences encountered by the District with the Southeast Asia crash and high priority programs were good preparation for the ensuing years when a similar situation would occur in Korea, and FED focus of attention would again shift.

FAR EAST DISTRICT WATER WELLS



CHAPTER 5
68 SUPPLEMENTAL
1968 TO 1970

Two events occurred in late January 1968 which radically altered the American posture in Korea: the Blue House Raid and the seizure of the *USS Pueblo*. Subsequent incidents with the North Koreans and Chinese made the situation more unstable. The immediate American response took the form of an augmentation of tactical Air Force units in-country and movement of a carrier task force to the Sea of Japan. A more permanent measure, one directly affecting the Far East District, was the appropriation of a \$100 million crash construction program for the US Army and Air Force in the Republic of Korea. Staggering problems confronted the District in designing and constructing this FY 68 Supplemental Military Construction Program (68-S): bad weather, governmental and civilian resistance, bureaucratic inertia, shortages of everything from cranes to contractors, vacillating guidance and funding alterations. The majority of these problems sprang from the urgency endemic to 68-S. Mandatory deadlines dictated extremely compressed design and construction schedules. Most programmed completion dates fell within two years of design initiation. Since circumstances often in-

terfered with District efforts for the rapid conclusion of projects, the words "slippage" and "delay" permeated correspondence and conversations.

Work for the Air Force took place at Kunsan, Osan, Kwangju, Taegu and Suwon Air Bases. The Army centers of activity were more numerous and included the 258-mile trans-Korea pipeline and related pumping, storage and terminal facilities, the Chinhae ammunition pier, and in the forward area troop housing and supply and storage installations. Concurrent with the 68-S projects in the ROK were the regular construction programs for Japan and Korea and the remnants of the earlier crash effort in the island country.

On 22 January 1968, a group of North Korean agents attempted to assassinate President Park of the ROK at his official residence in Seoul, the Blue House. The plan failed, and most of the infiltrators died in its attempt. Just two days later, the North Koreans seized the *USS Pueblo* in international waters off Wonsan, North Korea. These two events triggered the American Government's instantaneous reaction of transferring additional tactical Air Force units to Korea and deploying a Naval carrier task force to the Sea of Japan. At the same time, the rate of incidents along the DMZ increased so sharply that by the end of 1968, US and ROK casualties numbered over 100 killed and 200 wounded. In addition, an unarmed American EC 121 was shot down while it pa-



Troop housing, Camp Stanley



POL pipeline

trolled the skies above the Sea of Japan. Armed conflict loomed, and the United States prepared.

The US Administration decided that a large construction program in Korea was in order to meet the increased tactical, logistical and administrative requirements. By April 1968, the first design directive for airfield improvements at Kunsan and Osan reached FED; this directive permitted the District a mere sixty days to award the contracts.

Members of various DOD staffs and departments spent the intervening time determining the scope and magnitude of the construction program for Korea. Since almost everything needed improving, the selection was difficult. Political and tactical considerations divided 68-S into three major areas. Attention directed by the US news media to American soldiers living in tents in the middle of a subzero Korean winter drew angry reactions from the States. Thus, troop billets received a high priority. An Air Force buildup meant automatic improvements for air bases. Consequently, these airfields required strengthened runways and taxiways and additional cargo aprons and fighter alert hardstands, and, as the Vietnam and Israel-Arab experiences had taught, the aircraft needed shelters to assure their protection while on the ground. Increased logistical capabilities were also essential to support the build-up of American forces. Therefore, more depots, storage areas, and port facilities were necessary to receive the burgeoning shipping tonnages, especially those of ammunition. Of the utmost importance among logistical operations was the POL supply system. Its vulnerability in the early stages of conflict dictated an alternate method of moving petro-

leum products. A buried pipeline from Pohang to Seoul offered the best alternative to easily disrupted highway and rail shipments. Since the existing POL storage facilities were inadequate, DA added storage tanks with a total capacity of 360,000 barrels to the project. Thus, troop housing, airfield improvements, and some logistical facilities formed the nucleus of the FY 68 Supplemental Military Construction Program.

The initial appropriations of \$46 million for the Air Force and \$41.8 million for the Army came from a transfer of Southeast Asia Emergency Fund monies. In the rush to assemble the 68-S program for Congressional approval, the Army, in particular, underestimated; DA later requested and received another \$9.7 million. Subsequently, the Secretary of Defense approved a revised program which included an additional \$2.4 million for the Chinhae port project. However, DOD modified the restated program by integrating \$1.5 million Air Force and \$2.4 million Army design costs. This step essentially reduced the 68-S construction funds by almost \$4 million. To simplify the administration and facilitate progress, the Department of Defense appointed BG John Dillard, the new Eighth Army and USFK/UNC Engineer, to control and coordinate the \$102 million program.

Proposed design and construction schedules were extremely compressed. The goal for the Air Force segment, for example, was to award the contracts *in toto* by 1 April 1969 and to complete all projects by 1 November 1969. The initial pavement work at Kunsan and Osan had the almost unbelievable target of July 1969. The last planned Army beneficial occupancy date, the brob-

dingnagian pipeline undertaking, was 15 July 1970 — only two years from the day President Johnson signed the 68-S bill on 11 July 1968. As events proved, with all the obstacles encountered, it was not possible for the District to meet every deadline of the entire crash program which included 630,000 square yards of airfield pavement, billeting accommodations for 10,000 officers and enlisted men, a 258 mile pipeline and all related equipment, a large ammunition port, and two complete supply complexes.

A ticklish situation arose with regard to who would be permitted to receive 68-S contracts. The ROK Government wanted all FED awards to go to local firms. But there were several fundamental reasons why the Korean construction industry could not respond to FED needs. Of prime importance was that although local contractors now had the capability to undertake most projects, they were also committed to the development of the Korean economy. In addition, many of them still lacked the expertise and management skills to cope with such a compressed schedule, particularly in the area of airfield pavement. The District required the knowledge and experience of Stateside companies, but since the bulk of FED awards in the rather sluggish mid-1960's had gone to local contractors, there were few American firms in Korea in 1968. And US companies not already in-country could not accept contracts unless the ROK Government approved. The compromise reached after discussion at the SOFA Committee meetings was that American construction firms could work on the 68-S

program but only in joint ventures with local contractors.

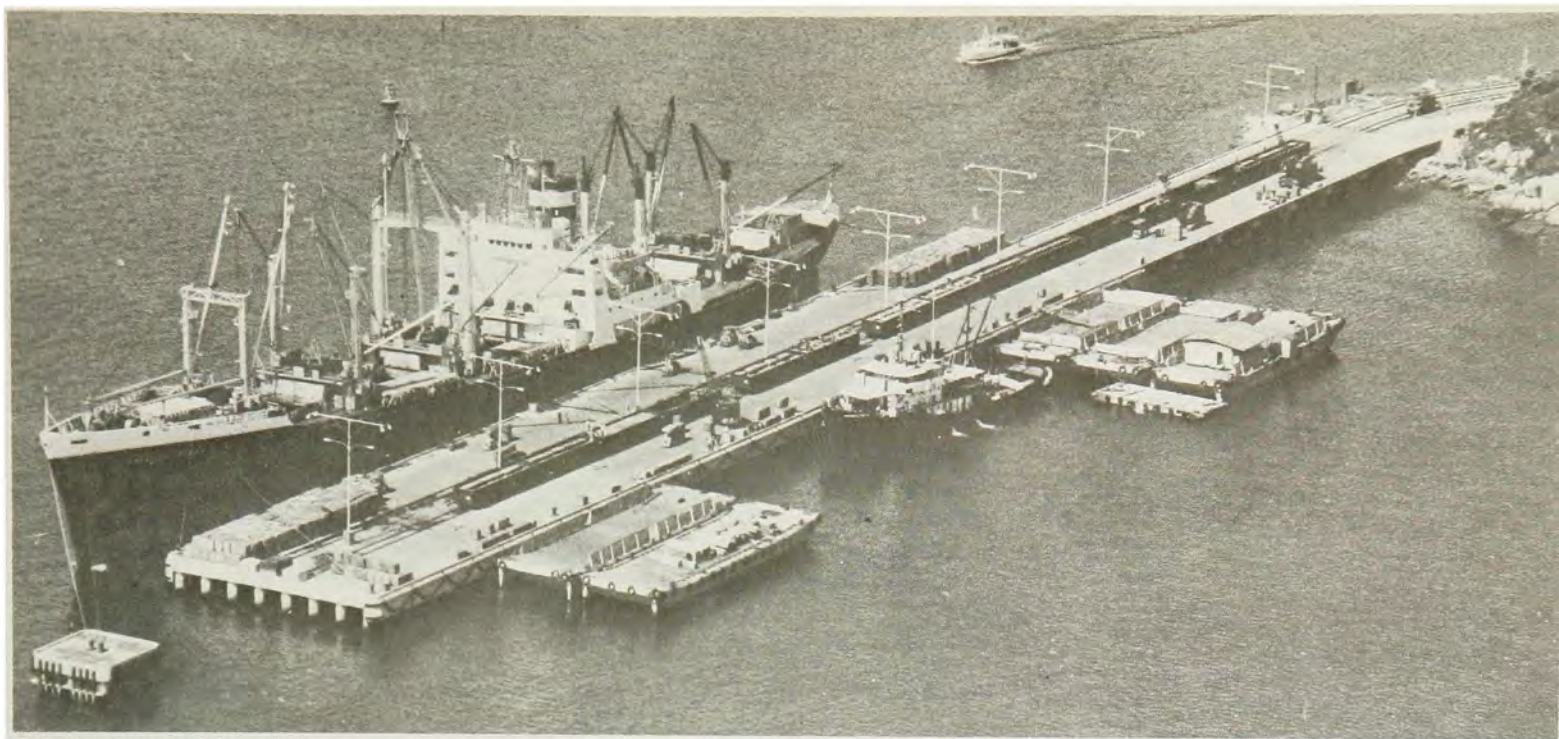
With this obstacle eliminated, on 22 August 1968, four months after receipt of the initial design directive, the Far East District signed the first major 68-S contract of \$6,076,549.55 with the joint venture of Vinnell Corp. and Hyun Dai Construction Co. Ltd. for airfield pavement improvements at Suwon, Kwangju, and Taegu (69-C-15). A few days earlier, FED had added supplemental agreements for concrete hardstands and taxiways to the Osan and Kunsan pavement improvement contracts already in progress. With these actions, the initial stage of determining the projects, funding, management responsibilities, contractor categories, and basic design and construction schedules ended, and work subject to the compressed 68-S timetable began.¹

Through utilization of emergency monies, the Air Force was able to initiate some of the airfield pavement improvement well in advance of the supplemental Congressional allocation. Shortly after the *Pueblo* incident, 5th Air Force forwarded requests for the Osan and Kunsan airfield upgrades to Engineering Division; the project consisted of improving and strengthening the taxiways and aprons with concrete pavement. In order to begin these urgently needed jobs and to avoid waiting months for the 68-S appropriation approval, the Air Force provided \$2.1 million in emergency Tab V (or Tab Vee) funding to supplement \$1.5 million in O & M mon-



Three fuel storage tanks under construction, Pohang

¹ *The New York Times*, 1968; Construction Boom in the Far East District, January 1969; Letters, COL John J. McCulloch, District Engineer, FED, to BG Edward T. Podufaly, Division Engineer, POD, 13 February 1968, p. 1, and 13 May 1968, p. 2, and BG Podufaly to MG Carroll H. Dunn, Director of Military Construction, OCE, 25 July 1968, p. 4, 27 August 1968, p. 4 & 30 August 1968; Enclosure Message, 18 July 1968, CINCPACAF to DE, FED; UNC-USFK 68-S Military Construction Program Korea USFK-ENJ Booklet, July 1969; Memorandum for Record, 16 December 1969, C. A. Forehand, Comptroller, POD, Subject: Management of Korea FY 1968 Supplemental Military Construction Program; Memorandum for the Secretaries of the Military Departments and the Chairman, Joint Chiefs of Staff, Subject: Management of Korea FY 1968 Supplemental Military Construction Program.

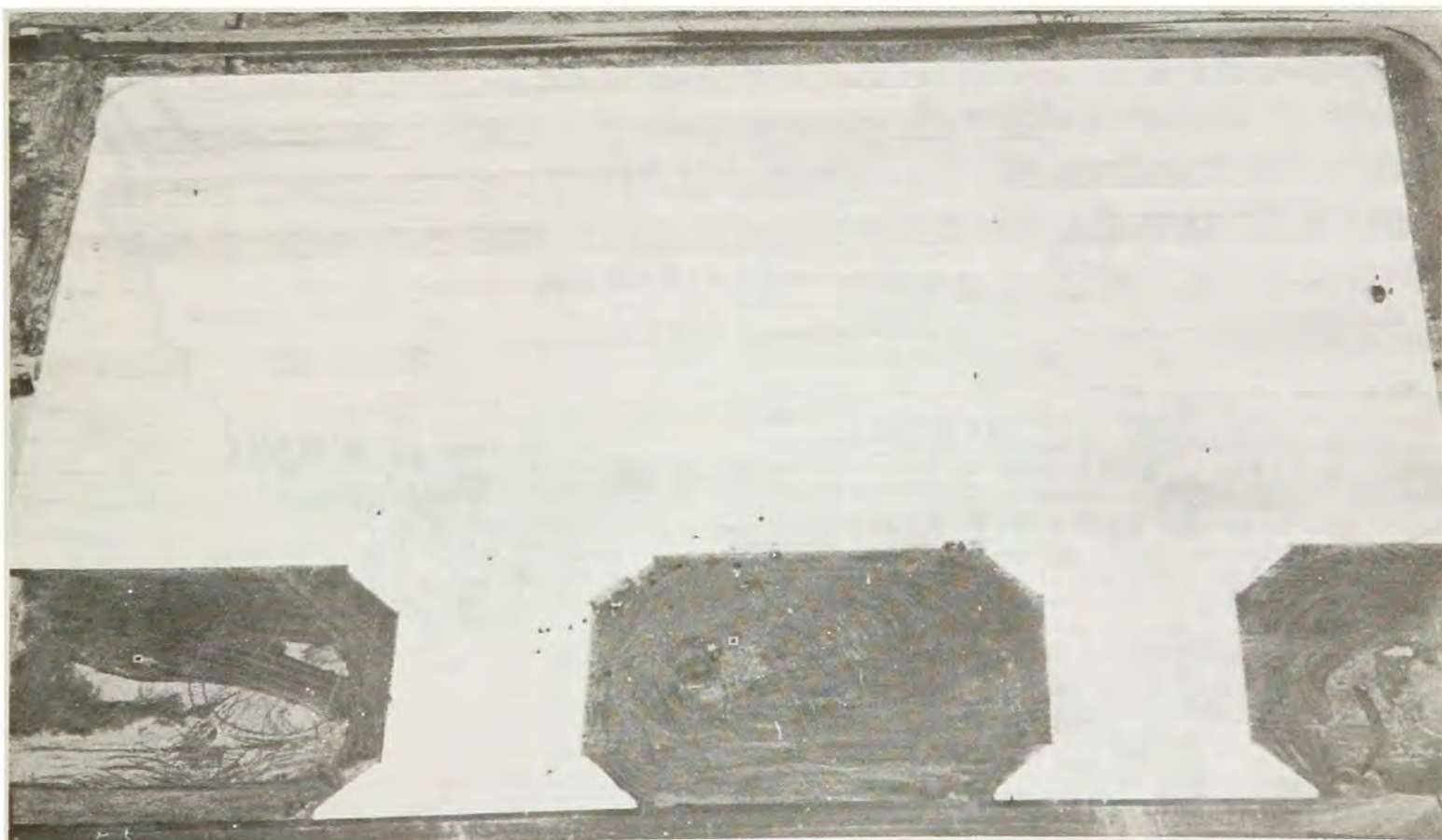


Chinhae ammunition pier

ey already programed. FED decided to design one job in-house and delegate one to an A-E firm. The funds for the engineering phase arrived, and on 22 March 1968, with OCE permission to initiate design work before the receipt of construction monies, the A-E firm of Daniel, Mann, Johnson and Mendenhall, or DMJM, commenced the design of the Osan segment and FED, that of Kunsan. Both facets of the project were ready for a 26 April advertisement and a 28 May bid opening. Subsequent to the issuance of bids, OCE and PACAF advised the District that they had not received the Department of Defense approval for the \$1.5 million O & M portion of the

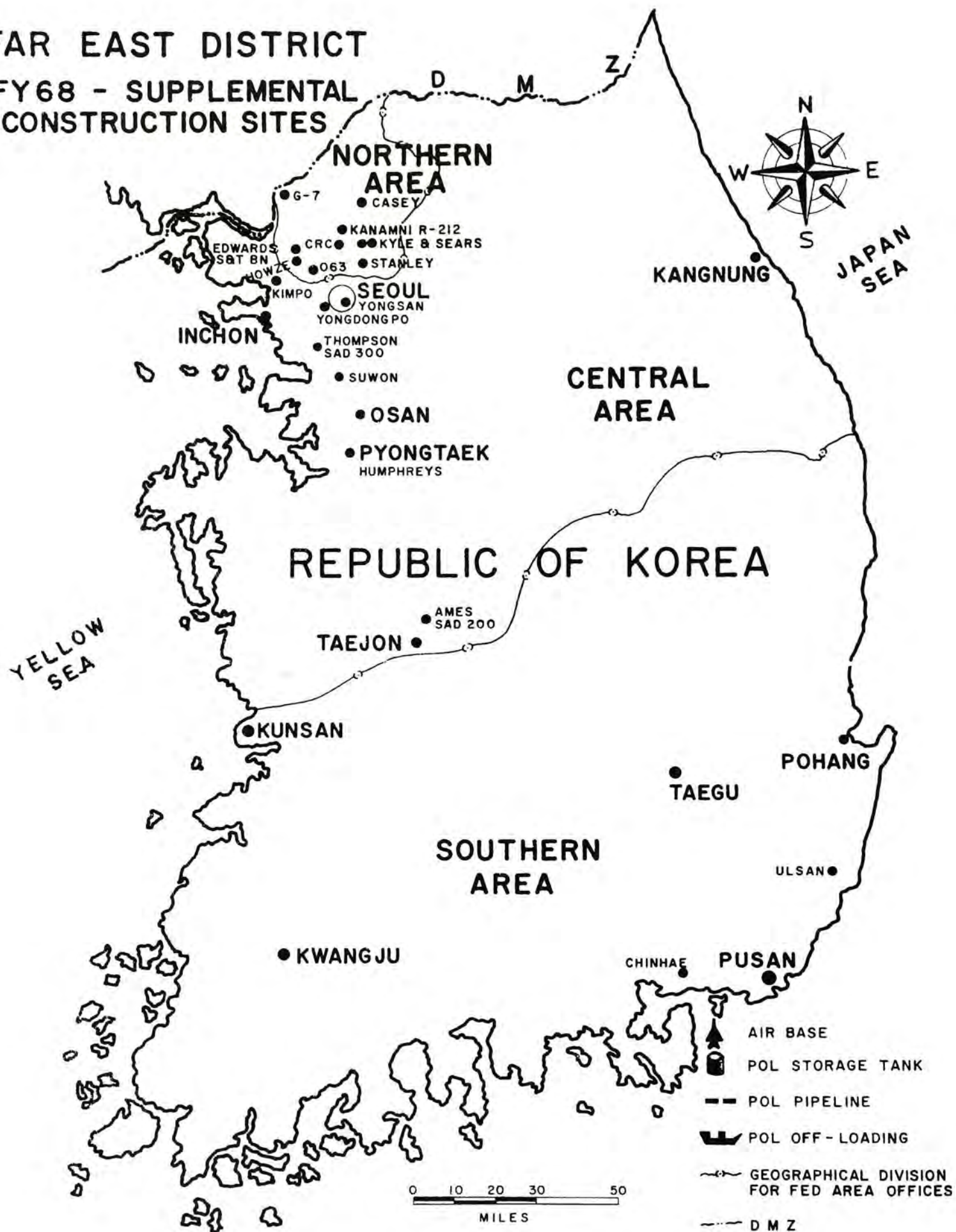
\$3.6 million project but expected it prior to 28 May. FED had to delay the bid opening until 27 June when DOD released funds for this project as well as the monies for all 68-S designs. In late July, the District engaged Lyon Associates and Adrian Wilson Associates to join DMJM and FED Engineering in completing the plans and specifications for the construction work at all five US air bases in-country: Osan, Kunsan, Suwon, Taegu, and Kwangju.

With the 27 June 1968 awards of \$1,391,939.84 to Korea Development Corp. (68-C-71) and \$1,587,928.80 to Sam Whan Enterprise Co. Ltd. (68-C-72) for the pav-



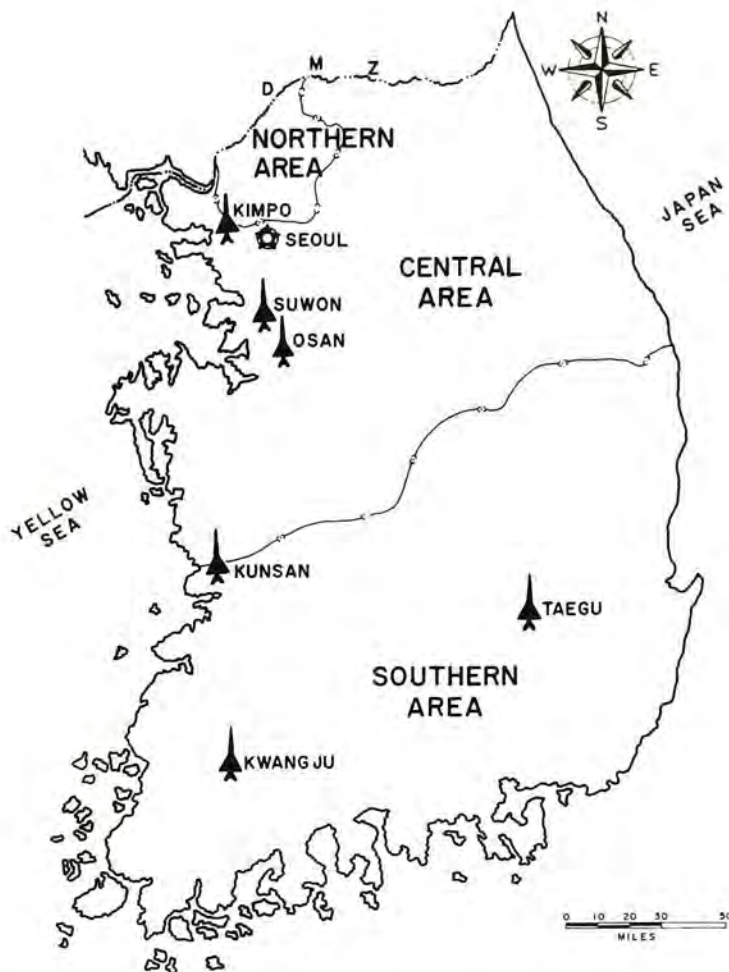
Kunsan Air Base apron

FAR EAST DISTRICT FY68 - SUPPLEMENTAL CONSTRUCTION SITES



ing at Osan and Kunsan, the construction phase of 68-S began. The District employed competitive negotiations for these and most other contracts in the crash program because the available monies were not sufficient to finance all of the desired construction; this type of award permitted the flexibility and control necessary to commit funds on a progressive basis which ensured completion of all work undertaken. In the case of the two paving jobs, the negotiated figures fell well within the government estimates, a goal which was not always attainable.²

Things began poorly at Osan; in August, the District had to reschedule the contract because the asphalt plant procured in Japan and delivered to the job site was totally unserviceable forcing the contractor, Korea Development Corp., to order a second plant from the States. As an interim measure, with the support of the USFK Engineer, FED transferred an 802nd Engineer Battalion continuous mix asphalt-concrete batch plant to Osan and issued it to the contractor for use on the shoulder stabilization and binder courses. On 17 August, more than a month before the arrival of the awaited equipment, FED completed discussions with Korea Development for a supplemental agreement covering an upgrade of the taxiway and construction of foundations and concrete pads for aircraft shelters and pavement surrounding the shelters. Because of the unstable soil conditions, a result of its former use as a rice paddy, some of the shelter pads required pile foundations. With the addition of this supplemental work, the District

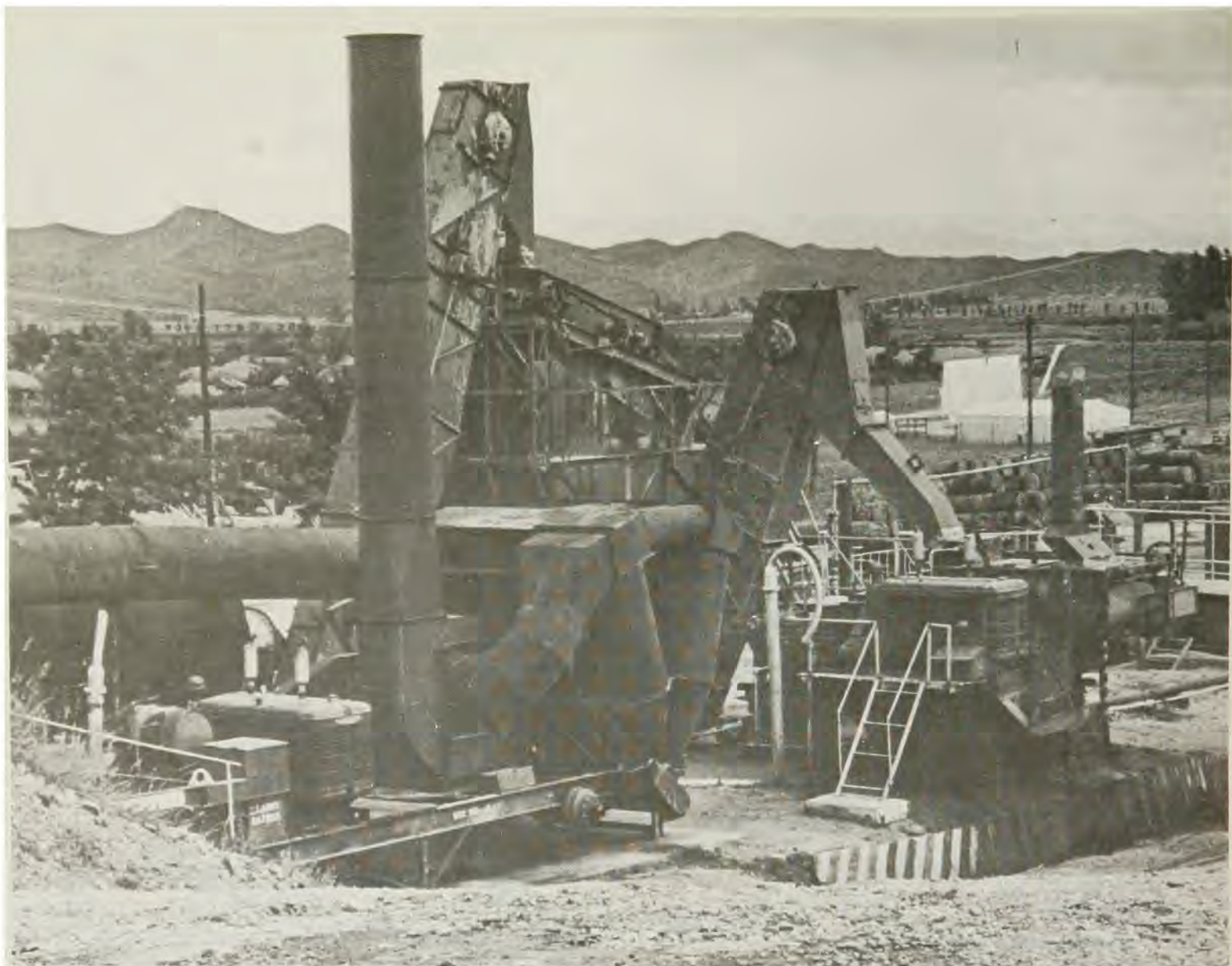


slipped the contract completion date of the Osan "horizontal phase" three weeks to 15 November 1968.



By early September, when Engineering finished redesigning the Osan project to include the shelter foundations, the arrival of Korea Development's equipment order from the States was long overdue. When the order reached Pusan a few weeks later, dockside unloading problems stalled the project further. Not long afterward, however, the contractor had all the machinery on-site and operating. Korea Development was finally able to lay the six inch aggregate base and asphalt binder course for the first segment of the primary runway upgrade, an operation which had to be accomplished in phases so the air base could remain functional. Almost immediately, an obstacle developed: both the poor quality and inadequate quantities of the available aggregate hampered placement of the base course. As soon as improved sources of aggregate were located, the rate of progress increased rapidly. In an attempt to recoup as much lost time as possible and to ensure maximum placement before the onset of winter, FED implemented a programed schedule of progress (or network analysis system) with the local contractor. Despite these efforts and a mild early winter, Korea Development failed to meet the taxiway pavement deadline. However, their completion of the binder course left Osan's taxiway operational for the winter with the final 1½-inch pavement layer to be laid in the spring. When subfreezing temperatures halted construction in late January, Korea Development had also finished the run-

² Contract Register; POD Comptroller Recapitulation Report FY 68 SMCP, p. 6; USAEDFE Seoul Area Engineer Office Booklet, July 1969; Letters, BG Podufaly to LTG W. F. Cassidy, Chief, OCE, 11 June 1968, p. 1, BG Podufaly to MG Dunn, 25 July 1968, p. 2, and POD to District Engineer, FED, 5 March 1968, Subject: Contracting Authority, and 14 February 1968, Subject: Procurement in Ryukyu Islands, Korea and Japan; Declaration, COL McCulloch, Determination and Findings to Procure Construction Through Competitive Negotiation, 12 July 1968; and Message, POD to District Engineer, FED, 8 July 1968.



Batch plant lent by 802nd Engineer Battalion to Korea Development Corp. for the Osan pavement improvements

way, the cargo apron, and most of the aircraft shelter foundations.³

Progress at Kunsan was, if anything, more troubled. On 28 August 1968, a month after FED issued the notice to proceed, the schedule called for the onset of asphalt paving. It was not possible for Sam Whan to follow this timetable because the asphalt plant and other major pieces of paving machinery being transported to Korea by the aptly named *USS Meandros* had not yet arrived. And the San Francisco Liaison Office reported that the chances of the ship appearing seemed marginal since its deck was so loaded with the contractor's equipment that it looked top heavy. After the *Meandros* finally docked in Pusan almost two months late, it nearly did swamp because of its overloaded deck. While awaiting this machinery, the District signed two supplementary agreements with Sam Whan, one in August for some aircraft shelter foundations and surrounding paving like those at Osan and one in September for the remaining taxiway and the last increment of shelter pads.

A task force from the 44th Engineer Battalion assisted the push toward rapid completion at Kunsan by preparing the subgrade layer for the shelter pads. By January 1969, in spite of the delays caused by slow

mobilization of key equipment for aggregate production and paving, the runway, the hardstands, the first group of shelter pads, and the initial increment of the main taxiway, except the upper 1½-inch layer, were paved, leaving the Air Force with an operational air strip during the winter. At this time and in conjunction with the elimination of several planned shelter pads, FED, at Air Force request, relocated a group of the hardstands and solicited competitive proposals for them. This District offering also included the last unimproved segment of the auxiliary runway and the remaining shelter pads. Before the joint venture of Vinnell Corp. and Hyun Dai received the \$3,414,210.30 award for the auxiliary runway and last increment of shelter pads on 31 January 1969 (69-C-60), the District added part of the final phase of the 68-S horizontal program at Kunsan: hardened aircraft shelters (wonder arches). FED separated the remainder of this phase, the double wonder arches, and signed a \$490,500 contract (69-C-85) for them several months later with JHW Inc., Reed and Martin, Inc., and International Co. Ltd.

The initiation of the wonder arch contracts at Kunsan and the \$1,038,400 award to the joint venture of Stolte, Inc., Santa Fe Engineers Inc. and Korea Devel-

³ Contract Register; Comptroller 68 SMCP, p. 5; 68-S Tabs C, G, J & K; USAEDFE Kunsan REO Pamphlets, 1968 and 1969; Letters, COL McCulloch to BG Podufaly, 12 August 1968, pp. 5-6, BG Podufaly to MG Dunn, 27 August 1968, pp. 3-4, BG Podufaly to COL William L. Starnes, acting Director of Military Construction, OCE, 7 October 1968, p. 2, BG Curtis Chapman, Division Engineer, POD, to LTG Cassidy, 6 December 1968, p. 1, and BG Chapman to MG Dunn, 9 January 1969, p. 2.



Taxiway improvement, Osan Air Base



Crosswind runway and shelter pads, Kunsan Air Base



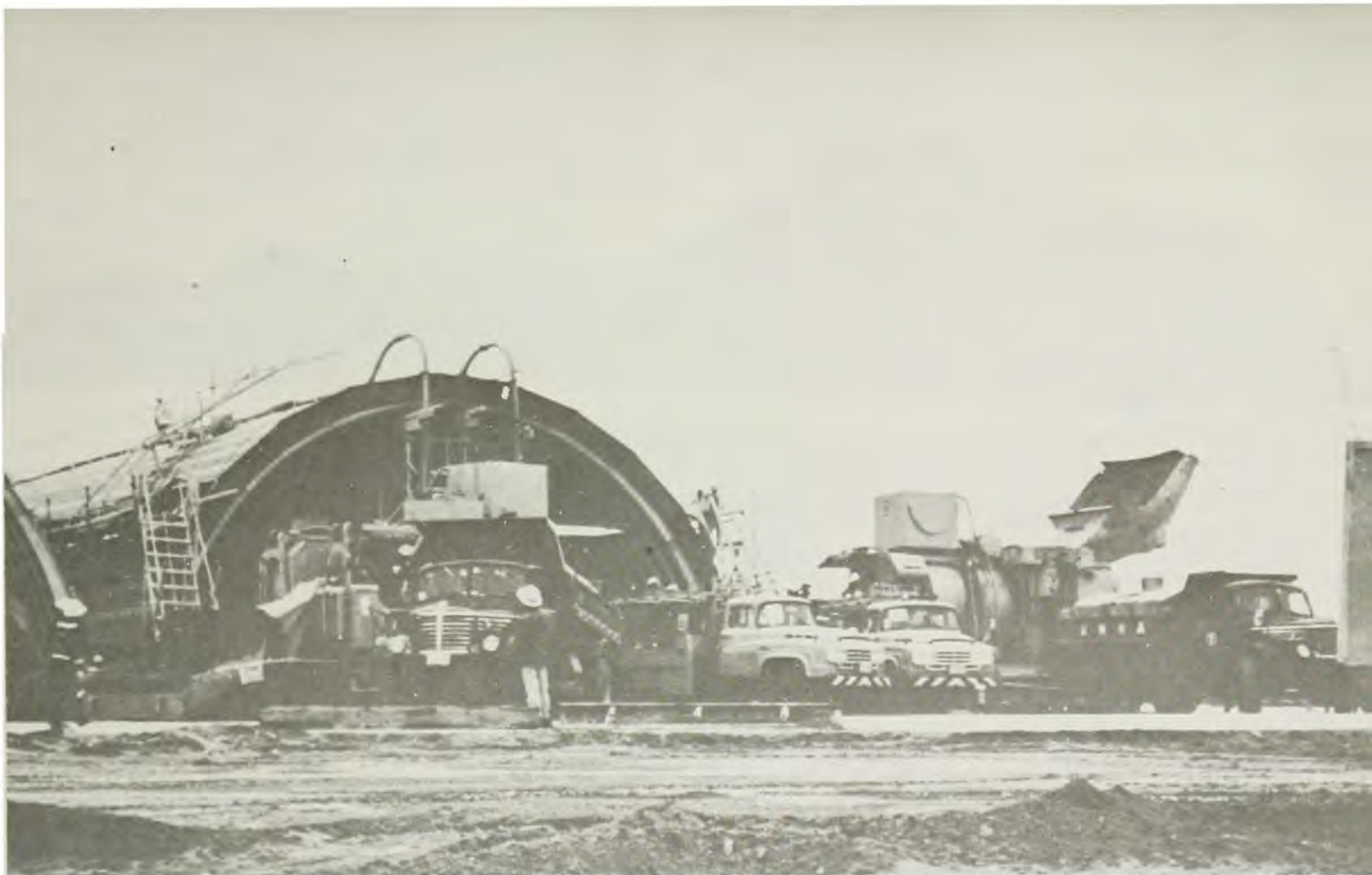
Partial completion of dispersal pads and associated paving, Kunsan

opment Corp. for the hardened shelter covers at Osan (69-C-61) concerned District engineers. They questioned the structural adequacy of the corrugated metal liners, which the Air Force's Red Horse Squadron was preparing to erect, to support a covering layer of concrete. Equally uncertain were the degree of cracking that might result and the consequences that might follow. A District team studying the problem concluded that the concrete had to be placed simultaneously in limited lateral lifts and that each segment required a setting period before the addition of other lifts. Of the various concrete pouring techniques utilized for the shelters at the five

air bases — pump-crete, conventional crane-and-bucket arrangement, and conveyors — the last met with the least success and required the most repair because of the concrete's tendency to separate on the conveyor belt and to honeycomb during the setting period. None of the wonder arches actually collapsed or buckled excessively. And, once construction of the shelter covers began, the scarcity of acceptable aggregate proved to be more of a problem than structural soundness.⁴

At Taegu, Suwon, and Kwangju, FED combined the pavement improvement projects into a "horizontal package" which the District subsequently awarded to the

⁴ Contract Register; Comptroller 68SMCP, p. 2; 68-S Tab G; Interview, Harvey L. Robinson, 12 September 1975; Letters, COL McCulloch to BG Podufaly, 12 August 1968, p. 6, BG Podufaly to MG Dunn, 27 August 1968, pp. 4-5, BG Podufaly to LTG Cassidy, 10 September 1968, p. 2, BG Podufaly to COL Starnes, 7 October 1968, p. 3, BG Chapman to BG Raymond, 4 August 1969, p. 2, and BG Chapman to MG Dunn, 9 January 1969, pp. 1-3.



On-site equipment for hardened aircraft shelter, Osan



Placing concrete on first aircraft shelter, Osan Air Base

first joint venture of American and Korean firms in the ROK (69-C-15). Initially, eleven US contractors indicated interest in the package, and seven submitted proposals. And, having profited from the lessons at Osan and Kunsan, the District included a network analysis in the \$6.1 million contract as a guide for the contractors and as a means to monitor construction progress for FED. On 22 August 1968, FED awarded the construction package to Vinnell and Hyun Dai. For the remainder of 1968, the two contractors concentrated their efforts at Taegu; they gave only minor attention to grading, aggregate production and equipment mobilization at Kwangju and to basic preparations at Suwon. At the end of the construction season and somewhat behind schedule, they had finished the hardstands and other pavement at Taegu, an accomplishment made possible be-

cause the two rapidly completed Hyun Dai's previously contracted work at Kimpo and transferred the paving machinery to Taegu. Also, in January, the Air Force deleted several shelters at Kwangju; and a conflict between ROKAF and USAF requirements compelled the relocation of some at Suwon. Two months later, the District negotiated a \$1,127,163.84 supplemental agreement for the erection of the wonder arches at the three air bases. With this action, the entire Air Force 68-S horizontal program was finally under construction contract.

None of these delays affected the Red Horse steel shelter erection because the metal arrived from the States three weeks late. Further delays resulting from its location on the bottom deck of the ship and from trucking to the sites postponed the initiation of the Red Horse construction until 28 December. By that date, the



Wonder arch construction, Osan Air Base



Partially finished wonder arches at Kwangju Air Base

District ensured that a sufficient number of shelter pads was ready so that the Red Horse could proceed and work through the winter as planned.

The heaviest snowfall in forty-seven years caused FED construction activities to resume later in the spring 1969 than normal; record rains during the spring and summer and flooding in July, August and September further stalled work on all projects. As a result, District contractors concluded construction of the \$21.7 million Air Force horizontal program late in the 1969 construction season — months behind schedule. The final tally for this segment of the Air Force 68-S package included new wonder arches and improved airfield pavement at Osan, Kunsan, Taegu, Kwangju, and Suwon Air Bases.⁵

During the winter of 1968-1969, when heavy snowfall and low temperatures halted most construction activity, FED had a chance to study progress of the 68-S program and to prepare for the resumption of activity as soon as spring weather permitted. In addition to the horizontal package, the remaining Air Force projects fell into five categories: housing, liquid fuel storage, utilities, squadron operations and base communications structures, and a "vertical segment" consisting of

maintenance, supply, ammunition storage assembly, administration and troop mess facilities.

Like the aircraft shelters, the troop housing at the five air bases joined the efforts of the Far East District and Red Horse. On 2 November 1968, FED signed a \$417,500 contract (69-C-39) with the joint venture of Associated American Engineers Overseas and Pyung Wha Constr. Co. for the exterior utilities up to the five-foot line of the planned billets. Opting for speed, PACAF chose relocatable pre-engineered buildings which the Red Horse could assemble during the winter. The Air Force procured the 82 modular buildings, or moduluxes, at a cost of more than \$10 million, an expenditure of almost \$2.00 per square foot for the enlisted men's dormitories and \$4.20 per square foot for officers. These figures represented a greater expense than the Army's conventional concrete and masonry block choice. The District contractors and the Red Horse had the first Air Force modulux ready for occupancy on 7 December 1968, less than five weeks after the latter agency began erecting the building; by 8 April 1969, 53 of the 82 were available for residents. The meshing of schedules between the contractors and the Red Horse went smoothly. In less than a year, Kunsan had twenty airmen's



Kunsan Air Base moduluxes, two foundations on left ready to receive modular units

⁵ Contract Register; Seoul July 1969; Comptroller 68 SMCP, p. 3; 68-S, Tabs C, G & K; USAEDFE Taegu Area Engineer Office Booklet, 1969; Interview, Wan Sik Yi, 21 August 1975; Letters between POD & OCE and FED & POD, August 1968 to 1969.

dormitories, two officers quarters, and three crew quarters; Kwangju, twelve dorms and two officers billets; Osan, sixteen troop barracks, four OQs, and six crew quarters; Suwon, six dormitories and one OQ; and Taegu, ten dorms and two officers quarters. This project required no schedule changes.⁶

FED separated the liquid fuel storage into two parts rather than awarding it as one package because the Osan and Suwon phases required resiting and redesign while those at the other three were ready for construction. On 12 March 1969, the joint venture of Morrison-Knudsen International Co. Ltd., Dae Lim Ind. Co. Ltd. and Tae Hung Ind. Co. Ltd. signed a \$1,266,643 contract (69-C-68) with FED for a 10,000 barrel plastic-coated un-

derground tank at Kunsan and buried containers totaling 30,000 barrels at Kwangju and Taegu. Fischer Engineering and Maintenance Co. united with Tong Yang Construction and Engineering to build the tanks at Osan and Suwon for \$1,070,817 (69-C-78). International Electronic Corp. and Han Il Development Co. Ltd.'s collaboration for the non-68-S underground storage added at Kunsan and Osan (69-C-117) began in June 1969. These tanks were larger than the 68-S ones started in the spring; that at Kunsan, for example, held 40,000 barrels, while the earlier ones were only 10,000 and

20,000. Late delivery of the off-shore CFM steel tank plates and a shortage of welders comprised the main sources of construction delay for these projects.⁷

The District broke the utilities phase of the 68-S Air Force program, worth approximately \$6 million, into four segments. On 5 August 1968, FED signed a \$411,990 contract (69-C-11) with Pan Asia Ind. Co. Ltd. for the Osan Air Base power upgrade. Regular FY 69 monies funded the design of this segment, but the urgency of the upgrade prompted its transfer to the 68-S program at the advertisement stage. The Osan upgrade involved raising the capacity of the extant electrical power plant through the installation of six generators and three transformers. Like most of the specialized equip-



Non-68-S jet fuel storage tank, Osan Air Base

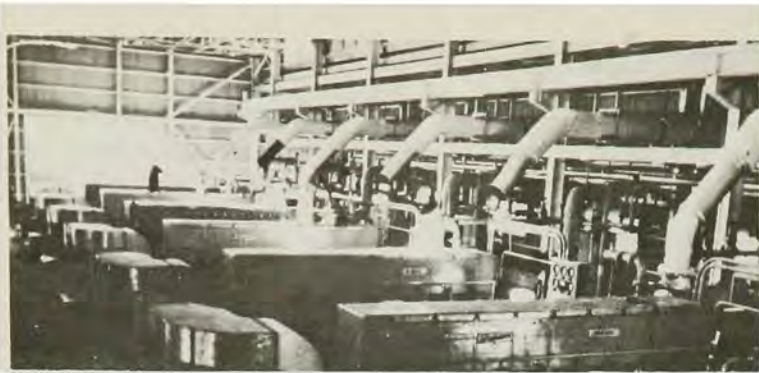
derground tank at Kunsan and buried containers totaling 30,000 barrels at Kwangju and Taegu. Fischer Engineering and Maintenance Co. united with Tong Yang Construction and Engineering to build the tanks at Osan and Suwon for \$1,070,817 (69-C-78). International Electronic Corp. and Han Il Development Co. Ltd.'s collaboration for the non-68-S underground storage added at Kunsan and Osan (69-C-117) began in June 1969. These tanks were larger than the 68-S ones started in the spring; that at Kunsan, for example, held 40,000 barrels, while the earlier ones were only 10,000 and

ment for the 68-S program, FED procured the generators and transformers in the States.

The utilities up to the five-foot line of the 82 modules comprised segment two. The third and largest segment of the utility package was the 26 March 1969 award to the joint venture of Zurn Engineers, Dai Han Elec. Devt. Co., Dai Shin Constr. Co. Ltd., and Dae Won Enterprise for \$2,499,900 (69-C-70). Construction for this DMJM-designed project consisted of the improvement and expansion of the power, water, and sewage systems, roads, and parking facilities at the five air

6 Contract Register; 68-S, Tabs C, F, G, J & K; Seoul July 1969; USFK-ENJ Report, 30 April 1973, Subject: Military Construction Status Reports for Korea; Taegu 1969; Letters, BG Podufaly to MG Dunn, 25 July 1968, p. 3, and 27 August 1968, p. 3, COL McCulloch to BG Podufaly, 12 August 1968, p. 2, and COL McCulloch to BG Chapman, 14 February 1969, p. 2.

7 Contract Register; 68-S, Tabs C & G; Seoul July 1969, Taegu 1969; Status Reports; USAEDFE Kunsan REO Pamphlets 1969 & 1970; Letter, COL Franklin R. Day, District Engineer, FED, to BG Chapman, 13 November 1969, pp. 4-5.



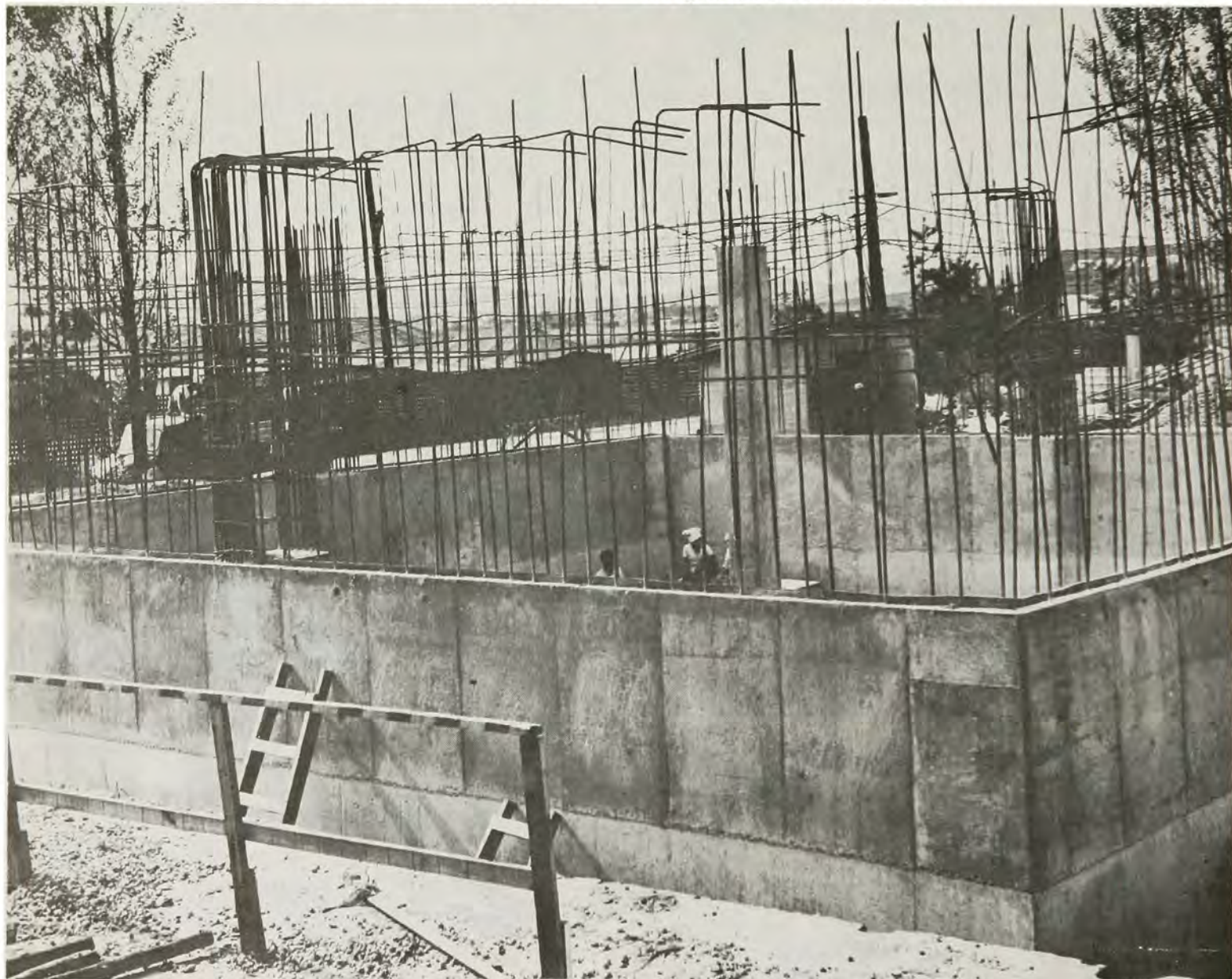
Addition to Osan electrical power plant

bases less Kunsan. A number of design problems because of inadequate preliminary work, the low elevation and poor water source prompted the removal of Kunsan from the package to avoid further delay. Somewhat later in 1969, Sam Whan consented to build the phase designed by Lyon Associates at Kunsan under the terms of a supplemental agreement to the initial airfield pavement improvement contract (68-C-72).⁸

The joint venture of Morrison-Knudsen, Dae Lim

and Tae Hung received the combined project for squadron operations and base communications facilities at the five air bases. Negotiations for this high priority item concluded on 20 December 1968 with the mutually agreeable amount of \$1,234,878 (69-C-50). Construction commenced simultaneously with the DMJM-designed communications buildings at the five sites and the squadron operations structures at Kunsan and Osan with the schedule calling for completion in the spring to permit installation of communications equipment. As in the case of the troop housing project, the Air Force chose to erect pre-engineered rather than concrete masonry buildings because of the shorter construction time.⁹

FED originally intended to award the ammunition storage and assembly element of the vertical package separately from the maintenance, supply, administration and mess segment. The initial bids, however, were extremely high. In order to obtain lower bids and more of them, the District combined all elements in the vertical program into one package and staggered the completion dates of the less critical structures. Since the



Partially finished 200,000 gallon water reservoir, Suwon Air Base

8 Contract Register; Kunsan 1968 and 1969; Status Reports; 68-S, Tabs C & G; Comptroller 68 SMCP; Taegu 1969; Letter, COL McCulloch to BG Podufaly, 12 August 1968, p. 3.

9 Contract Register; 68-S, Tabs C, G & K; Kunsan 1969; Seoul 1969; Comptroller 68 SMCP; Taegu 1969; Letter, BG Podufaly to MG Dunn, 30 August 1968, Inclosure.



Completed pre-engineered squadron operations building, Osan Air Base

building firms failed to respond satisfactorily to the readvertisement, on 5 May 1969, FED split the vertical phase into two segments. MWK International Ltd. and Kuk Dong Constr. Co. Ltd. agreed to erect the Osan and Suwon elements for \$994,415 (69-C-80) and Vinnell Corp. and Hyun Dai, those at Kunsan, Kwangju and Taegu for \$1,962,225 (69-C-81). Since most of the buildings were pre-engineered Bush structures, work progressed fairly rapidly. The conventional concrete block construction of the Kwangju and Suwon dining halls and many of the additions to existing structures took much longer. Included in the vertical package were ammunition storage and related facilities at all five bases, aircraft maintenance and support buildings at all but Kunsan, and a squadron operations structure at Kwangju. In addition to these two contracts for ammunition facilities, FED signed a smaller separate one (\$82,000) with Vinnell-Hyun Dai on 10 January 1969 for an access road and security lighting at the Kwangju complex (69-C-56).¹⁰

Thus before the onset of winter 1968, the District had the \$48.2 million Air Force 68-S program well underway in all six categories: the horizontal segment of pavement improvement and aircraft shelters, housing, fuel storage, utilities, operations and communications facilities, and the vertical package of miscellaneous structures.

The \$53.6 million Army 68-S program got off the ground more slowly primarily because of siting problems and the need to review the scope in terms of the available money. Both the siting and funding required finalization before the District could proceed with design. The original location selected for the I Corps ammunition storage complex, for example, was in the middle of a lush valley devoted to rice growing. A broad stream bed with dry season evidences of vast flooding cut through

the center of the chosen site. Furthermore, numerous requests for construction work in the forward area, particularly at Camps Casey, Stanley, and Howze, were so outdated that the proposed structures would be located in areas of sparse troop population. And many projects including the Chinhae ammunition port complex and the trans-Korea pipeline were significantly underfunded. Despite the attempt to create maximum flexibility within the Army program by listing it as three line items — troop housing (\$12.88 million), storage facilities (\$16.6 million), and operational facilities (\$24.39 million) — the reconsideration and reorganization of priorities versus the available funds took time. Thus, by August 1968, the design phase for most projects averaged 15 per cent to 20 per cent behind schedule. In spite of these initial delays, FED had all but the pipeline back on schedule within a few months. The pipeline tardiness stemmed from a lack of agreement among user agencies concerning its scope and mission.¹¹

The ten Army projects fell into four general areas: troop housing, airfield improvements, supply and storage facilities, and the pipeline installation. The third category contained the most variety with SADs (Strategic Arms Depot) 200 and 300, the Chinhae port, ASP 063 (Ammunition Storage Point), and the S & T Battalion (Supply and Transportation) compound.

On 1 October 1968, the District finished negotiating the first Army 68-S construction contract with the joint venture of Tectonics Inc. and Chin Heung Enterprise Co. for the security upgrade at SAD 200, Camp Ames, a compound which under FED supervision several Korean contractors and Engineer troops carved out of Hidden Valley a few years earlier. The \$177,195 FY 68-S project consisted of many thousands of linear feet of fencing and lighting, and a new anti-intrusion alarm system. The GFM fencing and lighting presented no sig-

10 Contract Register; 68-S, Tabs C. G & K; Comptroller 68 SMCP; Seoul 1969; Taegu 1969.

11 68-S, Tab C; Letters, BG Podufaly to MG Dunn, 27 August 1968, pp. 2-3, and 25 July 1968, pp. 4-5, BG Podufaly to LTG Cassidy, 10 September 1968, pp. 2-3, MG Dunn to BG Podufaly, 20 September 1968, p. 2, and BG Chapman to MG Dunn, 9 January 1969, p. 2.



Enlisted barracks project, S&T Battalion, 2nd Infantry Division

nificant problems; however, the late arrival of the CFM alarm delayed the project completion for months.¹²

Four companies united to build the additional facilities at SAD 300, Camp Thompson (Anyang-Ni): Amelco Engineers Co., Far East Associates Inc., Kun Yang Ent., and Tong Yang Constr. & Eng. (69-C-69). The firms signed the \$963,780 contract with the Far East District on 13 March 1969 and set to work three weeks later. The SAD 300 project included another

group of Stradley magazines, fencing, lighting, a guard house, an alarm system, more roads, and drainage and waterproofing for all magazines.¹³

Engineer troops joined the District to improve R-212, at Kanam-Ni near Oujongbu, as an ALOC (Advanced Line of Communications) airfield. This was the first of numerous ALOC projects for FED. During a ninety day period in the spring 1968, an airfield evaluation team from the US Army Engineer Waterways Ex-



BOQ under construction, S&T Battalion, contractor's central concrete batch plant on right

¹² Contract Register; 68-S, Tabs C & F; Seoul 1969; Letters, BG Podufaly to MG Dunn, 30 August 1968, Inclosure, BG Chapman to MG Dunn, 9 January 1969, p. 3, and BG Chapman to BG D. A. Raymond, Director of Military Construction, OCE, 30 September 1969, p. 1; Interview, Gordon D. Best, 12 May 1975.

¹³ Contract Register; 68-S, Tabs C & F; Seoul 1969; Best Interview.

periment Station and the Ohio River Division Laboratories surveyed twenty-six possibilities for the ALOC program. R-212 received construction attention first in the form of paving the runway overruns, taxiways and parking apron, relocating an existing local road, installing a storm drainage system, and reconstructing the nearby river dike. Army Engineer soldiers crushed the aggregate and performed base course work at R-212, while Mullen Overseas Co. and Hwa Il Indust. Co. Ltd. placed the surface material and completed the remainder of the upgrade (69-C-43). Despite the harsh winter of 1968-69 and torrential rains the following summer, work proceeded fairly well on schedule, and, in August 1969, FED transferred R-212 to the user agency, I Corps.¹⁴

FED originally planned to award the ASP 063 and S & T Battalion projects separately. But the District terminated negotiations for the ammunition storage facility since the contractor price exceeded the government estimate considerably. When the proposals for the S & T Battalion also proved to be much higher than the District figure, FED combined the two projects with the hope of reaching a better financial arrangement. The proximity of the two sites northwest of Oujongbu made the decision quite logical. On 29 April 1969, more than four months after the initial ASP 063 bid opening, Zurn Engineers, Dong Ah Constr. Ind. Partnership Co., Sam Bu Constr. Co. Ltd. and Kun Yang Enterprise accepted the \$6,695,000 award (69-C-79) for the Okinawa Engineer District designed compounds. (OED undertook the engineering for the two new supply depots in the forward area because their workload was exceptionally low.)

Inability to obtain the necessary real estate delayed construction at both sites well into the summer, at which time the record rains and subsequent flooding saturated the earth and further slowed progress. These and other difficulties, such as off-shore procurement, more than doubled the construction period originally planned.

The facilities for the 2nd Infantry Division's S & T Battalion compound, which was later named Camp Edwards, featured several warehouses, an open storage shed, POL holding and dispensing structures, a motor repair complex, a 200 man barracks, a 30 man BOQ, a 400 man mess, administration buildings, and utility systems for a contracted cost of \$2,755,000. And, at the I Corps ASP 063, the four companies built a number of Stradleys, repair, maintenance and administrative structures, barracks, a BOQ, a mess hall, kennels, a gate house, a railroad loading platform, and utility systems; FED allotted \$3,940,000 of 69-C-79 monies for this segment. With the conclusion of the project in 1971, the District had again supervised the creation of two military installations from the sparse Korean countryside.¹⁵

The Taejon airfield upgrade was not a part of the original 68-S program, but when the restated program had to be submitted to DOD in February 1969, Department of the Army included the Taejon project. The Secretary of Defense subsequently approved the \$123,000 upgrade for which Engineer troops lengthened and improved the runway overruns and installed culverts and a VOR (Very high frequency Omnidirectional Range) facility.¹⁶

The third Army 68-S project and the largest individual contract awarded was the first increment of the troop housing program which consisted of 264 man and 100 man barracks, various sized BOQs, and 1,000 and 500 man mess halls for Camps Stanley, Casey, Red Cloud and Howze. EUSA criteria for the billets stipulated solid masonry walls below a height of five feet for protection from small arms fire. Camps Casey and Stanley received the preponderance of construction and accompanying utilities and landscaping.

Originally, the 68-S scheme for the Army did not include any troop housing; it was limited to \$30.8 million for operational and storage facilities. But, several weeks before the program became final, the Senate Appropriations Committee acceded to public pressure and added more than \$10 million for billets and messes in Korea. This addition remained as part of the approved program when President Johnson signed the bill on 11 July 1968.

This phase of the Army 68-S program underwent a number of criteria and siting changes before FED could award the construction contract in December 1968. Initially EUSA wanted to combine work at three camps into a package placed in early October; a stipulation of the award was that some buildings be closed in by winter so interior work could continue through the cold weather. Those buildings would be ready for occupancy by spring. Eighth Army discarded this plan in favor of advertisement of an "each or all" arrangement, hoping that a more flexible schedule would reduce contractor bid prices. At the same time, EUSA, by eliminating all administrative facilities, made funds available for additional housing at several other compounds. On 22 November 1968, FED opened the three requested proposals. Since all three came in significantly above government estimates, the District negotiated until reaching a mutually acceptable amount of \$9,695,083 for the principal cantonments (Casey, Stanley, Red Cloud and Howze) with the joint venture of Morrison-Knudsen International Co. Inc., Dae Lim Co. Inc. and Han Yang Development Co. Ltd. on 4 December 1968 (69-C-46). FED also attached a 120 day option to the contract for the two minor compounds, Sears and Kyle. Subsequently, the District extended the option 30 days, to 15 May 1969, while a review of available Army housing program funds took place. As a result of this survey, EUSA dropped the Sears and Kyle plans and, in their place, asked the Far East District to adapt one 264 man barracks to a location at Yongsan Main Post (Seoul).

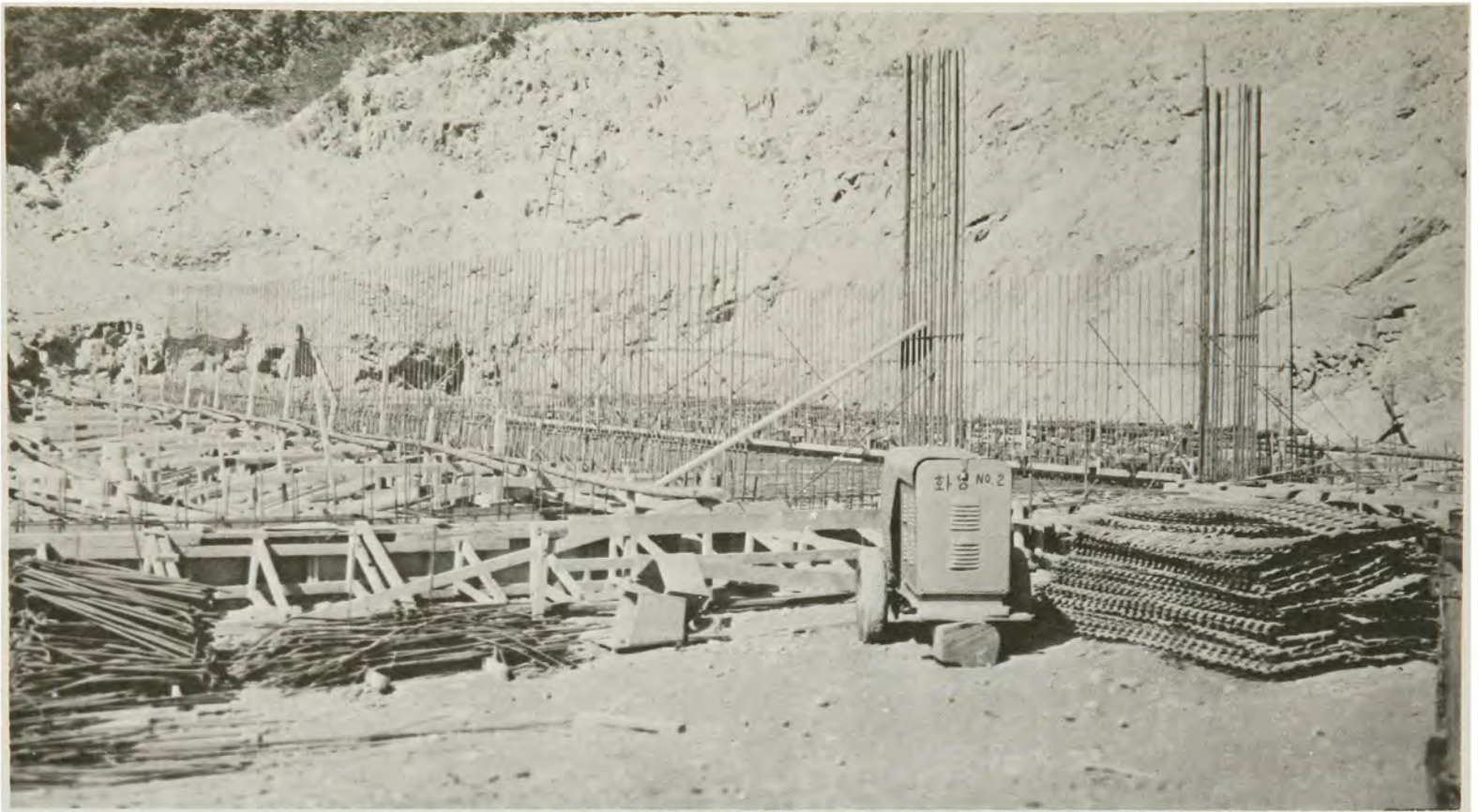
In the meantime, on 5 October 1968, the District signed a \$117,000 contract with MWK International Ltd. Inc. and Kuk Dong Constr. Co. Ltd. for housing at G-7 (north of the Imjin River near the DMZ). Army Engineer troops did much of the site work, and the Morrison-Knudsen, Dae Lim, and Han Yang combination provided the utilities. In addition, Engineer troops also relocated buildings in Yongsan and at three I Corps sites.

Late delivery of contractor furnished materials and equipment, lack of skilled labor, bad weather, and contractor complacency were some of the numerous reasons for delays in completion of the \$9.7 million housing contract. After continual exhortations from the District, to

14 USAEDFE Foreword to Airfield Evaluations, June 1968; Contract Register; POD Comptroller FY 68 SMCA Recapitulation Report, p. 6; Seoul 1969; FY 68-S, Tabs C, F & K; Interviews, Son Tae Pak, 16 September 1975, and Dick Williams, 7 October 1975; Letters, BG Podufaly to MG Dunn, 30 August 1968, Inclosure, BG Chapman to BG Raymond, 30 September 1969, p. 1, and 4 August 1969, p. 2.

15 Contract Register; FY 68-S, Tabs C, F & K; Seoul 1969; Comptroller 68 SMCA, p. 5; Interviews, Nam Chu Cho and Che Nam Kim, 12 September 1975, John Cummings, 19 September 1975, and Roy Schild, September 1975; Letters, BG Podufaly to MG Dunn, 30 August 1968, Inclosure, BG Chapman to MG Dunn, 17 April 1969, p. 1, COL Day to BG Chapman, 13 August 1969, p. 4, and BG Chapman to BG Raymond, 30 September 1969, p. 2; TWXs, District Engineer, FED, to Division Engineer, POD, 1969.

16 Comptroller 68 SMCA, pp. 1, 4; 68-S, Tabs C, F & J; Status Reports; Letter, BG Podufaly to MG Dunn, 30 August 1968, Inclosure.

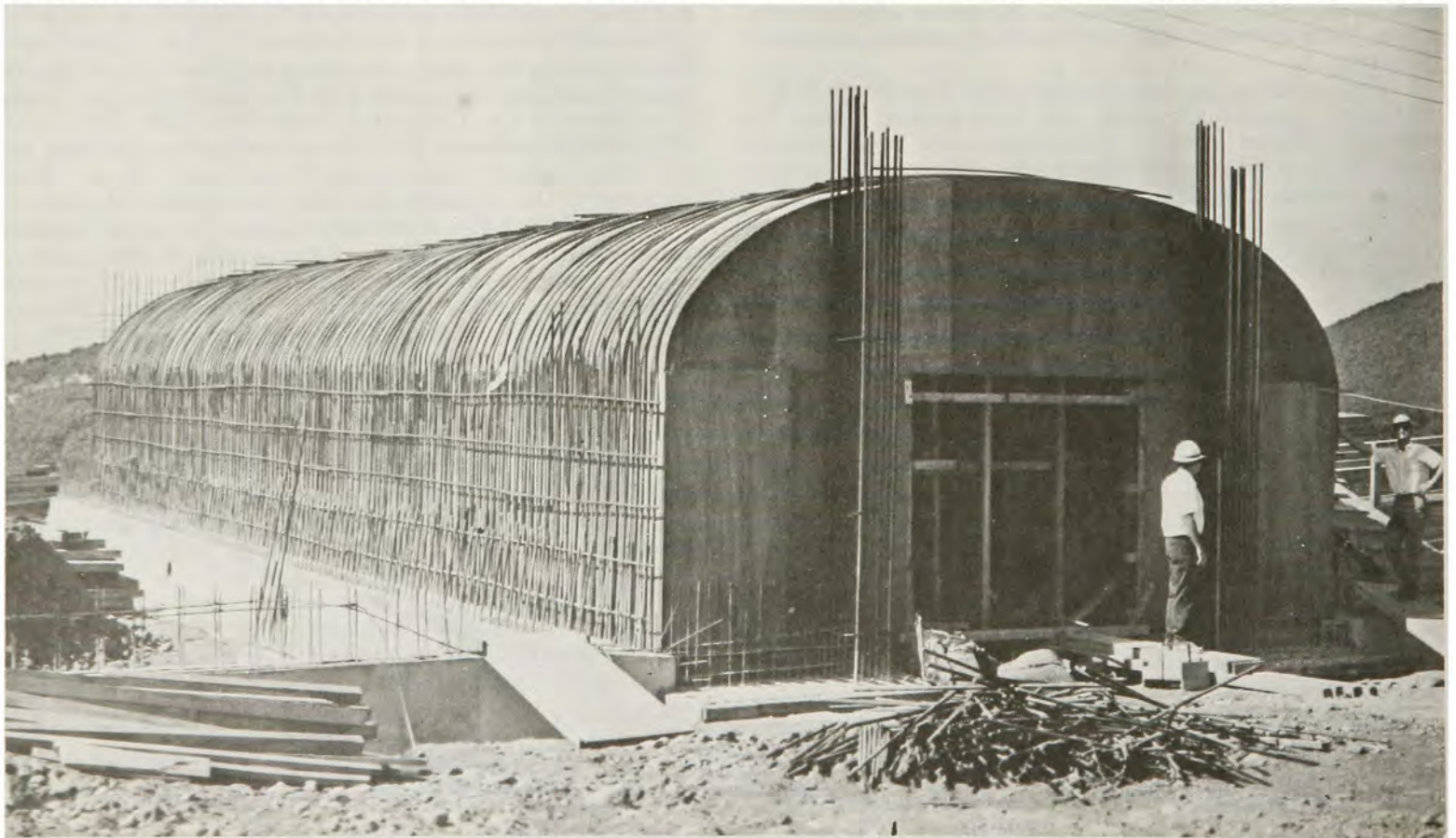


Reinforcing steel and forms in place for concrete foundation and floor slab, Stradley magazine, I Corps ASP 063

include an interim unsatisfactory rating, all but part of the third Stanley phase (a barracks, a mess hall and water treatment plant alterations), was ready for occupancy by the spring 1970. Many deficiencies existed in

every building turned over to the using agency; most of them resulted from missing CFM.¹⁷

The final two 68-S MCA projects, the Chinhae ammunition pier complex and the trans-Korea POL pipe-



Wall and arch reinforcing steel in place, Stradley, ASP 063

¹⁷ Contract Register; 68-S, Tabs C, F & K; Status Reports; Comptroller 68 SMCA, pp. 2-4; Interviews, Pak, Cho, and Kim; Seoul 1969; Letters between OCE & POD and POD & FED, 11 June 1968 to 8 July 1970.

In the forward area, the large barracks became known as superhooches.

line were the most severely underfunded of the Army crash program. Consequently, delays occurred while priorities were determined and funding was reshuffled.

Monies for support facilities and access to the pier created the primary areas of financial complications for the Chinhae job. Its location, which by necessity had to be miles from populated or highly developed areas, required deep cuts through rock, in some places of 80 to 100 feet, and vast amounts of fill across the heads of narrow harbor inlets for both the railroad spur and access road. After the monetary difficulties were resolved, FED was able to award the project. The District concluded negotiations on 27 March 1969 with the joint venture of JHW Inc., Reed and Martin Inc., and Sam Ahn Ind. (69-C-73). Major features of the \$4,362,634 contract consisted of a 1,000 foot long reinforced concrete pier, a mooring island, a causeway, seawalls, interior roads, utilities, and railroad bed to the end of the wharf (the Korean National Railroad laid the track). The District scheduled December 1969 for occupancy of



Chinhae ammunition pier project underway, significant amounts of rock have already been blasted and tons of fill added to create a work area adjacent to the wharf

the basic pier and causeway, and September 1970 for the remainder.

The challenges of supervising construction of a 1,000 foot pier at an undeveloped site was a new one for District personnel. The 48 inch wide wharf piles were cast in place eight at a time by drilling five to seven feet into the unweathered rock, placing steel forms in the holes, adding steel rebar, and pouring concrete into the forms. The metal forms above mud level were designed to be reusable after the concrete cured. At the harbor end of the pier, the piles were well over 100 feet long. And, to speed progress once the pile placement began, FED had the contractor pre-cast the pier beams and skirts on site; this procedure also assured better quality control.

The course of this project did not run any smoother than many others in Korea. By August, the District removed its Project Engineer, and three months later Reed and Martin took over direction of all contractor



Camp Casey superhooch in 1975



500 man mess hall project, Camp Red Cloud



View of Chinhae complex in 1975. The road and railroad tracks can be seen arching to the right past some of the support facilities and then on to left background.

operations. At that point, the improvement in progress and quality was noticeable. A paucity of managerial abilities, weather, particularly rain, inadequate or missing equipment and materials, and insufficient numbers of skilled laborers primarily impeded a rapid conclusion of the pier. The weather continued unfavorably through much of the construction phase; during one 2½ day period in August 1969, for example, 20 inches of rain fell. An eight ton crane mounted on a barge and a 50 ton drilling machine rented from the Korean Government and other equipment such as a pump-crete machine, concrete batch plant and concrete readimix trucks from Japan helped to alleviate the equipment shortage. However, frequent breakdowns stultified efforts toward fast completion. Aggregate had to be transported almost fifty miles by truck because the local source did not meet District standards. In order to control the quality and consistency of the concrete, an essential element in the construction of piles subject to the constant wearing and dissolving tendencies of salt water, FED had the contractors install the automatic batch plant as near the pier site as possible and utilize Japanese transit mixers to convey the concrete the three miles from the plant to the site. The specialized cement needed for setting in sea water also came from Japan. And a problem once the drilling commenced and the basis for a significant claim was the contractor complaint that the bed rock was much harder than that indicated during negotiations.¹⁸

The POL pipeline and related facilities were the ma-

jor District undertakings for the 68-S program; they accounted for more than 20 per cent of the total supplemental appropriation for Korea (\$24.8 million). Basic items included a fully automated 258 mile pipeline extending from Pohang to Seoul, underground storage at Pohang, Taejon, Pyongtaek and Seoul, pump stations and delivery terminals, and a submarine pipeline at Pohang. As could be expected in designing and constructing such a mammoth project in a short time span, the District encountered numerous difficulties and delays before the POL pipeline became operational in 1971.

FED officially began the job in August 1968 by asking Bechtel Corp. to undertake a feasibility study (69-C-13). While Bechtel examined the various options, the command held several conferences, including one at USARPAC headquarters in Hawaii from 8 to 12 August 1968, to determine the scope and criteria for the project. On 26 September the interested agencies met in Seoul to review the results of Bechtel's research: through-puts (or capacity) from 30,000 to 75,000 barrels per day, related pipe sizes, number of pump stations, costs of above-ground versus buried line, and savings with troop labor. Insufficient funds to meet the ultimate requirements caused opinion to divide between the building of the whole length at partial capacity or a segment at full capacity. The compromise selection was Case C Alternate Plan of the Bechtel study: through-put of 50,000 barrels per day from Pohang to Taegu and 40,000 bar-

18 Contract Register; 68-S, Tabs C, F & K; Taegu 1969; Comptroller 68 SMCA, p. 7; Status Reports; Interviews, Lee Ragsdale, 2 September 1975, Kon Il Chong, 28 August 1975, Yun Sakong, 9 September 1975, and Robinson; Letters between OCE & POD and POD & FED, 27 August 1968 to 6 March 1970.

rels per day from Taegu to Seoul. The two links between Ulsan and Yongchon, and Inchon and Anyong were deleted.

Once this decision was made, FED's aim became to award the pipeline phase as rapidly as possible in order to complete the portion crossing rice paddy land prior to the 1969 cultivating season. On 11 October 1968, Bechtel began the \$846,000 design project (69-C-38). Two months later, on 3 December, San Francisco District awarded the \$2,582,000 GFM pipe contract to Jones and Laughlin Steel Co., and on 30 December FED completed negotiations with Stolte, Santa Fe and Korea Development for the \$7,300,000 pipeline award. At this point, the first significant problem developed: the Taft-Hartley Injunction restraining an East and Gulf port dock strike expired on 19 December. San Francisco Liaison Office sought an alternate means of transportation; the Military Transportation Management Terminal Services complied with a schedule of four military sea passages. Pipe production at the Stateside mill proceeded as planned, and the coating and wrapping plant management added extra shifts in early January so that the first increment could be ready for loading on the SS *American Challenger* in Baltimore prior to its 12

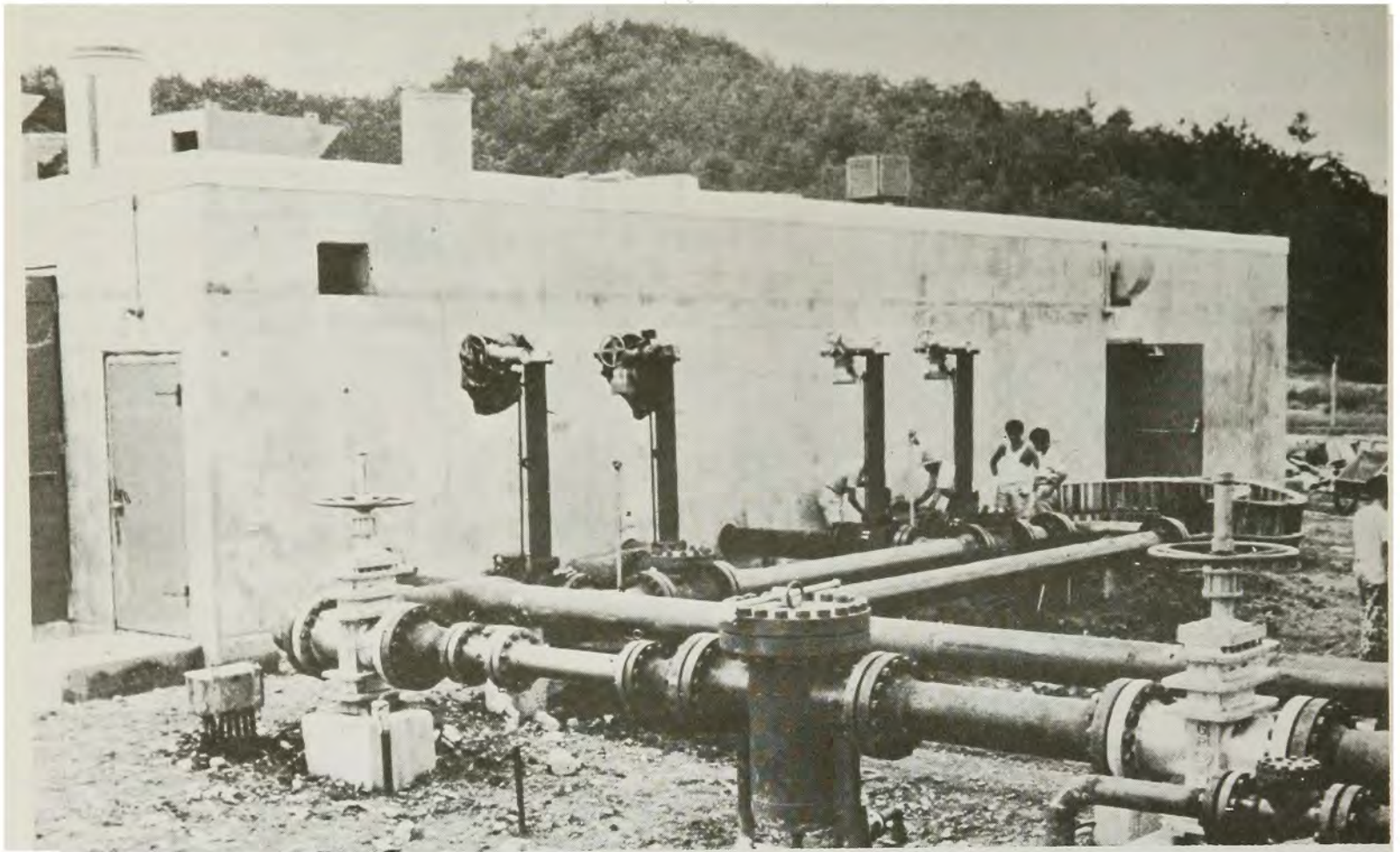
January sailing date. Things progressed smoothly, and the first thirty-two miles of pipe reached Inchon on 9 February. At regular intervals through the next two months, the remaining pipe arrived at Pusan or Inchon. In the meantime, San Francisco District negotiated the communications system purchase to include the cable.



Bending coated pipe to conform with variations in the course of the pipeline



Laying of pipe for trans-Korea POL pipeline



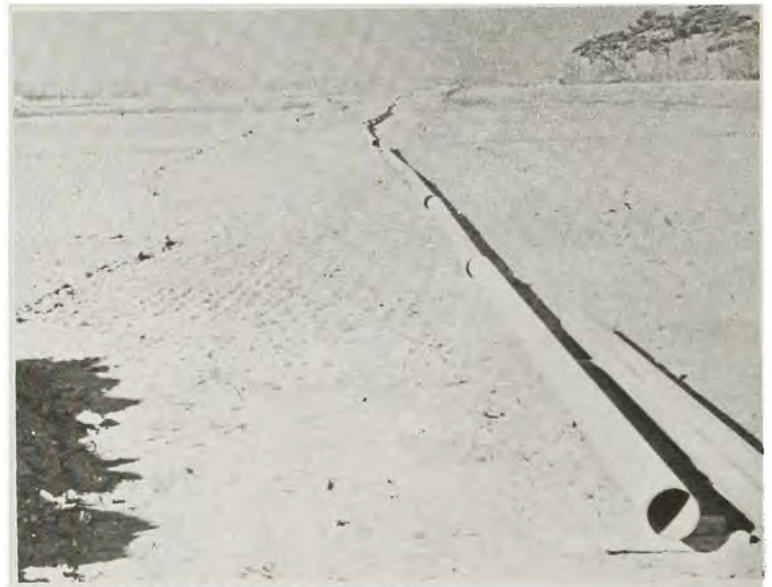
Taejon pump station, POL pipeline

Because the wiring had to be laid in the trench concurrently with the pipe, the Air Force flew an initial 150,000 feet from McChord Air Base in early February 1969. The balance came surface together with the pipe shipments.

On 13 January 1969, the District issued a notice to proceed, and the contractors almost immediately fell behind schedule because of slow equipment mobilization. Extremely heavy snowfalls further stalled progress. By April, the pipeline was less than 5 per cent complete. The three firms, however, had all the necessary specialized equipment and personnel, to include the river crossing crews and the GFM pipe and cable, assembled in two locations at Seoul and Pohang and headed for Taejon



Laborers transporting the easily damaged pipe



Pipe awaiting welding and burial

clearing, excavating, stringing, and welding. By late spring, the second major obstacle was in full bloom: local landowners' passive demonstrations to protest the pipeline's interference with their rice paddies and dikes. These delaying demonstrations continued until the rice harvest in late October and caused more than forty adjustments to the original pipeline trace.

Shortly after the real estate problems began, the District received a manufacturer's formal protest that the turbine pumps' bearing specifications for the pumping stations contract constituted sole source procurement. FED responded to the complaint by changing the specifications, adding a performance requirement, and readvertising the project. Solar Division of International

Harvester signed the GFM pump contract on 20 February 1969. Contracts for the submarine line at Pohang (\$330,000, 69-C-62), the four tank farms (\$2,130,000, 69-C-94), and the pumping stations and dispensing terminals (\$3,211,000, 70-C-14) also went to the Stolte, Santa Fe, Korea Development joint venture.

The summer of 1969 brought torrents of rain and more demonstrations, obstacles of unharvested land and unrelocated graves and trees, discoveries of old land mines in the excavations, shortages of welders for the contractors and of qualified field supervisory personnel for FED, protests from the US steel industry, and further slippage in the construction schedule. Economics determined the District choice of Japanese steel for the storage tanks since the price of the Stateside metal was prohibitively higher than the Japanese product. Several months later Army divers discovered damaged pipe coating and unburied line at Pohang; this slowed progress of the submarine line construction while contractor laborers repaired the deficiencies.

The right-of-way and pipe welding operations on both spreads joined in February 1970 with 240 miles of pipe in place. At this juncture, despite the sub-freezing temperatures and equipment procurement problems caused by Stateside strikes, FED optimistically slipped the operational testing of the system to mid-June 1970. However, pilferage of cable, insufficient cover on sections of the pipeline, inclement weather, real estate problems, last minute design alterations and off-shore procurement delays forced a change of the operational target date to 15 November 1970. Although the pipeline,

submarine line, and tank farms were essentially complete by September, the missing pump assembly items and the late delivery of Stateside procured control panels continued to stymie the pump station phase. With a final surge of effort and the assistance of a special TDY team, the District was able to test, gauge, flush, and ready the system to receive fuel on 14 December 1970. Late the following March, FED ran a ten-day test of the entire pipeline installation under fully automated controls: Korea then had an underground POL conduit with terminal, storage and dispensing facilities. Unfortunately, the problems did not end with the pipeline. Numerous claims ensued, the most important of which was the dispute over the actual length of the pipeline as opposed to the length contracted.¹⁹

The inception of POL pipeline operations marked the completion of the majority of 68-S projects. The variety within the combined Army and Air Force 68 Supplemental Program of housing, operational, and storage facilities, and the radical changes necessary to accomplish this tenfold increase in workload demanded great flexibility on the part of District members. The Chinhae pier and trans-Korea pipeline presented some of the greatest challenges because of their magnitude and the requirement for specialized skills. The previous experiences of some District members, particularly in POL work, proved to be invaluable in facilitating completion of 68-S.

The problems FED faced during the design and construction phases of the 68-S program were legion. Many of them could be expected considering the circumstances



Pohang tank farm

¹⁹ Contract Register; 68-S, Tabs B, C, F, I & K; Comptroller 68 SMCA, pp. 2 & 7; Status Reports; Taegu 1969; TWXs 1968-1969; Interviews, Si Chung Kim and In Chung Chong, 9 October 1975, Yun Sakong and Ole Nielsen, 4 September 1975, Keiji Tamai, 16 September 1975, and Arnold Ivener, 17 September 1975; Letters between OCE & FED, 12 August 1968 to 1971; USAEDF Supply Division Historical Data, Contract Service Branch, February 1970.

under which the mammoth Korea upgrade was conceived and carried out, including the numerous almost inevitable changes, shortage of skilled laborers and sophisticated equipment, slow mobilization, slower deliveries of Stateside procured supplies, real estate clearance delays, the necessity for reorganizing and readvertising to attract acceptable bids, difficulties with proper coordination and training of troop labor, and underfunding. In the realm of the unforeseen were the strikes in the US, the DOD decision to withdraw the separate design funding, recalcitrant weather, and landowners.

Another area of concern was transportation. In spite of numerous requests to Department of the Army for additional aircraft (two helicopters and one fixed wing plane) to expedite movement of FED inspectors, plans, and paperwork between the District headquarters and numerous field offices and the presence of qualified pilots on the FED staff, Korean priorities were sufficiently low as compared to those for Southeast Asia to bar relief in any form until May 1969. And the helicopter received in May was almost unusable. The scarcity of replacement parts for it and the two OH-23D choppers already assigned to the District meant an excessive amount of down time for all three and more unproductive hours on the road for District field personnel.

During the summer of 1969, another obstacle developed: a further change in the IBOP procedures. Previously FED had a list of twenty-one items which could be procured in Japan under "revised procedures" contracts. In addition to the twenty-one materials, an additional provision allowed contractors to purchase construction supplies locally, which met applicable District specifications, not to exceed three percent of the total contract price, in order to commence the job without undue waiting periods associated with off-shore procurement. Colonel Franklin Day, FED District Engineer, predicted that significant amounts of time would be necessary to complete all future projects if some means could not be found to circumvent IBOP Special Provision 20 and procure locally such items as underslab drains and sewer pipe.

To compensate for some of these barriers, FED employed competitive negotiation which permitted the flexibility and control needed to commit the inadequately funded 68-S program on a progressive basis to ensure sufficient monies for the higher priority projects. In addition, to facilitate operations in the field, the District gave Area Engineers contracting officer authority up to \$25,000 and Resident Engineers authority to approve plant and equipment, shop drawings and partial payment estimates.²⁰

Safety, always a matter of concern for the District, received more attention as the pace of construction increased. In early 1969, as a reaction to several job-related fatalities, FED instituted Operation Command Safety, an intensive training program, for all field personnel in Korea and Japan. The District also held seminars on specific topics, such as the sessions Dr. Nakano of the Kyushu Industrial Safety and Health Service Center gave at Sasebo on the hazards of epoxy operations and working inside tanks and enclosed areas. In addition, the Japanese translation of EM 358-1-1, the Corps of Engineers *General Safety Requirements*, begun in June 1967 by Mr. Saito of FED (R), was ready for distribution in September 1968. The following summer, the District, unable to obtain assistance elsewhere, sub-

mitted the manual to the EUSA Adjutant General Section for translation into Korean.²¹

Besides the alterations prompted by the difficulties the District encountered during the design and construction phases, the sudden mid-1968 workload increase of more than three times the average of the previous five years required radical organizational changes. Immediate District reaction included requests for TDY personnel, creation of incentives for potential employees, and initiation of the transfer of some FED elements from Camp Zama to Seoul. Since Okinawa Engineer District was experiencing a slackening in work similar to that for pre-Pueblo FED, the former district was subject to the Army-wide 25 per cent IBOP reduction in force during 1968. Consequently, more than twenty people transferred from Okinawa to the Far East District. Another, much larger, group of Corps employees arrived TDY from as far away as the Alaska and Savannah Districts and the New England Division. By mid-November 1968, sixty additional Corps employees were in Seoul on temporary duty.

Initially, engineers were in greatest demand as FED strained to meet the Department of Defense approved design schedule. Later, construction and administrative personnel became the top TDY recruitment priority. POD provided the backbone of the temporary force; some, such as John Ball of POD Engineering Division, spent so much time in Seoul that many newcomers assumed they were FED old-timers. To compensate for the DAC shortage, Department of the Army Office of Personnel Operations sent eighteen Lieutenants, and OCE provided two temporary Deputy District Engineers, LTC Patterson and LTC Bennett. In an attempt to resolve potential problems and design changes before FED awarded the contracts, FED assigned these two men as liaison officers with the primary user services (the former, Air Force and the latter, Army). Fifth Air Force also established a liaison office on the District compound.

To entice potential TDY personnel, the Far East District succeeded in having the per diem rate for Korea increased. In addition, several FED-POD recruiting teams visited Corps organizations in the States, such as the April-May trip to Southwest Division and the one in July to North Pacific Division. At the peak of activity in late 1968 to 1969, more than 120 of the 547 slots at FED were filled by temporary personnel.

When it seemed certain that the 68-S program would be immense and would extend into 1970, the District began recruiting permanent employees to fill the essential slots. Lack of adequate family housing kept many potential recruits from considering a Korea tour. Consequently, FED, with DOD approval, commenced negotiations with the State Department for twenty units of housing which the US Embassy declared in excess of its needs. By the following summer, permanent DACs and their families occupied all twenty of these Castle Terrace apartments in UN Village, and negotiations for nine more units at Castle Cliff in the Sekeung-Jong area of Seoul were underway.

The transfer of the first District elements from Japan to Korea began with the temporary assignment to Seoul of some Engineering Division members to include its chief. General Order Number 5, dated 28 June 1968, outlined a seven stage reorganization which enabled the District to expand its staff and field elements in Korea

20 Boom 1969, pp. 8-9; Letters between OCE & POD and POD & FED, 25 July 1968 to 28 November 1969.

21 Interviews, Masayasu Saito, October 1975, Edward Lawrence, 26 September 1975, Cho and Kim; Letters, BG Podufaly to LTG Cassidy, 6 March 1968, p. 4, COL McCulloch to BG Chapman, 9 May 1969, p. 7, COL Day to BG Chapman, 13 August 1969, p. 6, and BG Chapman to LTG F. T. Clarke, Chief OCE, 27 May 1970, pp. 8-9.

in response to the 68-S workload and to retrench in Japan as FED contractors completed the Southeast Asia support projects. The first stage provided for the establishment of Seoul, Osan, Kunsan and Taegu REO under Korea Area Office and deactivation of Northern, Southern and AC & W PO on 1 July. The 15 July 1968 phase called for demobilization of Special Projects Office and reorganization of Engineering Division with Technical Review, Special Projects and EL & S Branches in Korea, and Design, Military and the remainder of Foundations and Materials Branches in Japan. On 1 August 1968, the plan included transfer of Construction Branch with Office of the Chief and Administrative, Contract Administration, Construction Service and S & I Branches to Korea, reactivation of Japan Area Office with Administration, Contract Administration and Technical Engineering Branches and Atsugi, Chitose, Iwakuni, Yokosuka and Yokota REO, and creation of Kwangju REO under Korea Area Office, and Suwon PO under Osan REO. Phase four outlined a 1 September 1968 redesignation of Korea Area Office as Seoul Area Engineer Office with Aviation, Administration, Contract Administration and Technical Engineering Branches and Seoul, Camp Casey, Kunsan and Osan REOs and Chungju and Suwon POs, and establishment of Taegu Area EO with Administration and Technical Engineering Branches and Chinhae, Kwangju and Taegu REO. The last three provisions of G.O. No. 5 gave a 1 November 1968 activation date for Camp Casey REO, 1 December 1968 for

Chungju PO, and 1 February 1969 for Chinhae REO. Because of subsequent slippage in construction progress, some of the provisions of the order were not implemented until a later date; Taegu AEO, for example, was not actually opened until 15 February 1969. At that time, the District transferred Kunsan, Kwangju, and K-2 (formerly Taegu) REOs from Seoul AEO to the new area office in Taegu. Several weeks later, the POL Facilities REO (formerly Chungju) also shifted to Taegu AEO control.²²

Another organizational change occurred during this period which was to have a more permanent effect on the District than the shifting of various operational elements. In late 1968, the command in Korea stopped submitting real estate requirements to FED for processing with the ROK Ministry of National Defense. On 6 January 1969, EUSA issued a regulation which reassigned all District real estate functions to Eighth Army. The reasons for the unilateral action seemed to be the desire for more responsive real estate personnel by placing them directly under command supervision, cost economy in acquisition and disposal of real estate through EUSA channels, and FED lack of authority under the present SOFA to discuss real estate matters individually with the ROK. After much discussion and numerous letters and studies, the result was the formal abolishment of the Far East District Real Estate Division on 21 May 1970.²³

In addition to the organizational changes, 68-S also



Pre-engineered office building, FED Compound, Seoul

22 Taegu 1969; USAEDFE G.O.s, 1968 to 1969; Interviews, Robinson, LeRoy Irwin, 30 September 1975, Larry Crews, 11 July 1975, John Ball, 21 August 1975, and John Cummings, 19 September 1975; Letters between OCE & POD and POD & FED, 11 June 1968 to 13 November 1969; POD Manpower Status Charts, 1967 to 1970; USAEDFE Press Release, 23 September 1968.

23 USAEDFE G.O. No. 10, 21 May 1970; POD Informational Data for OCE Command Inspection of US Army Engineer Division, Pacific Ocean, 9 to 25 November 1968, p. 48; Letters, BG Chapman to MG Dunn, 17 April 1969, Inclosure, and MG W. E. Brinker, Assistant Deputy Chief of Staff for Personnel, DA, to CINC US Army Pacific, 14 May 1970.



121st Evacuation Hospital, Seoul

engendered a physical expansion for the District. The creation of an organization 60 per cent larger than that of the previous year meant a significant increase of office and living space requirements, particularly in Seoul. Consequently, EUSA assigned Camp Roberts (Yong Dong Po) and Building 5735, Yongsan Main Post, to the District. Eighth Army also planned a \$190,000 rehabilitation of the small self-contained compound in Yong Dong Po because of its extremely rundown state. This post became the hub of activity for Korea Area Office whereas Building 5735 was the focal point for Construction and Engineering Divisions. Upon their arrival from Japan, both Construction Division and the transferred elements of Engineering Division moved directly into the structure on Main Post. Conditions were very crowded. Functions such as filing of drawings and correspondence and Service Branch activities, including transportation arrangements and mail and message distribution, were relegated to the corridors. As a result, FED submitted a FY 69 Urgent Minor MCA project request for a two-story 40 foot by 146 foot pre-engineered building to be erected on the District compound. Cosmo Indust. Co. Ltd. and Nak San Enter. Co. Ltd. signed a contract for the approved request on 24 May 1969 (69-C-92). Nine months later, Construction completed the transfer of all FED elements from Main Post. And, to accommodate TDY personnel working in Seoul, FED leased rooms at the newly constructed Tower Hotel.²⁴

With the shift of the majority of the District work-

load to Korea, the need for local reproduction facilities also increased. Accordingly, in September 1968, the Adjutant General approved the establishment of a printing plant on the FED compound. By May 1969, all of the equipment, except the off-set press and paper cutter, were in place. The former reached Korea in time for the printing plant to be operational in August. FED then had the in-house capability to reproduce half-size drawings.²⁵

Thus, the Far East District responded to the greatly expanded program in mid-1968 by requesting additional equipment and personnel, obtaining more funds and facilities, and restructuring its methods and organization.

FED's rapid organization and initiation of the crash 68-S program was commendable in itself. The existence of many concurrent normally funded projects, some of them also high priority, made the mission District personnel accomplished even more praiseworthy. In fact, District Engineer Colonel John J. McCulloch received the Legion of Merit on 23 June 1969 for achieving outstanding results in the successful design of \$122.2 million and placement of \$73.9 million of new and critically needed military construction throughout Japan and Korea for the Army, Navy, and Air Force. Much of this effort was accomplished as urgent priority for the advancement of the US posture in Korea after the *Pueblo* incident in North Korea in January of 1968.²⁶

24 Contract Register; Seoul 1969; POD Command Inspection Team Visit 7 to 25 November 1968 Booklet, Recommendations, p. 16, and Reply, Division Engineer, POD, to COL McCulloch, 20 March 1969; Interview, Charles Bass, 16 October 1975; POD *Information Bulletin*, 1 March 1970, p. 2; Letters, COL McCulloch to BG Chapman, 14 February 1969, pp. 13, 15, and BG Podufaly to MG Dunn, 25 July 1968, p. 5.

25 Letters, COL McCulloch to BG Chapman, 14 February 1969, p. 12, and 9 May 1969, p. 11, and COL Day to BG Chapman, 13 August 1969, p. 8.

26 From the Legion of Merit Citation, quoted by POD *Information Bulletin*, 15 July 1969, p. 1.

And the Society of American Military Engineers presented Eugene Groden, Chief of FED Engineering Division, with their 1968 Wheeler Medal, an annual award to a member of the Corps of Engineers who has made the most outstanding contribution to the field in the past year. The medal, named for LTG Raymond A. Wheeler, commended Groden for the "\$98 million of construction which had to be designed and placed under contract between July 1968 and March 1969."²⁷ Unmentioned in these awards were the equally laudable accomplishments in the regular District program.

In Korea, the major projects built during the 68-S era included the 121st Evacuation Hospital, post exchange, and main post chapel at Yongsan, road paving and Bayonet and Old Faithful bridges replacements in the forward area, ammunition storage at Osan and Chunchon, an overlay of the Taegu (K-2) operational apron, and a consolidated operations and base terminal at Kunsan. In addition to these projects were those in some stage of completion at a number of locations when Congress appropriated 68-S, such as the AC & W sites, 2nd Infantry Division troop housing, Kunsan runway approach lighting, Kimpo operational apron, Osan division headquarters replacement and officers quarters, Taegu (K-2) auxiliary airfield, and Camp Walker STARCOM communications center. The work at Kimpo and K-2 most directly affected that of the 68-S program because the District contractors needed the same equipment for the crash program projects. FED did not award the last phase of the pre-68-S Taegu improvement to Dae Lim Ind. Co. Ltd. until 28 May 1968 (68-C-56). Thus, Dae Lim was finishing the pavement job as the Vinnell and Hyun Dai 68-S projects at the air base got into full swing. And the discovery of live ammunition, including rockets, during excavations for the Kimpo apron and unsuitable subsurface conditions which required extensive subgrade preparations, slowed progress considerably. However, by October 1968, two months ahead of schedule, Hyun Dai with the assistance of its partner for the 68-S Taegu contract, Vinnell, had most of the Kimpo apron operational, and the much needed paving equipment could be shifted to Taegu.²⁸

Originally FED, in response to an Eighth Army request, tried to award the 121st Evacuation Hospital construction contract before the close of FY 68, but a fund shortage of a half million dollars caused delays, much discussion, and a postponement of the award. The decision about the options to include in the package did not come until early FY 69. The initial FED advertisement in late September 1968 resulted in all bids exceeding the government estimate by at least 23 per cent; a readvertisement a week later after Eighth Army deleted the landscaping and some paved areas produced essentially the same bidder reaction with the lowest bid 14 per cent above the District quotation. FED then issued a request for proposals and attempted to negotiate with the two interested contractors. Still no agreement on price could be reached. On 29 October, OCE granted the District permission to construct the hospital with locally procured materials instead of the IBOP-directed US ones. FED received only one proposal in response to this request for bids. Since the hospital contract then

became single source procurement, FED asked the sole respondent, the joint venture of Hyun Dai and Korea Development, to supply cost and pricing data. On 10 March 1969, the two construction firms signed the \$2,799,000 contract (69-C-53). Once work began, the project proceeded ahead of schedule with no serious difficulties. The new facilities, which increased hospital capacity from 50 (with the structure built during FED's early years) to 310 beds, consisted of a composite steel and concrete frame masonry main building to house administration, clinic and mess elements on the first floor and surgery and an intensive care ward on the second as well as two ward wings and corridors to connect the old and new structures. Also part of the project were a rehabilitation of the extant 50 bed building as a dental clinic and administrative services and a utility upgrade.²⁹

Between the time FED hoped to place the 121st Hospital contract in late FY 68 and the actual award date in March 1969, the District signed contracts for the fourteen-room addition to the Seoul American elementary school and the main post chapel. On 22 June 1968, Sam Whan agreed to build the 11,374 square foot FED-designed school project. Like many other joint facilities in Seoul, USOM provided a portion of the funds. The EUSA request for the masonry structure was a response to the sharply increasing American school age population in Seoul which had grown about 10 per cent to 15 per cent each year since 1959.³⁰



Main Post Chapel, Seoul

27 POD Information Bulletin, 16 June 1969, p. 3.

28 USAEDFE Korea Area EO, Spring 1968; Contract Register; USAEDFE Press Release, 31 October 1968; Letters, COL McCulloch to BG Podufaly, 13 February 1968, p. 4, 13 May 1968, p. 5, and 12 August 1968, p. 5.

29 Contract Register; Seoul 1969; Interview, Pak; Letters, COL McCulloch to BG Podufaly, 31 August 1967, pp. 2-3, 14 November 1967, p. 2, and 14 November 1968, p. 1, BG Chapman to LTG Cassidy, 6 December 1968, p. 3, and 10 March 1969, p. 4, and BG Chapman to LTG Clarke, 6 March 1970, p. 2.

30 Contract Register; USAEDFE Press Releases, 21 May 1968 and 26 June 1968.



PX, Seoul

Concrete masonry block was also the basic building material of the new post chapel; however, for aesthetic reasons EUSA requested an exterior brick overlay. Built on a site overlooking Knight Field as a replacement of the jumbo quonset which a Christmas Night 1967 fire destroyed, the 6,105 square foot L-shaped structure included a sanctuary, a lobby, offices, and heating and cooling plants. Kyung Nam Constr. Co. Ltd. and E Wha Constr. Co. Ltd. completed the colonnaded building in ten months (69-C-41). Half a year later, in the spring 1970, a 2,705 square foot annex was added to house Bible study classrooms and chapel offices.³¹

The third non-68-S structure to be erected in Yong-

san during the 1968 to 1970 era was the new main exchange for Korea Regional Exchange System. The joint venture of Cosmo Indust. Co. Ltd. and Sim Il Constr. Co. Ltd. constructed the \$1.4 million building between 1969 and 1971. FED procured a pre-engineered structure which, with 44,000 square feet of floor space, more than doubled that of the old post exchange facilities.³²

In the forward area, non-68-S projects included the replacements for Bayonet and Old Faithful bridges washed away by the 1965 floods. The new ones were part of the MSR bridge rebuilding program north of Seoul begun a few years earlier. Six 60 foot spans supported on concrete piers and abutments replaced the defunct



1975 view of Main Exchange

31 Contract Register; Seoul 1969; USAEDFE Press Release, 21 November 1968; POD Information Bulletin, 12 May 1970, p. 3.

32 Contract Register; Interview, Tamai; POD Information Bulletin, 5 November 1969, p. 4.



Sung Ae Won Orphanage, children in front of dining hall

5 span steel and Bailey-type Bayonet bridge adjacent to Camp Casey. That of Old Faithful, crossing the Sin Chon River on Route 33 near Camp Beavers, was one span shorter. The Korean joint venture of Sam Bu Constr. Co. Ltd. and Aju Constr. (69-C-03) erected both bridges using prestressed concrete girders of the type FED designed for the earlier bridge project.³³

Only a few Air Force projects in this era did not originate as or become 68-S. The later 68-S construction, for example, augmented the two magazines Keang Nam Enterprise Co. Ltd. (68-C-52) began installing at Osan in July 1968. And the consolidated operations and base terminal structure at Kunsan was the only major building FED contracted for the Air Force in the 68-S era which was not part of the Supplemental Program. Dong Sung and Chin Heung Co. collaborated for the job (69-C-31).³⁴

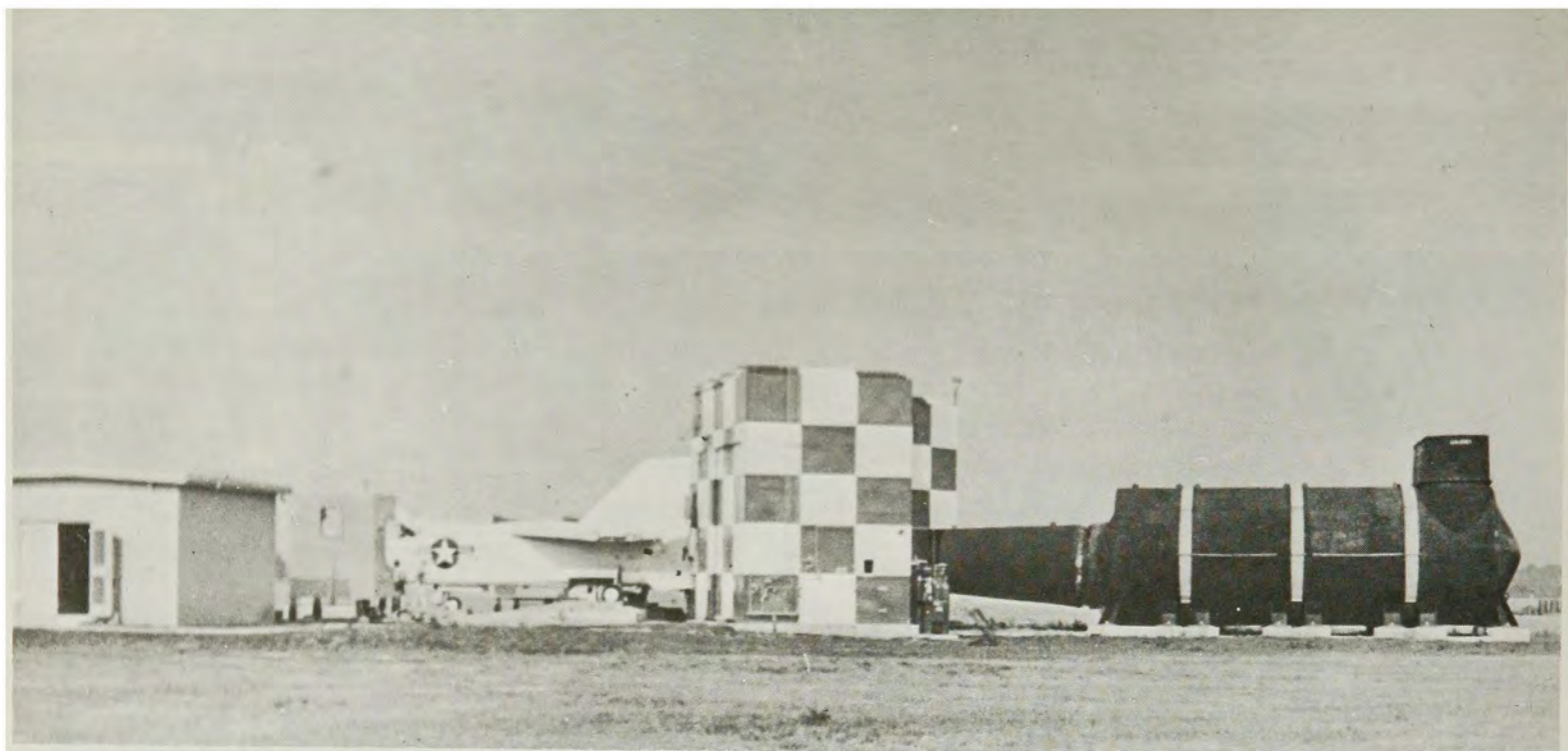
One other non-68-S project received much District attention during these years. This effort involved a bit more than construction, however, FED members had supported it since 1957 and would continue to do so in the ensuing years: Sung Ae Won Orphanage. During October 1968, in addition to their regular donations, the District gave an industrial sewing machine to the orphans as part of the effort to train the older girls in a trade and to supplement orphanage income. The following spring FED renovated Sung Ae Won's dining building with new flooring, ceiling, electrical wiring, window glass, and an entrance door, repairs to the roof and drain pipes, and a coat of paint. Some months later, the Dis-



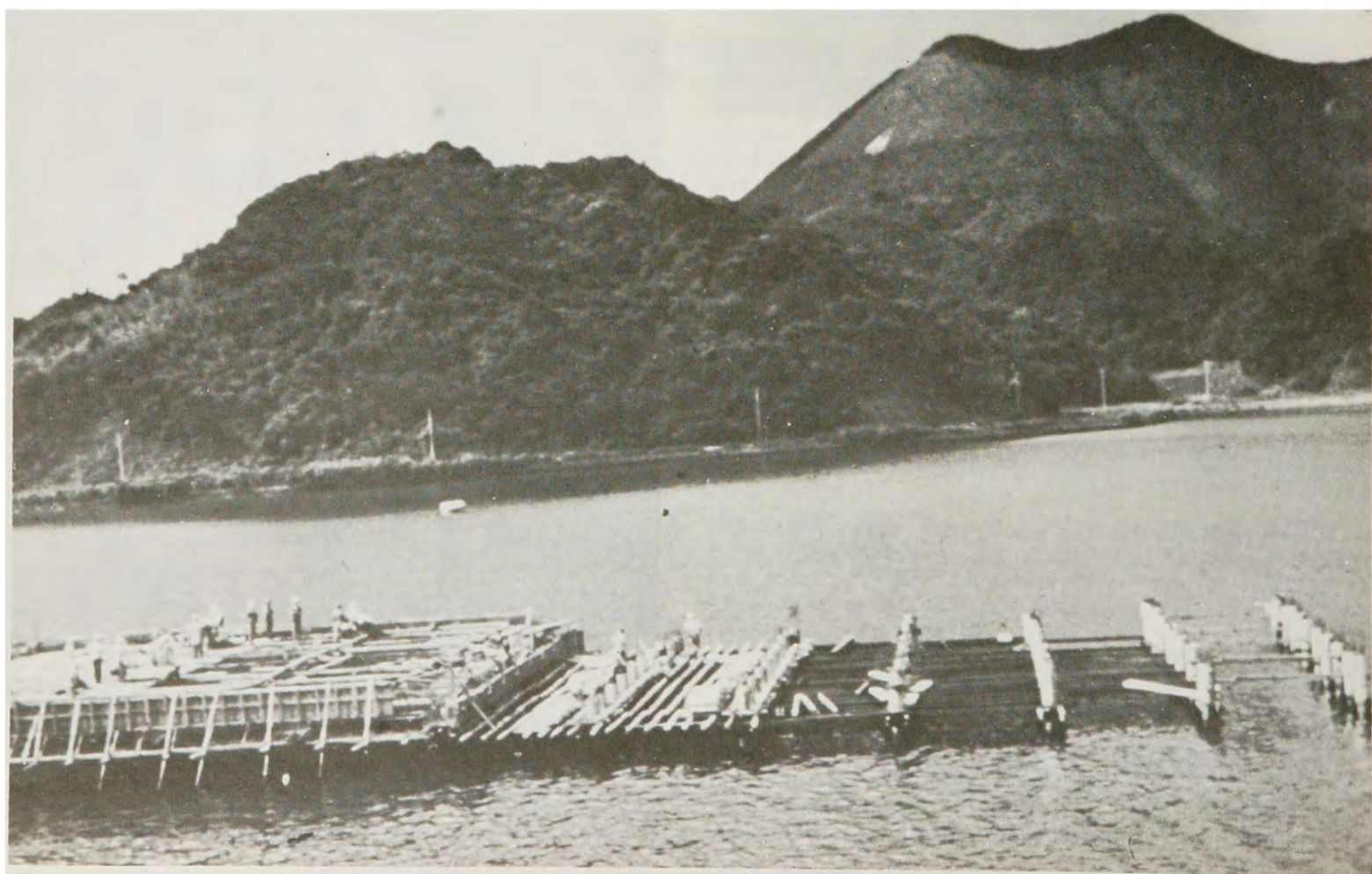
Sung Ae Won Director, Mr. Son, and Nurse, Miss Chung, with Ho Choi Yong after a successful cornea transplant on his right eye. FED members and friends paid for the operation.

33 Contract Register; USAEDFE News Release, 26 November 1968.

34 Contract Register; Korea 1968; Kunsan REO 1969.



Atsugi jet engine sound suppressor



Ammunition wharf expansion, Sasebo



Completed enlisted men's barracks, Iwakuni

strict rehabilitated the bath house and water heating facility.³⁵

Throughout the progress of the 68-S program in Korea which divided between the \$48.2 million Air Force and \$53.9 million Army segments, placement in Japan never dropped as low as the pre-*Pueblo* level in the ROK. The most important new job for JAO was the United States Information Agency Pavilion at EXPO 70 held at Osaka from 15 March to 13 September 1970. There were, however, numerous other jobs for the Army, Air Force and Navy. Much of the work resulting from the 1966 and 1967 projects in support of the US mission in Indochina and other construction such as USA-HOMES was completed during the 68-S era. And FED finally could award the last Southeast Asia support contracts, most of which had been delayed by funding shortages or design changes.

The Atsugi NAS jet engine maintenance and sound suppression facilities were two of the last Southeast Asia support projects. Underestimation of the required funds slowed the placement of the former: initial bids in mid-1967 were \$300,000 above the available monies. After a reduction in scope and redesign, FED readvertised the building, and a contract for \$1,111,100 went to Tekken Kensetsu Co. Ltd. on 13 June 1968 (68-C-64). An expansion of scope postponed the sound suppression award until a few months after that of the maintenance facility (69-C-21). In addition to these two jobs, Tekken also built the commissioned officers mess, another underfunded project which received rather austere appointments to compensate for the money shortage. The

Japanese firm agreed to erect the mess for \$470,000 on 12 September 1968, three days after signing the contract for the sound suppression structure.³⁶

In contrast to these relatively large contracts, a small Southeast Asia support for the Navy — expansion of the ammunition wharf and some dredging at Sasebo — caused inordinate problems. The review of the FED design was overlooked in the confusion of shifting District elements to Korea to accomplish the 68-S program. Citoh Co. Ltd. accepted the \$147,000 contract on 21 May 1968 and commenced work. When Citoh had driven all of the piles, the stability of the pier to resist the lateral forces of a moored ship subject to wind was questioned. A review of the design revealed an absence of seismic criteria requirements and an apparent error in the allowable tapering and diameter of the piles. FED stopped construction, load tested two piles, and measured the deflection and settlement. The tests proved that the soft mud overlying the sandstone bedrock offered sufficient support and that the piles were satisfactory. In addition to this project at Sasebo, the District also let another dredging contract in early 1969 and three for POL storage tanks valued at almost \$1.4 million in late June.³⁷

Besides the \$1.2 million enlisted men's barracks award and \$434,000 addition to aircraft maintenance hangars at Iwakuni, the concentration of construction fell at Yokota where the Air Force continued to develop and expand the operational support facilities. Between 18 July 1968 and 30 June 1970, FED placed more than fourteen contracts worth \$4.1 million. Projects included ammunition, jet fuel and open storage; billets; aircraft maintenance buildings; storm drainage system; addi-

35 POD Information Bulletin, 15 November 1968, pp. 2-3, and 1 May 1969, p. 1; Interview, Al Hetrick, September 1975.

36 Contract Register; Interview, Koji Ishii, 24 July 1975; Letters, COL McCulloch to BG Podufaly, 31 August 1967 and 13 February 1968, and COL Walter L. Winegar, DE, POD, to LTG Cassidy, 8 March 1967, pp. 4-5; USAEDFE (R) Fact Sheet, Subject: EXPO 70 & US Pavilion, 4 August 1969.

37 Contract Register; Letter, BG Chapman to MG Dunn, 17 April 1969, p. 4.



Air passenger terminal addition, Yokota Air Base

tions to the air passenger terminal and hydrant fueling; and expansion of the taxiway and apron access.³⁸

The USIA pavilion at EXPO 70 was the *piece de resistance* for FED (R). Conditions for District participation in the project were somewhat unusual in that they precluded any visible evidence of FED's connection with the \$4.5 million structure. The District provided the S & I for the 462 foot by 270 foot elliptically shaped building with an air-supported plastic roof. Ohbayashi Gumi designed the 100,000 square foot pavilion in conjunction with the American firm of Davis, Brody, Chermayeff, Geismer, Deharak and Associates; the Japanese firm was also the construction contractor. Work began in early 1969. Heavy rains and the absence of several crucial drawings slowed progress during the spring, but Ohbayashi Gumi, at the District's prompting, moved ahead of schedule by November when the roof was inflated and the scaffolding removed. The contractor had the building ready for opening on 15 March despite a flurry of last minute changes. Ambassador Chernoff heaped praise upon the District for this outstanding job.³⁹

With the completion of the EXPO pavilion, FED activities in Japan began drawing to a close. A sharp drop in the entire District workload dictated a radical organizational change in the near future. By 6 December 1969, the elements of Engineering Division which moved to Seoul in 1968, were back at Zama and the excess Korean national employees were released. In addition, Colonel Franklin Day, District Engineer, reorganized Construction and Engineering Divisions and the field offices. These changes represented only the beginning; by summer 1970, the merger with Okinawa Engineer District which had been considered so many times in the past would again be planned.⁴⁰

The years from 1968 to 1970 saw the Far East District successfully meet and overcome its greatest challenge to date: the FY 68 Supplemental Military Construction Program, a response to increased aggression on the part of North Korea. The Congressional appropriation provided over \$100 million for a bewildering potpourri of projects ranging from pavement improvements and wonder arches at Kunsan, Osan, Kwangju, Suwon and Taegu for the Air Force to the ammunition pier complex, several supply and storage cantonments, the superhooches and the trans-Korea POL pipeline for the Army. In the process of completing 68-S, the Far East District supervised the design and construction of one project, the pipeline, which accounted for more than 20 per cent of the total Supplemental monies and which equaled or surpassed many of the previous years' entire workloads. In addition, a new phenomenon was created as a compromise between the District need for experienced American contractors, who had the managerial skills and technical expertise to meet the compressed 68-S construction schedules, and the ROK Government desire to limit awards to Korean firms: joint ventures.

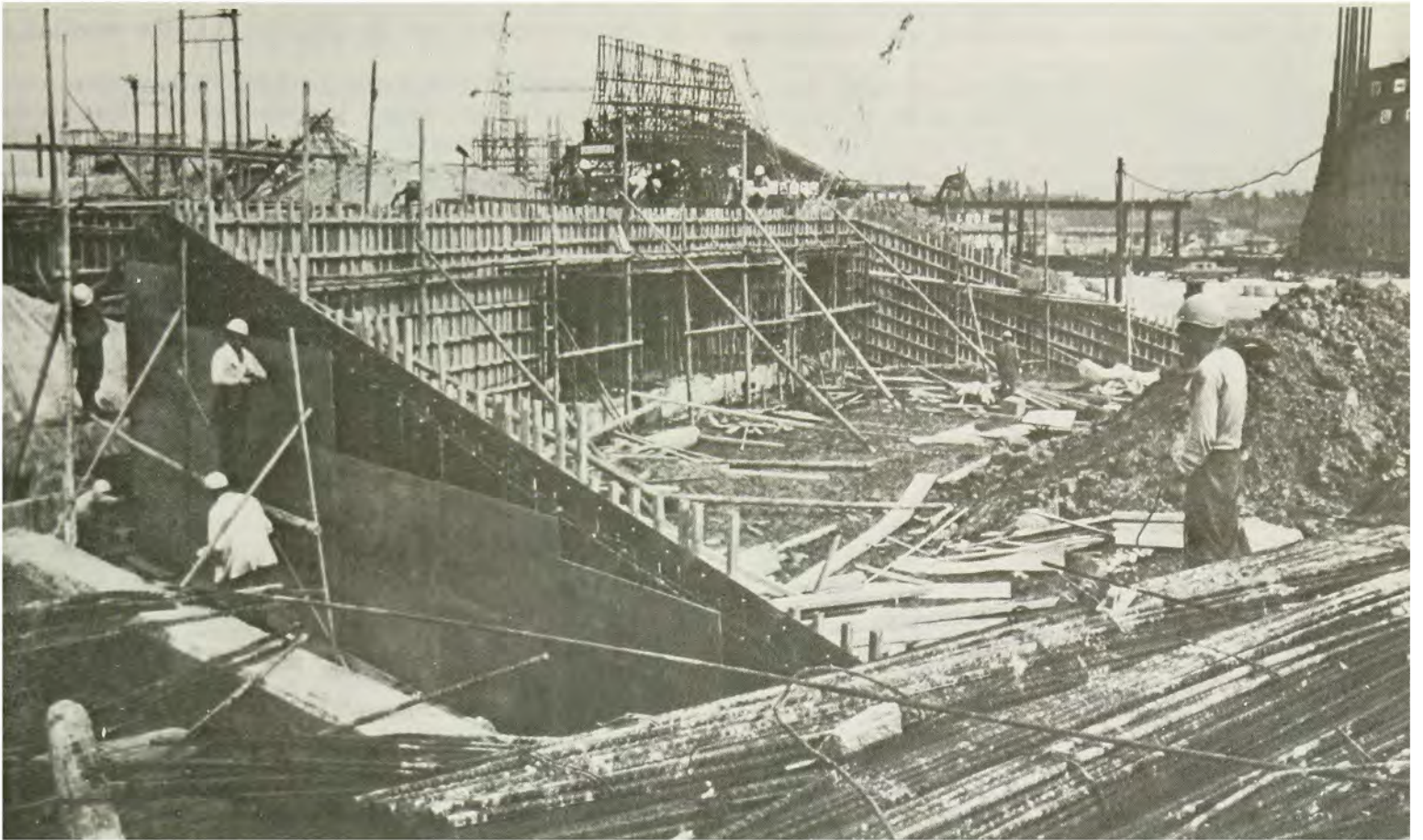
A program of this size and urgency predictably entailed numerous complications and difficulties because of the rapidity in formulating the appropriation and timetable, underfunding, changes, shortages of skilled laborers, specialized equipment and acceptable materials, and slow mobilization and procurement. Less predictable and far less subject to control were US strikes, demonstrations, uncooperative weather, and DOD decision.

In spite of the seemingly overwhelming obstacles, FED members met the original contract award goal of April 1969 with the exception of the Kunsan and Osan jet fuel storage project and the pipeline tank farms and

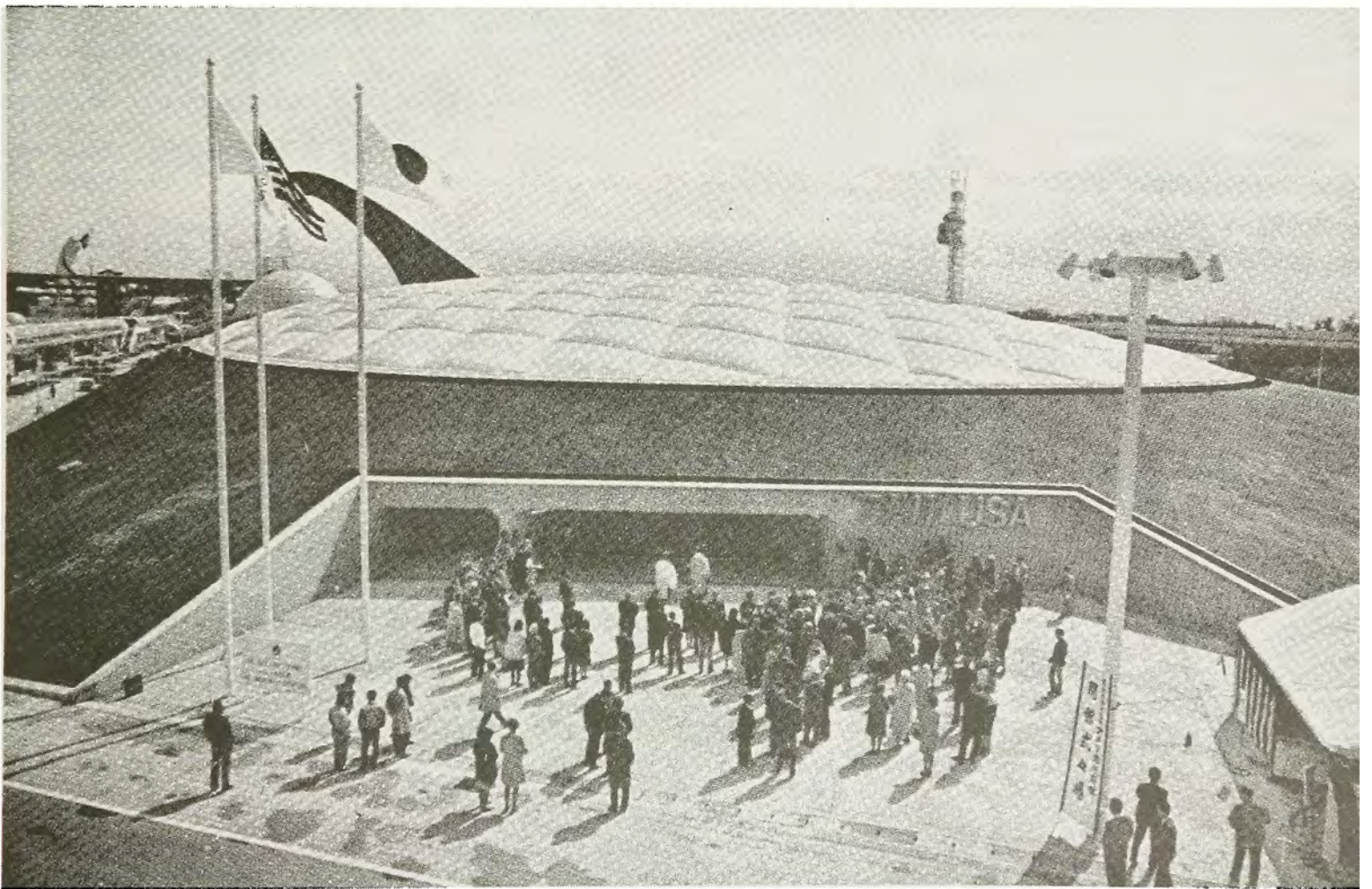
38 Contract Register; Interview, Tsutomu Mita, 23 July 1975.

39 Interviews, Fujio Moteki, 24 July 1975, Thomas Pedecine, 22 July 1975, Bob Kimble, 26 September 1975, and Tsuneo Ichikawa, 25 July 1975; Letters, COL McCulloch to BG Chapman, 14 February 1969, p. 5, BG Chapman to LTG Cassidy, 6 June 1969, p. 5, and BG Chapman to LTG Clarke, 28 November 1969, p.5, and 6 March 1970, p. 2.

40 USAEDFE G.O.s, 1969 and 1970; Letters, COL Day to BG Chapman, 13 November 1969, p. 3, and 9 January 1970, p. 2.



Construction underway for USIA Pavilion at EXPO 70, Osaka



United States Pavilion, EXPO 70

pumping stations. Manufacturer's formal protests and siting and criteria problems accounted for the slippage of these three contracts.

To maintain the pace necessary to complete 68-S in the allotted time, POD assisted with the recruitment for several hundred TDY and PCS positions which, at the peak of activity, amounted to a 60 per cent increase in the FED personnel total. In addition, the District transferred Construction Division, elements of Engineering Division, and the Safety Office to Seoul, and reorganized and expanded the field offices. Besides the brobdingnagian 68 Supplemental Program, FED had numerous other projects underway including several of high visibility

and command interest such as the 121st Evacuation Hospital in Seoul and the EXPO 70 USIA pavilion in Osaka.

By summer 1969, with the 68-S design phase complete, the District began the wind down: Engineering returned to Japan, a Korean employee reduction-in-forces ensued, and preparations commenced for the merger with Okinawa Engineer District. The period ended with District members being justifiably proud of the part each one played in the successful completion of the 68-S program. FED had again demonstrated its adaptability and flexibility by rapidly responding to another drastic fluctuation in the magnitude of its workload.

CHAPTER 6
THE WESTPAC ERA
1970 TO 1972

As the Far East District completed the design and construction phases of the \$102 million FY 68 Supplemental Military Construction Program, its total workload returned to the pre-*Pueblo* level. In response to the diminishing workload, staff members prepared for sweeping organizational changes. In late 1969, because anticipated future programs were not large enough to support economically a district in Korea, consideration of the merger with Okinawa Engineer District, a concept often discussed and planned in previous years, resumed. The result of this 1969-1970 study, the formation of WESTPAC (Office of Deputy Division Engineer for West Pacific or DDEWP), divested FED both of full district powers and of JAO. Since the shrinking workload trend continued through 1970 and 1971, a partial consequence of the impending 1972 withdrawal of the 7th Infantry Division from Korea, the economic recession in the United States, and the removal of American forces from Southeast Asia, POD again rearranged its western field elements by abolishing WESTPAC, establishing Japan Engineer District, and shifting contracting officer authority and supporting staff elements to its Honolulu headquarters. The second POD regrouping left the District with the same powers it had during WESTPAC: as such FED was a district in name only. In fact, it became a semi-autonomous, augmented area office which kept the flag flying to provide better service to its primary user agency, Eighth Army.

Fifth Air Force elements in Korea and Eighth Army had no new large scale projects of the 68-S type during the WESTPAC era. Most multi-million dollar jobs were remnants of earlier programs or were offshoots from the 68 Supplemental scheme. At the end of the period, to compensate for an absence of standard design and construction work, FED accepted user agency requests for small scale rehabilitation or upgrade projects at numerous sites.

Colonel Franklin Day, the FED District Engineer, wrote the POD Division Engineer a letter on 22 December 1969 assessing the District's situation, and he concluded, "a merger of overhead, design and possibly construction elements this year to reduce costs appears to be in order."¹ He went on to comment that this rearrangement had to occur in 1970 since the "workload next year will probably not support the costs inherent in a major reorganization."²

Colonel Day had already supervised District efforts to cut unnecessary expenditures as much as possible. By 6 December elements of Engineering Division, in Korea to assist with 68-S, had returned to Camp Zama, and FED released the excess Korean employees. In addition the District deactivated the Seoul Area Office; Construction Division assumed responsibility for Osan and Oujongbu Resident Offices as well as Suwon and Yongsan Project Offices. A spring downgrade of the Taegu Area Office to a residency was also planned.

Since there was no vast input to absorb the costs of

the large engineer contingent in Seoul, as the 68-S design phase neared completion, the Engineering & Design rate began to soar. Consequently, besides the reorganizations, FED aimed most of its cost saving measures at Engineering Division. The lower expenses of maintaining the design function in Japan as well as the efficient Japanese manned in-house capability at Camp Zama were not sufficient to compensate for spiraling costs. Additional overhead reductions became mandatory as the workload continued to decline. Colonel Day estimated that justification of retaining a full Engineering complement would require a \$20 million minimum. The FY 70 MCA program for Korea of \$23.7 million, however, was extremely unstable in the fall of 1969 and, by the following March, would have a 40% breakage rate, much of which became lost design since Engineering had completed most of the FY 70 program in early November 1969. EUSA unofficial indications of the impending unusually large breakage reached FED in the fall and prompted the District Engineer's December recommendation.

A number of District costs were fixed regardless of the design workload, such as the 20% overseas differential for DACs, separate maintenance allowance for some FED members, TDY to individuals in remote areas, and expenditures for temporary personnel with special skills. In addition, the total amount for compound operations continued to rise as EUSA support services declined. Day calculated that these and other overhead expenses required \$1.2 million annually to support an austere administrative element to include the Counsel, Comptroller, Manpower Management, Safety, Supply and Administrative Services Offices.

The favorable physical facilities in Okinawa, EUSA's bitter criticism of Okinawa Engineer District's (OED's) 68-S work, the relative availability and skill of local nationals in Korea, Japan and Okinawa, location of Navy and Air Force headquarters in Japan and EUSA in Korea, and the advantages of placing the new headquarters on or near a military installation had to be considered. Colonel Day also pointed out that any or all elements of the merged organization could be structured using FED guidelines for JAO. The Area Office consisted of a deputy with semi-autonomous authority, segments of Administrative Services, Engineering, Comptroller, and Supply, and a Construction Branch. The annual workload determined if the JAO was to continue as such or be reduced to a residency: an area if above \$12 million and a residency if below. In setting up WESTPAC, POD followed Day's advice.³

The preliminary work preparing WESTPAC organization charts and job descriptions went as scheduled, but implementation of the plan depended upon POD's receipt of Department of Defense and State Department approvals and disclosure clearances on or before 30 April 1970. Any delay after 30 April meant an extension of the reorganization completion date beyond 1 September of one day for each day of slippage, or a total of \$9,000 per diem of increased overhead expenses for both the OED-FED merger and the similar rearrangement in Honolulu of POD and Honolulu Engineer District elements. POD planned to issue general orders effective 1 July 1970 and was able to publish those for the Hawaii

1 Letter, COL Franklin Day to BG Curtis W. Chapman, Division Engineer, POD, 22 December 1969, p. 4.

2 *Ibid.*

3 USAEDFE G.O. No. 27, 13 November 1969, and No. 10, 21 May 1970; Deputy Division Engineer for Western Pacific, Pacific Ocean Division, Organization Charts, 1970; Letters, BG Chapman to LTG F. J. Clarke, Chief OCE, 4 September 1969, p. 2, 6 March 1970, Inclosure 1, and 27 May 1970, p. 2, COL Day to BG Chapman, 13 November 1969, pp. 2-3, and 22 December 1969, pp. 1-4, and BG Chapman to MG Carroll H. Dunn, Deputy Chief of Engineers, 10 April 1970, p. 1.

changes. Since diplomatic clearance of WESTPAC did not come until August, its activation date shifted to 1 October 1970.⁴

In the interim, FED received an April POD instruction to assign future Korea design projects to OED on a case-by-case basis and to reduce foreign national employees as soon as possible commensurate with appropriate DAC reductions-in-force to fit into the reorganization schedule. As a result, both the second phase of the Underground Command Post and some troop housing from the FY 70 MCA program and the balance of Eighth Army FY 71 MCA engineering went to OED. At the same time, authorization for only two of the twelve FY 70 MCA items which had not been eliminated arrived. Concept revision at higher headquarters prevented the authorization of most of these jobs and eventually dictated the shelving of \$7.5 million in already designed construction projects. Alteration in programs perennially frustrated the Far East District and at this juncture complicated matters further.

The RIF action totaled 45% for the combined districts; 51 FED and 39 FED (R) employees were eligible and willing to move to Okinawa. The District issued general notices to all employees during the first few days of July and termination announcements a month later.

The consolidation became official with OCE General Order No. 44, 21 September 1970, and POD G. O. No. 6, 29 September 1970, which directed the reorganization of FED, effective 1 October 1972, as the Korea Office (Far East District) with a strength of 19 officers, 33 enlisted men and 130 direct hire civilians including 88 Korean nationals. The office also embraced elements of Northern Resident Office (Anyang, Camp Humphreys, Kyong-Gi, Storage Facilities, Oujongbu and Wonju POs), Southern Resident Office (Chinhae/Masan, Kunsan, POL and Taegu POs), Administrative Branch (Administration, Financial Management and Procurement and Supply Sections), Aviation Branch, Construction Branch (Construction Services, Contract Administration and S & I Sections) and Korea Engineer Liaison Branch (Engineer Liaison and EL & S Sections). The order stated that "The US Army Engineer District, Far East designations [sic] will remain in being at zero strength and without assigned mission. District Engineer titles [sic] will be retained."⁵ The general orders eliminated FED (R), retained JAO with Administrative, Office Engineering and S & I Branches and seven Project Offices, and made JAO directly responsible to DDEWP. The new WESTPAC structure consisted of Executive, Comptroller, Counsel, Administrative Services, Manpower Management, Safety, Public Affairs, and Security Offices and Engineering (of which Korea Engineering Liaison Branch and the remainder of FED Foundations & Materials were parts), Construction (including Korea Construction Branch), Real Estate and Supply Divisions as well as Japan and Southern (formerly OED) Area Offices and Korea Office (FED).⁶

Consolidation immediately, albeit temporarily,

slowed the soaring Engineering and Design rates. But S&A costs remained high because completion of the 68-S construction program required a full Supervision and Inspection (S & I) complement in Korea until 1971 and the expenses accumulated from the delayed diplomatic approval of the merger, pay raises, new EUSA reimbursable costs, and a mandatory demobilization reserve burden.

In August 1971, when most 68-S projects were finished or nearly so, DDEWP, in the continuing effort to reduce unnecessary expenditure, consolidated FED Construction and Korea Engineering Liaison Branches. The new element consisted of five sections: S & I, Construction Service, Contract Administration, Engineering and EL & S.⁷

High overhead and a diminishing workload continued to plague WESTPAC. As a result in the fall 1971, plans were made to disband both it and MIDPAC in Hawaii, move the contracting officer to Honolulu, and leave three area offices in the West Pacific: Korea, Japan and Okinawa. The last would retain a segment of POD Engineering Division to support user agency requests more conveniently. POD G.O. No. 15 dated and effective 15 May 1972 documented the changes: establishment of Japan Engineer District (JED) and an element of POD Engineering Division in Okinawa, redesignation of Korea Office (FED) as U.S. Army Engineer District, Far East, and of Southern as Okinawa Area Office of JED. FED authorized strength stood at 16 officers, 1 warrant officer, 34 enlisted men, and 184 civilians.

As often occurred with plans for districts in foreign lands, an event intervened which radically altered this rearrangement: US Administration advancement of the Okinawa Reversion to 15 May 1972. With the Reversion, design requirements for Okinawa reduced drastically. Consequently, the Corps organization on the islands shrank to a residency attached to JED, Okinawa now being a part of Japan. Since a shift of an engineering element to Seoul would mean more responsiveness to Eighth Army, POD effected such a transfer in the fall 1972. By the next spring, following a timetable formulated at an early August 1972 planning conference held in Korea, FED reassumed the design responsibility for DOD projects in Korea; by mid-1973, Engineering Branch reached its intended goal of a three-man depth of architects, estimators, and civil, mechanical and electrical engineers.

Throughout the changes in the early 1970's, FED remained a semi-autonomous, augmented area office. At the end of the WESTPAC era, FED's components consisted of Administration (Office Service, Financial Management and Procurement and Supply Sections), Aviation, Construction (S & I, Contract Administration and Construction Services Branches) and Engineering (Program and Planning, EL & S and Design Sections) Branches and Korea Resident Office with Kyong-Gi, Camp Humphreys, Osan, Tango, Special Projects, Chinhae/Kwangju, Taegu and Kunsan POs. This status

4 USAEDFE FY 71 Overhead Staffing and Cost, 10 February 1970, and Reclama, 20 February 1970; Letters, BG Chapman to LTG Clarke, 27 May 1970, p. 8, and 17 August 1970, pp. 5&7, and LTG Clarke to BG Chapman, 19 June 1970, p. 1.

5 POD G. O. No. 6, 29 September 1970, p. 4.

6 Letters, LTC L. W. Norton II to All FED Employees, Subject: Retrenchment, 2 July 1970, and to All FED Employees in Korea, Subject: Personnel Reductions, 2 July 1970; POD Organization Charts; Interviews, James L. Anderson, 24 September 1975, Bert Pettinato, 26 September 1975, Kisuk Cheung, 5 June 1975, R. H. Medlar, 1 October 1975, Murray Rothstein, 25 September 1975, John Cummings, 19 September 1975, Euclid Snakenberg, 23 September 1975, and Gordon Best, 12 May 1975; Letters, BG Chapman to MG Dunn, 10 April 1970, pp. 1 & 2, BG Chapman to LTG Clarke, 27 May 1970, p. 2, and 17 August 1970, pp. 5, 6, and BG George B. Fink, Division Engineer, POD, to LTG Clarke, 15 June 1971, p. 1.

7 PODWP G.O. No. 20, 15 December 1971, and G.O. No. 15, 27 July 1971; Letters, BG Chapman to LTG Clarke, 17 August 1970, pp. 5-6, LTG Clarke to COL Fink, 14 September 1970, p. 1, and BG Fink to LTG Clarke, 15 June 1971, p. 1.

FAR EAST DISTRICT CONSTRUCTION SITES 1970'S





Camp Humphreys cold storage plant, 1975

and organization, with minor alterations, characterizes the Far East District today.

Thus, between 1970 and 1972 numerous changes and transfers within the Pacific Ocean Division western areas transpired as an attempt to find an agreeable solution to expeditious mission performance and to keep overhead costs within reason. External events such as the Okinawa Reversion and the 7th Division withdrawal illustrate how rapidly occurrences beyond the power of the District affected its operations: revamping of the WESTPAC disbandment plans in the case of the former and a significantly diminished workload following the latter. The net result was the Far East District's loss of full powers; with the discontinuation of WESTPAC, contracting officer authority and supporting adminis-

trative elements shifted to Honolulu rather than reverting to Seoul.⁸

In the months between the planned activation of WESTPAC and its actual establishment, the Far East District construction effort continued. They placed contracts for a theater readiness monitoring facility, two more ALOC airfield improvements, Phase I of the Underground Command Post (UGCP or Project Tango), and a communications structure. During WESTPAC's tenure, District activity for the Army focused upon troop housing at Yongsan and Camps Humphreys, Walker, Ames, and Carroll, more ALOC airfields, the UGCP, the Chinhae/Masan ammunition complex and other projects of varying magnitudes at Yongsan and Camp Humphreys and for the Air Force upon a number



Recent view of dispensary, Camp Humphreys

⁸ POD Organization Charts; POD G.O. No. 15, 15 May 1972, and No. 36, 22 December 1972; OCE G.O. No. 6 (corrected), 1 March 1972; USAEDFE EIG Team Briefing, 21 April 1975; Letters, BG George B. Fink, POD Division Engineer, to All POD Employees, 8 October 1971, Subject: Retrenchment; POD Memorandum for Record, 4 August 1972, Subject: Continuing Planning Re The Accomplishment of Design in the Far East (Korea-Japan-Okinawa); Interviews, Snakenberg, Rothstein, Pettinato, Cummings and Anderson; Letters, LTG Clarke to BG Fink, 11 January 1972, p. 1, BG Fink to LTG Clarke, 1 October 1971, p. 1, 15 March 1972, p. 1, and 15 June 1972, p. 2, and COL William T. Moore, District Engineer, FED, to COL William D. Falck, Division Engineer, POD, 1 June 1973, p. 1; Manpower Survey, 3 to 9 October 1974 Report, Commander General Remarks, p. 6.

of jobs at Camp Long, Taegu, Osan and Kunsan. At this time various types of upgrading contracts gained more prominence as Eighth Army and other user agencies began giving higher priority to maintaining facilities, particularly after the institution of the Modern Volunteer Army. The scale of these upgrades exceeded the ability of the EUSA Facilities Engineers, who would normally carry out these non-MCA projects. USFK continued to manage the MCA and MCP portions of FED operation, as it did during the 68 Supplemental Program.⁹

Omaha District designed a standard building for the Theater Readiness Monitoring Facility at Camp Humphreys, a FY 69 MCA item. Delay in receipt of the building's plans and specifications prevented FED from completing the final design and awarding the contract until mid-1970. Jin Duk Ind. Co. agreed on 28 September 1970 to erect the facility for \$369,525 (DACA 79-71-C-06). Other new construction work at Humphreys during the twenty months of WESTPAC's existence included an aircraft maintenance hangar, a security fence, a Hawk Missile Support Facility, a cold storage warehouse, a dispensary, and troop housing. It is interesting to note the trend the five contracts worth \$7.4 million which FED let for these structures exemplifies: the Korean-American joint venture that predominated during the peak of 68-S activity had virtually disappeared. Sam Bu and Tong Hung, for example, combined to construct the hangars and fencing (71-C-38, \$905,593.65).

The District award for the Camp Humphreys cold storage warehouse to Tae Hung and the somewhat improbably named You One (72-C-46, \$653,916.80) maintained a precedent established during the previous era: grouping similar projects at different locations into one package. In this case, You One erected the Pacific Architects and Engineers designed 142 foot by 68 foot pre-engineered building. It consisted of five cooling and freezer rooms and a loading platform and ramp. Tae Hung constructed a duplicate 10,000 square foot warehouse in Yongsan. Subsequent to the completion of these two metal structures, FED added allied work to the contract such as a \$145,316 modification to 72-46 for the extension of the Yongsan commissary fire protection system (Change Item No. 19). Later the District attached the construction of several other cold storage warehouses to the Seoul schedule of this contract with



Winterization of a two-story BOQ, Camp Humphreys

np



Pile driving for one of the barracks foundations, Camp Humphreys

the thought that an already mobilized and proven contractor could give the using agency a better building more rapidly than a firm which was not yet under contract and which would be responding to a much smaller award.

An administration and several maintenance structures, hardstand, fencing and lighting comprised the Hawk Missile Support Facilities, a part of the FY 71 MCA monies for Humphreys. Tae Hung's original \$596,990 award (72-C-41) on 29 December 1971 grew to well over one million dollars within two years through the addition of numerous modifications and a supplemental agreement. The agreement provided a raw water collection system. In another project at the Army airfield, Jin Duk built the twelve bed medical and dental dispensary (72-C-57) in less than a year. Completion of the 12,784 square foot structure before the scheduled date was not as unusual in 1973 as it would have been fifteen years earlier in Korea.

Funds for the largest contract at Humphreys, troop housing (72-C-07), came from two MCA programs: FY 70 and FY 71. An original \$4,896,000 award on 21 July 1971 to the joint venture of International Electric Corp., Han Il Dev. Co. and Han Kook Kun Up swelled to \$7.1 million before its completion three years later. When finished the new buildings included ten 250 man barracks, three 1,000 man mess halls, one 60 man BOQ, two battalion headquarters and classrooms, eight company

⁹ Contract Register; Letters, Edward J. Sheridan, Deputy Assistant Secretary of Defense (I & H) to Assistant Secretaries of the Army, Navy & Air Force and Director, Joint Staff, 29 October 1970, Subject: Construction Management in Korea, FY 1971 Program; Letter, COL Day to BG Chapman, 13 November 1969, p. 3.



Camp Humphreys, various types of troop housing in the center. The larger one-story structures are mess halls.

headquarters, sixteen latrines and accompanying utility systems. FED organized the project into four schedules. All but seven of the billets and mess halls (Schedules B and C) were located in a large housing cantonment where the District split this segment into two parts (both parts comprised Schedule A) with Han Il building the majority of Schedule A and Han Kook erecting two 250 man barracks in the cantonment area and Schedules B and C. The latrines (part of Schedule A)

were the contractor element of a \$254,000 Engineer troop construction project to relocate two 250 man barracks from Camp Thompson (SAD 300), Schedule D, and to erect thirty-two relocatable structures to flank each latrine and form an H shape. The sudden jump in compound population caused an increased requirement for water, a perennial problem at Humphreys. EL & S responded by drilling the needed wells.

The tactic of grouping dispersed but similar facil-



Engineer troop construction segment of housing project, Camp Humphreys

ities into packages and of enlarging projects through numerous modifications and supplemental agreements greatly increased contract appeal to potential bidders. District usage of the two methods began a decade earlier when the total workload began to decline — a condition similar to that of post 68-S Korea. The primary difference in the two periods is that, in 1970, Korean contractors were capable of completing large scale projects. In the 1960's, because of the local building industry's inexperience, FED was trying to attract American construction firms through advertisement of consolidated contracts. In addition, the 1967 SOFA prevented the Far East District from employing individual American contractors except for 68-S projects.¹⁰

The \$3.1 million FY 70 ALOC airfield improvements at eight locations (Chinhae, Chunchon, Hoengsong, Pochon, Pyongtaek, Susaek, Yang-gu and Camp Carroll), continued the program started at R-212 during 68-S. The District signed a \$441,569 award with Dae Lim for the Yang-gu work (71-C-07) and a \$414,252 one with Keang Nam Enterprise for Chinhae on 16 September 1970. The former Korean firm also refurbished the runway, taxiway and apron facilities at Hoengsong (71-

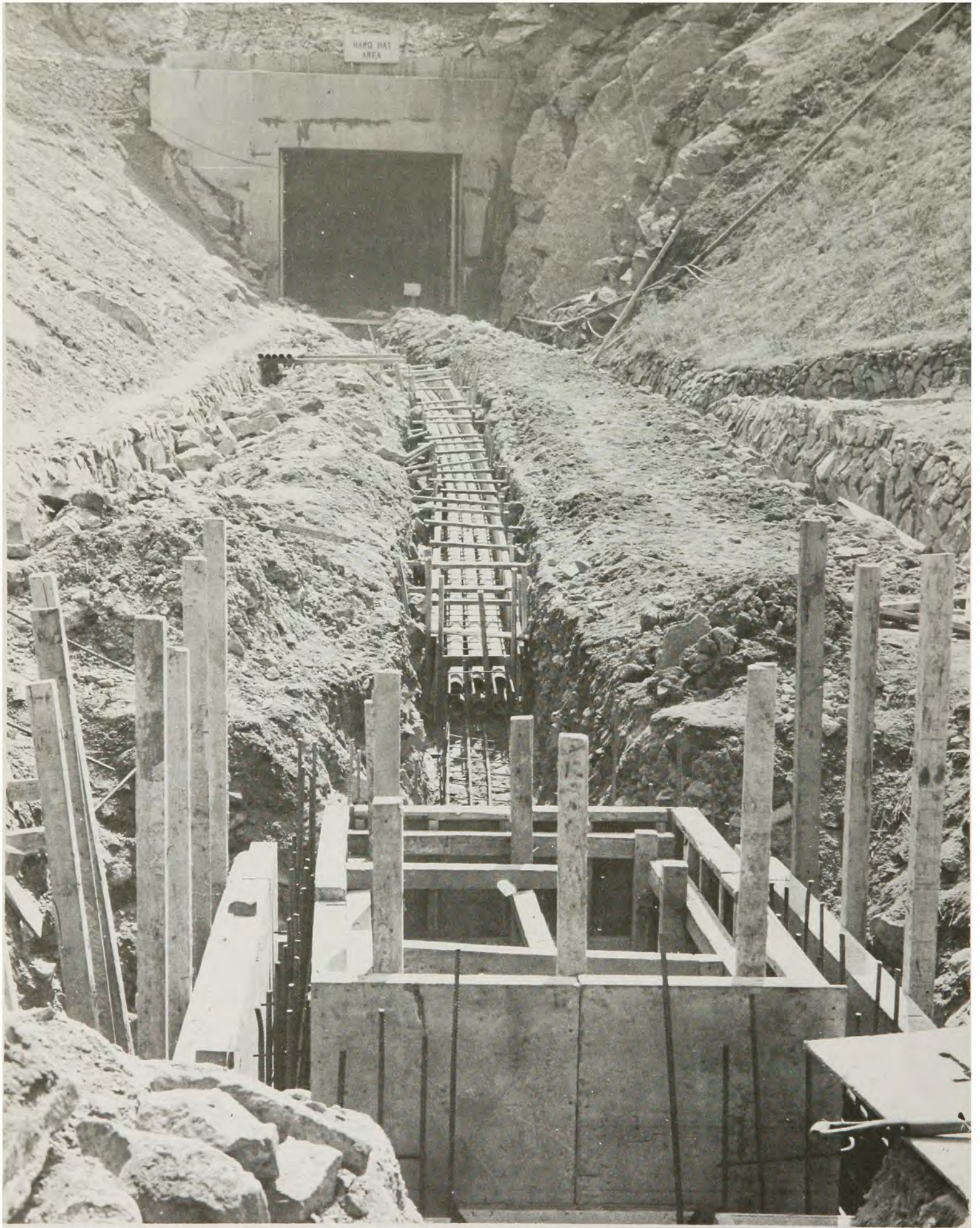


Laying conduits across runway, Yang-gu, ALOC Airfield



Tunnel excavation, Tango

10 Contract Register; POD Directive No. 2, 14 April 1975, Job No. Korea-70-MCA Program, Subject: Authorization-Revocation of Funds; USFK-ENJ Report, 30 April 1973, Subject: Military Construction Status Reports for Korea; USAEDFE Camp Humphreys PO Booklet, 1974; USAEDFE The Book, 1973, Korea Resident Office Section; Interviews, Kon Il Chong and Yong Taek Hong, 28 August 1975; Letters, BG Chapman to LTG Clarke, 4 September 1969, p. 2, and 27 May 1970, p. 2.
Note: All WESTPAC contracts: DACA 79-fiscal year-C-contract number.



Conduit placement, Tango

C-20) and Chunchon (71-C-64); the latter, Susaek (71-C-63). Engineer troops prepared the basic earthwork at Pochon while International Industrial Co. Ltd. (73-C-13) completed the base course and pavement. Delays at the Pochon project resulted from needed on-the-job training of the Army troops, correction of their mistakes, and late initiation of paving. The ROK Government precipitated the pavement delay by borrowing the contractor's equipment to finish the Munsong Highway before the Red Cross meetings began. Engineer soldiers also did the earthwork at Carroll; by the time construction commenced in 1974, however, the ALOC airfield had been redesigned as a heliport.¹¹

One of the more important projects of the period both in magnitude and in terms of the attention it received from the UNC/EUSA headquarters was the \$4 million Underground Command Post. During the summer of 1969 Pacific Architects and Engineers did an initial geological investigation and DMJM studied the feasibility of tunnel versus cut-and-cover concepts for the subterranean complex. By the fall of that year, UNC/EUSA decided that it favored the tunnel idea, and EL & S began location surveys. The following January 5th, FED awarded the Phase I design contract to DMJM (70-C-30) for tunnel work, the entry, the exit, ventilation, access roads, a helipad, and site development. At the same time, EL & S undertook additional geological investigation. Eight months later, the joint venture of Fischer Engr. and Maint. Co. (FEMCO) and International Ind. Co. signed the \$1,427,318.90 contract (71-C-04) for Tango Phase I construction. Excavation work began slowly, but with the assistance of a rock tunnel expert from Portland District, the rate of progress increased sufficiently through the spring and summer so that Phase I was almost complete by September 1972 and FEMCO and International could start Phase II (72-C-47), a \$1,471,002.28 award of February 1972.

Some of the delay in Phase I resulted from scope changes; the most radical consisted of the alteration of the UGCP from an underground holding area to a permanent command center. This modification complicated Phase II, and the resultant slippage dictated the integration of Phase III into II as a supplemental agreement. As built, Phase II included 2 two-story and 2 single-level metal framed buildings for operational and support facilities and the necessary utilities to make the command post self-sufficient.

The communications system, originally Phase III, completed the components of the second phase and was the source of many difficulties and some deficiencies because DMJM designed the rock excavation according to the first set of criteria. Subsequent scope changes meant that the plans did not mesh as neatly with the sophisticated communication system as the District would have liked. In addition, once Shin Kwang Indust. Co. Ltd. and Kyung Jin Dev. Co. Ltd. installed the cable in late 1974, FED discovered that the GFM wiring,

which connected Tango with other military installations, required major modification because ordinary moisture caused the sealant jelly to break down. As a result, at every splice, the cable was grounded, thereby making the system unusable.¹²

The only Air Force project awarded in the months between the commencement of FY 71 and the activation of WESTPAC was a central recording station at Camp Long (71-C-02). Adrian Wilson designed this structure and the two phases of the FY 69 MCP special facilities built the next year (71-C-48 and 72-C-08).¹³

During the WESTPAC era the major Army projects besides the ALOC airfield improvements and the Underground Command Post were troop housing and the Masan ammunition storage facility. The latter project, a remnant of the 68 Supplemental Program and an integral part of the Chinhae port facility for which there were not sufficient funds, was incorporated into the FY 70 appropriation. The District, the 44th Engineer Battalion, the Korean National Railroad and three contractors combined to create the more than \$7 million Masan Ammunition Storage Depot 051, a facility similar in plan and construction to the Camp Ames project begun more than a decade earlier, and to add the remaining facilities at the Chinhae port complex.

In March 1970 the first company of the 44th arrived to commence building the access roads and base camp/administration area. By November the battalion minus one company was hard at work but behind schedule. Even the addition of a company from the 802nd Engineer Battalion could not recover the lost time. Consequently, construction under the main contract (71-C-37) awarded to the joint venture of Tectonics Inc., Chin Heung Ent. Co. Ltd. and Kun Yang Ent. Co. Ltd. on 17 February 1971 for \$3,419,900 could not start as planned. The original schedule divided the work into four chronological phases: I at Chinhae, a 50,000 gallon water storage tank, emergency generator system and fire pumping station, 4,600 feet of steel pipe for salt water lines, 12,000 feet of cast iron pipe for domestic water lines, a fire station, crew billets, and pump house, and at Masan, an electrical distribution system; II at 051, utility systems and reservoirs, maintenance shops, and inert storage areas; III at Masan, a group of Stradley magazines; and IV again at 051, the remaining magazines and dog kennels. Because the troop earthwork fell so far behind schedule, half of the magazines had to be canceled to keep the project within the budget; a substantial contractor claim ensued. Delays also characterized the final element of the port and depot complex, a \$217,000 contract with the Korean National Railroad for tracks from the pier spur already laid to the main rail line between Masan and Chinhae.¹⁴

The last major MCA project during the WESTPAC era, troop housing, consisted of the buildings already discussed at Camp Humphreys and facilities at Camps Ames, Carroll and Walker and Yongsan. These standard

11 Contract Register; Status Reports; Directive 14 April 1975; Interviews, Yun Sakong, 9 September 1975, Harvey Robinson, 12 September 1975, and Best; USAEDFE Trans-Korea Resident Office Booklet 1972-73; USAEDFE Special Projects Office Booklet September 1972; USAEDFE Chinhae/Masan PO Booklet 1971; USAEDFE Anyang PO Booklet 1971; Letter, C. A. Forehand, POD Comptroller to POD Division Engineer, 15 January 1971, p. 4.

12 Contract Register; The Book; POD Command Inspection Team Visit 10 to 26 September 1971 Booklet, p. 3; Anyang 1971; Interview, Best, Cheung, Si Chung Kim and In Chung Chong, 9 October 1975, and 1LT Donald Wynn, 20 May 1975; Letters, BG Chapman to LTG Clarke, 4 September 1969, p. 2, 6 March 1970, p. 2, and 27 May 1970, p. 2, COL Day to BG Chapman, 13 November 1969, p. 2, and BG Fink to LTG Clarke, 15 June 1971, p. 3, and 15 December 1971, p. 2.

13 Contract Register; Trans-Korea 1972; Interview, Dick Williams, 7 October 1975.

14 Contract Register; Chinhae/Masan 1971; Trans-Korea 1972-73; C. A. Forehand 15 January 1971 Letter; UNC-USFK 68-S Military Construction Program Korea USFK-ENJ Booklet, July 1969; Unit Histories: 44th and 802nd Engineer Battalions (Construction); Status Reports; Directive 14 April 1975; The Book; Interviews, Sakong, K. I. Chong, Robinson, and Dale Ringer, August 1975; Letters, COL Day to BG Chapman, 13 November 1969, p. 2, BG Chapman to LTG Clarke, 17 August 1970, p. 2, and BG Fink to LTG Clarke, 15 March 1971, p. 2, and 15 June 1971, p. 3.



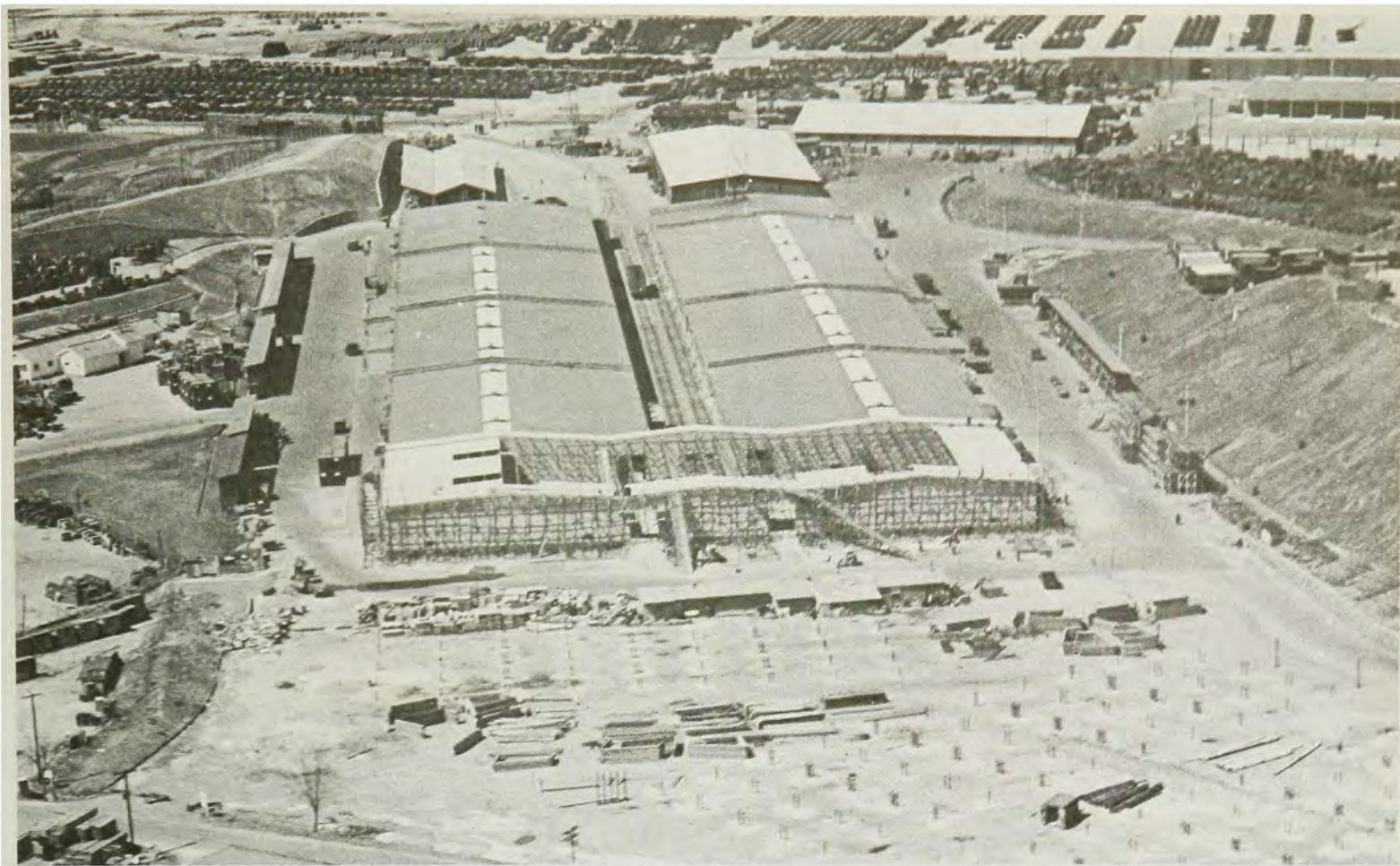
Construction of first MVA billet in Korea, Camp Walker, in background, a 1,000 man mess hall on the right

barracks and mess halls were allied with those erected in the forward area during 68-S. Since the non-Divisional Army units did not enjoy as high a priority, the housing in Seoul and to the south became part of the FY 70 MCA program. Before the later buildings could be erected, the Administration proclaimed a new concept for manning the Army: abolish the draft and enhance

pay and benefits sufficiently to draw recruits on a volunteer basis. The program became known as the Modern Volunteer Army (MVA or VOLAR) and forced a redesign of the FY 70 billets. A 250 man barracks for KORSCOM (Korea Support Command) at Camp Walker was the first MVA billet completed in Korea. FEMCO and International combined to build this structure, a 1,000



Initial stages of building one of three units to connect and expand two extant barracks, Camp Carroll



Warehouse addition and hardstand project underway at Camp Carroll

man mess hall, to modify the boiler room, and to install accompanying utilities. They also agreed to construct two 30 man and one 60 man BOQs in the southern most region of the post and to institute the MVA upgrade for an existing 148 man barracks (71-C-70, \$1,475,905.33).

Sam Whan began the \$587,097 troop housing project at Camp Ames a few days after the June 1971 initiation of the Walker billets. Late delivery of off-shore material somewhat delayed progress on the 250 man

MVA barracks, 30 man BOQ, pneumatic tank house, utilities and landscaping. And, at Camp Carroll, the 500 man MVA barracks project was part of a plan initiated in the early 1960's. It involved forming one large billet by adding three wings to two extant 336 man barracks, upgrading the rooms in the old buildings, expanding the boiler room and utilities, and installing a fire alarm system for the adjacent 1,000 man mess. The consolidated structure housed 500 more soldiers. FED also nego-



Recent view of three barracks, Seoul



Fire-gutted Building 2212, Seoul

tiated a \$209,500 supplemental agreement to Hyup Woo Industrial Co. Ltd.'s original \$599,779 barracks contract (72-C-33) for 3,900 square feet of paved hardstands and 29,807 square feet of covered storage. The result of the latter project joined the southern end of the two largest Carroll warehouses. Engineer troops assisted with the earthwork for the project and subsequently built a large vehicle storage area nearby.

In Yongsan, EUSA requested placement of four of the new three-story billets and a 1,000 man mess hall across the street from the lone 68-S barracks. Mi Ryung Constr. Co. Ltd., Zurn Engrs. and Huwin Corp. constructed the other two enlisted men's billets and a large mess hall near the chapel (71-C-75, \$2,467,004). The District awarded contracts for several other important jobs at Yongsan during WESTPAC: the much needed cold storage warehouse, part of the \$653,916.80 award to You One and Tae Hung for one each in Seoul and Pyongtaek, utilities upgrade project, and the restoration of Building 2212. DMJM designed the rehabilitation of the two-story brick Building 2212 which two major fires had reduced to scorched exterior walls. Bo Won Constr. and Indust. Co. Ltd. accepted the original \$209,011.34 job to restore the structure to house an Army Post Office and the Education Center (72-C-14). This contract, like the cold storage project and the \$1,749,368 one let to the joint venture of Campbell Constr. and Eqt. Co. Ltd. and Kuk Dong Constr. Co. Ltd. (72-C-06) for the Yongsan utility upgrade, had the enticement of numerous possible modifications. In fact, close out of 72-C-06 did not begin until late 1975.

FED also frequently employed supplemental agreements to enhance the desirability of working for the District and to save time and money for the user agency. Many of these later projects were more complex and costly than the original ones. Contract 70-C-04, for example, began as a \$184,620 power upgrade in Taegu. The autodin switching center and the World Wide Military Command Control System (WWMCCS) computer mainframe building at Camp Walker were several supplemental agreements to 70-C-04. The contractors, Zurn and Dai Shin, modified an extant building to house the autodin center by adding a 3,500 square foot extension, placing new sub-floor, walls and ceiling, raising part of the floor to accommodate the communication equipment, and installing air conditioning generators, switch gear,

utilities and fencing. Upon its arrival from Vietnam, the cooling equipment began causing problems; the shifting of this used machinery typified the flow of materials to Korea during the US withdrawal from Southeast Asia. The contractor tried to salvage three functioning chiller units from the six relocated ones, but eventually much of this system had to be replaced. The computer structure was a post-WESTPAC project. With the WWMCCS building completion and deficiency corrections and several subsequent modifications to 70-C-04, FED closed out the contract in 1975 at \$1,600,084.50.¹⁵

Without the practice of supplementing contracts through modifications and agreements, many District projects were potentially too small to stimulate sufficient bidding competition. This policy distinguishes FED's early 1970 position from that of other eras. In its early years, the District consolidated projects to attract American contractors; changes and supplemental agreements were used infrequently. Later in the decade, FED employed contract modifications for convenience rather than of necessity as the 68-S airfield improvement projects illustrate. The 1970's modifications usually involved closely-related construction; the Building 2212 restoration contract, for example, subsequently included remedial work at the 121st Evacuation Hospital and an FY 72 MVA modernization of two older barracks at Yongsan.

In addition to the WESTPAC period construction for the Army at the ALOC airfields, Tango, Yongsan, Humphreys, Walker, Ames, and Carroll, the District also supervised Air Force projects at Taegu, Kunsan, and Osan. Korea Machinery Co. and Dae Lim Ind. Co. combined to complete the last Taegu 68-S MCP funded airfield improvement, a taxiway extension. At Kunsan, two contracts worth over \$1.1 million went to Jin Duk and Sam Whan for an airfield maintenance facility, the last O & M and FY 68-S MCP project at K-8 (71-C-43), and to Tae Hung for a dispensary addition, a data processing center, and training and maintenance buildings. Management of these projects at Kunsan, all of which fell into a \$1.3 million Urgent MILCON category (a priority Air Force label), was atypical for the District: the Air Force completed the design and S & I, and FED provided the contract management and much technical advice. The Air Force project manager admitted that their lack of adequate technical expertise would have hindered the project considerably without District coop-



Building 2212 after restoration, Seoul

15 Contract Register; Status Reports; USAEDFE Taegu PO Booklet, fall 1972; Trans-Korea 1972-73; Directive, 14 April 1975; USAEDFE Kyonggi PO Booklet, 1973; The Book; 44th and 802nd Histories; Interviews, Ole Nielsen and Yun Sakong, 4 September 1975, and John Ball, 29 September 1975.

eration and on-site assistance. He also added that rapid progress could only be obtained by discarding some normal Corps quality measures. This is another example of the always-present user agency attitude with which FED had to contend: Corps methods cost too much time and money.

The majority of new Air Force construction took place at Osan: over \$3 million divided among five contracts. Lyon Associates designed and FEMCO joined Kuk Dong to build the alternate runway (71-C-40); Poong Lim completed the O & M funded portion of a new apron adjacent to the passenger terminal (71-C-68), and Dae Shin and Korea Development constructed the remainder of the apron complex, including a pre-engineered air freight terminal, a data processing plant, and stabilized taxiway shoulders (72-C-15 and 16). Like the work at Kunsan, much of this construction fell into an Urgent MILCON category.¹⁶

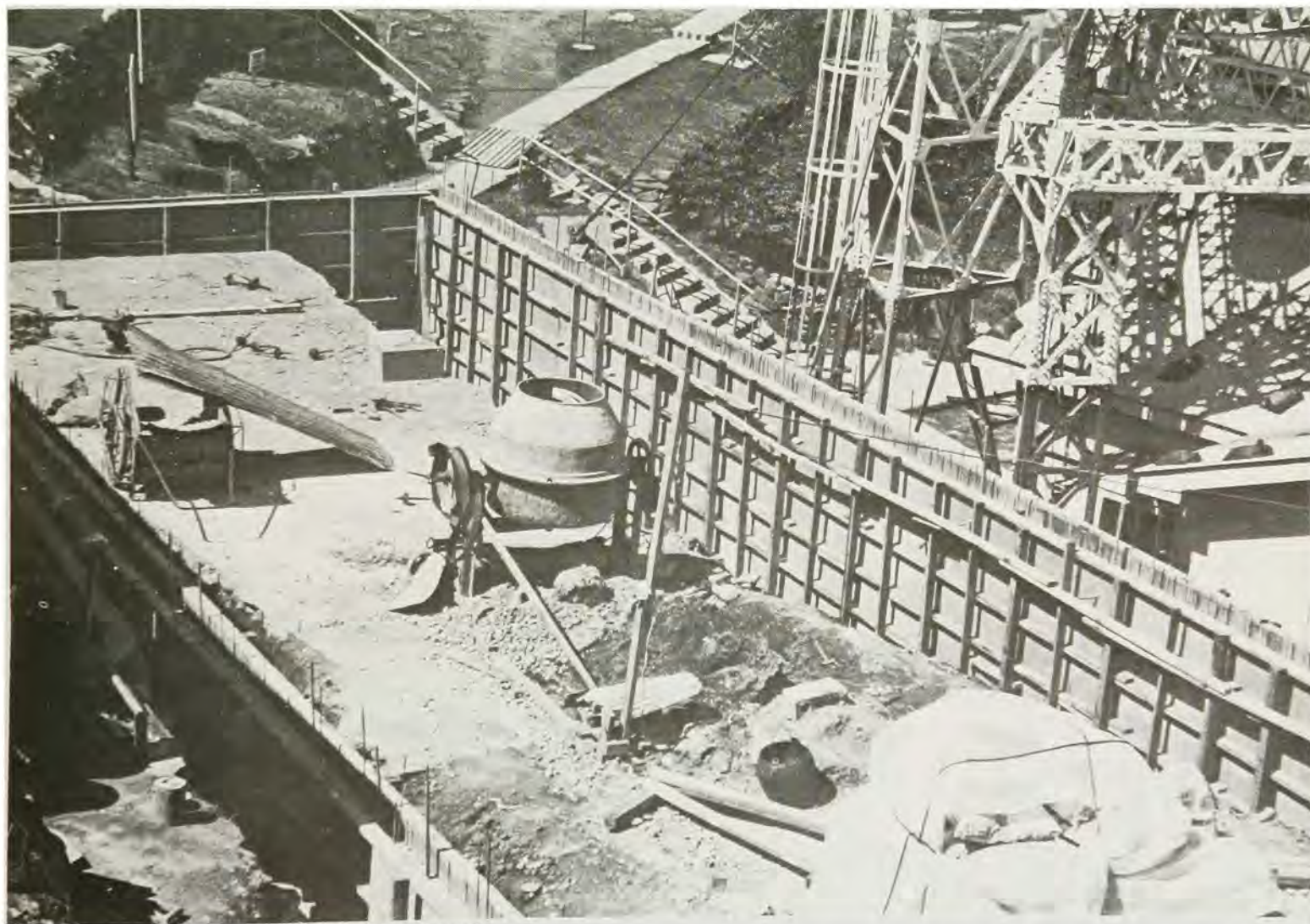
Resumption of Title II contracts, a device used in Japan a decade earlier, indicated the sluggish workload level and the almost non-existent FED engineering staff during these years. On 7 May 1971, Trans Asia Engineering Associates signed a \$16,434 contract with a \$38,346 option (71-C-39) for assistance with the EUSA Guarantee Rental Housing Program (RGH). Eighth Army planned three hundred units in Seoul and seventy in Taegu.¹⁷

Also illustrative of the changing complexion of user

agency requests were the four main construction contracts let between the disbandment of WESTPAC on 15 May 1972 and the close of FY 72: two O & M funded facilities upgrades, ASA Project Adventurer and STRATCOM billets. All four consisted of many small jobs at dispersed sites, the last two being more separated by distance than the first pair. FED split the MVA upgrades in two, using Oujongbu and Tongduchon as the central points. Shin Il signed the \$800,295 Oujongbu-based contract on 12 June 1972 (DACA 84-72-C-37). The work at 213 buildings consisted of renovating troop and officer billets, mess halls, latrines and dayrooms at Camps Red Cloud, Essayons, Mosier, La Guardia, Falling Waters, Jackson, Kyle and Stanley and four TAC sites.

Project Adventurer (72-C-41) for the Army Security Agency also involved construction and remodeling. The contractor, International Indust. Co. Ltd., completed the third of a million dollar upgrade at Kamaksan, Yawolsan, Kang Hwa-do and Pyongtaek behind schedule. Like many other remote site projects, complications developed regularly. In the case of Project Adventurer, stop work orders for safety violations and a fatality, Korean National Police confiscation of the blasting dynamite, and contractor laxity in procuring materials slowed progress and contributed to the unsatisfactory performance rating.

FED divided the STRATCOM billets contract into



Billet construction underway at Site Richmond

16 Contract Register; The Book; Status Reports; USAEDFE Southwest PO Booklet, 1974; Interviews, Wan Sik Yi, 21 August 1975, Kim, Chong, and Best; CIT Visit 1971, p. 4.

17 Contract Register; Letter, BG Chapman to LTG Clarke, 17 August 1970, p. 4.

two geographically-oriented schedules: one for a 15 man billet and utilities at Namsan and Beason and expansion of a structure at Madison, and the other for similar billets and utilities at Richmond and Changsan. The \$186,490 award separated almost equally for the two phases, both of which Sam Il Ind. Co. Ltd. began in June 1972 and finished after the planned completion date of January 1973.¹⁸

The District practice during the WESTPAC era of grouping numerous small, geographically dispersed projects was not new. FED had utilized the technique a decade earlier to attract more experienced and capable contractors. In the 1970's, however, the current SOFA Committee stance prevented awards to individual American contractors, the prime target for the earlier consolidated packages. In addition, there were many fewer new MCA and MCP projects. Most of the user agency requests consisted of O & MA funded upgrades or rehabilitation and related programs such as the MVA scheme for troop living and dining facilities. FED was not as well staffed to handle this type work as major construction. Also, these small projects intensified all the problems associated with remote and dispersed sites, small and often inexperienced contractors, and less lead time from the initial user agency request to the issuance of the notice to proceed.

As the design and construction activity for the 68-S program neared completion, much of the Far East District's regular work was either deferred or not approved, and the programs were not initially large. Consequently, within a year, the total FED workload dropped drastically so that the District could no longer operate economically. The solution to the high overhead costs appeared in the form of a 1 October 1970 merger of the POD elements in the western Pacific, or WESTPAC. With the consolidation and accompanying reduction-in-force and reorganization, FED lost contracting officer authority, counsel, comptroller and other administrative elements. It essentially became a semi-autonomous, augmented area office although it retained the flag and title

to which POD added the designation Korea Office. Since the formation of WESTPAC did not solve the high overhead/diminishing workload problem, POD discontinued the organization on 15 May 1972, withdrew contracting officer authority and supporting administrative elements to Honolulu, formed JED, and officially returned the designation US Army Engineer District to FED. Despite the change in titles, the District remained without full powers even though its branches and sections, in particular Engineering, were expanded to increase responsiveness to its user agencies.

Projects between 1970 and 1972 included the completion of the massive 68-S program and continuation of plans begun during the post-*Pueblo* buildup such as the ALOC airfield improvements, the Chinhae-Masan development, and additional paving at Osan, Taegu and Kunsan. Some of these jobs were funded with the 68-S appropriation, and others through FY 70 and 71 monies. All of the 68-S work and many of the other Air Force projects during the WESTPAC era received high priority because of their Urgent MILCON classification. Besides the Masan ammunition storage depot, other major Army new construction included the Underground Command Post and troop housing.

The declining workload made FED more receptive to user agency requests for smaller projects which, like those a decade earlier, required grouping to attract potential bidders and to economize. Much of this work was renovation rather than construction. This characteristic plus the funding source which was often O & MA, the SOFA restraint on individual awards to US contractors, and the frequent use of modifications and supplemental agreements to accomplish additional projects distinguish the WESTPAC projects from those of the early 1960's.

The trends of a sluggish workload level, few if any large scale individual projects, and numerous small jobs funded by non-MCA sources which appeared during the WESTPAC era would also characterize the next and most current period of this history of the Far East District.

18 Contract Register; Special Projects 1972; Trans-Korea 1972 and 1972-73; The Book; Taegu 1972; Status Reports; Letter, COL Falck to LTG Clarke, 15 December 1972, p. 2.

Note: All post-WESTPAC contracts, DACA 84-fiscal year-C-contract number. There is some apparent repetition if the change in the WESTPAC and non-WESTPAC systems is not noted.

CHAPTER 7
FED IN KOREA
1972 TO 1975

Repair and upgrade of extant facilities and continuation of earlier programs rather than initiation of major new projects typify the post-WESTPAC years. Murphy's Law that whatever can go wrong will in many ways characterizes the era, particularly late 1973 and 1974. These generalizations partially stem from the types of requests, many very small jobs at locations throughout Korea, and their funding sources, mostly O & MA, O & MAF and NAF. At the end of FY 1973, a peak of unconventional monies was reached with over 150 small projects amounting to more than \$10 million under design and construction. FED's problems and frustrations with this workload are also ascribable to its status as a quasi rather than full district; the small staff meant a paucity of the engineers and inspectors necessary for rapid design, award and supervision of the construction of the diverse user agency requests. Vague criteria and siting also slowed the process. Consequently, difficulties developed which would probably not have occurred if any of the components of the situation differed. Also, FED's dependency on A-E firms increased. An unexpected complication occurred when the SOFA Committee decided to withhold permission for American and Korean joint ventures. Rising S & A rates, local currency changes, off-shore procurement delays, spiraling inflation, possible eviction, and recruitment were areas of especial attention and concern.

During the years FY 73 to FY 75, the Far East District total work placement did not exceed \$21 million in any one year and was far below that figure in the last two years; approximately half of the construction contract awards for both Army and Air Force were non-MCA/MCP sources such as O & MA, O & MAF, PEMA and NAF. Of these awards, only one Army and five Air Force topped \$1 million. The Air Force jobs were cohesive, but the former contract, like many others for Army user agencies, consisted of a consolidated package with work at scattered sites. In this case, the consolidated contract was more homogeneous than the

majority of Army combined jobs. EUSA gave these repair and upgrade projects to the District because the magnitude of the appropriation surpassed the capabilities of the Facilities Engineers if they were to continue their normal mission.¹

In addition to the projects remaining from the WESTPAC era, concentration of District activity for the Army in the FY 73 to early FY 76 years centered on Yongsan and Camp Humphreys as well as the numerous "various locations" awards. At the end of the period, high priority and much attention went to improvements of troop living conditions particularly in the forward area and at the remote sites. Warm air furnaces, better dining facilities, and relocatable barracks became the watchwords; all three continue as active projects today.

Camp Humphreys received all of the large buildings during this era; they included an aircraft paint hangar, four low bay maintenance shops, a confinement complex, a community facility, and an ASA aircraft maintenance hangar. MCA and Minor MCA monies funded these five projects as well as new helicopter pads and a parking apron. FED awarded all but the ASA hangar to individual Korean construction firms; Company B, 802nd Engineer Battalion (Construction) is presently in the process of erecting the hangar. The two largest jobs went to Han Kook Kun Up Constr. Co. (73-C-79, \$995,992) for the three 6-bay and one 4-bay shops and to Seo Il Indust. Co. Ltd. (75-C-80, \$483,368) for the multi-story community facility. The former project also involved laying 34,000 square yards of hardstand and road to service the four maintenance sheds, seven wash racks, utilities, fencing and a drainage canal. The concrete masonry block community facility, begun in March 1975, is really two buildings joined: a two-story adult education center and a one-floor library. Intended completion is the spring of 1976.

As is often the case with major user agency alterations of scope, siting or criteria after the contract award, the confinement complex satisfied neither EUSA nor FED. Originally Eighth Army planned two detention compounds in Korea to replace the one at ASCOM (Camp Market). After the District signed a \$218,000 contract with Shin Yang Corp. on 21 September 1973 (74-C-20) and construction began, the Lyon-designed structure at Camp Casey fell through. Consequently,



Almost finished community facility, Camp Humphreys

1 USAEDFE Construction Work Placement Chart; OCE Manpower Survey Report 1974, Commander Remarks, p. 6; Contract Register.



Recent view of Camp Humphreys confinement facility

FED had to modify the Humphreys plans to accommodate more inmates. As a result, the design underwent numerous changes, and Shin Yang finished the building months behind the original schedule. Command interest and contractor complacency further complicated the scenario.

Sam Young won the \$219,795.20 award for the twelve helicopter parking pads and connecting taxiway. Construction proceeded according to schedule, and FED turned the completed project over to the 213th Aviation Company as slated in September 1973. Simultaneously, to ease the always critical water situation at Humphreys, the District added a supplementary agreement to the 72-C-07 troop housing contract for a water treatment plant and an elevated water storage tank.

Finally, the last major undertaking at the Army airfield in the post-WESTPAC era was the ASA aircraft maintenance hangar, an Engineer troop job started in the spring 1975. The November 1975 completion date for the pre-engineered building required extension because Company B could not meet the timetable. Problems and delays such as these were usual with troop construction because of the need to train the troops on-the-job and other diversions including mandatory classes and tactical training.²

In Seoul, none of the District work consisted of a large single building like those at Humphreys. The only contracts for individual structures — a motor repair shop at Camp Coiner, an All-Source Information Center at Yongsan, and an eighty man BOQ at the Korean Ministry of National Defense compound — fell into the minor construction category. A \$148,458 award for the Coiner maintenance shop (75-C-72) was the largest of the

three. The remainder of the \$1.5 million in FED work in Seoul involved renovation and construction combinations, upgrades, utility associated work, and similar activities such as the rehabilitation of the Frontier Club, the JUSMAG-K (formerly PROV-MAAG-K) buildings and Trent Gymnasium, and a power upgrade for 1st Signal Group facilities on Main Post. On the south side of the Han River, FED contracted to relocate six miles of the POL pipeline in Yong Dong Po because of the southward expansion of Seoul and to finish the communications phase of Tango. With the exception of the joint ventured JUSMAG-K award, the District let the projects to individual Korean building firms.

Proximity to and the interest of the command, mediocre contractors, and District construction of other agencies' designs prevented the rapid conclusion of some of the Yongsan jobs. When presented to FED, the design for the Frontier Club renovation, for example, required many modifications before it could be used. After the incorporation of user agency changes of criteria, the District finally signed the contract on 3 January 1973 (73-C-49). Work went very slowly for several reasons such as the necessity to proceed in stages so the club could remain functioning. Eventually Yu Il went bankrupt, and the completion date passed with the rehabilitation only partially finished. A month after the original occupancy date of January 1974, the using agency decided to refurbish the entire building to include the kitchen. Thus, the kitchen entered design and forced a shift of the completion to October 1974. Subsequently, it was discovered that a roof repair should be a part of the package. Despite the later modifications, the contractor met the revised goals. Numerous alterations of design

² Contract Register; USAEDFE The Book, 1973; USAEDFE Camp Humphreys PO, 1973; USAEDFE Construction Progress Report Indexes 1973 to 1975; Interviews, COL Ralph T. Garver, 7 July 1975, 1LT Robert Burkhardt, 28 August 1975, Kon Il Chong, 28 August 1975, Yong Taek Hong, 28 August 1975, Gordon Best, 12 May 1975, and Harvey Robinson, 12 September 1975.



Engineer troop project, ASA hangar, Camp Humphreys, progress in August 1975

and difficulties with the contractor also characterized the rehabilitation of Trent Gymnasium (73-C-99), which consisted of a 10,000 square foot, two-story addition, a new heating system, and renovation of the existing one-story structure.³

In addition to the facilities in Seoul and at Camp Humphreys and a few other scattered locations in Korea such as the erosion control at Camp Carroll (75-C-51) and Masan (73-C-85) and small scale POL pipeline relocation at Suwon (75-C-47), the Target OCONUS complex at Sea Range and the POL mooring facility at Pohang were the only other individually-sited Army construction awards. On 28 June 1974, Dae Won Enterprise Co. Ltd. signed a \$839,089 contract for the extension of the Pohang off-shore mooring facility to accommodate supertankers. The Korean firm concluded the Lyon-designed and MCA-funded work according to schedule in late summer 1975. Suh Chin Ent. Co. Ltd. finished the

Trans Asia-engineered Urgent Minor MCA Sea Range complex six months after the original scheduled date of 14 March 1975, but only ten days after the revised one.⁴

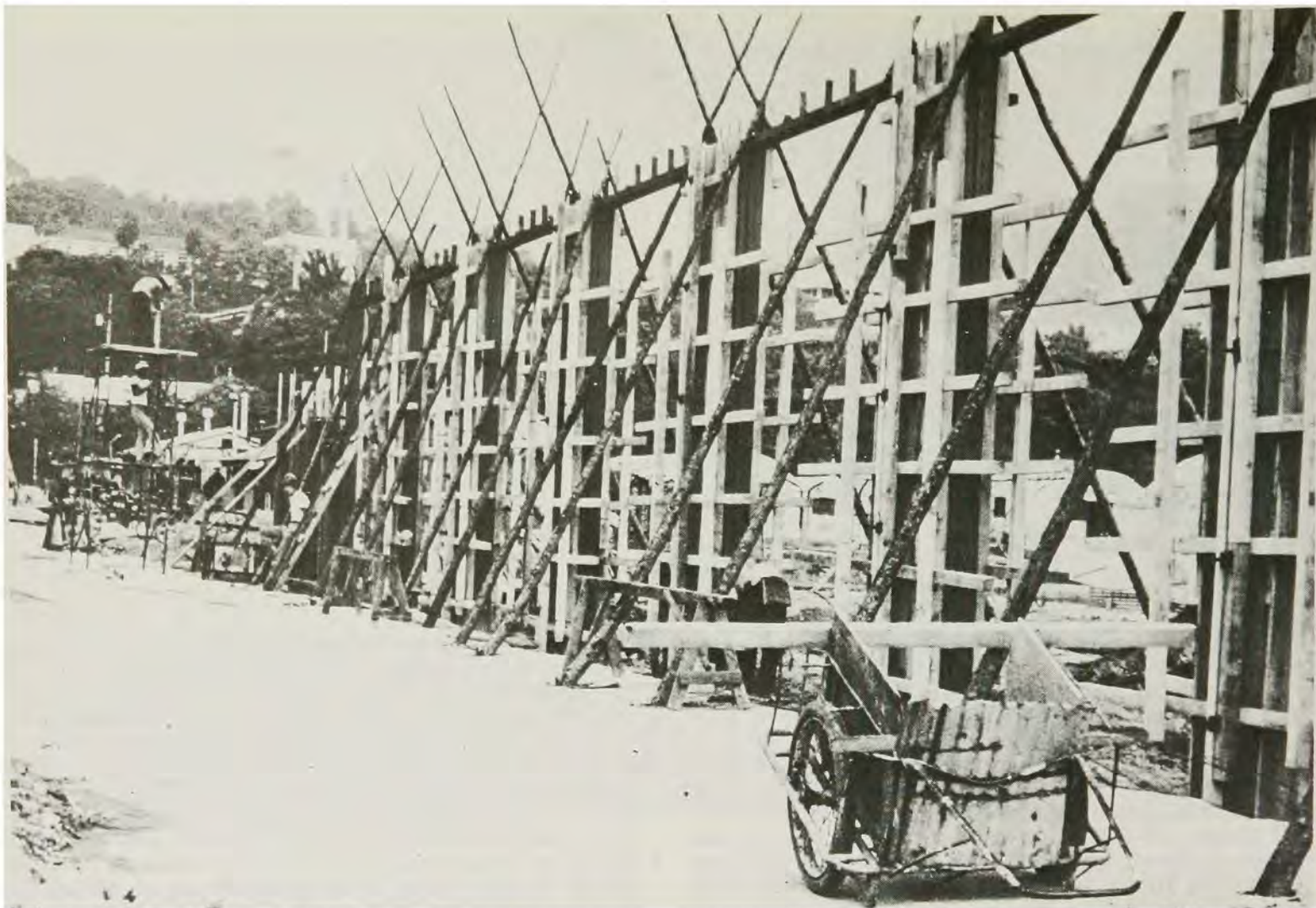
Another \$2.7 million in District awards went to combined projects some of which represented continuations of earlier programs. Phase II of the barracks modernization at Camps Stanley, Red Cloud and Casey and an ALOC airfield improvement package were the only solely MCA funded ones. The half million dollar award for the forward area billet alterations maintained the MVA refurbishing concept introduced in 1972. Shin II also received the 1973 award (73-C-66) which, in this later phase, concentrated upon the 68-S superhooches. Another continuation of an earlier program was the \$1,044,826 contract (73-C-101) to the joint venture of Chin Heung Ent. Co. Ltd. and Sae Won Dev. Co. Ltd. for the ALOC airfield improvements at Sockcho, Chechon, and Kangnung. Because of numerous prob-



Camp Humphreys ASA hangar in December 1975

3 Contract Register; The Book; Construction Progress; USAEDFE Kyong Gi PO Booklets, 1973 and 1974; Interviews, Captain Mike Dean, 9 June 1975, and Garver.

4 Contract Register; Construction Progress; Briefing, Pohang, 6 May 1975, SFC Virgia Le Blanc.



Initial stage of Camp Coiner motor maintenance shop



Exterior segment of JUSMAG-K building renovation, Seoul

lems, such as slow contractor mobilization of the asphalt plants, the joint venture did not finish the Chechon phase until the summer of 1974.

Additional upgrading of the STRATCOM billets (75-C-74) extended an O & M funded program Sam II commenced during the WESTPAC era. In 1975, construction focused at Beason (a dayroom), Tacoma (a dayroom and billets), Camp Carroll (utilities upgrade) and Highpoint (a mess hall).

The most cohesive in components and the most dispersed in location of these smaller awards was the Korea Wideband Network Primary Ground System. A \$96,978 contract that FED negotiated with Korea Communications Engineering Co. for twenty-two sites from Pusan to the forward area (75-C-16) comprised the first increment of the System.

Between 3 April and 14 August 1975, the District assigned six other jobs, similar because of their variety and their fund source. The \$254,000 NAF contract FED negotiated with Jin Hung Development Co., for example, consisted of a renovation scheme for gymnasiums at Camps Ames and Casey, a handball court at Casey, and handball and squash courts and other buildings at Camp Page (75-C-82). And two months later, the District awarded a combined FYs 73 and 74 O & MA project for repair of sixteen bridges at various locations and installation of a ceiling in Yongsan (75-C-102, \$199,100). FED tried to group these packages by task and location to increase their desirability with potential bidders.⁵

⁵ Contract Register; The Book; Construction Progress; USAEDFE Southeast PO Report, 1 May 1975; Interviews, John Ball, 29 September 1975 and 21 August 1975, Joseph Alfonsi, 29 September 1975, 1LT Donald Wynn, 20 May 1975, MSG Milton Heard, 30 June 1975.

The most important of the consolidated packages during these three years were warm air furnaces and relocatable barracks. Because of the urgency of the work and the tight procurement and construction schedules resulting from numerous scope and siting changes, FED separated the bulk of the \$3.7 million O & MA-funded furnace installation into four increments according to geographical location: the TAC sites (75-C-48), Camps Casey (75-C-35), Hovey (75-C-39), and Long, Page and Irwin (75-C-25). Between 13 September and 18 October 1974, the District awarded each segment to a different contractor: Chin Heung and You One, Jin Duk, Dai Shin and Tae Hung, and Suh Rim. The added impetus of almost \$100.00 per day liquidated damages for each contract stimulated the Korean firms to have all 502 of the 2nd Division furnaces installed and working by 5 December 1974. Unfortunately, a 17 January 1975 fire destroyed a Camp Casey building containing one of the new heaters and overshadowed the rapid completion of the direly needed warm air furnace project. As a result, although the furnace was not at fault, EUSA requested changes such as the installation of heater safety devices and other fire protection measures.

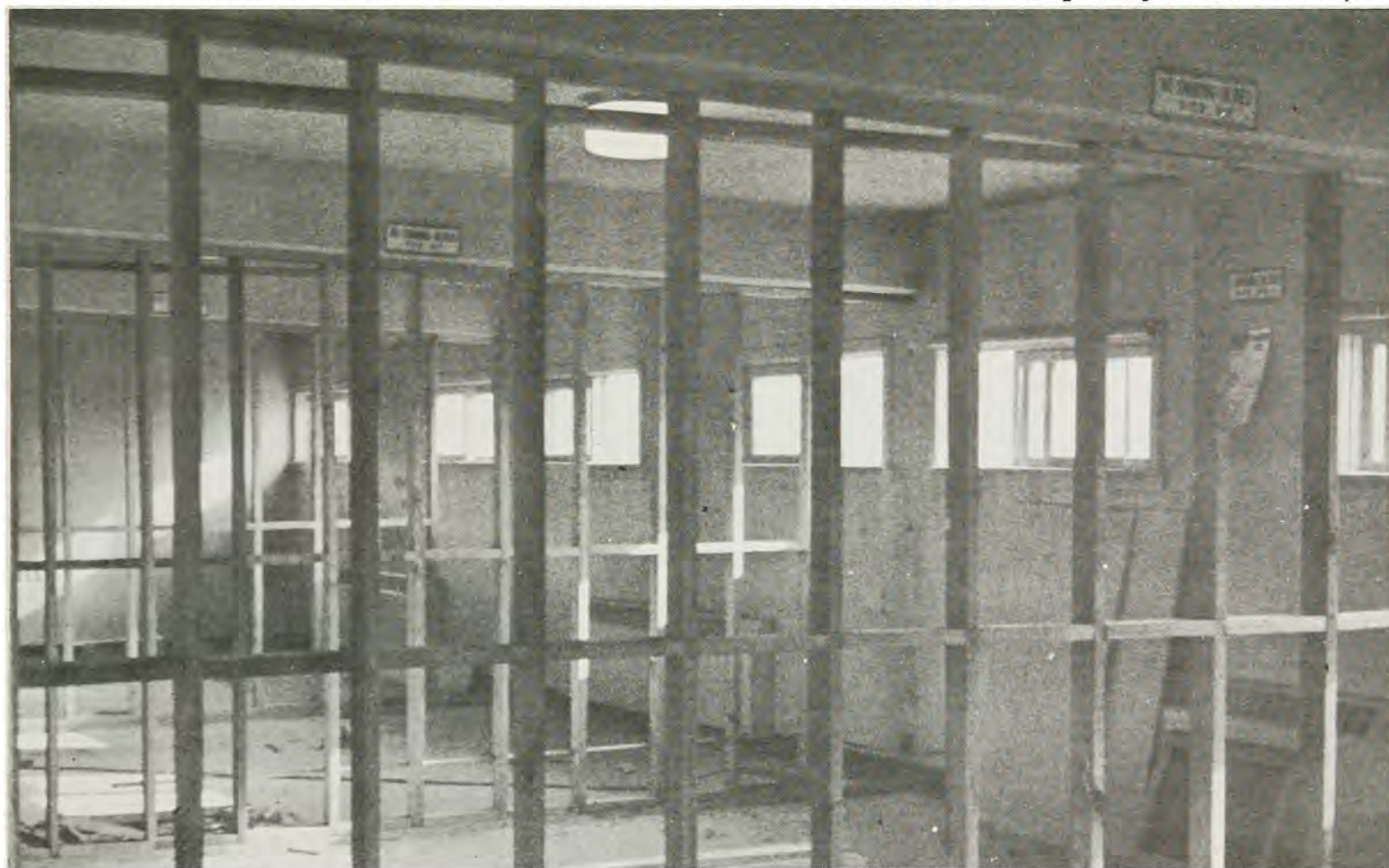
In addition to these furnace jobs at Casey, Hovey, Long, and Irwin and the combined heater replacement and upgrade projects including the renovation of dining facilities and enlargement of water storage reservoirs at the TAC sites, the District integrated lower priority furnace installations into other packages at Casey, Hovey, Yongsan, the STRATCOM sites, K-16 and the air bases. Some of these became modifications to active contracts such as the ones in Tongduchon and Yongsan. At



Camp Hovey bridge scheduled for replacement

Casey and Hovey, for example, Hyup Woo replaced space heaters while upgrading the building enumerated in the contract (72-C-44), and at Yongsan FED attached furnace improvements to the JUSMAG-K renovation award.⁶

In the months following the completion of the initial four warm air furnace contracts, the critical shortage of adequate troop housing again became an important issue. In the spring 1975, with four 47 man semi-permanent barracks for Camp Casey in the FY 75 MCA



MVA modernization of superhooch

⁶ Contract Register; Construction Progress; The Book; Interviews, Garver, Wynn, Heard and CPT George P. Lasche, 29 May 1975; Letters, COL Ralph T. Garver, FED District Engineer, to POD Division Engineer, 3 September 1974, p. 3, 2 December 1974, p. 3, and 28 February 1975, p. 2, and BG Wesley E. Peel, POD Division Engineer, to LTG W. C. Gribble, Jr., Chief, OCE, 13 September 1974, p. 3, and 13 December 1974, p. 4.



Warm air furnace housed separately, NCO Academy, Camp Casey

program approved and ready for award, DA decided to shelve all other semi-permanent concrete block structures and make future barracks relocatable buildings. The concept of relocatables was not a new one for US troops in Korea. The earliest temporary structures were the quonset huts erected in the 1950's which are still the mainstay at many compounds in 1975. Later examples of more mobile billets include the Air Force moduluxes at all the air bases in-country and the portacamps at Camp Humphreys. However, the theory behind the 1975 relocatables innovates somewhat because the latest structures are more portable than their predecessors. In addition, DA plans to eliminate concrete block housing as a building material for future barracks and to shorten procurement and construction time by stocking the relocatable components overseas. Jin Duk received the \$784,375 District award for the last 4 one-story concrete block barracks in Korea (75-C-113); Telescopic Engr. and Constr. Corp. prepared designs for the pre-engineered relocatables to include latrines and a power upgrade to support the new structures.

Other FED assistance for the initial \$4.9 million Other Procurement Army funded FY 75 phase of the relocatable project included an EL & S survey of the sites, procurement of hard-to-obtain items, and assistance with the overall program. Soldiers of the 2nd Engineer Group erected the first increment of 82 barracks: Camp Casey (30), Hovey (30), Nimble (8), and A-220 (14); the 2nd Engineer Battalion built the 24 at Camp Castle. Each H-shaped structure has three components: two 24 foot by 48 foot billets connected by a 12 foot by 24 foot latrine; the maximum planned occupancy is 24 enlisted men. US Army Troop Support Command procured the buildings for the 2nd Group.



Warm air furnaces installed within quonsets, NCO Academy



Relocatable barracks project, Camp Casey

Future phases of the relocatable program include a multi-million dollar FY 76 MCA project with eight BOQs at Humphreys and five at Casey, and nineteen barracks each at Red Cloud and Stanley and fifty-four at Casey and erection of the last fifteen FY 75 structures at Hovey and four at Irwin. Both the FY 76 and FY 77 MCA phases are scheduled as combined projects of District contractors and Engineer troops with the barracks procurement limited to pre-engineered components rather than whole buildings. The soldiers will prepare the sites and construct the barracks, and the contractors will erect the latrines. Plans call for American interior latrine components and locally obtained latrine shells. Part of the FY 77 program also includes mess halls.⁷

Like most other projects of the era, both warm air furnaces and relocatables involved dispersion rather than concentration of District personnel. The future troop billet contracts, however, should reverse the current trend of only one award over \$1 million for other than upgrading and few even near that figure.

Besides the high priority furnace and relocatable barracks projects in the forward areas, the construction at Camp Humphreys and Yongsan and numerous other scattered sites for the Army, in the post-WESTPAC years FED assigned more than \$11.3 million in contracts for Air Force projects at Osan, Kunsan and Kwangju Air Bases with the preponderance of work at the first two and more than half of the total at Osan.

Funding sources included FY 68 SMCP, regular MCP, O & MAF, and Urgent MILCON. During the course of awarding these jobs, the SOFA Committee's rejection of an American-Korean joint venture for the Osan wing headquarters set a precedent for all other post-1972 contracts.

Lyon designed the 51st Air Base Wing headquarters at Osan. The composite facility consists of three pre-engineered structures connected by covered walkways, one 60 feet by 162 feet, one 120 feet by 122 feet and one 60 feet by 222 feet. Also included are exterior landscaping, 2,876 square yards of paved parking areas, and utilities. Dong Ah signed the \$1,428,000 contract (73-C-30) with FED on 18 October 1972. Numerous problems in the construction process of the FY 72 MCP project such as delayed off-shore procurement, delivery of windows and paint which did not meet the specifications, and many user agency changes resulted in a seven month completion date delay until July 1974.

Between 28 November 1972 and 12 October 1973, the District let four contracts in the \$200,000 to \$400,000 range for a 200,000 gallon water storage tank and storm drainage system, power upgrade, improved runway lighting, and rehabilitation of the communications building. All but the 3,000 foot runway approach lighting system at the eastern end of the landing strip fell into the MCP category; the drainage system remained from the 68-S appropriation. Asia Constr. Co.

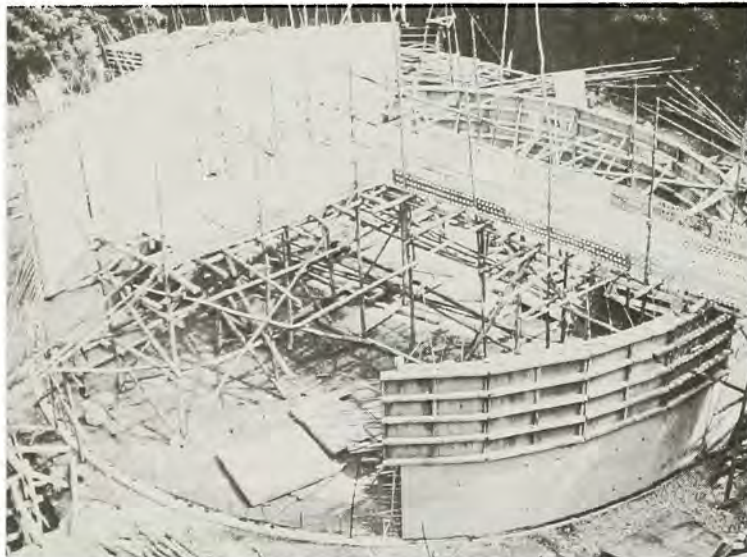
⁷ Contract Register; Construction Progress; POD Fact Sheet, 15 September 1975, Subject: Troop Housing Program; Interviews, Ball, CPT Ron Harper, 10 December 1975, Akira Sameshima, 30 September 1975, and Charles Christ, 16 May 1975; Letters, COL Garver to BG Peel, 28 February 1975, p. 1, and 4 June 1975, p. 2, BG Peel to LTG Gribble, 21 March 1975, p. 3, and COL Ames S. Albro, Jr., FED District Engineer, to BG Maurice D. Roush, POD Division Engineer, p. 1.



Rehabilitation of one-story airmen's billets, Osan

Ltd. completed the power and communication work (73-C-81 and 74-C-29) while Korea Hume Pipe Constr. Co. Ltd. and Se Gae Indust. Co. Ltd. received the storage, drainage and lighting jobs.

The most ambitious of the later contracts at Osan were the airmen's dormitory upgrade and two new billets. FED concluded negotiations for the former project with Hyup Woo Industrial Co. Ltd. on 10 September 1974 (75-C-33, \$1,606,356). DMJM designed the major overhaul of the single-story concrete block buildings which involved gutting the insides, making structural alterations, and replacing the barracks-type open spaces and gang latrines with two-men rooms and semi-private baths. A subsequent modification provided for transformation of the former latrine/shower rooms into day



Pouring walls for 200,000 gallon water tank, Osan

rooms. In October the District signed a \$2,002,921 contract for the two new dormitories with the joint venture of Shin Sung Ent. and A Chung Ind. (75-C-46). Using the same criteria of two airmen per room and semi-private baths, Adrian Wilson engineered the plans for the three-story concrete masonry block structures. The plans for the two buildings differed in length, consequently one billet can accommodate 48 more occupants.⁸

Most of the \$4.2 million in awards which FED assigned at Kunsan in the post-WESTPAC years was non-MCP. Exceptions included the FY 71 MCP hazardous cargo pad and the FY 73 MCP expansion of the fuel storage and distribution system. The former project, a negotiated job of \$265,750 (73-C-35) with Korea Machinery and Construction Co. Ltd. for the paved cargo pad and taxiway, also involved shoulder stabilization and a lighting system. Korea Machinery finished the construction as scheduled. The fuel system expansion, another negotiated contract, was the outstanding exception to the post-68-S SOFA Committee policy of no US/ROK joint ventures. FED signed a \$1,610,000 agreement on 11 January 1974 (74-C-39) with Zurn Engineers and Kun Dong Constr. Co. Ltd. The DMJM-designed project consisted of replacing 15,000 feet of pipeline, relocating the north POL tank car unloading area, extending the north railroad spur, constructing a new pump house and an emergency generator shed, transferring ten unloading stands, and erecting five underground and one surface storage tanks. Late delivery of materials was the primary reason why the contractors could not meet the projected completion of mid-1975.

Besides the cargo pad and fuel storage complex, a \$510,446 award to Shin Sung and A Chung for the ammunition storage facility (76-C-38) was the only other

8 Contract Register; Construction Progress; The Book; Letter, COL John Hughes, POD Division Engineer, to LTG Gribble, 4 June 1974, p. 2; Interviews, Raeburn H. Medlar, 1 October 1975, Best, Garver, Si Chung Kim and In Chung Chong, 9 October 1975; Briefing, Osan, Si Chung Kim and SFC W. C. Johnson, 2 June 1975.

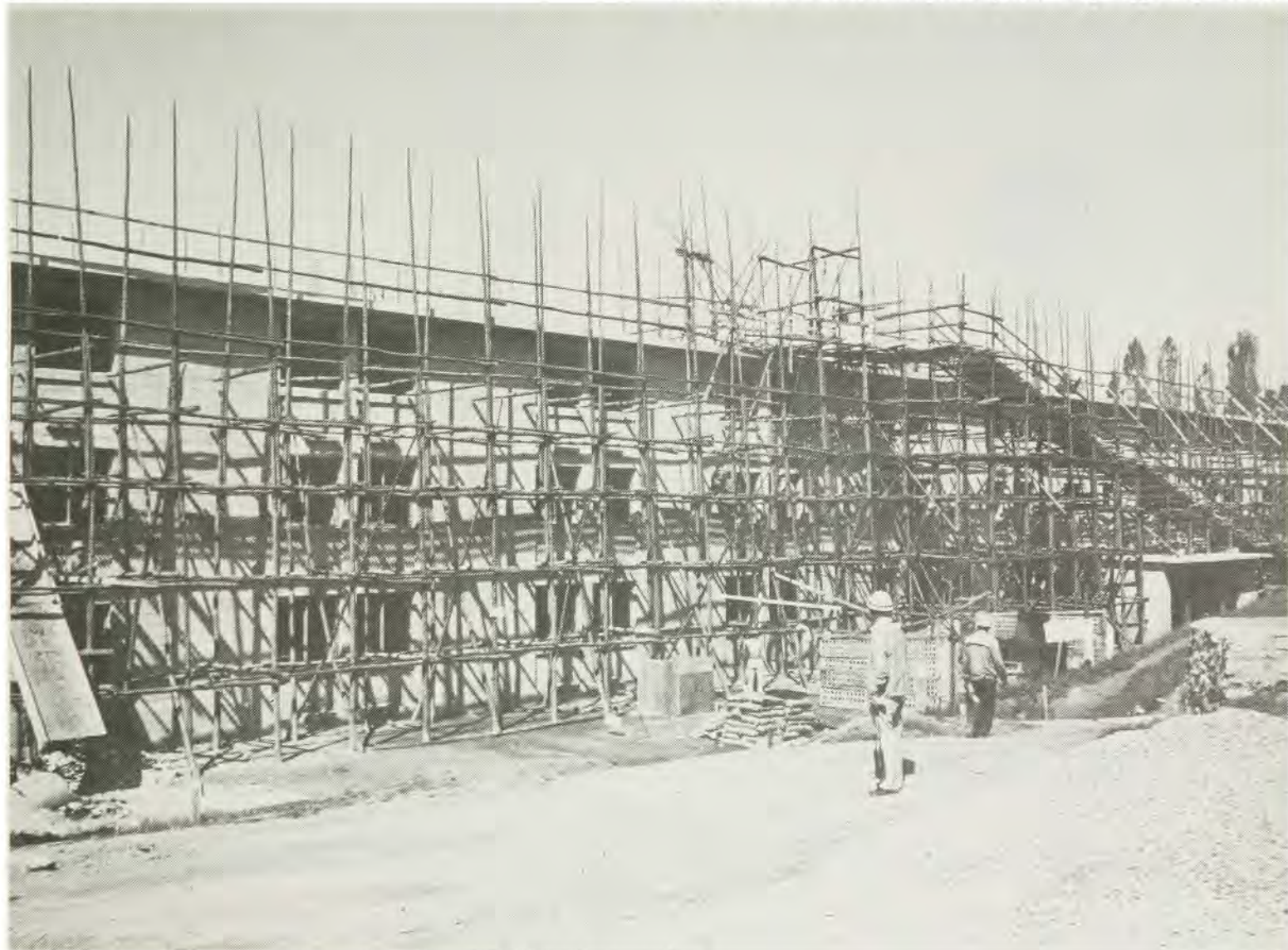
single item contract at Kunsan. Like the remainder of the \$4.2 million FED assigned at the air base, the ammunition facility funding sources were multiple. A number of repair and construction jobs such as the two approximately \$350,000 contracts with Korea Machinery and Constr. Co. Ltd. for improvements to the base roads and taxiway comprised other consolidated jobs at Kunsan.

FED also used modifications to enhance Air Force contracts and to save time and money by not advertising very small projects. A water system at TAC site 6, repair to a damaged sea wall at the Army facility at the Kunsan civilian port, a water distribution system and spray paint booth at Kunsan Air Base, and STRATCOM billets numbered among the added items to one contract (72-C-09).⁹

Kwangju boasted only one major undertaking in the post-WESTPAC years: a \$1,270,000 award for the ordnance storage facility. You One and Heung Han combined to build the FY 72 Urgent MILCON project which in addition to the igloos, buildings, paving and fencing at the ammunition complex, consisted of a readiness crew structure, kennels and alterations to an existing building.¹⁰

A workload not large enough to sustain a district with full powers characterizes the post-WESTPAC era for FED. Only once in the three years did the total District placement rise above \$20 million. Over half of the contracts were untraditional, oriented toward repair or improvement and funded from other than MCA and MCP sources. To increase potential bidder interest, to economize administrative costs and time, and to avoid the unknown contractor that a very small project might attract, FED regularly consolidated work by location or type. The District also frequently employed supplemental agreements and modifications to avoid the lost time and money accompanying advertisement and supervision of many small jobs at dispersed sites. The SOFA Committee elimination of US-Korean joint ventures meant a return to dealing solely with local contractors.

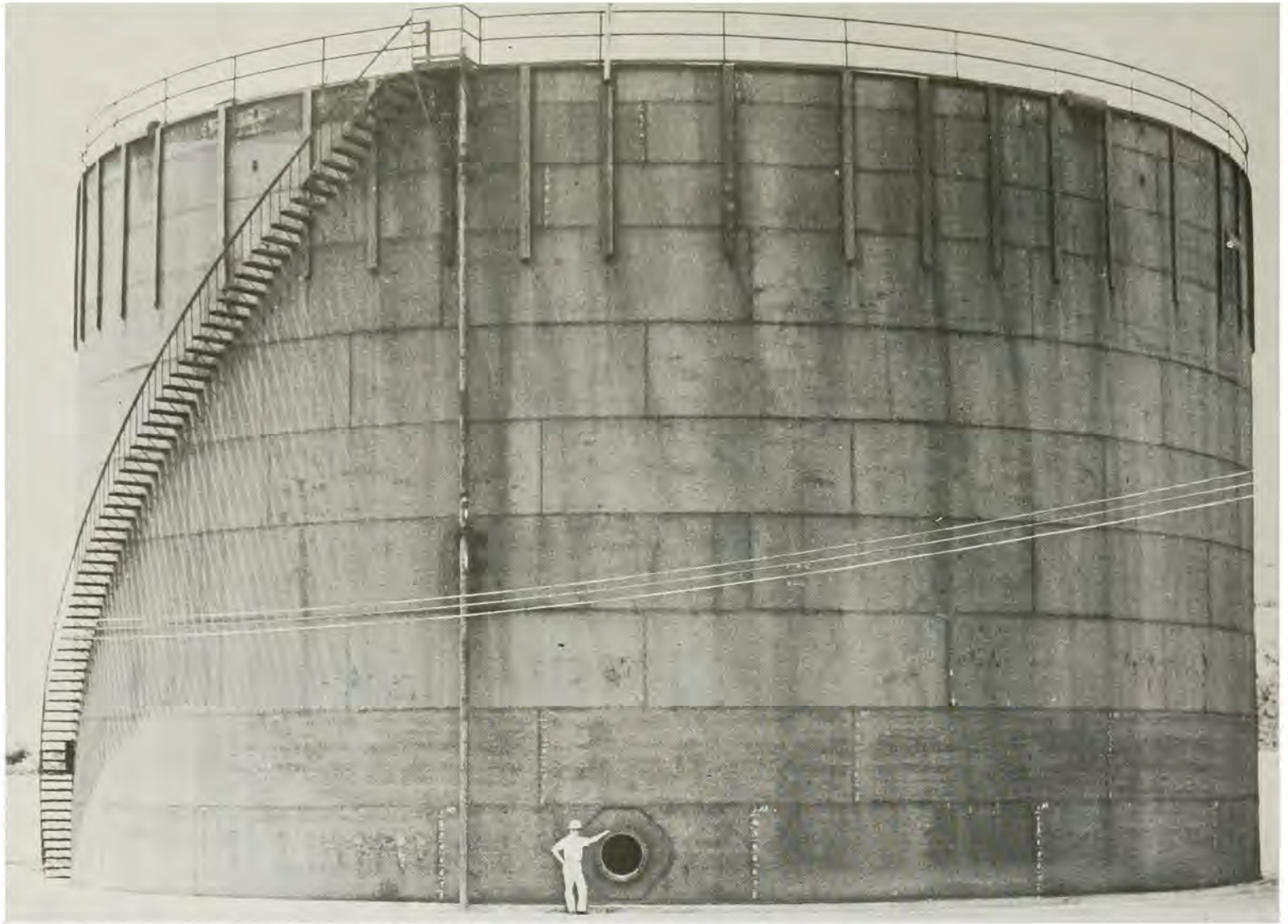
Master planning was another area which absorbed the District during the post-WESTPAC years and one example of the numerous user agency requests dealing with areas outside of construction. The project consisted of two phases: preparation of basic information maps and a utility study and facility analysis. At many American installations, the map segment contin-



Airmen's dormitory project, Osan, Mr. Kim of FED in foreground

9 Contract Register; Construction Progress; USAEDFE Southwest PO Booklets, mid-1974 and early 1975; USAEDFE Central PO, mid-1975; USAEDFE Trans-Korea REO Booklet, 1972; Letter, LTC Robert L. Lane, FED Acting District Engineer, to POD Division Engineer, 26 February 1974, p. 2; Interviews, Best, Garver, Wan Sik Yi, 12 June 1975, and CPT Richard G. Perreault, 5 May 1975.

10 Contract Register; Construction Progress; SW PO 1975; Central 1975; USAEDFE Briefing, Kwangju, 3 June 1975; Letter, LTC Lane to Division Engineer, 26 February 1974, p. 2; Interviews, Garver and Perreault.



Mr. Yi of FED Kunsan Project Office in front of almost finished 55,000 barrel fuel tank

ued and updated the early 1960's Real Estate Division program which R. M. Towill had to complete because of the foreign national reduction-in-force in 1964. On 7 February 1974, Adrian Wilson signed the first master planning contract with the District (74-C-50); one with Telescopic Engineering and Constr. Inc. followed in June (74-C-79). Work began immediately for the maps of Yongsan, Camp Coiner and Camp Humphreys. By the fall 1975, the first phase had concluded at the three and Camps Red Cloud, Stanley, Ames, Page, Carroll and Walker, Hialeah, K-16, and Kunsan as well and was scheduled at Camps Mercer, Market, Nimble and Castle. The utility study and facility analysis segment got underway at Red Cloud, Stanley, Yongsan, Humphreys, Casey, Hialeah, Ames, K-16, Coiner and Page in September and October 1975.¹¹

With the phaseout of WESTPAC and the buildup of FED design capability, the District slowly resumed functioning as DOD design agent in Korea. On 31 March 1973, USFK ceased being program manager for Far East District projects. At about the same time, the staffing and separation of Construction and Engineering Branches was complete. However, the Staff depth was insufficient for rapid design, award and supervision of the unexpected \$8 million O & MA request from EUSA

at the close of FY 73. The \$8 million formed part of a larger appropriation which the Eighth Army Facilities Engineer could not handle and simultaneously fulfill its normal maintenance and repair mission; because of the sheer size of the task, FED received the request. In response to the sudden change in workload, the untraditional funding source, and repair and upgrade nature of this \$8 million request, the District immediately hired six Korean nationals on a temporary basis, extended the workday for Engineering personnel, shifted three officers into the newly created Program and Planning Section, requested TDY assistance from POD, intensified recruiting to fill the Programming and Planning Section chief slot, and signed open-end contracts with four architect-engineer firms. All of these actions took time, a commodity which, in actuality, was not available in great quantities. It was not until the following spring that FED had all the necessary people and a debugged system for dealing with the numerous projects under \$100,000. In the interim many complications developed, quite a few that related to vague or altered criteria and siting and their corollary of insufficient funds. Additional difficulties arose because the four District A-E firms — Lyon, Trans Asia, Adrian Wilson, and DMJM — also served the Japan Engineer District and the Air Force. Thus, FED had competition from JED and the USAF. Also, after two years of inactivity for FED in Korea, it

11 Contract Register; USAEDFE Master Planning Chart, 5 December 1975.

took several months for the A-Es to establish functioning branch offices in Seoul.¹²

The heavy O & M workload and other small projects and the demands it put upon the District had several consequences: an unfavorable Government Accounting Office (GAO) report, an increased relationship of cooperation with the Facilities Engineers, a rising S & A rate, and difficulties, some serious, at many construction sites.

The GAO report echoed the familiar comments that FED projects took too long and cost too much. The

GAO remarks were reminiscent of perennial District complaints that user agencies often altered the criteria and siting, frequently after contract commencement such as the Trent Gymnasium or Frontier Club, changes which in turn affected the cost and time. GAO also criticized the excessive use of A-E firms, which by 1974 carried 75% of the design workload — the opposite finding of the OCE Manpower Survey Team who also conducted their research during late 1974. The latter team wished to eliminate any unnecessary overhead costs. Another area which FED viewed as a measure to save time and



Ground breaking for Kwangju Air Base ordnance storage facility

12 Contract Register; Manpower Survey Team Remarks, p. 2, and Commander Remarks, p. 6; POD Message to FED, 9 August 1973, Subject: Additional Manpower for FED Engineering Branch; USAEDFE Memorandum for COL Moore, Subject: Personnel Needs; OCE Message, 2 February 1973, Reference: JCS Memo; Interviews, Murray Rothstein, 25 September 1975, Arnold Ivener, 17 September 1975, Garver, 7 and 16 July 1975, and Medlar; Letters, COL William D. Falck, POD Division Engineer, to LTG F. J. Clarke, Chief OCE, 15 December 1972, p. 2, and 9 March 1973, p. 1, COL William T. Moore, FED District Engineer, to COL Falck, 1 June 1973, p. 1, LTC Lane to POD Division Engineer, 31 August 1973, p. 1, and COL Garver to COL Hughes, 30 November 1973, p. 1. EUSA received most of the O & M money as a consequence of the American withdrawal from Vietnam; the funds then became available for use in Korea. FED signed the first open-end A-E contracts the previous September: 73-C-16 (DMJM, not to exceed \$25,000), 73-C-17 (Adrian Wilson, not to exceed \$25,000) and 73-C-18 (Trans Asia, not to exceed \$10,000).



Ceremony for start of Kwangju ammunition storage facility, from left, Mr. Schild, FED Construction Branch Chief, Mr. Choe, You One, COL Kramer, Kwangju Base Commander, unknown officer, BG Kim, Kwangju ROKAF Commander, COL Garver, FED District Engineer, BG Kim's aide, unknown Buddhist monk

money for the user agency and the District was the utilization of supplemental agreements and change orders (modifications). GAO considered the policy sole source procurement, thereby eliminating competitive advertisement. On the other hand, FED viewed it as the best method of rapidly accomplishing a small project which often would not attract a construction firm of the caliber already under contract, and it was a way to control the always troublesome S & A rate.¹³

As a result of the GAO report, which also severely criticized EUSA Facilities Engineers, both the Facilities Engineers and FED reconsidered their assets and capabilities and the possible composition of future programs. They hoped to anticipate and eliminate complications such as those arising from the massive FY 73 year end \$10 million O & M and NAF request.

Not unexpected with the composition of the user agency projects were rising S & A costs. Dispersed contracts such as the Korea Wideband Network Primary Ground System had S & A rates well over those individually sited ones at Camp Humphreys and Osan. Since so many contracts in this era involved scattered job sites, the S & A costs continued to mount. To combat this problem, FED deactivated Korea REO and integrated the project offices into Construction Branch on 22 July 1974. The following May, another reorganization reduced the project offices to three, Northern, Central and Southeast. It also sharply cut back personnel spaces in Construction, added slots to Engineering (where much non-construction work such as master planning was underway) and eliminated the Exploration, Airfields and Construction Unit of EL & S.¹⁴

Difficulties seemed to occur with greater frequency and magnitude in this era, an impression partially attributable to the reduced volume of work and an over-extension of field personnel. The collapse of twelve bents of the Korea Regional Exchange warehouse at

Camp Market on 17 November 1974, for example, received proportionally more attention than it would have five years earlier. In 1970, as a 44th Engineer Battalion (Construction) project of erecting the Pascoe building, the weather-provoked collapse would have been investigated and the District Inspector oversight of not insisting upon adequate temporary bracing properly handled. In 1974, however, it received an inordinate amount of attention because of the sluggish FED workload.

Another reason for the excessive interest directed to District design and construction was that the money for the Army projects in Korea frequently took years before it actually reached the user agency (with deferments and cancellations the more usual fate). Consequently, the requesting agency wanted the facility now, or yesterday if possible, even though the project probably required alterations, redesign, and more funds because of the constantly changing EUSA tactical mission in the ROK and inflation. Occasionally, revocation of money occurred because FED, for various reasons, could not obligate it in time. During the fall of 1975, for example, more than \$2 million in construction monies reverted to OCE because of the District's failure to meet the fund obligation deadline.

In addition to the difficulties FED encountered with the O & MAF and NAF projects and their influence upon the entire District workload, economics, eviction threats, procurement problems and personnel shortages spiced the lives of District members.

Initiation of payment in won resulted from USFK compliance with a GAO report concerning global use of the local currency. The new policy became effective in Korea on 1 January 1974 with FED experiencing no obstacles during the transition. It mainly affected the District by increasing paperwork. The long-rumored won devaluation finally occurred on 7 December 1974 with

13 Manpower Survey; US Government Accounting Office Interim Memorandums, No. 4-Overall Observations on EUSA Facilities Engineering Management, 12 December 1974, and No. 3-Far East District Engineer Design/Contracting Support of EUSA Facilities Engineering Mission, 24 December 1974; Letter, COL Garver to POD Division Engineer, 2 December 1974, p. 1.

14 POD G. O. No. 20, 29 July 1974, and No. 18, 12 May 1975; Letter, COL Garver to BG Peel, 4 June 1975, p. 2.

the official exchange rate of won to US dollars going from 397 to 480. Just prior to the devaluation, FED had a chance to see what percent of a bid price was a hedge against this impending depreciation when the Camp Carroll warehouse sprinkler system became an Urgent Minor project. With the issuance of invitations to bid, contractors requested permission to submit their quotations in dollars; the District amended its requirements to permit dollar and won amounts. The latter proposals were 13.4% higher. The devaluation, however, impacted FED since it caused District contractors to file claims; the airmen's dormitory project at Osan is an example of this phenomenon.¹⁵

Another element influencing bids was the spiraling global inflation which made it difficult for Korean contractors to obtain firm quotations from Stateside companies and to estimate what local costs would be by the award date. As inflation persevered, this became one of FED's most serious problems. Accompanying the price escalation and the increasing costs of construction was a general industrial slowdown in the US which extended the number of days from the initiation of procurement until the receipt of the goods on-site.¹⁶

During the summer 1973, to add to the confusion of the unexpected \$8 million in O & MA funded projects from EUSA, the ROK Government asked the Far East District to vacate its Seoul headquarters compound. Niblo Barracks on the far side of Namsan was chosen as the new FED home which after renovation would provide adequate office and administration space, living quarters, and maintenance facilities. Fortunately, the move did not transpire because, during the fall 1973, the Korean Government withdrew its request.¹⁷

Many of the off-shore procurement problems such as delayed and incorrect shipment, losses in transit, dock strikes, and receipt of damaged or unusable mate-

rials, still existed twenty years after the formation of FED and will continue to trouble District personnel.¹⁸

Several other areas of concern for the District during the post-WESTPAC years include the recent tendency for career FED local national employees to emigrate to the US with little or no advance notice and the lengthening of all DAC tours to at least two years. The former trend involved local nationals who, with 15 years or more Federal service, received immigration priority. The latter change made the perennial recruiting problem worse because a reduced differential (to zero for those in housing) and number of home leaves (to one for each two years in country) eliminated some of the incentives for civilians to come to the ROK.¹⁹

During the most recent era for the Far East District, the post-WESTPAC years, many of the construction contract awards were ones more usually associated with Facilities Engineer work. The magnitude of the monies received by Eighth Army, more than \$10 million of non-MCA funds in FY 73, required an agency such as the District with more resources than those available to the AFE. All total in the three years, there were fewer than ten awards over \$1 million, and many were below \$100,000.

The austere staff of the newly expanded Far East District-cum-area office necessitated augmentation including introduction of open-end A-E contracts to accomplish the unexpected \$8 million late FY 73 O&MA funded requests from Eighth Army and the projects already programed. In addition to the numerous "various location" packages with sites dispersed throughout Korea, construction activity concentrated at Yongsan, Camp Humphreys, the 2nd Division and I Corps areas, and Kunsan and Osan Air Bases. The top priority Army



Collapsed KRE warehouse, Camp Market

15 Letters, COL Hughes to LTG Gribble, 14 December 1973, p. 2, LTC Lane to POD Division Engineer, 26 February 1974, p. 2, and COL Garver to Division Engineer, 2 December 1974, p. 2, and 28 February 1975, p. 1.

16 Letters, COL Garver to COL Hughes, 30 November 1973, pp. 1-2, LTC Lane to Division Engineer, 26 February 1974, p. 1, and COL Garver to Division Engineer, 4 June 1974, p. 2.

17 Letters, LTC Lane to Division Engineer, 31 August 1973, p. 1, and COL Garver to COL Hughes, 30 November 1973, p. 1.

18 Letters, COL Falck to LTG Clarke, 15 December 1972, p. 1, COL Garver to COL Hughes, 30 November 1973, pp. 1-2, and LTC Lane to Division Engineer, 26 February 1974, p. 2.

19 Letters, LTC Lane to Division Engineer, 26 February 1974, pp. 1-2, and COL Garver to Division Engineer, 3 September 1974, p. 1; Interview, Harvey Robinson, 12 September 1975.

programs include replacement of space heaters with warm air furnaces and erection of relocatable barracks for Division troops. To save time and money and to try stabilizing the rising S&A rate as the proportion of small projects in the total workload increased, the District frequently consolidated similar projects with geographical proximity. FED also expanded use of supplemental agreements and modifications. A SOFA Committee decision limited contract awards to local construction firms; the Kunsan fuel storage complex expansion was the only exception to this new policy.

The tumultuous FY 1973 O&M projects and aftermath illustrate Murphy's Law in action. But the circumstances of working in Korea fostered some of these problems and the small District staff and regular work-

load engendered others because FED was not immediately able to design and award all 150 projects. It took time to assemble the necessary people to accomplish the mission. And numerous criteria and siting changes further complicated the task.

Near the end of the period, work unrelated to active construction projects increased through the addition of jobs such as master planning. FED responded to the alterations in the type of user agency requests by reorganizing its staff. The capability of the District to adapt to the fluctuations in user agency requests through major adjustments in its organization is one of its greatest assets and will continue to be so as the Far East District enters its third decade.

CHAPTER 8

SUMMARY AND CONCLUSIONS

In its almost twenty years of existence, the Far East District has enjoyed a long and varied history. Starting as a nascent organization with an initial program in excess of \$17 million concerned primarily with housing for the Office of Economic Coordinator and PROV-MAAG-K staffs and improvements of the living and working conditions for the American troops stationed north of Seoul, FED matured to a district capable of undertaking a great assortment of user agency requests such as the rehabilitation of the Inchon tidal basin or the creation of Camps Ames and Carroll. The years have seen several frantic increases in the workload followed by marked decreases that dictated significant expansions and contractions in the staff and field organization. The program in support of the US mission in Southeast Asia during the mid-1960's and that in reaction to the January 1968 *Pueblo* seizure and other incidents in Korea prompted the two major workload expansions and District reorganizations. The former dictated a shift of attention and personnel to Japan where the Army and Air Force, in particular, had numerous jobs. These construction and rehabilitation projects gave FED members their first exposure to compressed timetables and high priority jobs. Just as the construction phase of the Southeast Asia support program passed its peak but was months from nearing total completion, the events in Korea occurred and the United States prepared for the possibility of armed conflict. The massive \$102 million FY 1968 Supplemental Military Construction Program which followed launched the Far East District into its most significant effort to date and required an immediate shift of attention upon Korea rather than Japan. The magnitude of 68-S surpassed anything undertaken previously or subsequently by FED. One project, the trans-Korea pipeline and related storage and dispensing facilities, exceeded or equaled many other total annual workloads. The experience gained in Japan the previous two years was excellent preparation as the District attempted to meet the 68-S design and construction goals.

The systole-dystole existence, engendered by such vacillating user agency requests as 66-S in Japan and 68-S in Korea, severely taxed the District's responsiveness to crash programs added to its normal workload as well as its viability during the slack periods. In addition, these fluctuations prompted numerous studies and, finally, the decision to merge FED with other districts in the western Pacific. As a result of this consolidation, the Far East District became an area office. After the dissolution of WESTPAC, the District formally regained its title, but not its contracting officer authority. Consequently, today FED is still an augmented area office with semi-autonomous rather than full authority.

Many of the areas of concern and attention in 1975 existed before the institution of FED, such as those associated with procurement, user agency alterations, efficient deployment of field personnel, an imbalanced workload, recruiting, communication with POD, and the peculiarities of construction in Korea. Through the years, only the last one has changed significantly: the war-devastated ROK economy recovered and, with some assistance from the District, the local construction industry developed, so that by the 1970's heavy machinery and power tools were no longer rarities or nonexistent, bulk materials were available on the Korean market, and skilled and experienced contractors and laborers existed.

Communication problems between POD and FED have diminished somewhat through the years, but they are by no means resolved. The distance of 3860 air miles from Seoul to Honolulu and only twelve hours per week of overlapping office hours and even greater mileage and time differentials to Washington, D.C., create and have created numerous frustrations and difficulties. The improvements of voice communication and air travel in the last twenty years have alleviated some of these problems; but the residence in Honolulu since 1972 of contracting officer authority has fostered others. There is still a time lag of hours, days or weeks for anything requiring decision, discussion, review or approval. This delay in turn creates other complications. In addition, mail includes additional hazards because of the possibility of misrouting or loss.

Another apparent similarity with the earliest FED era is the workload composition: many small jobs. In the 1950's, however, the capabilities and resources of the Korean contractors dictated breaking projects into even smaller elements so that they could be constructed without default — a constant problem at that time. In the 1970's, the user agency requests that FED received consisted of numerous projects which the District then grouped into larger packages to attract more potential bidders and to economize with administrative costs. Supervision and inspection expenses were sources of concern in both periods.

A great similarity between the early 1960's era and later is the practice of consolidating projects into packages, especially since the International Balance of Payments policies restricted procurement of all but bulk materials to American-made products. However, the post-68-S SOFA Committee decision eliminated the earlier period's prime target, American contractors, and exceptions to IBOP policy became standard procedure by the late 1960's.

The Far East District as an element of the Corps of Engineers is most appropriately structured to serve as design and construction agent in Northeast Asia. During the almost twenty years of its existence, the total workload has fluctuated tremendously in both amount and variety. FED's flexibility and depth of resource are possible through its ability to expand or contract rapidly to meet the demands of current construction and design activity and to obtain the necessary personnel assistance to permit these changes through PCS and TDY assignments or by parceling partial or whole projects to other districts.

Because of these capabilities the District's contributions to Korea have been several: the building of numerous facilities in the Republic of Korea, the fostering of the local construction industry development, and a boosting to the recovering Korean economy. The physical results of FED's efforts are not as significant as the funds which permitted their realization. District awards to local firms fueled the emerging war-devastated ROK economy. FED also encouraged the establishment of Korean factories to produce materials meeting District standards; this often involved actually teaching the nascent industries how to manufacture their products. These District actions saved the expense and delay associated with off-shore procurement for FED user agencies, supplied more goods for local development, and created a base for Korea's entry into the competitive international arena.

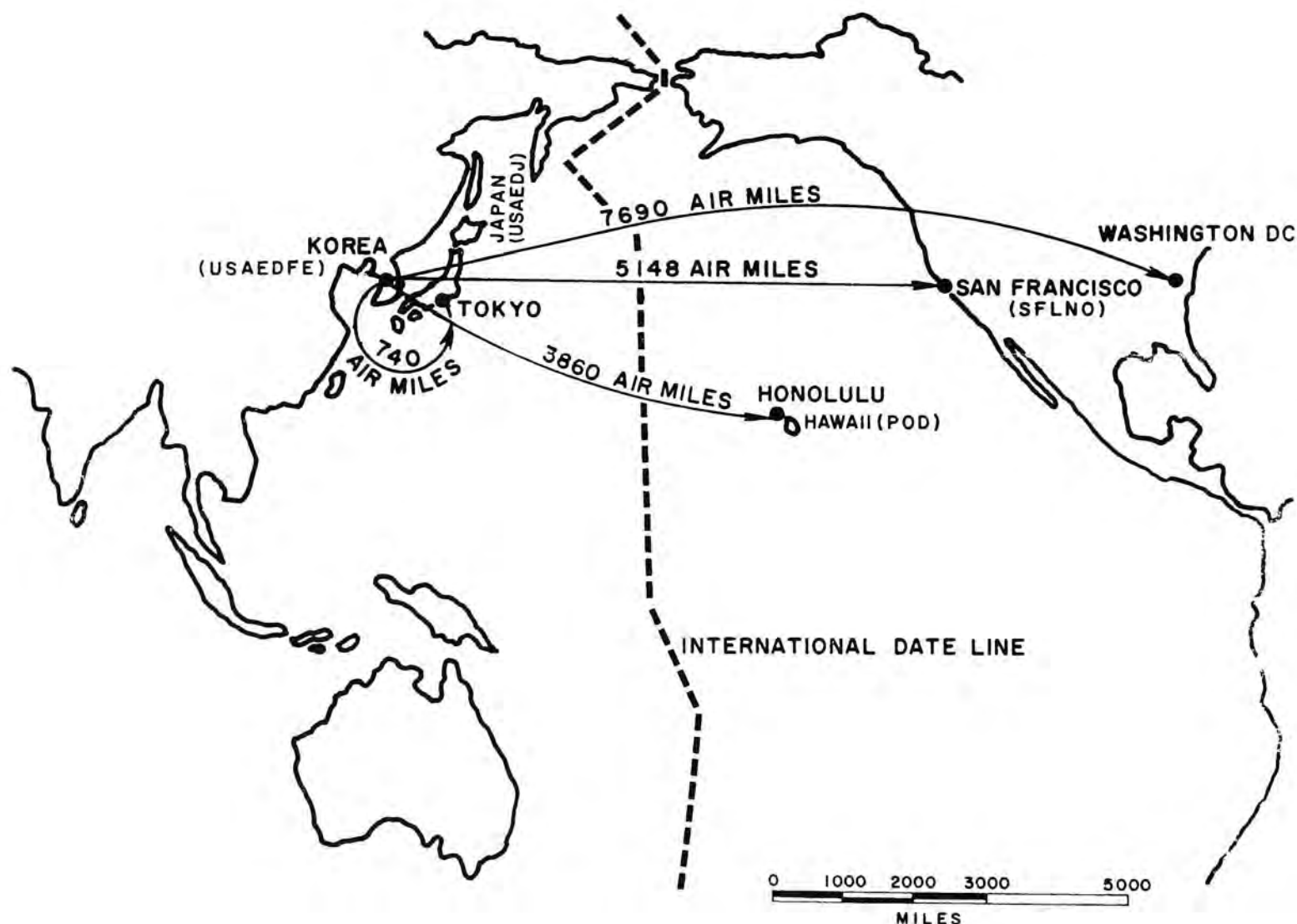
The facilities constructed since 1957 by local and American contractors under FED supervision have less

importance than the means employed to gain them because of their impermanence. Although buildings constructed with concrete and concrete blocks appear to be more durable, the average planned life span for Army structures in Korea was and is five years. Economy dictated the choice of construction materials since cement, sand, and aggregate were available in Korea, and wood and metal had to be imported. The reason for the short programmed existence roots itself in the nature of the US military mission in the Republic of Korea. Alterations in this mission are made in Washington and are influenced by shifts in world tensions and events of international import. These circumstances in turn explain the recent EUSA requirement for massive upgrades and

relocatable barracks: the Americans have been in Korea much longer than anticipated. Thus, many facilities either need rehabilitating or replacement — particularly in the forward area — or both. The continual modification of Eighth Army's mission also means and has meant movement of units within Korea and within the US Army. Consequently, numerous past District projects have disappeared because they were dismantled when EUSA withdrew troops. Many of the remaining facilities no longer house Americans, having been turned over to the ROK military.

However, the ends of the Far East District's efforts are neither inconsequential nor ephemeral for some projects have had or currently have an impact on the Korean

PACIFIC OCEAN AREA



economy. The two most obvious examples are the Incheon tidal basin and the POL pipeline. The restoration of the former provided a desperately needed port near Seoul to facilitate recovery from the Korean War. The latter continues today as a military and commercial conduit of petroleum.

Education of contractors and their employees was also an FED goal. In the field, District inspectors literally taught supervisors and laborers how to do everything from the most elementary task in carpentry to operating heavy machinery and power tools and learning how to translate plans into structures. In Seoul, members of the FED staff gave classes which encompassed all phases of construction from formulating bids to on-

the-job safety. In addition, the District commenced a training program for ROK military engineers. The Far East District's advice, lectures, encouragement and training provided an impetus for the developing Korean building industry; by the late 1960's, local companies were successfully competing in the world market. Today ROK firms are actively engaged throughout the globe; two examples are their presence in the Middle East and Malaysia.

As the Far East District approaches its third decade, past and present members can proudly reflect upon their legacy to the Korean people.

GLOSSARY

A

AB—US Air Force Base, or air base
 ACAN—Army Command Administrative Network
 AC & W—Aircraft Control and Warning site
 A-E—architect-engineer firms
 AEO—Area Engineer Office
 AFAG—Army Flight Activity Ground Support Facility site
 AFPE/8A—Armed Forces Far East/US Eighth Army
 AFPE/8A(R)—Armed Forces Far East/US Eighth Army (Rear)
 AFSS—Air Force Security Service
 ALOC—Advanced Line of Communication
 AMS—Army Map Service
 ASA—Army Security Agency
 ASCOM—Army Support Command
 ASP—Ammunition Storage Point

B

BOQ's—bachelor officers' quarters
 Butler—type of pre-engineered building
 BWQ—bachelor women's quarters

C

C-5A—type of aircraft
 CFM—contractor furnished materials
 CINCPAC—Commander in Chief, US Forces, Pacific
 CINCUSARPAC—Commander in Chief, US Army, Pacific
 CMU—concrete masonry unit
 CONUS—Continental United States
 CPO—Civilian Personnel Office

D

DAC—Department of the Army civilian employee
 DA—Department of the Army
 DDEWP—Deputy Division Engineer, Western Pacific, or WEST-PAC
 DE—District Engineer
 DMJM—Daniel, Mann, Johnson and Mendenhall, an architect-engineer firm
 DMZ—demilitarized zone
 DOD—Department of Defense
 dorms—dormitories

E

EC 121—type of airplane
 EL&S—Exploration, Laboratory and Survey, an element of FED Foundations and Materials Branch, Engineering Division, until the WESTPAC era, when it became a branch attached to Engineering element
 ENG—Far East District contract number, ENG=Engineer
 EUSA—Eighth United States Army, or 8A

F

FEC 268—Far East Command contract 268
 FED—Far East District, or United States Army Engineer District, Far East
 FED(R)—rear element of the US Army Engineer District, Far East, located in Japan
 FEMCO—Fischer Engr. & Maint. Co.
 5AF—Fifth Air Force
 FY57 MCA Program—fiscal year 1957 Army Military Construction Program

G

G-7—compound located north of Imjin River near the DMZ
 GAO—Government Accounting Office
 GFM—US Government furnished materials
 G.O. No.—General Order Number

H

HED—Honolulu Engineer District
 horizontal package—one of the Air Force phases of 68-S, it included pavement improvement and hardened aircraft shelters
 HQ—headquarters of a military unit, for example, HQ AFPE/-8A(R)

I

IBOP—International Balance of Payments plan, or Buy American
 ICA—International Cooperation Administration

J

JAO—Japan Area Office
 JED—Japan Engineer District
 JN—Japanese nationals
 JUSMAG—successor of PROV-MAAG-K

K

K-2—Taegu Air Base
 K-6—Camp Humphreys, Pyongtaek
 K-8—Kunsan Air Base
 K-14—Kimp'o Airfield
 K-16—airfield south of Seoul
 K-55—Osan Air Base
 KCA—Korea Construction Agency
 KNs—Korean nationals
 KORSCOM—Korean Support Command

L

LN's—local nationals
 LST—land, ships, tanks

M

MAP—Mutual Aid Program, later renamed Military Assistance Program
 MCA—Army Military Construction Program
 MCP—Military Construction Program
 MIDPAC—Middle Pacific, equivalent of WESTPAC in Hawaii
 MND—Korean Ministry of National Defense
 M&O—Maintenance and Operations funds, also O&MA (Army) and O&MAF (Air Force)
 mod'lux—modular building erected during 68-S era for US Air Force
 MSR—Main Service Route
 MVA—Modern Volunteer Army

N

NAF—Nonappropriated funds
 NAS—US Naval Air Station
 NB—US Naval Base
 network analysis system—programed schedule for construction progress
 NCO—Non-commissioned Officer
 NRS—US Naval Radio Station
 NSGA—US Naval Security Group Activity

O

OCE—Office of the Chief of Engineers
 OEC—Office of the Economic Coordinator
 OED—Okinawa Engineer District
 OH-23D—a type of helicopter
 OJT—on-the-job training
 O&M—Operations and Maintenance funds, also O&MA (Army) and O&MAF (Air Force)
 OQs—Officers' quarters

P

PACAF—US Air Force, Pacific
 Pascoe—type of pre-engineered building
 PCS—permanent change of station
 per diem rate—daily allowance for an individual serving somewhere temporarily
 PL 480—Public Law 480
 PMK—PROV-MAAG-K
 PO—Project Office
 POD—United States Army Engineer Division, Pacific Ocean, or Pacific Ocean Division
 POL—petroleum oil products
 Project Tango—Underground Command Post
 PROV-MAAG-K—Provisional Military Assistance Advisory Group-Korea, also PMK
 PSP—perforated steel planking
 PX—post exchange

Q

QM—Quartermaster

R

R—rear, for example, FED (R), the rear element of FED
 R-212—an airfield
 RAPCON—Radar Approach Control

Red Horse—US Air Force construction unit
REO—Resident Engineer Office, also RO; a field element
RGH—Guarantee Rental Housing Program
RIF—reduction-in-force
RO—Resident Office; a field element
ROK—Republic of Korea
ROKAF—Korean Air Force

S

66-S—FY 1966 Supplemental Military Construction Program
68-S—FY 1968 Supplemental Military Construction Program
S&A—Supervision and Administration
SAC—Seoul Area Command
SAD—Strategic Arms Depot
SFLNO—San Francisco Liaison Office
S&I—Supervision and Inspection
S&T Battalion—Supply & Transportation Battalion
Stradley—an ammunition magazine
SOFA—Status of Forces Agreement
Superhooch—264 man barracks erected in the forward area during the 68-Supplemental Program era

T

TAB VEE—TAB V, emergency Air Force construction funds
TAC site—tactical site
TDY—temporary duty
Title II agreements—contract for supervision and inspection assistance
Trans Asia—an architect-engineer firm

U

UGCP—Underground Command Post, Project Tango

UNC/EUSA—combined United Nations and Eighth Army Command

Urgent MILCON—Urgent Military Construction funds
USACA-J—United States Army Construction Agency—Japan
USACA-K—United States Army Construction Agency—Korea
USAEDFE—United States Army Engineer District, Far East
USAF—United States Air Force
USAHOMES—U.S. Army homes
USARJ—US Army, Japan
USARPAC—US Army, Pacific
USFK—U.S. Forces in Korea
USIA—United States Information Agency
USOM-K or USOM—United States Overseas Mission—Korea, local agency for ICA
US/UN—United States/United Nations

V

vertical package—one of the Air Force phases of 68-S, it included various buildings such as maintenance and administration structures as well as ammunition storage

VHF—very high frequency

VOLAR—Modern Volunteer Army

VOR—very high frequency omnidirectional responder

W

WAF—warm air furnaces

WESTPAC—Office of Deputy Division Engineer for Western Pacific, or DDEWP

Wonder arch—hardened aircraft shelters erected during the 68-Supplemental Program era

WWMCCS—World Wide Military Command Control System

APPENDIX I

AS IT WAS IN THE BEGINNING — KOREA 68S*

For years the Korea Area Office nestled next to the District in a squat green quonset. With elite Engineering and Construction Divisions located in Japan, the Area served Korea as Engineering and Construction Divisions as well as an Area.

All was relatively calm in the "Land of the Morning Calm" except for the problems arising from AC&W site construction for AFAG and the hush-hush preparation of secret charts for a massive RIF action. The road of activity was leading *down* hill.

Then the Naval forces lost their spy ship, *Pueblo*, and the North Koreans launched their Blue House raid. Calm departed. Charts for expansion of the District went into initial draft stage. Plans ranged from one area to seven areas in Korea to accommodate the urgently required construction for expansion of the defenses of the Republic of Korea, the parking of airplanes, the pumping of POL and ancillary facilities.

Almost the entire load of planning for construction, expansion of the District, time estimates and establishment of the construction program fell upon the Area Office. This was the start of the 1700 Friday flap, the long hours and the pressures to accomplish — to build that which was so urgently required.

Concurrent with this, along in May with the warming of the country, it was discovered that the air conditioning in the AC&W sites would not function. Thus, no air defense radar was available for Korea. The Area responded, action was taken, and the AC&W radars were back monitoring the skies. (Though in operation, the AC&W sites still required additional work to complete. The AC&W contract ground on as it had from its inception three years before. However, this year the Area drove forward to final completion in late fall, and the minor miracle in remote area construction became history.)

By June, AE firms were pouring into the country. Engineering Division was to the firewall in a chaos of designs, Construction Division a shambles of reorganization. The Area toiled on: the work day was now 0730 in the morning calm til 2300 when the evening staff meeting was held in the lawn chairs between the BOQ's over a glass of scotch.

The first minds were blowing — construction was upon us as Supply Division ground out the first of the airfield contracts.

The Area Office had the policy of holding preconstruction conferences the day after Notice to Proceed was signed. Highlight in this operation was four preconstruction conferences in one day, followed by two the day after.

Here were the glorious contracts for airfield pavements at Osan and Kunsan by KDC and Sam Whan Enterprises Limited and the Huwin-Ludwig AC&W site access roads. The first Osan Acting Resident Engineer moved to the site.

The roar around the flag pole rose daily in megabells; however, the impending move to "Fort Roberts"

shone like the calmness of the rising sun. The day drew near and although the Yongsan Post Engineer and his contractor Hyup Woo were not ready, the Area displaced. "Fort Roberts" and Hyup Woo were ours. The Area moved to Roberts and abandoned the battle ground around the flagpole. The move gained space to breathe and to get on with it. The siege at Roberts deserves a spot in any recordings of history and looking backward over tired shoulders, for though life there was a struggle, there was always looking forward to a better future.

For the first few days at Roberts, the Officers slept in the office — no BOQ's were ready as Hyup Woo Constructors, the Yongsan Post Engineer and the 19th General Support Group struggled to support. Daily visits by assortments of Colonels and individuals sought to expedite required works. The Area expedited Hyup Woo as best they could — personnel from the Area repaired boilers, fought the nightly battles with the water supply, electricity, plumbing, and niceties of life. Major support to the Area came from the Butterfly Club and the loyal mount of Korean Security Guards. The Area became self supporting and while supporting itself began to build an organization. Throughout it all morale and esprit remained inexplicably high and grew as the Area grew. (The watchword was "Smile, It Could Be Worse". All smiled and by winter it *was* worse. Heat was a sometime thing; toilets froze; the Club closed; and hot water was a memory.)

Meanwhile, the bedlam of construction rose. A battle over pavements and subgrade for Kimpo apron was won. This was our first good deed for the Air Force, for the Area's recommendations led to thinner pavement and resultant savings, allowing completion of the Kimpo apron and also drainage ditches desired by the USAF. Kimpo apron, with one of the directors of Hyun Dai riding the spreader, was finished early.

By this time, the first joint venture of American and Korean contractors, Vinnell-Hyun Dai, had a contract for air field pavements on three of the Air Bases. How the Corps of Engineers ended up with a Joint Venture on ROKAF Bases and Korean Contractors on USAF Bases is answered by fate and a tangle of twisted events beyond control. The Area was poised and armed with Contractors and about to leap into the proving of the Corps — construction for an urgently required build-up by standard contracting procedures.

In idle passing of words it might be stated the preconstruction conference for Vinnell-Hyun Dai looked like the Mob Scene from *Ben Hur* — or the Democratic National Convention. It was so crowded that Construction Division, who was to run it, could not get its representative through the door.

The USAF bases of Osan and Kunsan were being torn up by KDC and Sam Whan. Equipment to arrive concurrent with skilled operators had not yet made the scene. The day KDC commenced with a weaving grader plowing up turf saw the first downpour of a sparse rainy season and the decommencement of work; KDC was stuck in the mud and the Air Force flooded. The

* From U.S. Army Engineer District, Far East, Seoul Area Engineer Office Booklet, January 1969.

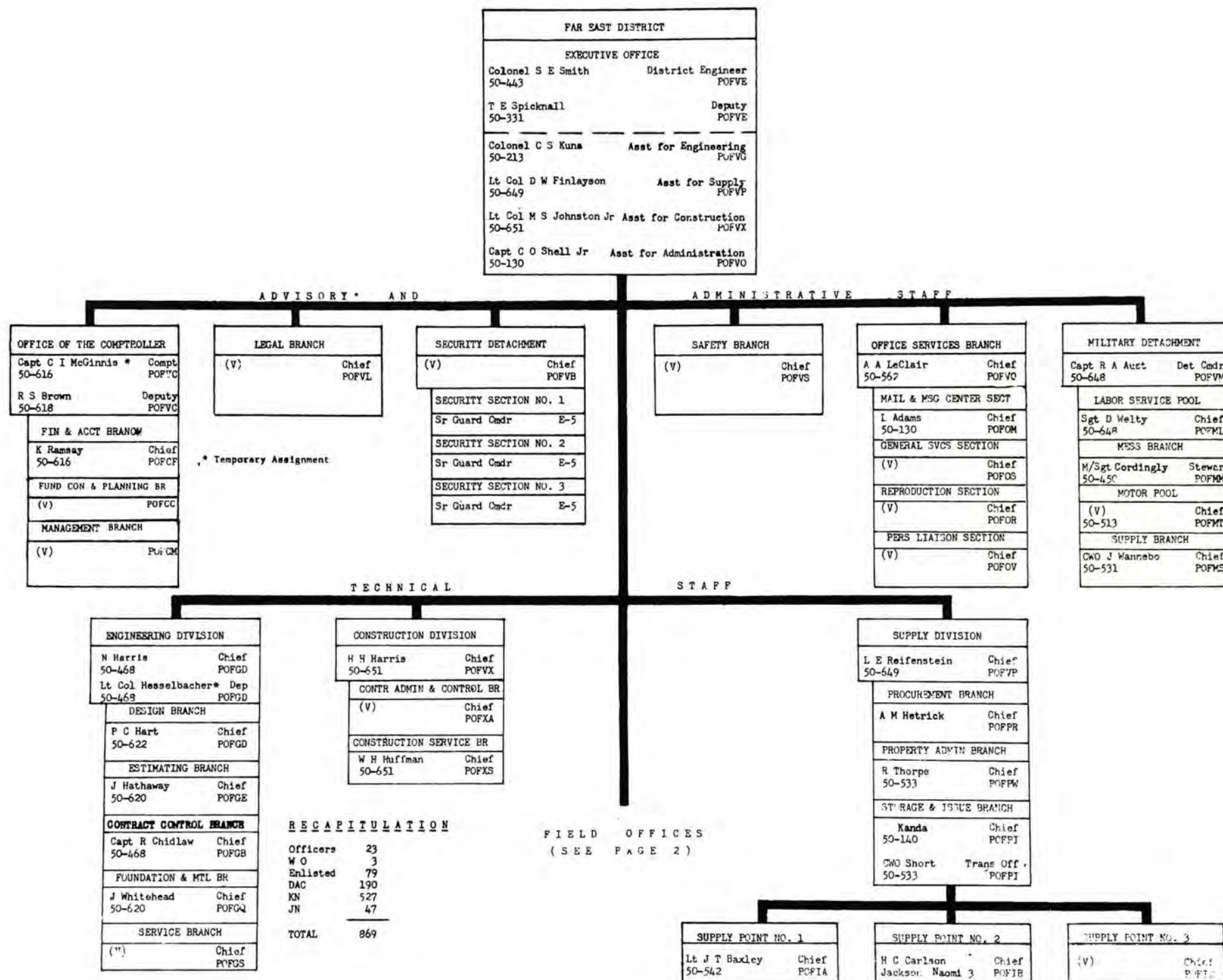
second Acting Osan Resident threw up his arms and by DF requested relief. At Kunsan, Sam Whan sat idle without their equipment while the Resident urged them on and redesigned the project to meet site conditions the AE firm had overlooked. The first of the hate and belabor meetings happened. KDC's first asphalt plant arrived a heap of junk — and the flap was on. The SS Meandros loaded from bilge to brim set sail in its meandering across the seas. An asphalt plant was borrowed for KDC. Crushers began to crush and the fourth Acting Resident Engineer arrived at Osan.

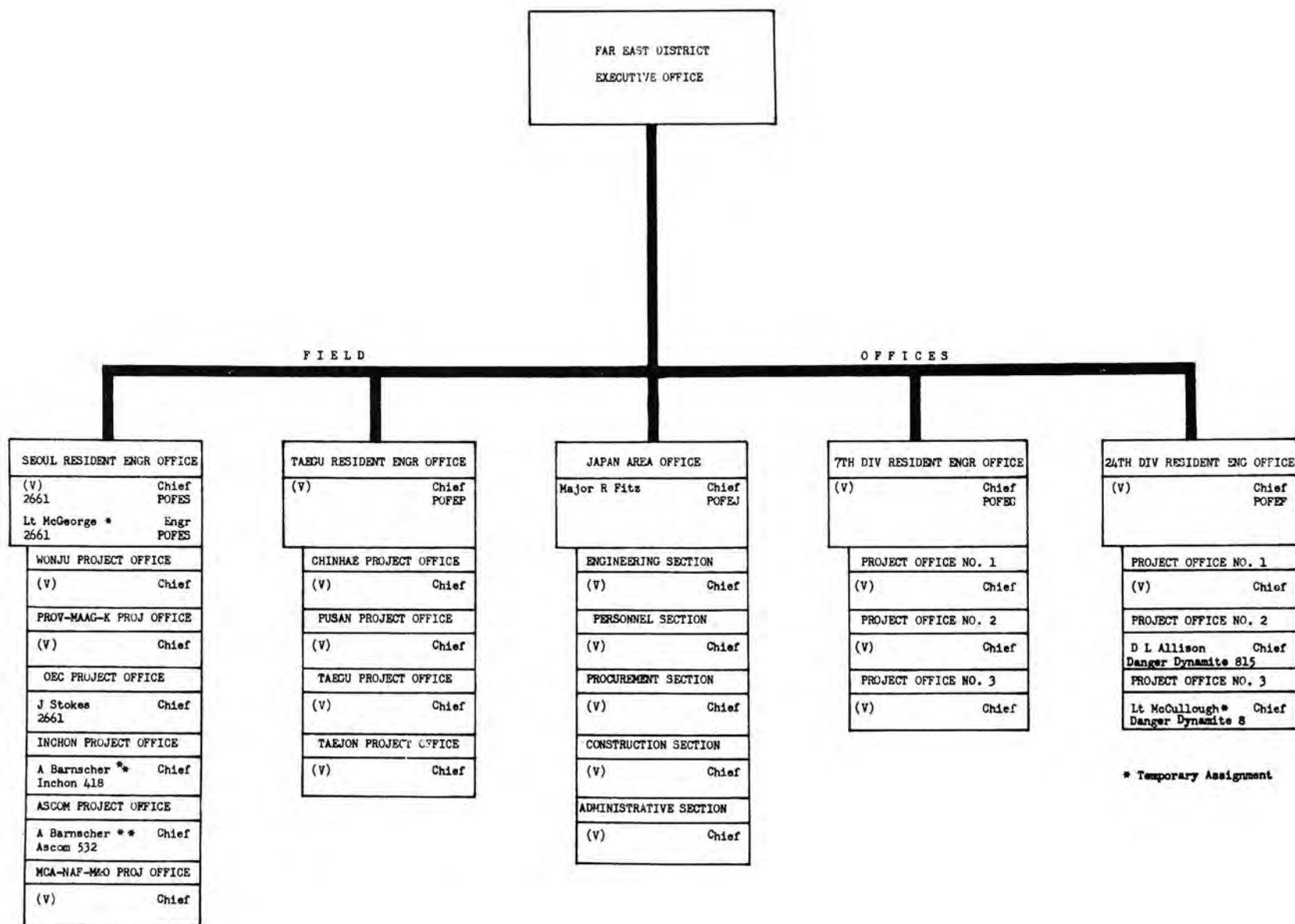
Construction and Engineering Divisions had arrived from Japan and the free-for-all started. The first Acting Deputy Chief of Construction Division quit. DF's and Memos flew in a blizzard. Changes in piling and foundations blew the combined minds of KDC. Aggregates went out of spec and after nearly swamping in the slip, the SS Meandros arrived at Pusan. Then Lo!! The Equipment would not fit through the railroad tunnels. The slow migration of equipment started northward by all conceivable manner of transport. KDC's second asphalt plant arrived — also junk. The battle for rail cars was on. The Air Force was screaming, and POD hung on phone and TWX wires in wild harangue. The fifth Acting Osan Resident Engineer moved into Osan, and the Area had two Lieutenant Colonels in the melee. The construction world seemed to be saying the District could not do it — it was impossible. Failure of the program seemed imminent. But, construction had started to move. Osan and Kunsan, with Corps' guidance, were paving. Other projects were moving: 2X West finished ahead of schedule. The bridges were

ahead of schedule. The paving operation was struggling to start at Taegu at Thanksgiving time. The firing-in butts at Kwangju continued to be defended with rockets and machine gun fire long after high Generals assured there was no problem. G-7 became a dirty word. SAD 200 continued to be designed by inspection — every inspection had its own contribution to design. Every aircraft we landed at Suwon was met either by an honor guard or a riot squad. Equipment was always on the next boat, or the Pusan Road, or coming next week.

The Korean winter was held off by pure force of will, and placement targets were pursued. Twenty engineer Lieutenants arrived to supplement the PCS and TDY members of the Corps. The Area was organized and operating. With the descent of winter the taxiway access at Kunsan was completed amid the snow. Taegu tested cold weather concrete placement as the job was completed a little later. The taxiway at Osan finished on Christmas Day with a T-33 used to dry the base.

A team had emerged — a team of doers. Area, Residencies, District, and the Air Force had together stared down obstacles and accomplished if not the impossible surely what must have been viewed as the improbable. The start of the 68S Program was a fact. Once again we had tried, and in persisting in trying, succeeded. Our right to our buttons was re-etched in another small fragment of history. The Area be-draggled but blooded turned its attention to starting the Army Program and defending Fort Roberts from the winter.



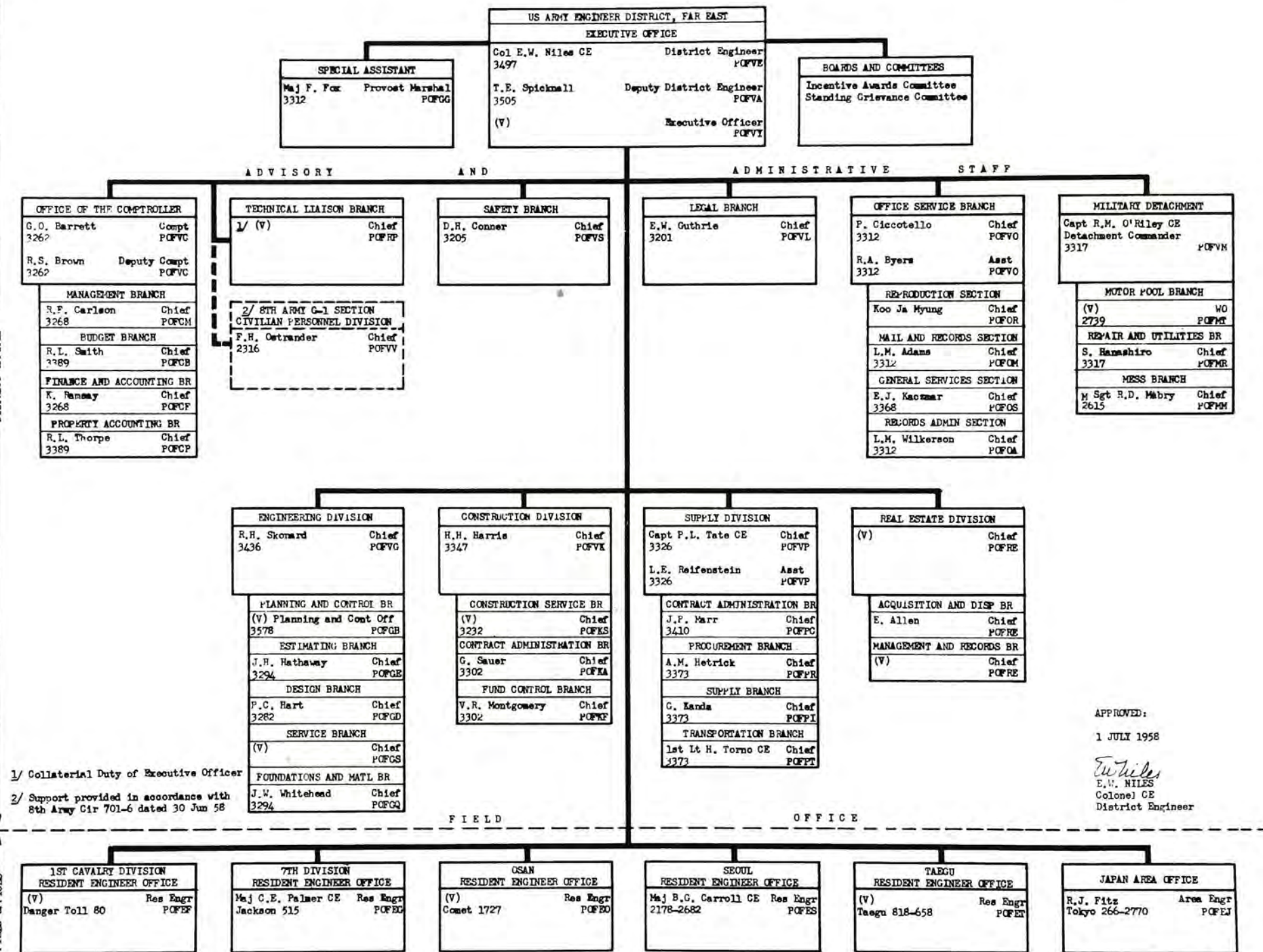


** Dual Assignment
 * Temporary Assignment

* Temporary Assignment

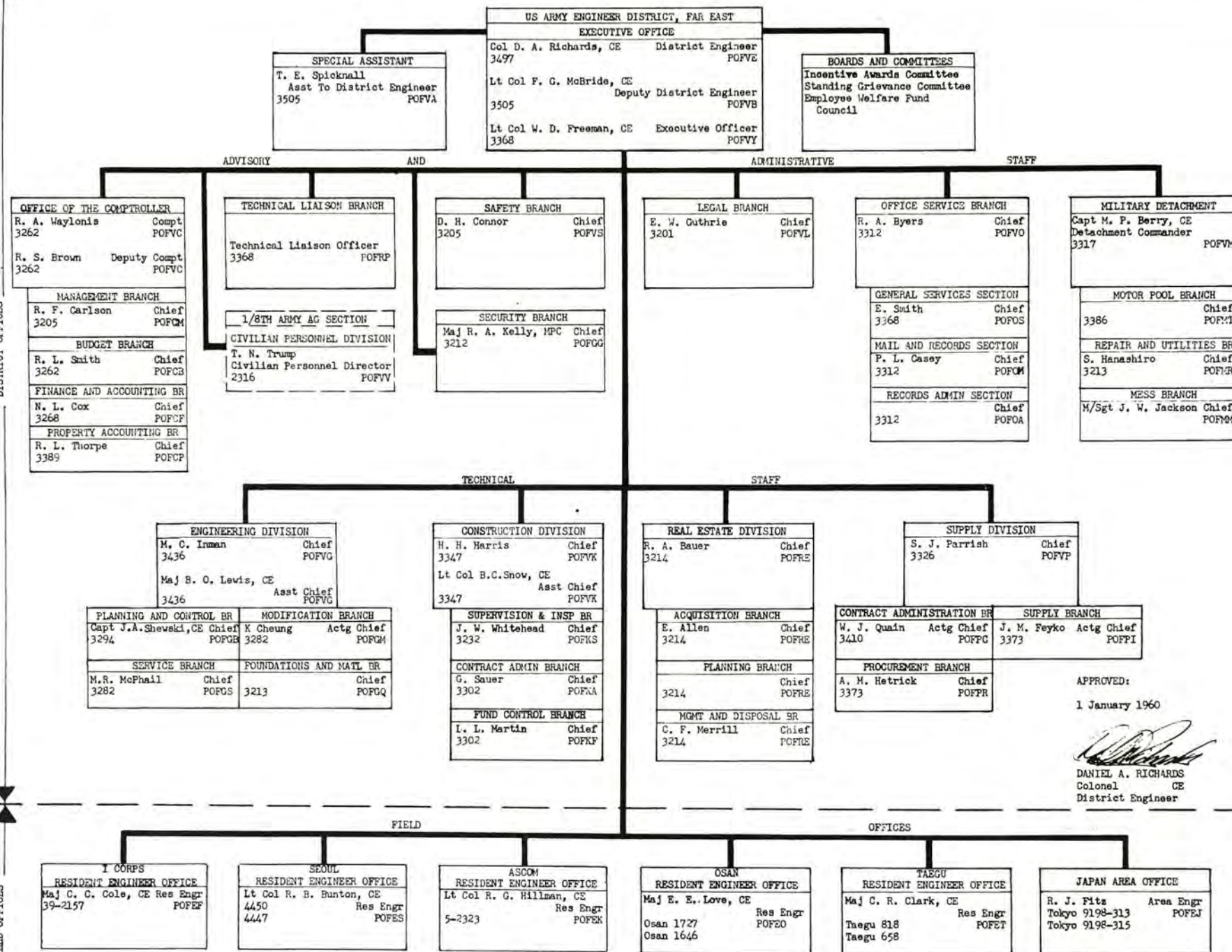
DISTRICT OFFICES

FIELD OFFICES



DISTRICT OFFICES

FIELD OFFICES



1/ Support provided in accordance with 8th Army Circular 701-6.

DISTRICT OFFICES

FIELD OFFICES

1/ Additional Assignment

U. S. ARMY ENGINEER DISTRICT, FAR EAST
EXECUTIVE OFFICE

Col H. E. Linn, CE District Engineer
3497 POPVE
Lt Col G. L. O'Brien Jr, CE Deputy District Engineer
3648 POPVB
Maj M. K. Pigg, CE Executive Officer
3368 POPVY

SPECIAL ASSISTANT

T. E. Spicknall
Asst to District Engineer
3648 POPVA

BOARDS AND COMMITTEES

Incentive Awards Committee
Standing Grievance Committee
Employee Welfare Fund
Council

ADVISORY

AND

ADMINISTRATIVE

STAFF

OFFICE OF THE COMPTROLLER
R. A. Waylonis Compt
2896 POPVC

TECHNICAL LIAISON BRANCH
1/ Maj M. K. Pigg, CE Chief
Technical Liaison Officer
3368 POPRP

SAFETY BRANCH
D. H. Conner Chief
2139 POPVS

OFFICE OF COUNSEL
E. W. Guthrie District
2110 Counsel
99-5-7486 POPVL

OFFICE SERVICE BRANCH
M. A. Gorman Chief
3312 POPVO

MILITARY DETACHMENT
Capt L. E. R. Outcher, CE
Detachment Commander
3317 POPVM

MANAGEMENT BRANCH
R. F. Carlson Chief
2896 POPCM

7th LOGISTICAL COMMAND
CIVILIAN PERSONNEL SECTION
J. M. Campbell Chief
Civilian Personnel Officer
3731 POPVV

PROVOST MARSHAL BRANCH
Maj E. T. Brice, MPC
Provost Marshal
3212 POPPM
99-5-7486

GENERAL SERVICE SECTION
T. Takahashi Chief
3368 POPGS

MOTOR POOL BRANCH
CWO A. F. Goodwin Chief
3386 POPMT

BUDGET BRANCH
R. L. Smith Chief
3881 POPCB

U. S. ARMY JAPAN
CIVILIAN PERSONNEL SECTION
C. A. Hlevett Jr Chief
Civilian Personnel Officer
Zama 3-1755 POPVJ-J

PROVOST MARSHAL BRANCH
Maj E. T. Brice, MPC
Provost Marshal
3212 POPPM
99-5-7486

MAIL AND RECORDS SECTION
P. L. Casey Chief
3312 POPCM

REPAIR & UTILITIES BR
SFC E. A. Ford Chief
3317 POPMR

FINANCE & ACCOUNTING BR
3268 Chief
POPCF

U. S. ARMY JAPAN
CIVILIAN PERSONNEL SECTION
C. A. Hlevett Jr Chief
Civilian Personnel Officer
Zama 3-1755 POPVJ-J

PROVOST MARSHAL BRANCH
Maj E. T. Brice, MPC
Provost Marshal
3212 POPPM
99-5-7486

RECORDS ADMIN SECTION
R. L. McKedy Chief
3312 POPOA

MESS BRANCH
SFC R. Farmer Chief
POPMH

PROPERTY ACCOUNTING BR
E. P. Clarke Chief
3389 POPCP

U. S. ARMY JAPAN
CIVILIAN PERSONNEL SECTION
C. A. Hlevett Jr Chief
Civilian Personnel Officer
Zama 3-1755 POPVJ-J

PROVOST MARSHAL BRANCH
Maj E. T. Brice, MPC
Provost Marshal
3212 POPPM
99-5-7486

REPRO. & SUPPLY SEC.
SP5 E. T. Lambert Chief
POPCR

AVIATION BRANCH
Chief
FORMA

TECHNICAL

STAFF

USAEDFE (Rear)
Maj E. A. Saunders, CE
Assistant District Engineer
9198-306 POPVJ

ENGINEER DIV. LIAISON OFC
Capt J. Dorman, CE Chief
3436 POPGE

CONSTRUCTION DIVISION
R. H. Harris Chief
3347 POPVE
Lt Col J. K. Haley Jr, CE
Asst Chief
3347 POPVE

REAL ESTATE DIVISION
R. A. Bauer Chief
3294 POPRE

SUPPLY DIVISION
1/ Lt Col G. L. O'Brien Jr CE
3686 Act Chief
99-5-7487 POPVP

ENGINEERING DIVISION
F. A. Granier Chief
9198-376 POPVG

PROCUREMENT BR. (Rear)
G. Kanda Chief
9198-287/331 POPPR

FOUNDATIONS & MATERIALS BR
F. E. Dubuisson Chief
3282 POPGQ

SUPERVISION & INSP BR
W. H. Huffman Chief
3232 POPES

ACQUISITION & DISPOSAL BR
E. Allen Chief
3294 POPRE

CONTRACT ADMIN BR
A. M. Hetrick Chief
3795 POPFC
99-5-7487

FINANCE & ACCTG BR. (Rear)
R. Z. Chambers Chief
9198-234 POPCJ

OFFICE SERVICE BR. (Rear)
J. G. Kimura Chief
9198-313/315 POPOV

FOUNDATIONS & MATERIALS BR
F. E. Dubuisson Chief
3282 POPGQ

SUPERVISION & INSP BR
W. H. Huffman Chief
3232 POPES

ACQUISITION & DISPOSAL BR
E. Allen Chief
3294 POPRE

CONTRACT ADMIN BR
A. M. Hetrick Chief
3795 POPFC
99-5-7487

OFFICE ENGINEERING BR
G. Sauer Chief
3219 POPKA

PLANNING & CONTROL BR
C. L. DeHarte Chief
3294 POPRE

SUPPLY BRANCH
J. W. Feyko Chief
3373 POPPI

JAPAN
RESIDENT ENGINEER OFFICE
R. J. Fitts Res Engr
9198-303 POFEJ

I CORPS
RESIDENT ENGINEER OFFICE
Lt Col F. L. Columbia, CE
Res Engr
93-2157/2159 POPER

SEOUL
RESIDENT ENGINEER OFFICE
Lt Col E. T. O'Donnell, CE
Res Engr
2976/3578 POPES

TAEJU
RESIDENT ENGINEER OFFICE
Maj W. C. Tyrrell, CE
Res Engr
Taegu 2422/2458 POPET

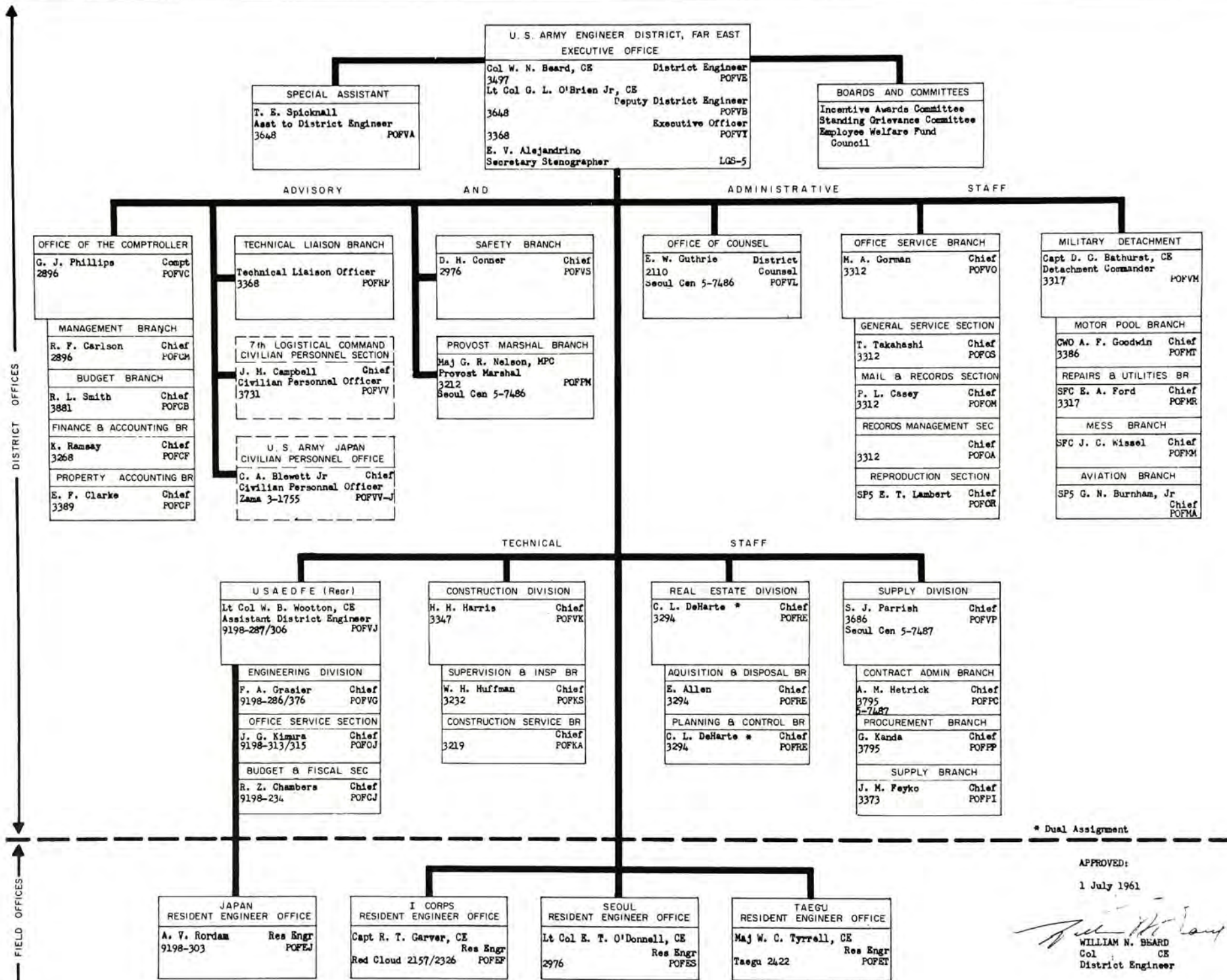
APPROVED:

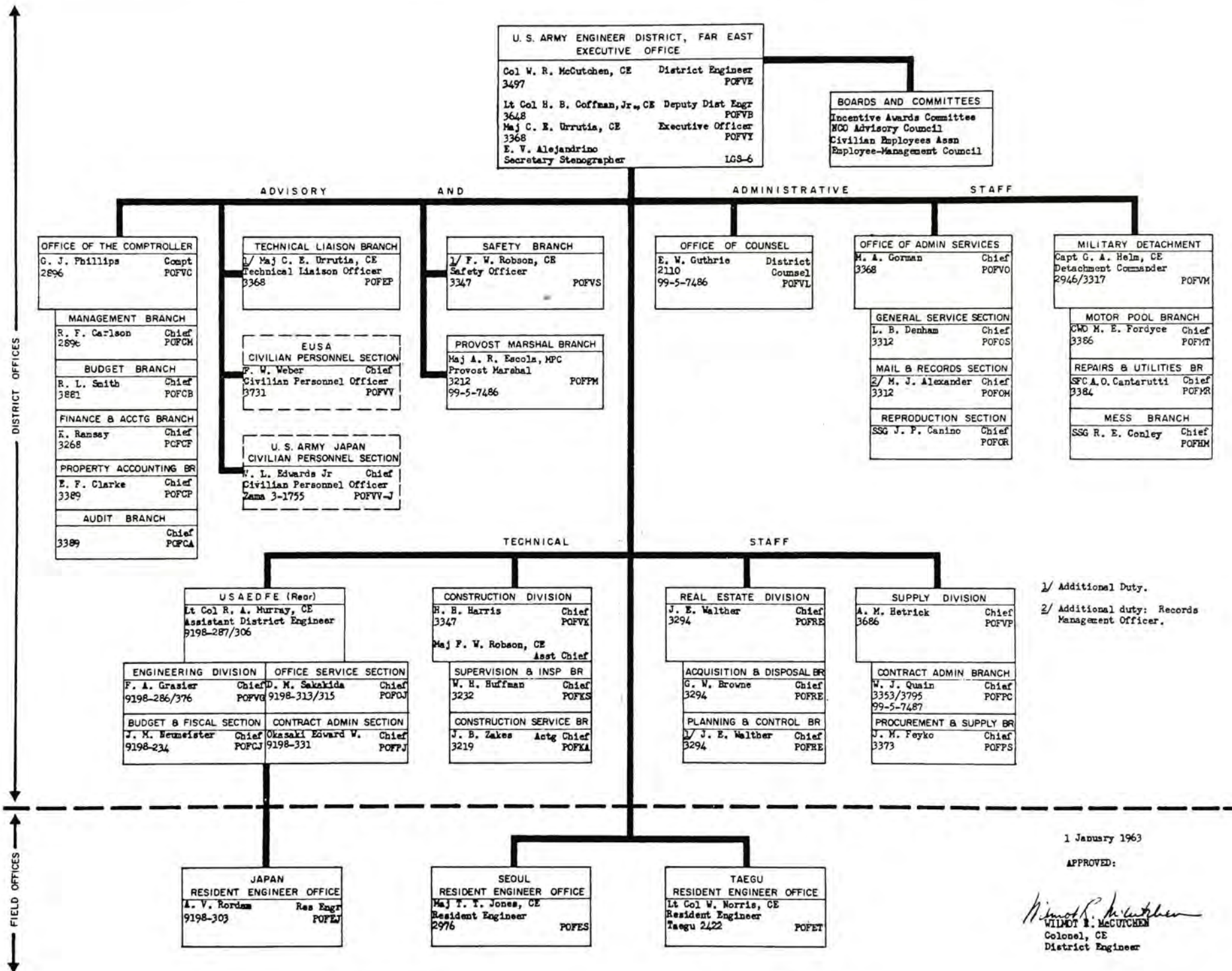
13 January 1961

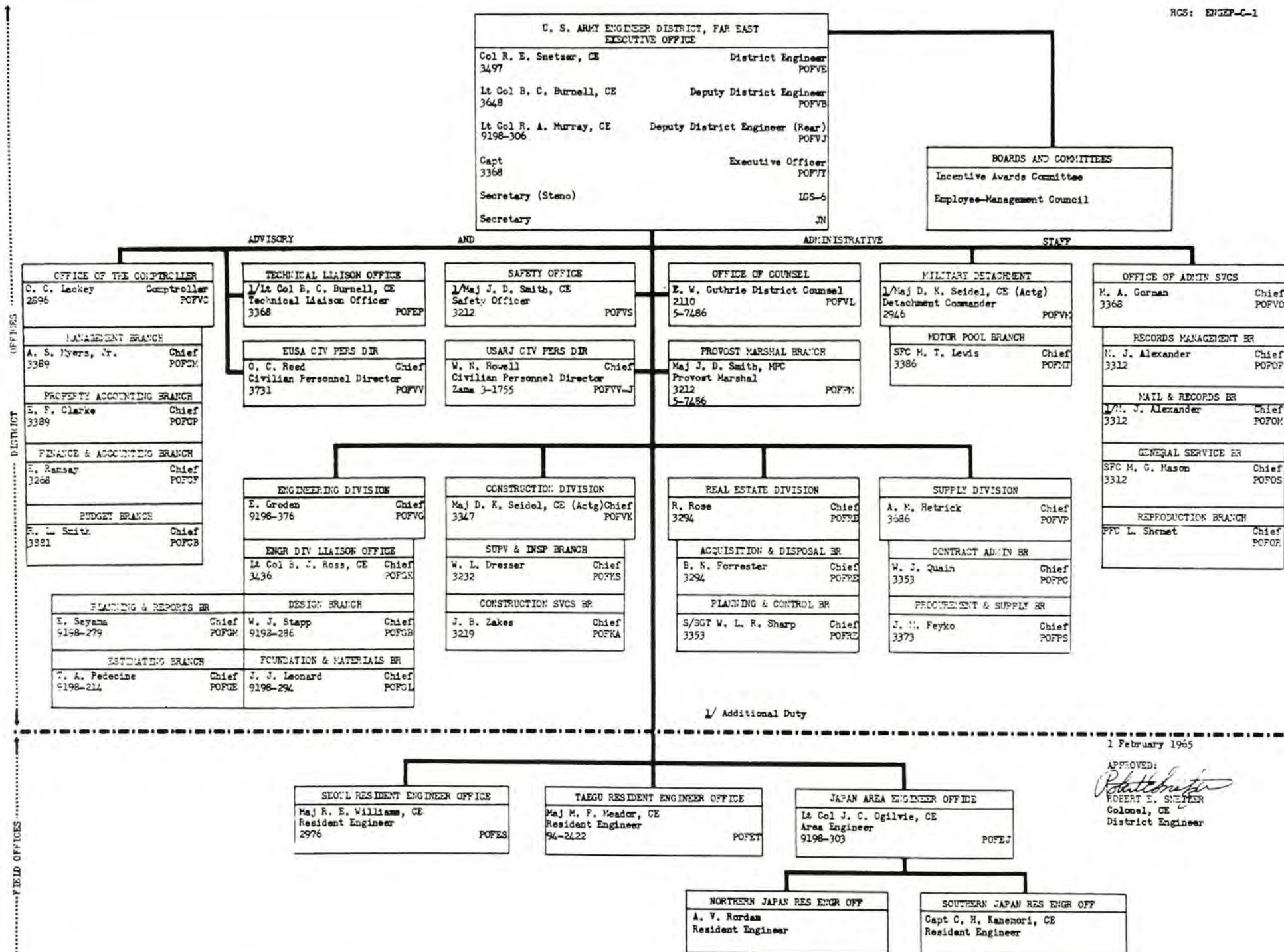
H. E. Linn
H. E. LINN
Col CE
District Engineer

DISTRICT OFFICES

FIELD OFFICES







APPROVED:

William M. Boardman
 WILLIAM M. BOARDMAN
 Colonel, CE
 District Engineer

1 February 1966

U. S. ARMY ENGINEER DISTRICT, FAR EAST EXECUTIVE OFFICE

Col W. M. Boardman, CE 3497	District Engineer POFVE
Lt Col H. S. Wienecke, CE 3648	Deputy District Engineer POFVB
Lt Col J. C. Ogilvie, CE 3-1426	Deputy District Engineer (Rear) POFVJ
Maj R. J. Low, CE 3648	Executive Officer POFVI
Secretary (Steno)	GS-6
Secretary	JN

BOARDS AND COMMITTEES

Incentive Awards Committee
 Employee-Management Council

ADVISORY

AND

ADMINISTRATIVE

STAFF

OFFICE OF THE COMPTROLLER

R. L. Smith Comptroller
2896 POFVC

MANAGEMENT BRANCH

A. S. Myers, Jr. Chief
3389 POFCH

PROPERTY ACCOUNTING BRANCH

E. F. Clarke Chief
3389 POFPCP

FINANCE & ACCOUNTING BRANCH

K. Ramsay Chief
3268 POFPCF

BUDGET BRANCH

J. Ho Actg Chief
3881 POFPCB

BUDGET & FISCAL BR (REAR)

M. Nieves Chief
3-1021 POFPCJ

TECHNICAL LIAISON OFFICE

1/Maj R. J. Low, CE
Technical Liaison Officer
3648 POFEP

CIVILIAN PERSONNEL OFFICE (KOREA)

John Hanna Chief
Civilian Personnel Officer
3731 (EUSA) POFVV

OFFICE OF COUNSEL

E. W. Guthrie District Counsel
2110 POFVL
5-7486

CIVILIAN PERSONNEL OFFICE (JAPAN)

W. N. Howell Chief
Civilian Personnel Officer
Zama 3-1755 (USARJ) POFVV-J

PROVOST MARSHAL OFFICE

Maj J. B. Shelton, MPC
Provost Marshal
3212 POFPM

SAFETY OFFICE

1/Maj J. B. Shelton, MPC
Safety Officer
3212 POFVS

MILITARY DETACHMENT

1/Maj R. J. Low, CE (Actg)
Detachment Commander
2946 POFVM

OFFICE OF ADMIN SVCS

M. Rothstein Chief
3312 POFVO

RECORDS MANAGEMENT BR

R. K. Benesch Chief
3312 POFOP

MAIL & RECORDS BR

1/R. K. Benesch Chief
3312 POFCH

GENERAL SERVICE BR

SFC W. P. Burke Chief
3312 POFOS

REPRODUCTION BRANCH

Ti Yzu Hung (Actg) Chief
POFOR

OFFICE SERVICE BR (REAR)

W. Cossey Chief
3-1529 POFOW

MOTOR POOL BRANCH

MSGT L. C. Johnson Chief
3386 POFMT

ENGINEERING DIVISION

E. Groden Chief
3-1025 POFVG

ENGR DIV LIAISON OFFICE

Lt Col P. D. Wright, CE Chief
3436 POFCK

DESIGN BRANCH

K. Cheung Chief
3-1443 POFGB

CONSTRUCTION DIVISION

E. L. Flaxa Chief
3347 POFVK

SUPV & INSP BRANCH

W. L. Dresser Chief
3232 POFKS

CONSTRUCTION SVCS BR

J. B. Zakes Chief
3219 POFKA

REAL ESTATE DIVISION

R. Rose Chief
3294 POFRE

ACQUISITION & DISPOSAL BR

1/R. Rose Chief
3294 POFRE

PLANNING & CONTROL BR

SSGT R. W. Rice Chief
3353 POFRE

SUPPLY DIVISION

A. M. Hetrick Chief
3686 POFVP

CONTRACT ADMIN BR

W. J. Quain Chief
3353 POFPC

PROCUREMENT & SUPPLY BR

J. M. Fayko Chief
3373 POFPS

SUPPLY & CONT ADMIN BR (REAR)

T. A. Henningsen Chief
3-1884 POFPJ

ESTIMATING BRANCH

T. A. Pedecine Chief
3-2027 POFGE

FOUNDATION & MATERIALS BR

J. J. Leonard Chief
3-2464 POFGE

PLANNING & REPORTS BR

E. Sayama Chief
3-1445 POFEM

SEOUL RESIDENT ENGINEER OFFICE

Maj J. C. Hartup, CE
Resident Engineer
2976 POFES

JAPAN AREA ENGINEER OFFICE

Lt Col W. H. Mendiola, CE
Area Engineer
3-2428 POFEL

TARCO RESIDENT ENGINEER OFFICE

Maj R. E. Strain, CE
Resident Engineer
94-2422 POFET

IWAKUNI RESIDENT ENGINEER

J. H. Iida
Resident Engineer
Iwakuni-2352

YOKOTA RESIDENT ENGINEER

H. Cramer
Resident Engineer
2-9073

ZAMA RESIDENT ENGINEER

T. C. Schedner
Resident Engineer
3-1831

MISAWA RESIDENT ENGINEER

Capt J. C. Smith, CE (Acting)
Resident Engineer
3-2676

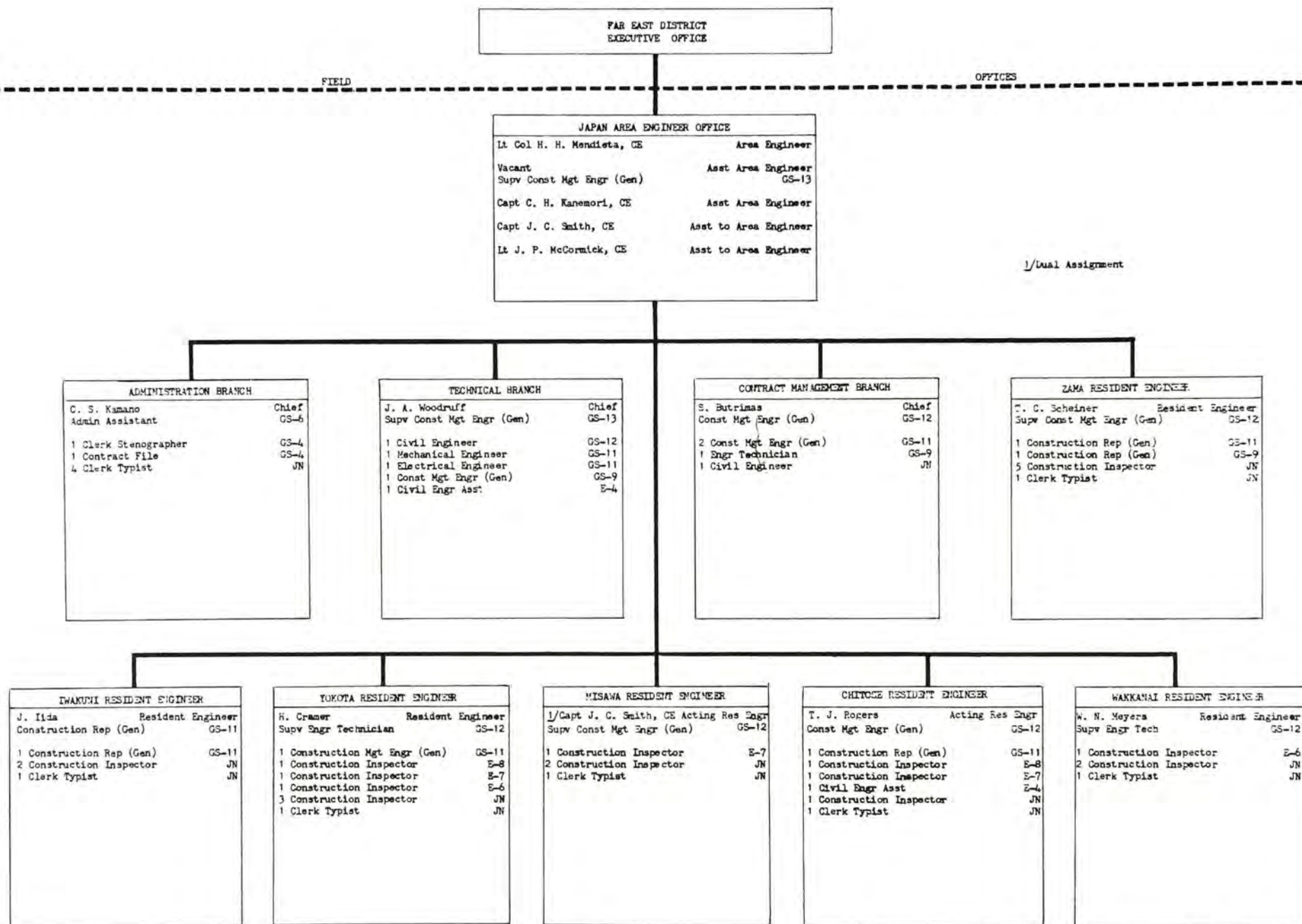
CHITOSE RESIDENT ENGINEER

T. J. Rogers (Acting)
Resident Engineer
Kama-3660

MAKAWAI RESIDENT ENGINEER

W. Meyers
Resident Engineer
3-1831

1/Additional Duty



APPROVED: *John J. McCulloch*
John J. McCulloch
Col CE
District Engineer

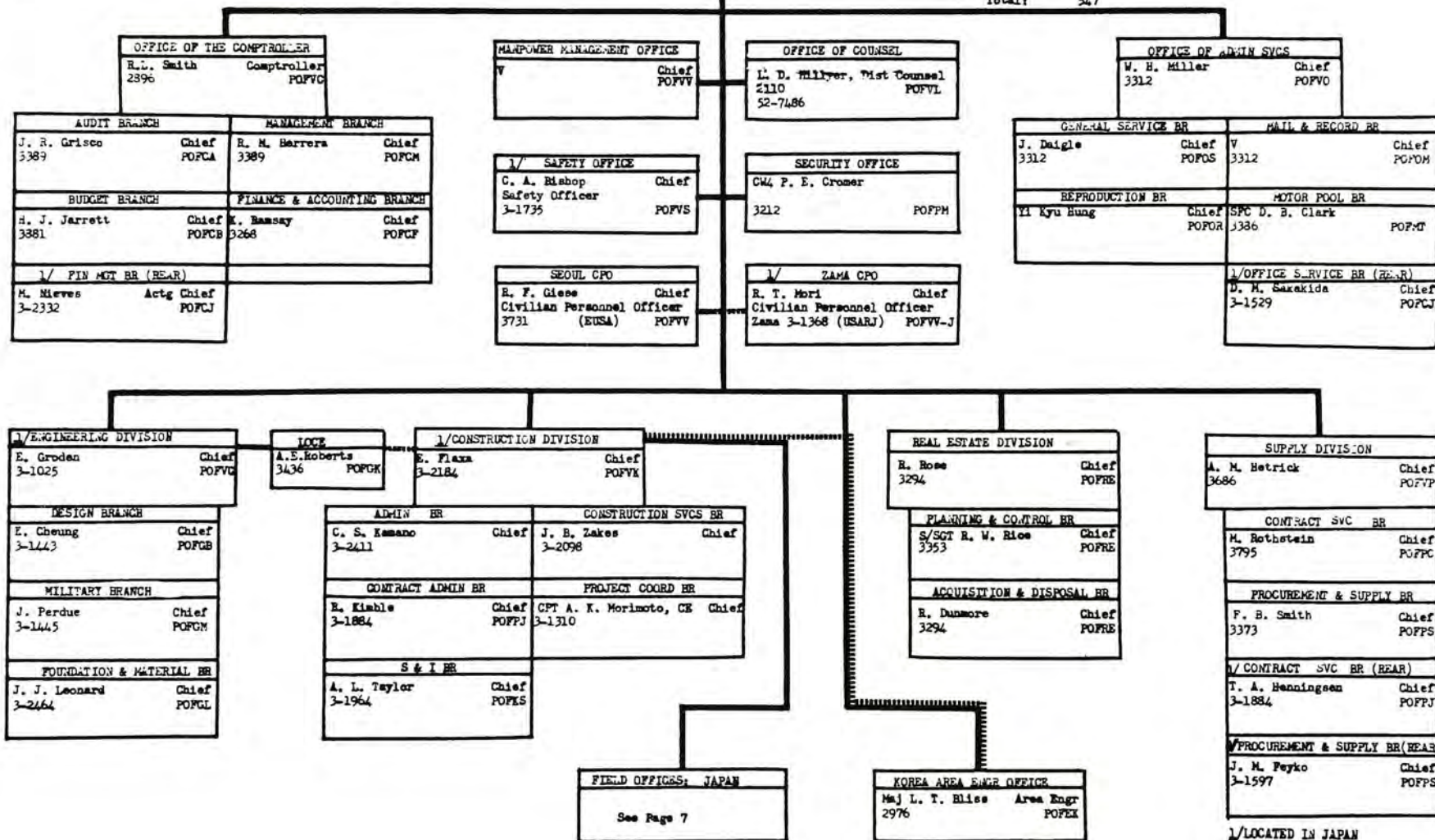
BOARDS AND COMMITTEES
Incentive Awards Committee
Unit Fund Council
Contract Termination Board
Enlisted Promotion Board
District Representative to the SOFA
Commerce Subcommittee
Architect-Engineer Preselection Board
Architect-Engineer Selection Board
Mass Fund Council

U.S. ARMY ENGINEER DISTRICT, FAR EAST EXECUTIVE OFFICE		
Col J.J. McCulloch, CE 3497	District Engineer	POFVE
Lt Col L.W. Darnbush CE 3648	Deputy District Engineer	POFVB
Lt Col J.F. Boylan CE 3-1426	Deputy District Engineer (Rear)	POFVJ
CW3 W.E. MOE, WO 3648	Executive Officer	POFVY
Personnel Specialist		2-5
Executive Assistant Administration		GS-11
Secretary (Steno)		GS-6
Secretary		JN

As of 1 February 1968
APO San Francisco 96301
Area Code-Korea: Yongman
Japan: Zama

EXECUTIVE OFFICE
3 OFF
1 WO
1 EM
2 GS
1 JN

Recap: OFF 17
WO 3
EM 40
DAC 166 (GS 162, WB 4)
KN 149
FN 6
JN 166
Total: 547



1/LOCATED IN JAPAN

1 February 1969

APPROVED:

John J. McCulloch
JOHN J. McCULLOCH
COL, CE
District Engineer

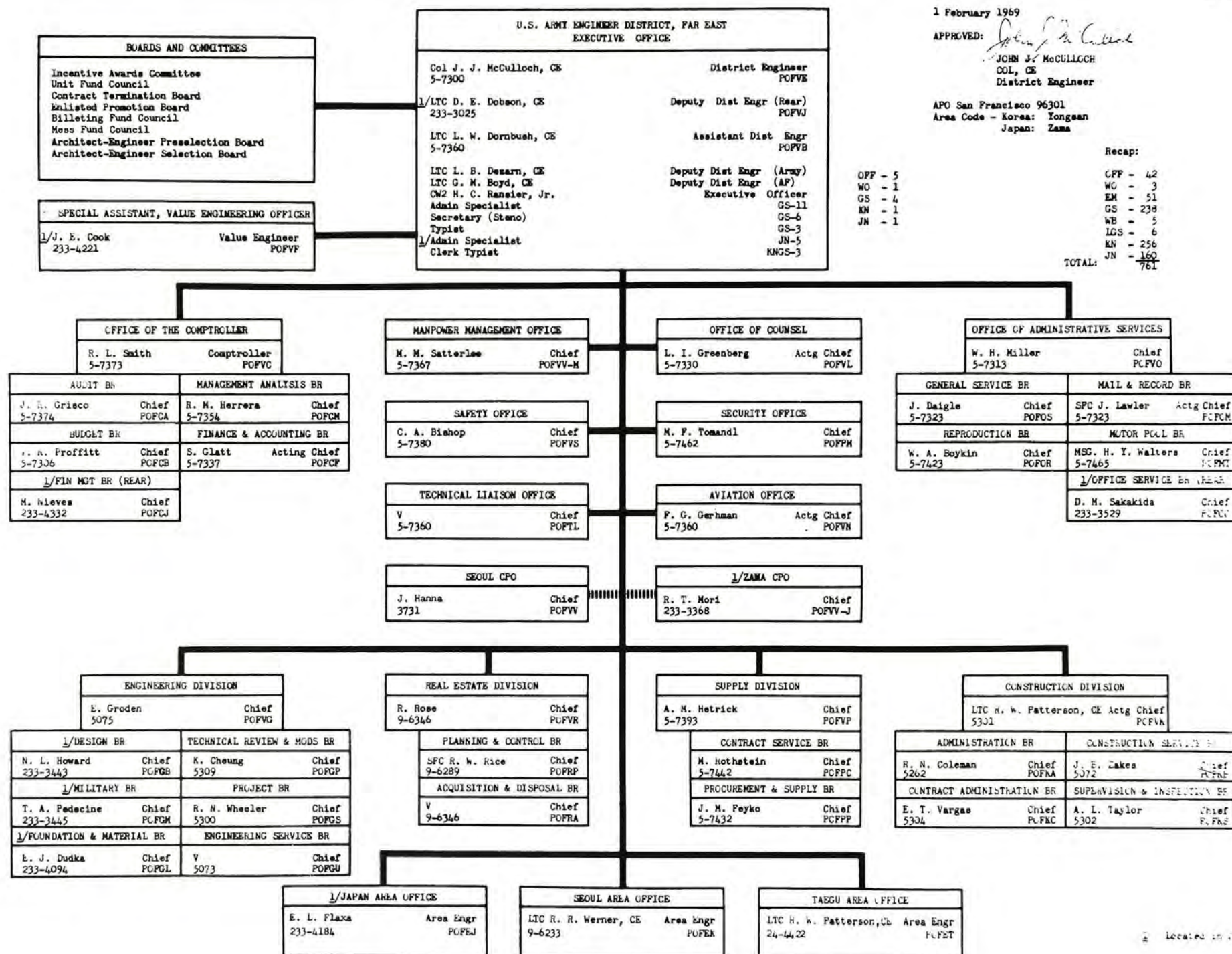
APO San Francisco 96301
Area Code - Korea: Yongsan
Japan: Zama

Recap:

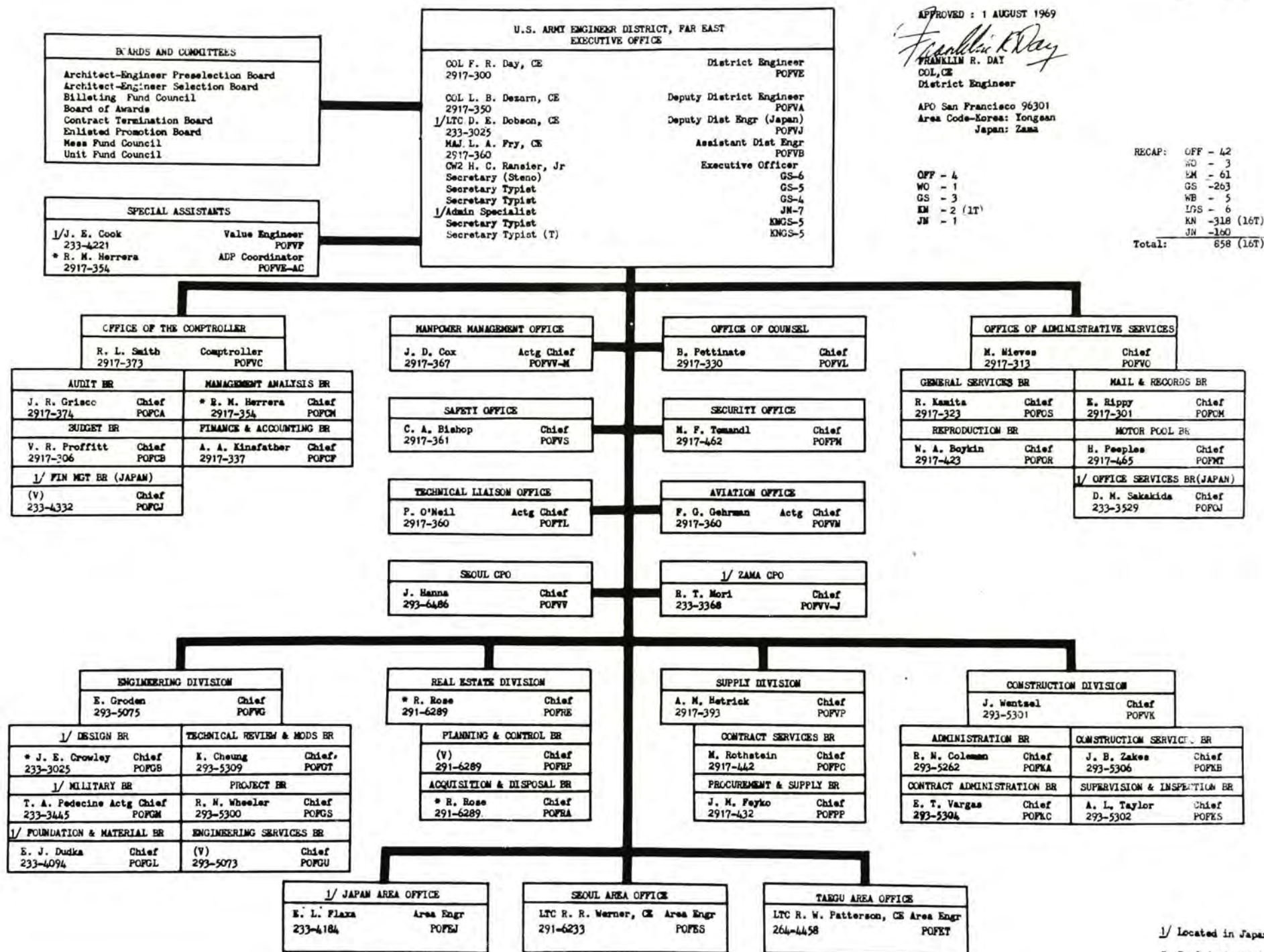
OFF - 5
WO - 1
GS - 4
KN - 1
JN - 1

GPF - 42
WO - 3
EM - 51
GS - 238
WB - 5
LGS - 6
KN - 256
JN - 160

TOTAL: JN - 761



2 Located in Japan



APPROVED : 1 February 1970

Franklin R. Day
FRANKLIN R. DAY
COL, CE
District Engineer

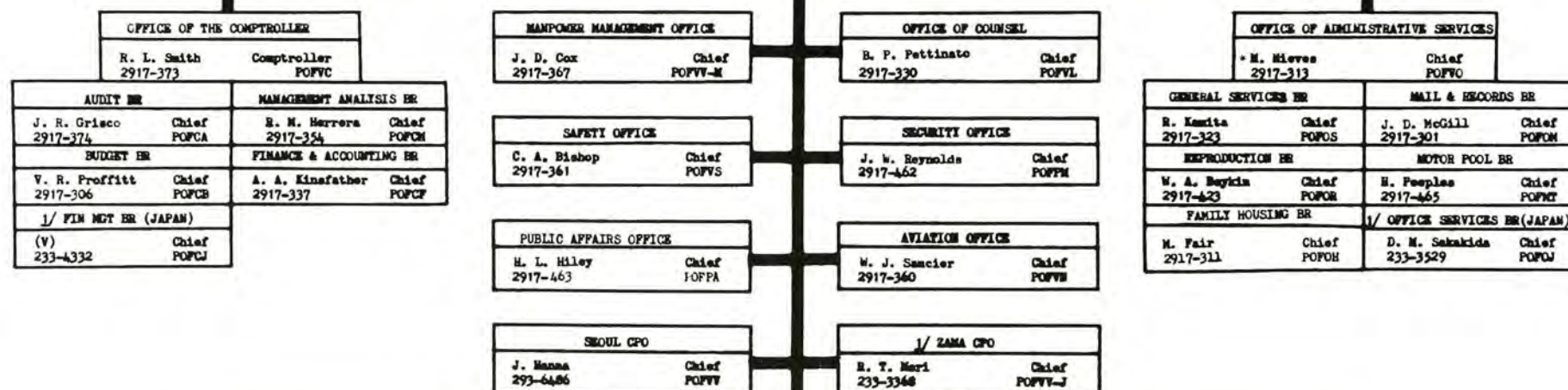
BOARDS AND COMMITTEES
Architect-Engineer Preselection Board
Architect-Engineer Selection Board
Billeting Fund Council
Board of Awards
Contract Termination Board
Enlisted Promotion Board
Unit Fund Council

SPECIAL ASSISTANTS	
R. B. Inman 233-4221	Value Engineer POFVE-VE
*W. Nieves 2917-313	ADP Coordinator POFVE-AC

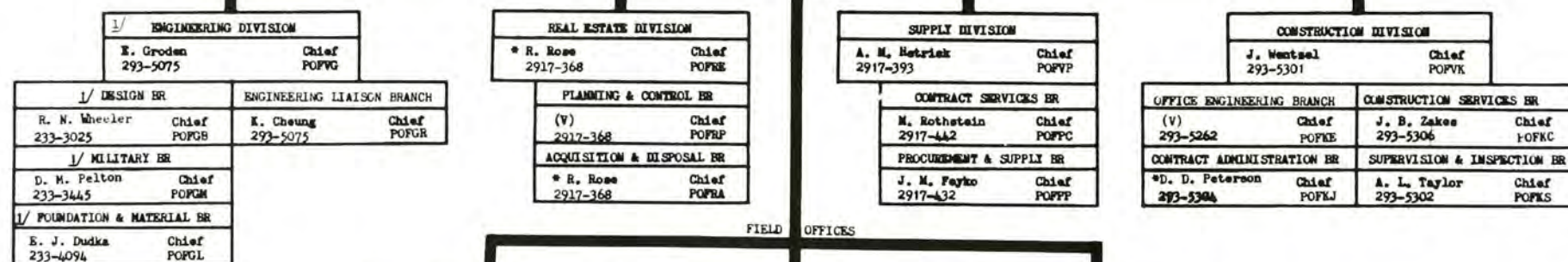
U.S. ARMY ENGINEER DISTRICT, FAR EAST EXECUTIVE OFFICE	
COL F. R. Day, CE 2917-300/360	District Engineer POFVE
LTC L. W. Norton 2917-350/300	Deputy Dist Engr POFVA
MAJ L. A. Fry 2917-400 (V)	Asst District Engr POFVB
Secretary (Steno)	Executive Officer GS-7
Secretary Typist	GS-5
Special Assistant (Real Estate)	KMGS-11
Secretary Typist	KMGS-5
APO San Francisco 96301	
Area Code -- (Korea) - Tongsan; (Japan) - Yama	
Autovon: 262 (Korea) 233 (Japan)	

OFF 44
WO 4
EM 52
GS 225
WS 5
LGS 6
KN 270
JN 166
Total 772

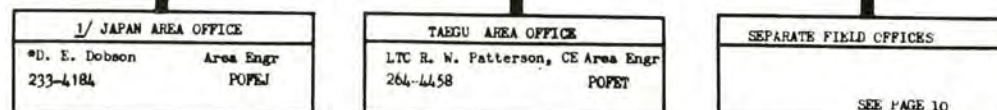
ADVISORY AND ADMINISTRATIVE STAFF



TECHNICAL STAFF



FIELD OFFICES



1/ Located in Japan

* Dual Assignment

BOARDS AND COMMITTEES
Architect-Engineer Preselection Board Architect-Engineer Selection Board Bidding Fund Council Board of Awards Contract Termination Board Enlisted Promotion Board Unit Fund Council

SPECIAL ASSISTANTS
1/R.B. Inman Value Engineer 233-4221 POPVE-VE *M. Nieves ADP Coordinator 2917-313 POPVE-48 C.H. Shin Real Estate Asst 2917-368 POPVE-88

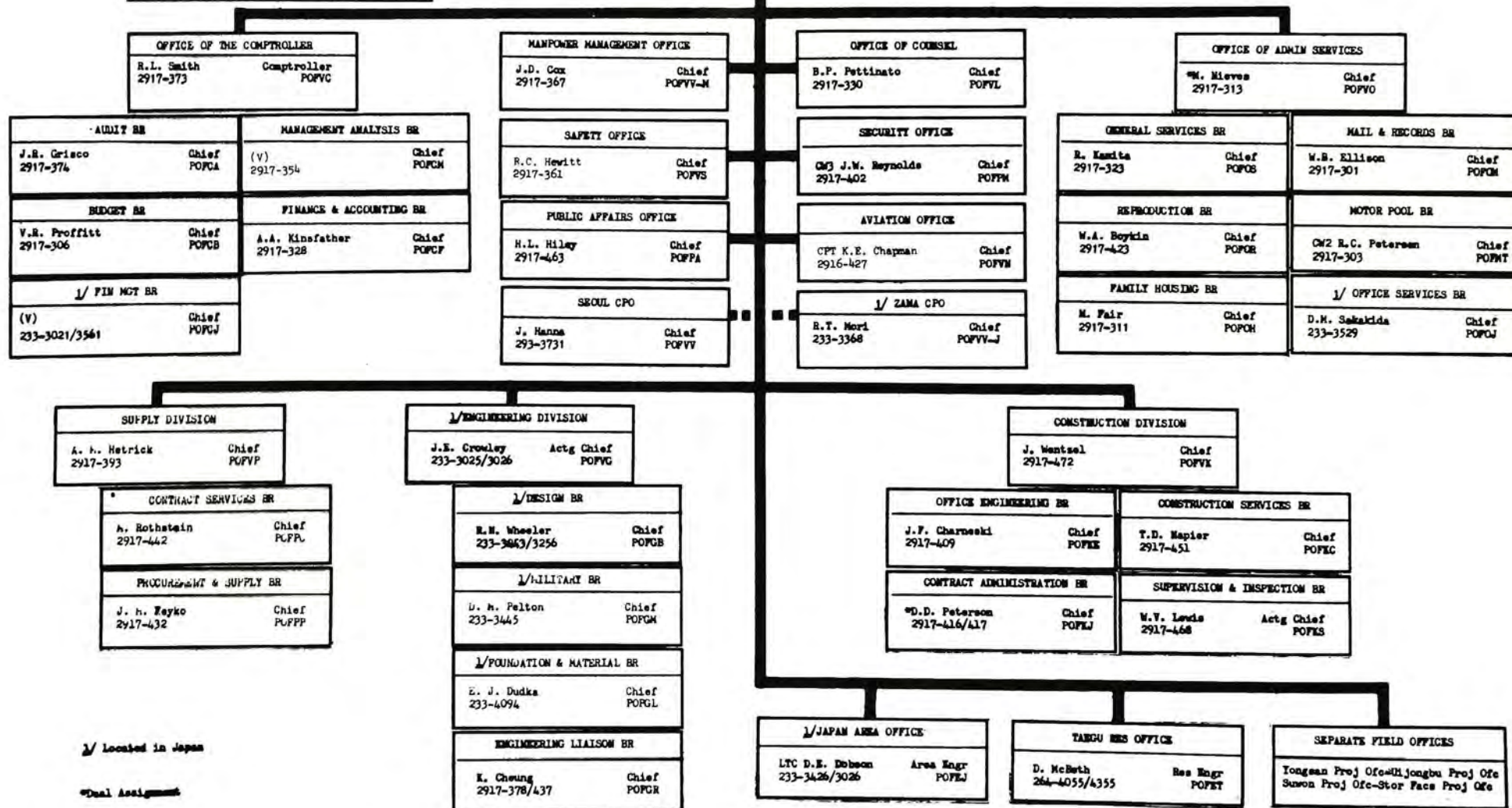
U.S. ARMY ENGID EXERCISE	1STRICT, FAR EAST OFFICE
COL W.E. Peel, CE 2917-300/360 LTC L.W. Norton, CE CW2 E.T. Terwilliger Secretary (Steno) Secretary Typist	District Engineer POPVE Deputy Dist Engr POPVA Executive Officer GS-7 KGS-5
APO San Francisco 96301 Area Code - Korea: Yongsan; Japan: Zama Autovon - Korea: 262 Japan: 233	

APPROVED: 1 August 1970

Wesley E. Peel
 WESLEY E. PEEL
 COL, CE
 District Engineer

MCS: ENGID-C-1

UFF 27
 WO 5
 EM 40
 OM 157
 WS 5
 LGS 3
 KM 203
 JM 139
 Total 579



1/ Located in Japan

*Dual Assignment

U. S. ARMY ENGINEER DIVISION, PACIFIC OCEAN, WEST PACIFIC
EXECUTIVE OFFICE

***** Staff Supervision
--- Administrative Support
* Dual Assignment
** Civ Pers Mgt rendered
under servicing agree-
ment with EUSA.

**SEOUL AREA CIV PERS OFC
E. C. Hall Jr CPO
Yongsan 293-3731

KOREA OFFICE
(FAR EAST DISTRICT)
W. E. Peel, COL, CE Dist Engr
Ofc 2917-300 PODWP-K
T.S. Walsh, LTC, CE Dep Dist Engr
2917-350/300
CW3 E.T. Terwilliger Exec Off
1 Pers Staffing NCO E-7
1 Pers Spec E-5
1 Sec Steno GS-6

SPECIAL ASSISTANTS
M.C. Vanderhoven CW2
Crim Investigator
S. A. Sutliff GS-12
Atty Advisor (Contract)
R.C. Hewitt GS-12
Safety Off
1 Atty Advisor KGS-12
1 Realty Spec KGS-12
1 Sec Typ KGS-5

OFF 17
ENL 40
TOTAL CIV 185
GS (47)
US (6)
KGS (88)
KWB (42)
TOTAL 242

ADMINISTRATIVE BR
A.M. Hetrick Chief
Admin Off GS-12
1 Contr Spec PODWP-KA
KGS-7

OFFICE SERVICE SEC
A. N. Coleman Chief
Ofc Service Supv GS-9
1 Clk-Typ KGS-4
1 Ofc Mach Rprmn KWB-6

MAIL & RECORDS UNIT
Vacant Chief
M & R Supv GS-7
1 Mail Del Supv E-4
1 Messenger E-4
1 Lib Tech KGS-5
1 Mail&File Clk KGS-4
3 Repro Wkrs KWB-5

SUP & EQUIP UNIT
J.L. Kemp Chief
Sup Sgt NCO E-6
1 Armorer E-4
1 Supply Clk KGS-5
4 Laborer Hvy KWB-3

MOTOR POOL UNIT
G.A. Miller Chief
Motor Sgt E-7
1 Repr Pts Spec E-5
1 Trans Sp/Disp KGS-6
1 Parts Clerk KGS-5
1 AutoMechLdFmn KWB-7
1 EngrEqOpr/Hvy KWB-7
1 DrvMvySp Eq KWB-6
2 Auto Mech KWB-6
1 Drv Gen/Op KWB-5
1 Chaffeur KWB-5
4 Driver Lt KWB-5
1 Auto Eq Grsr KWB-4

FINANCIAL MGT SEC
A.A. Kinsfather Chief
Supv Accountant GS-11
1 Acctg & Bud Asst GS-9
1 IndProp Mgt Spec GS-9
1 Supply Sgt (V) E-6
1 Finance NCO (V) E-6
2 Accountant KGS-9
2 Vou Examiner KGS-5
2 Clerk-Typing KGS-4

PROC & SUPPLY SEC
J. M. Feyko Chief
Supv Proc Agent GS-11
1 Mvt Spec E-7
1 Sup Tech GS-9
2 Contr Spec KGS-7
1 Clk-Typ KGS-5
1 Clerk-Typ KGS-4

AVIATION BRANCH
CPT B.T. Fleming Chief
Aviation Commander PODWP-KVN
1 Aviator Rotary Wing CPT
1 Pilot Rotary Wing (V) CPT
1 Maint Supv E-7
2 Crew Chief (1V) E-5
2 A/P Repairman (1V) E-4

OSAN PROJ OFC
W.T. ADKINS Proj Engr
Supv Civ Engr GS-12
1 Civ Engr 1LT
1 Const Insp E-7
2 Civ Engr Asst E-4
1 Civ Engr Tech GS-11
1 Const Engr KGS-11
1 Const Insp KGS-9
1 Clk-Typist KGS-4

NORTHERN RESIDENT OFC
G.R. Leach Chief
Supv Civ Engr Tech GS-12
2 Const Engr 1LT
1 Const Insp E-7
1 Civ Engr Asst E-3
1 Gen Engr KGS-12
1 Civ Engr (V) KGS-11
1 Clk-Typ KGS-4

KYONG-GI PROJECT OFFICE
W. N. Meyers Proj Engr
Supv Civ Engr GS-12
1 Const Engr 1LT
1 Const Insp E-7
1 Civ Engr Asst E-3
1 Gen Engr KGS-12
2 Const Engr KGS-11
1 Elect Engr KGS-9
1 Sec Typing KGS-5

WONJU PROJECT OFFICE
L.W. Mahnke Proj Engr
Civ Engr Tech GS-11
2 Const Insp E-7
1 Civ Engr Asst E-4
1 Engr Tech KGS-7

CP HUMPHREYS PROJ OFC
H.L. Entz Proj Engr
Civ Engr Tech GS-11
1 Civ Engr 1LT
1 Civ Engr Asst E-3
1 Const Repl Gen GS-11
1 Gen Engr KGS-12
1 Const Insp KGS-9
1 Clerk (Typing) KGS-4

ANYANG PROJECT OFFICE
G.D. Best Proj Engr
Supv Civ Engr Tech GS-11
2 Const Engr 1LT
1 Const Insp E-7
1 Civ Engr Asst E-4
1 Civ Engr Asst E-3
2 Gen Engr KGS-12
1 Const Insp KGS-9
1 Clerk (Typing) KGS-4

SOUTHERN RESIDENT OFC
J. Cogan Res Engr
Supv Civ Engr Tech GS-12
1 Const Engr 2LT
1 Const Insp E-7
1 Civ Engr Asst E-4
1 Civ Engr KGS-12
1 Civ Engr Tech KGS-11
1 Engr Drftmn KGS-7
1 Admin Asst KGS-6
1 Clerk-typing KGS-4
1 Auto Mech KWB-6

CHIDHAE/MASAN PROJ OFC
E.H. Elliott Proj Engr
Supv Civ Engr Tech GS-12
1 Const Engr CPT
1 Const Insp E-7
1 Civ Engr Tech GS-11
1 Gen Engr KGS-12
1 Const Insp KGS-9
1 Const Insp KGS-7
1 Clerk (Typing) KGS-4

KUNSAN PROJECT OFFICE
B.K. Reichel Proj Engr
Civ Engr 1LT
1 Civ Engr Asst E-5
1 Const Engr KGS-11
1 Const Insp KGS-9
1 Civ Engr KGS-9
1 Clerk (Typing) KGS-4

TAEJU PROJECT OFFICE
O.P. Nielsen Proj Engr
Supv Const Rep (Gen) GS-12
1 Civ Engr CPT
1 Const Insp E-7
1 Civ Engr Asst E-4
1 Const Rep (Gen) GS-11
1 Civ Engr Tech GS-11
1 Mech Engr Tech GS-11
1 Gen Engr KGS-12
1 Soils Tech KGS-9

TAEJON PROJECT OFFICE
J.J. Pietro Proj Engr
Supv Civ Engr Tech GS-11
1 Const Insp E-7
1 Const Insp KGS-11
1 Const Engr KGS-11

CONST - ENCRG BRANCH
K.S. Cheung Chief
Supv Civ Engr GS-14
1 Sec Steno GS-5

SUPV & INSP SECTION
R.W. Miller Chief
Supv Gen Engr GS-13
1 Civ Engr GS-12
1 Mech Engr GS-12
1 Gen Sup Spec GS-9
2 Civ Engr KGS-11
1 Elec Engr KGS-11
1 Mech Engr KGS-11
1 Engr Tech KGS-9
1 Engr Tech KGS-7
1 Clerk-Typing KGS-4

CONTRACT ADMIN SEC
R.C. Brose Chief
Supv Civ Engr GS-12
1 Civ Engr GS-12
1 Civ Engr GS-11
1 Contract Asst GS-7
1 Civ Engr KGS-12
3 Civ Engr KGS-11
1 Engr Drftmn KGS-7
1 ContrAdminClk KGS-5
1 Clerk(Typing) KGS-4

CONSTR SERVICE SEC
E.F. Malloy Chief
Supv Prog Anal GS-12
1 ConstProgSpec(V)GS-9
1 Civ Engr KGS-9
1 Const Sup Clk KGS-5
1 Clk-Typ KGS-4

EXPL, LAB & SURVEY SEC
J.J. Leonard Chief
Supv Civ Engr GS-13
1 Engr Geologist GS-11
1 Acct & Bud Asst GS-7
1 Geologist KGS-9
1 Clk-Interpreter KGS-5

ENGINEERING SEC
R.H. Medlar Chief
Civ Engr GS-13
1 Civ Engr GS-12
1 Civ Engr GS-12
2 Mech Engr KGS-12
1 Elec Engr KGS-12

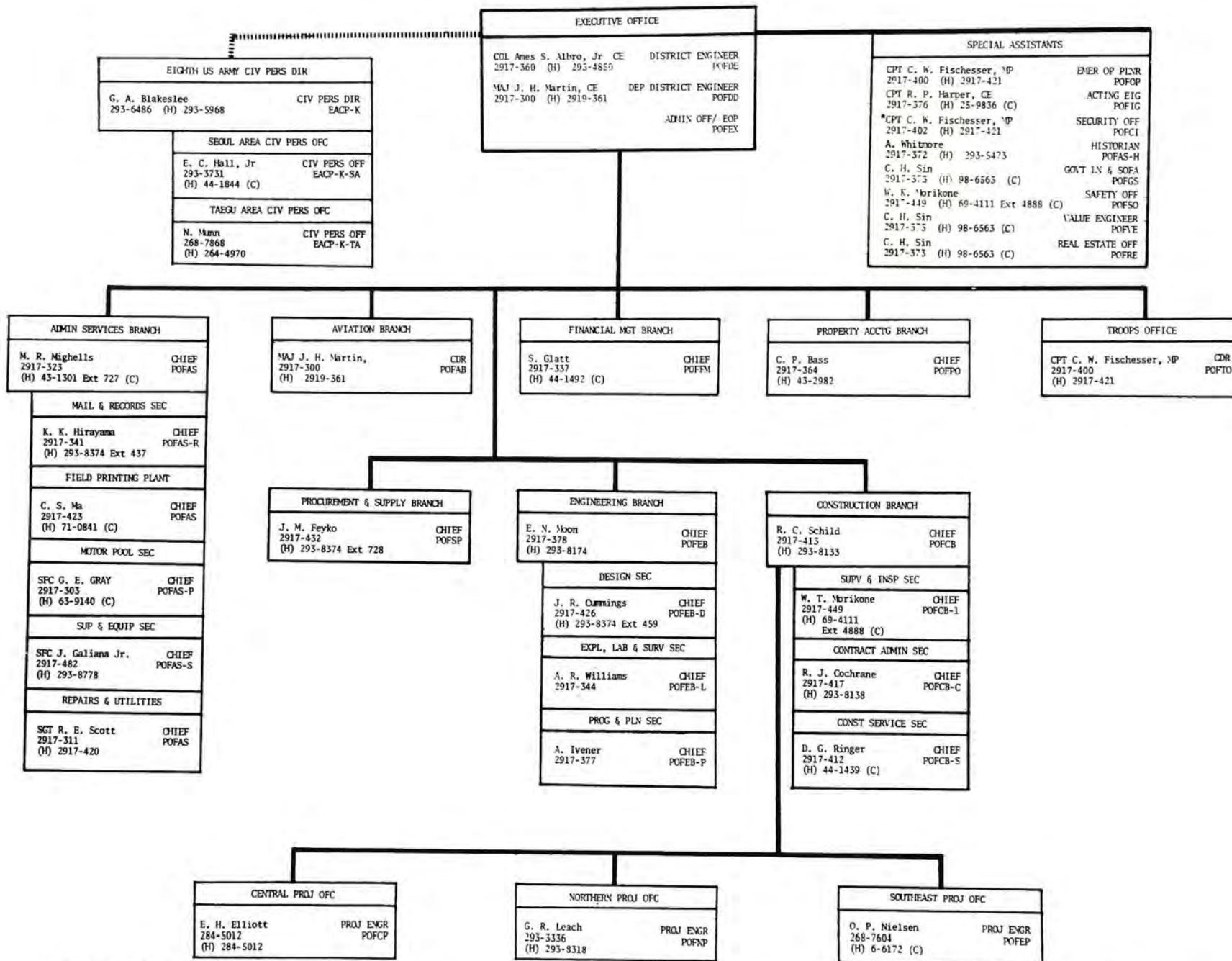
LABORATORY UNIT
H.L. Robinson Chief
Supv Civ Engr GS-11
1 Civ Engr Asst E-5
1 Cml Engr Asst E-4
1 SupvEngrTech KGS-10
3 Engr Tech KGS-9
2 Engr Tech KGS-7
1 Engr Aid KGS-5

EXPLOR & AIRFIELD UNIT
D. F. Thomas Chief
1 Civ Engr GS-11
1 Civ Engr Asst E-3
1 Drill Fmn WS-11
1 DrillEqRprFmn WS-10
1 CoreDrOprFmn WS-8
1 Engr Tech KWB-7
1 CoreDrOprFmn KWB-7
1 Engr Eq Mech KWB-7
1 Dvr/CorDrOpr KWB-6
1 Driver Hvy KWB-5
1 Engr Aid KGS-5

CF LONG SP PROJ & HYDRO
M.K. King Chief
Supv Civ Engr Tech GS-12
1 CoreDrOpr Fmn SW-11
1 Drill Fmn SW-11
1 Supv DrRpr Fmn SW-10
3 CoreDrOpr Ldr KWB-7
1 Engr Op Hvy KWB-7
5 Dr/CoreDr Opr KWB-6
2 Driver Hvy KWB-5

SURVEY UNIT
H.S. Chon Chief
Civ Engr KGS-11
2 Civ Tech KGS-9
4 Engr Tech KGS-7
1 Engr Aid KGS-5

US ARMY ENGINEER DISTRICT, FAR EAST



* Also serves as POD Provost Marshal

15 January 1976

APPENDIX III FED District Engineers

FAR EAST DISTRICT ENGINEERS

Colonel Stephen E. Smith

July 1957 to April 1958

Colonel Ellery W. Niles

April 1958 to April 1959

Colonel Daniel A. Richards

April 1959 to April 1960

Colonel Herschel E. Linn

April 1960 to March 1961

Colonel William N. Beard

March 1961 to May 1962

Colonel James G. Rawlings

May 1962 to August 1962 (Acting DE)

Colonel Wilmot R. McCutchen

August 1962 to August 1963

Colonel Robert E. Snetzer

August 1963 to August 1965

Colonel William M. Boardman

August 1965 to July 1967

Colonel John J. McCulloch

July 1967 to July 1969

Colonel Franklin R. Day

July 1969 to June 1970

Colonel Wesley E. Peel

July 1970 to June 1972

Colonel William T. Moore

June 1972 to August 1973

Colonel Ralph T. Garver

September 1973 to July 1975

Colonel Ames S. Albro, Jr.

August 1975

BIBLIOGRAPHY

AGREEMENTS

Agreement between the Engineer Eighth United States Army, Korea, and The Division Engineer, United States Army Engineer Division, Pacific Ocean. 15 May 1975.

ARTICLES *

Smith, M. O. "Panmunjon Today." *The Military Engineer*, 348 (July-August 1960), 264-265.

Rich, Major Robert E. "Engineer Activities in Korea." *The Military Engineer*, (September-October 1960), 361-362.

Jonah, Major Maxwell V. "Korean Construction Enterprise." *The Military Engineer* (September-October 1962).

McCutchen, Colonel Wilmot R., and Lieutenant Colonel Thomas T. Jones. "Construction in the Far East District." *The Military Engineer*, 369 (January-February 1964), 9-12.

Jones, Lieutenant Colonel Thomas T. "Water Supply from the Shifting Han." *The Military Engineer*, 370 (March-April 1964), 96-97.

"Camp Carroll—It's Big and Still Growing." *Pacific Stars & Stripes*, 15 April 1964, p. 7.

Jones, Lieutenant Colonel Thomas T. "Korean Ingenuity in Construction." *The Military Engineer*, 371 (May-June 1964), 159-164.

Jones, Lieutenant Colonel Thomas T. "Water Supply in Korea." *The Military Engineer*, 375 (January-February 1965), 8-9.

Jones, Lieutenant Colonel Thomas T. "Slope Stability in Korea." *The Military Engineer*, 378 (July-August 1965), 243-244.

BOOKS AND OTHER PUBLICATIONS#

Niles, Colonel E. W. *US Army Engineer District, Far East, First Anniversary.* Seoul, Korea, 1 July 1958.

Port of Inchon. Inchon Marine Bureau, Ministry of Transportation, Republic of Korea, October 1974.

US Army Engineer District, Far East. *Yearbook.* 1968-1969.

US Army Engineer Division, Pacific Ocean. *Information Bulletin.* 1968 to 1975.

US Army Engineer District, Far East. *Yearbook.* 1975-1976.

Van Hoften, Ellen. *History of the Pacific Ocean Division Corps of Engineers.* Fort Armstrong, Honolulu, Hawaii, 1 January 1972.

BOOKLETS

US Army Construction Agency-Korea. *Visit of Brigadier General Ellsworth I. Davis.* 28 March 1957.

US Army Engineer District, Far East. *Japan Area Office.* 1 August 1957.

US Army Engineer Division, Pacific Ocean. *Visit of the Chief of Engineers, Major General Emerson C. Itschner.* 17 August to 4 September 1959.

US Army Engineer District Data Brochure: USOM—P-MAAG-K Programs. c. 31 December 1959.

US Army Engineer District, Far East. *Taegu Resident Engineer Office.* October 1960.

US Army Engineer District, Far East. *Visit of Major General Gerald E. Galloway, POD Division Engineer.* 19 October to 2 November 1960.

US Army Engineer District, Far East. *Visit of the Chief of Engineers, Lieutenant General Walter K. Wilson.* 6 to 9 March 1962.

US Army Engineer District, Far East (Rear). c. July 1962.

US Army Engineer District, Far East. *Department of Defense Project 32. Kuma Station, Chitose, Japan.* 1 November 1962.

US Army Engineer District, Far East. *Visit of Department of Defense Survey Team, Project 32.* November 1962.

US Army Engineer Division, Pacific Ocean. *Office of the Chief of Engineers Command Inspection Team Visit.* 5 to 25 January 1963.

*All Sections in chronological order unless noted otherwise.

#In alphabetical order.

US Army Engineer District, Far East. Seoul Resident Engineer Office. 1964.
 US Army Engineer District, Far East. Taegu Resident Engineer Office Booklet. February 1964.
 US Army Engineer District, Far East. Taegu Resident Engineer Office. 31 March 1964.
 US Army Engineer District, Far East. Guide for Newly Assigned Personnel. 1965.
 US Army Engineer District, Far East. Taegu Resident Engineer Office. 1965.
 US Army Engineer Division, Pacific Ocean. Office of the Chief of Engineers Command Inspection Team Visit. 14 to 29 January 1965.
 US Army Engineer District, Far East. Seoul Resident Engineer Office. 20 January 1965.
 US Army Engineer District, Far East. Program Review and Analysis. Fourth Quarter, Fiscal Year 1965.
 US Army Engineer District, Far East. Korea Area Office. March 1966.
 US Army Engineer District, Far East. Prepared for Colonel Walter L. Winegar, POD Division Engineer. 1 March 1966.
 US Army Engineer District, Far East. Korea Area Engineer Office. Mid-1966.
 US Army Engineer Division, Pacific Ocean. Office of the Chief of Engineers Command Inspection Team Visit. 29 August to 20 September 1966.
 US Army Engineer District, Far East (Rear). Japan Area Office. Mid-1967.
 US Army Engineer District, Far East. Korea Area Engineer Office. Mid-1967.
 US Army Engineer District, Far East. Briefing Data. August 1967.
 US Army Engineer District, Far East. Korea Area Engineer Office. After Summer 1967.
 US Army Engineer District, Far East (Rear). Japan Area Office. September 1967.
 US Army Engineer District, Far East. Korea Area Engineer Office. Late 1967.
 US Army Engineer District, Far East. Kunsan Resident Engineer Office. 1968.
 US Army Engineer District, Far East. Briefing Data. March 1968.
 US Army Engineer District, Far East. Korea Area Engineer Office. Spring 1968.
 US Army Engineer Division, Pacific Ocean. Office of the Chief of Engineers Command Inspection Team Visit. 9 to 25 November 1968.
 US Army Engineer District, Far East (Rear). 1968-1969.
 US Army Engineer District, Far East. Kunsan Resident Engineer Office. 1969.
 US Army Engineer District, Far East. Orientation Brochure for Korea. 1969.
 US Army Engineer District, Far East. Taegu Area Engineer Office. 1969.
 United Nations Command-United States Forces Korea 68-S Military Construction Program Korea USFK-ENJ. July 1969.
 US Army Engineer District, Far East. Seoul Area Engineer Office. July 1969.
 US Army Engineer District, Far East. Workload. Fiscal year 1964 to Fiscal year 1970. 25 August 1969.
 US Army Engineer District, Far East. Taegu Area Engineer Office. 1970.
 US Army Engineer Division, Pacific Ocean. Office of the Chief of Engineers Command Inspection Team Visit. 8 to 27 May 1970.
 US Army Engineer District, Far East. Anyang Project Office. 1971.
 US Army Engineer District, Far East. Chinhae/Masan Project Office. 1971.
 US Army Engineer District, Far East. Kunsan Project Office. 17 April 1971.
 US Army Engineer Division, Pacific Ocean. Office of the Chief of Engineers Command Inspection Team Visit. 10 to 26 September 1971.
 US Army Engineer District, Far East. Trans-Korea Project Office. 1972.
 US Army Engineer District, Far East. Special Projects Office. September 1972.
 US Army Engineer District, Far East. Taegu Project Office. Fall 1972.
 US Army Engineer District, Far East. Trans-Korea Resident Office. 1972-1973.
 US Army Engineer District, Far East. The Book. 1973.
 US Army Engineer District, Far East. Camp Humphreys Project Office. 1973.

US Army Engineer District, Far East. *Korea Resident Office, Kyong-gi Project Office*. 1973.
 US Army Engineer District, Far East. *Camp Humphreys Project Office*. 1974.
 US Army Engineer District, Far East. *Kyong-gi Project Office*. 1974.
 US Army Engineer District, Far East. *Camp Humphreys Project Office*. Early 1974.
 US Army Engineer District, Far East. *Southwest Project Office*. Mid-1974.
 US Army Engineer District, Far East. *Southwest Project Office*. Early 1975.
 US Army Engineer District, Far East. *Southeast Project Office*. 1 May 1975.
 US Army Engineer District, Far East. *Central Project Office*. Mid-1975.

BRIEFINGS

Kromer, BG Phillip F. Office of the Engineer, Headquarters, US Army Japan. *Organization for Major Military Construction in Korea and Japan*. 25 July 1957.
 US Army Engineer Division, Pacific Ocean. *Mission, Organization and Functions*. For Julian Hartt of the *Los Angeles Examiner*. 26 May 1958.
 US Army Engineer District, Far East. *FED Real Estate*. For Colonel E. J. Withers and Mr. Samuel D. Blauer, Real Estate, Office of the Chief of Engineers. 10 June 1964.
 US Army Engineer District, Far East. *Summary of FED activities concerning the proposed buildup of Air Force and Army in Korea*. 1968.
 US Army Engineer District, Far East (Rear). *Far East District*. 1968 to 1969.
 US Army Engineer District, Far East, Exploratory, Laboratory and Survey Section. *Drilling/Construction Activities*. 1970.
 US Army Engineer District, Far East. *Far East District*. For the Office of the Chief of Engineers Inspector General Team Visit. 21 April 1975.
 LeBlanc, Sergeant First Class Virginia. *Submarine pipeline*. Pohang, Korea, 6 May 1975.
 Johnson, Sergeant First Class W. C. *Rehabilitation of Airmen's Dormitories*. For Brigadier General Wesley Peel. Osan Air Base, Korea, 2 June 1975.
 Kim, Si Chung. *Airmen's Dormitories*. For Brigadier General Wesley Peel, Pacific Ocean Division Engineer. Osan Air Base, Korea, 2 June 1975.
 US Army Engineer District, Far East. *FED Projects*. For Brigadier General Wesley Peel. Kwangju Air Base, Korea, 3 June 1975.
 Garver, Colonel Ralph T. USAEDFE District Engineer. *FED's Role in Korea*. For the Commander's Conference. 25 June 1975.
 Yi, Kwang Il. *Inchon Tidal Basin*. Inchon, Korea, 25 August 1975.
 Sakong, Yun. *Pusan Cold Storage Plant*. Pusan, Korea, 9 September 1975.

CHARTS

US Army Engineer District, Far East. *Organization Charts*. 1957 to 1975.
 US Army Engineer Division, Pacific Ocean. *Manpower Status Charts*. 1957 to 1975.
 US Army Engineer Division, Pacific Ocean. *Total Work Placement*. Fiscal years 1958 to 1970.
 US Army Engineer District, Far East. *Work Placement*. Fiscal years 1958 to 1975.
 US Army Engineer Division, Pacific Ocean. *Total Workload*. Fiscal years 1958 to 1979. April 1973.
 Deputy Division Engineer for Western Pacific, US Army Engineer Division, Pacific Ocean. *Organization Charts*. 1970 to 1972.
 US Army Engineer District, Far East. *Master Planning*. 5 December 1975.

GENERAL ORDERS

US Armed Forces Far East/US Eighth Army. 1956.
 Office of the Chief of Engineers, US Army. 1956 to 1975.
 US Army Engineer District, Far East. 1957 to 1975.
 US Army Engineer Division, Pacific Ocean. 1957 to 1975.

US Army Engineer Division, Pacific Ocean, Western Pacific. 1970 to 1972.

INTERVIEWS

EARLE WHITMORE AS INTERVIEWER:

- Alfonsi, Joseph. US Army Engineer Division, Pacific Ocean. Honolulu, Hawaii, 29 September 1975.
- Anderson, James L. US Army Engineer Division, Pacific Ocean. Honolulu, Hawaii, 24 September 1975.
- Ball, John. US Army Engineer Division, Pacific Ocean. Honolulu, Hawaii, 29 September 1975, and Seoul, Korea, 21 August 1975.
- Bass, Charles P. US Army Engineer District, Far East. Seoul, Korea, 16 October 1975.
- Best, Gordon. US Army Engineer District, Far East. Seoul, Korea, 12 May 1975.
- Burkhardt, First Lieutenant Robert. US Army Engineer District, Far East. Camp Humphreys, Korea, 28 August 1975.
- Cheung, Kisuk. US Army Engineer Division, Pacific Ocean. Seoul, Korea, 2 and 5 June 1975, and Honolulu, Hawaii, 29 September 1975.
- Cho, Nam Chu. US Army Engineer District, Far East. Seoul, Korea, 12 September 1975.
- Chong, In Chung. US Army Engineer District, Far East. Osan Air Base, Korea, 9 October 1975.
- Chong, Kon Il. US Army Engineer District, Far East. Seoul, Korea, 28 August 1975.
- Christ, Charles E. US Army Engineer District, Far East. Seoul, Korea, 16 May 1975.
- Crews, Larry. US Army Engineer District, Far East. Seoul, Korea, 1 July 1975.
- Cummings, John. US Army Engineer District, Far East. Seoul, Korea, 19 September 1975.
- Dean, Captain Mike. US Army Engineer District, Far East. Seoul, Korea, 9 June 1975.
- Feyko, John. US Army Engineer District, Far East. Seoul, Korea, 15 October 1975.
- Flanders, Everette A. US Army Engineer Division, Pacific Ocean. Honolulu, Hawaii, 29 September 1975.
- Garver, Colonel Ralph T. US Army Engineer District, Far East. Seoul, Korea, 7 and 16 July 1975.
- Harper, Captain Ronald P. US Army Engineer District, Far East. Seoul, Korea, 10 December 1975.
- Heard, Master Sergeant Milton. US Army Engineer District, Far East. Camp Casey, Korea, 13 and 30 June 1975.
- Hetrick, Albert M. US Army Engineer District, Far East. Seoul, Korea, September and 15 October 1975.
- Hong, Yong Taek. US Army Engineer District, Far East. Seoul, Korea, 28 August 1975.
- Ichikawa, Tsuneo. US Army Engineer District, Japan. Camp Zama, Japan, 25 July 1975.
- Irwin, Leroy. US Army Engineer Division, Pacific Ocean. Honolulu, Hawaii, 30 September 1975.
- Ishii, Koji. US Army Engineer District, Japan. Camp Zama, Japan, 22 and 24 July 1975.
- Ivener, Arnold. US Army Engineer District, Far East. Seoul, Korea, 17 September 1975.
- Kamano, Clara S. US Army Engineer District, Japan. Camp Zama, Japan, 25 July 1975.
- Kim, Che Nam. US Army Engineer District, Far East. Seoul, Korea, 12 September 1975.
- Kim, Si Chung. US Army Engineer District, Far East. Osan Air Base, Korea, 9 October 1975.
- Kimble, Bob. US Army Engineer Division, Pacific Ocean. Honolulu, Hawaii, 26 September 1975.
- King, Michael. US Army Engineer District, Far East. Seoul, Korea, October 1975.
- Lasche, Captain George P. US Army Engineer District, Far East. Seoul, Korea, 29 May 1975.
- Lawrence, Edward. US Army Engineer Division, Pacific Ocean. Honolulu, Hawaii, 26 September 1975.
- Leach, Grady. US Army Engineer District, Far East. Seoul, Korea, 11 July 1975.
- Martin, Major James. US Army Engineer District, Far East. Seoul, Korea, 20 August and 20 October 1975.
- Mason, Lynn. US Eighth Army Engineers. Seoul, Korea, 12 August 1975.
- Medlar, R. H. US Army Engineer Division, Pacific Ocean. Honolulu, Hawaii, 1 October 1975.
- Meyers, William. US Army Engineer District, Far East. Seoul, Korea, September 1975.
- Mita, Tsutomu. US Army Engineer District, Japan. Camp Zama, Japan, 23 July 1975.
- #In alphabetical order.

Morikone, Wade K. US Army Engineer District, Far East. Seoul, Korea, 15 September 1975.

Moteki, Fujio. US Army Engineer District, Japan. Camp Zama, Japan, 24 July 1975.

Nielsen, Ole P. US Army Engineer District, Far East. Taegu and Seoul, Korea, Summer and Fall 1975.

Pak, Son Tae. US Army Engineer District, Far East. Seoul, Korea, 16 September 1975.

Pedecine, Thomas. US Army Engineer District, Japan. Camp Zama, Japan, 22 July 1975.

Perreault, Captain Richard G. US Army Engineer District, Far East. Seoul, Korea, 5 May 1975.

Pettinato, Bert. US Army Engineer Division, Pacific Ocean. Honolulu, Hawaii, 26 September 1975.

Ragsdale, Lee. US Army Engineer District, Far East. Seoul, Korea, 2 September 1975.

Ringer, Dale. US Army Engineer District, Far East. Seoul, Korea, August 1975.

Robinson, Harvey L. US Army Engineer District, Far East. Seoul, Korea, 12 September 1975.

Rothstein, Murray. US Army Engineer Division, Pacific Ocean, 25 September 1975.

Saito, Masayasu. US Army Engineer District, Japan. Camp Zama, Japan, October 1975.

Sakoguchi, John. US Army Engineer Division, Pacific Ocean. Honolulu, Hawaii, 30 September 1975.

Sakong, Yun. US Army Engineer District, Far East. Taegu, Korea, 4 and 9 September 1975.

Sameshima, Akira. US Army Engineer Division, Pacific Ocean. Honolulu, Hawaii, 30 September 1975.

Schild, Roy. US Army Engineer District, Far East. Seoul, Korea, September 1975.

Shiraishi, Catherine C. US Army Engineer District, Far East. Seoul, Korea, 14 October 1975.

Sin, Chae Ha. US Army Engineer District, Far East. Seoul, Korea, 14 October 1975.

Snakenberg, Euclid. US Army Engineer Division, Pacific Ocean. Honolulu, Hawaii, 23 September 1975.

Tamai, Keiji. US Army Engineer District, Far East. Seoul, Korea, 16 September 1975.

Tsushima, Mark. US Army Engineer Division, Pacific Ocean. Honolulu, Hawaii, 23 September 1975.

Walther, John E. US Army Engineer Division, Pacific Ocean. Honolulu, Hawaii, 23 September 1975.

Williams, Dick. US Army Engineer District, Far East. Seoul, Korea, 7 October 1975.

Wynn, First Lieutenant Donald. US Army Engineer District, Far East. Seoul, Korea, 20 May 1975.

Yi, Tong Sun. US Army Engineer District, Far East. Oujongbu, Korea, 30 June 1975.

Yi, Wan Sik. US Army Engineer District, Far East. Kunsan Air Base, Korea, 12 June and 21 August 1975.

Yoshimoto, Asato. US Army Engineer District, Japan. Camp Zama, Japan, 22 July 1975.

LETTERS

Sheridan, Edward J. Deputy Assistant Secretary of Defense. *Design and Construction in the Far East*. To Assistant (Installations and Logistics) Secretaries of Army, Air Force and Navy. 8 March 1963.

Between

Office of the Chief of Engineers and US Army Engineer Division, Pacific Ocean. 1957 to 1976.

US Army Engineer District, Far East, and US Army Engineer Division, Pacific Ocean. 1957 to 1976.

To the author

Burnell, Major General Bates C. Summer 1975.

Jones, Colonel Thomas T. 31 May 1975, 30 June 1975, 7 August 1975, and 4 September 1975.

Love, Colonel Everett E. 7 July 1975.

McCutchen, Colonel Wilmot R. 25 August 1975.

Snetzer, Colonel Robert E. 26 October 1975.

MEMORANDUMS

US Army Engineer District, Far East. 1957.

Morris, Thomas D. Assistant Secretary of Defense, Installations & Logistics. *Design and Construction in the Far East*. To Secretaries of the Army, Navy and Air Force. 14 December 1962.

Memorandum of Understanding between PACAF and The Pacific Ocean Division Engineer Concerning Assignment of All DOD Design and Construction Work in the Far East (Japan, Korea, Taiwan) to the Corps of Engineers. 23 April 1963.

- Henningsen, T. A. US Army Engineer District, Far East (Rear). *Report on Collusive Bidding*. 28 October 1964.
- Sakoguchi, John R. US Army Engineer District, Far East (Rear). *Investigation Trip to the City of Sapporo, Hokkaido, Japan, in Connection with District Construction Activities in the Area*. 20 October 1966.
- Department of Defense. For the Secretaries of the Military Departments and the Chairman, Joint Chiefs of Staff. *Management of Korea FY 1968 Supplemental Military Construction Program*. 1968.
- Forehand, C. A. Comptroller, US Army Engineer Division, Pacific Ocean. *Management of Korea FY 1968 Supplemental Military Construction Program*. 16 December 1969.
- Sheridan, Edward J. Deputy Assistant Secretary of Defense (Installations and Housing). *Constructions Management in Korea, FY 1971 Program*. To Assistant Secretaries (Installations and Logistics) of the Army, Air Force, and Navy and the Director, Joint Chiefs of Staff. 29 October 1970.
- US Government Accounting Office. *Interim Memorandum No. 4—Overall Observations on EUSA Facilities Engineering Management*. 12 December 1974. *Interim Memorandum No. 3 — Far East District Engineer Design/Contracting Support of EUSA Facilities Engineering Mission*. 24 December 1974.
- US Army Engineer Division, Pacific Ocean. *Continuing Planning Re The Accomplishment of Design in the Far East (Korea-Japan-Okinawa)*. 4 August 1975.

MESSAGES

- Headquarters, 1st Cavalry Division. 1957.
- Headquarters, US Armed Forces Far East/US Eighth Army (Rear). 1957.
- US Army Engineer Division, Pacific Ocean, to US Army Engineer District, Far East. 1957 to 1970 and 1972 to 1975.
- US Army Engineer District, Far East, to US Army Engineer Division, Pacific Ocean. 1968 to 1970.

MISCELLANEOUS

- US Army Engineer Division, Pacific Ocean. *Claims and Delinquent Accounts Files*. 1957 to 1962.
- US Army Engineer Division, Pacific Ocean. *Uncollectible Account File*. 1957 to 1962.
- US Army Engineer District, Far East. *Contract Register*. 1957 to 1975.
- US Army Engineer District, Far East. *Personnel Authorization*. 1957 to 1975.
- US Army Engineer District, Far East. *Press Releases*. 1962 to 1969.
- Office of the Chief of Engineers, US Army. *Directives*. To Eighth US Army and US Army Engineer District, Far East. 1965 to 1970.
- US Army Engineer District, Far East. *Real Estate Division Position Paper*. 7 November 1968.
- US Army Engineer District, Far East. *Supply Division Historical Data*. February 1970.
- 44th Engineer Battalion (Construction). *Unit History*. 1975.
- 802nd Engineer Battalion (Construction). *Unit History*. 1975.

REPORTS, STUDIES AND FACT SHEETS

- US Army Engineer District, Far East. *Special Study, FED-OED Merger*. 9 May 1960.
- US Army Engineer District, Okinawa. *Okinawa Engineer District Material for POD-FED-OED Study Merger Planning Conference, 9 to 20 May 1960*. Tokyo, Japan.
- US Army Engineer Division, Pacific Ocean. *Reorganization of Far East and Okinawa Districts*. June 1960.
- US Army Engineer Division, Pacific Ocean. *Report of POD Team Regarding Assistance to FED on Disposal of Excess GFM—Distribution of Materials Burden Account*. August 1960.
- US Army Auditing Agency, Pacific District. Report No. PA-65-14. *Audit of Military Construction, Eighth US Army Korea, 1 July 1961 to 30 June 1963*. 9 December 1964.
- US Army Engineer District, Far East. *Far East District Organization*. 1 December 1967.
- US Army Engineer District, Far East. *Reorganization of the Construction Division, Far East*. 5 December 1967.
- US Army Engineer District, Far East. *Airfield Evaluations*. June 1968.
- US Army Engineer District, Far East. *Construction Progress Report Indexes*. 1968 to 1975.
- US Army Engineer Division, Pacific Ocean. *Comptroller Recapitulation Report FY 68 SMCA*.
- US Army Engineer Division, Pacific Ocean. *Comptroller Recapitulation Report FY 68 SMCP*.

US Army Engineer District, Far East (Rear). *EXPO '70 and US Pavilion*. 4 August 1969.
US Army Engineer District, Far East. *FY 1971 Overhead Staffing & Cost*. 10 February 1970.
US Army Engineer District, Far East. *FY 1971 Overhead Staffing & Cost Reclama*. 20 February 1970.
US Forces Korea-Eighth Army Engineer. *Military Construction Status Reports for Korea*. 30 April 1973.
Moore, Colonel William T. USAEDFE District Engineer. *History and Organization of the US Army Engineer District, Far East*. 23 May 1973.
Office of the Chief of Engineers. *Manpower Survey of the Far East District*. 3 to 9 October 1974.
US Army Engineer Division, Pacific Ocean. *Troop Housing Program*. 15 September 1975.

SPECIAL ORDERS

Headquarters, 1st Cavalry Division, US Army. 1957.

TREATIES

Agreement on Economic Coordination between The Republic of Korea and The Unified Command. Signed 24 May 1952.
Mutual Defense Treaty between the United States of America and the Republic of Korea. Signed 1 October 1953.
Agreement under Article IV, Mutual Defense Treaty between the United States of America and the Republic of Korea, Regarding Facilities and Areas and the Status of United States Armed Forces in the Republic of Korea. Signed 9 July 1966. Entered into force 9 February 1967.

UNPUBLISHED #

Construction Boom in the Far East District. January 1969.
Snetzer, Colonel Robert E. *Camp Carroll, A Case Study of the Korean Construction Industry*. Seoul, Korea, 1 July 1964.
Whitmore, Earle. *US Army Engineer District, Far East, 1957 to 1975*. Seoul, Korea, August 1975.

INDEX

A

A-220 — 113
 ACAN Communication Center — 26, 40
 AC & W Sites — 40-42, 59, 84, 86
 A Chung Ind. — 115-116
 A-E Firms — 5, 7, 8, 15, 16, 24, 30, 35, 41, 47, 50, 56, 59, 64, 108, 117-118, 120
 AFFE 8A — 5, 6, 7, 16
 Airfield evaluation — 75-76
 Air Force — 25, 28, 38, 40-42, 44, 46, 47-50, 52, 53-54, 58-59, 61-74, 82, 86, 88, 90, 91, 94, 97-98, 102, 105-106, 108, 113, 114-116, 117, 122
 Air Force Security Service — (AFSS) — 44, 46, 48, 49, 59
 A Ju Constr. — 88
 Alaska Engineer District — 83
 ALOC — (Advanced Line of Communications) — 75, 97, 100-102, 105, 107, 110
 AMELCO — 75
 American buildup in SE Asia — 38, 44, 48, 50, 55, 59, 62
 SS American Challenger — 80
 Camp Ames — 17, 19, 22-24, 37, 56, 74, 97, 102, 104, 105, 111, 117, 122
 Anyang-Ni — 75, 95
 Anyong — 80
 Army — 38, 40, 41, 42, 44, 50-52, 56, 59, 61, 62, 71, 74-82, 83, 86, 90, 91, 97-102, 103, 105-106, 107, 108, 113, 114, 116, 119, 120, 122, 123
 Army Flight Activity Ground Support Facility — (AFAG) — 41
 Army Map Service — 35
 ASA — 14, 30, 36, 44, 48, 106, 108-109
 ASCOM - (See Camp Market) — 108
 Asia Constr. Co. Ltd. — 114-115
 ASP 063 - (Ammunition Storage Point) — 74, 76
 Associated American Engineers Overseas — 71
 Atsugi Naval Air Station — 48, 49, 50, 54, 84, 90
 Autodin Message Switching Center — 52, 59, 105
 Award freeze — 7, 16, 17, 34-35, 38, 40, 56-57

B

Baize International — 28
 Baker, Butler & Triplett — 7, 24
 Ball, John — v, 83
 Baltimore — 80
 Beason — 107, 111
 Camp Beavers — 25, 88
 Bechtel Corp. — 79-80
 Bennett, LTC — 83
 Blue House Raid — 61
 Bo Won Constr. & Indust. Co. Ltd. — 105
 Camp Brady — 48, 49-50
 Burden account — 34
 Camp Burness — 7
 Buy American - (See IBOP) — 34, 42, 55

C

Cambodia — 40
 Campbell Constr. & Eqt. Co. Ltd. — 105
 Camp Carroll — 17, 19-22, 24, 25, 37, 38-40, 56, 97, 100-105, 110, 111, 117, 120, 122
 Camp Casey — 25, 74, 76-77, 84, 88, 108, 110, 112-114, 117
 Camp Castle — 113, 117
 Castle Cliff — 83
 Castle Terrace — 83
 CFM — 6, 13, 17, 25, 44, 53, 55, 72, 75, 77
 Changsan — 107
 Chechon — 110-111
 Cheju-Do — 41
 Chernoff, Ambassador — 91
 Chinhue — 10, 28, 61, 62, 74, 77-79, 82, 84, 91, 95, 100-102, 107
 Chin Heung Enterprise Co. — 74, 88, 102, 110, 112
 Chiran — 37
 Chitose — 14, 35-37, 44-45, 59, 84
 Christensen, Mr. — 18
 Chugoku Denki Koji Co. Ltd. — 54
 Chunchon — 34, 86, 100-102
 Chungju — 84
 CINCPAC — 51
 CINC USARPAC — 51
 Citoh Co. Ltd. — 90
 Civilian Personnel Office - (CPO) — 56
 Camp Coiner — 109, 117
 Camp Colbern - (Koyank-Gok) — 38
 Collier Field House — 26
 Competitive negotiation - (See contract negotiation) — 66, 83
 Comptroller's Office — 6, 13

Congress - (US) — 4, 5, 40, 50, 52, 59, 62, 63, 76, 86, 91
 Construction Division — 6, 8, 13, 16, 50, 56, 59, 84, 85, 91, 93, 94, 117, 119
 Construction Industrial Co. — 12
 Construction methods — 6, 10-12, 16, 17, 22, 27, 31-32, 38
 Contract negotiation — 10, 11, 12, 16, 25, 33, 40, 44, 48, 115
 Contractors — (See defaulted contracts) — 6, 10, 12, 13, 17-19, 22, 24, 25, 26, 27, 30-31, 36, 38-42, 44, 45, 47, 48, 50, 52, 53, 54, 56, 57, 59, 63, 64, 66, 67, 69, 70, 71, 72, 73, 74, 75, 76, 78, 80, 81, 82, 85, 86, 87, 88, 90, 91, 98, 99, 100, 102, 103, 104, 105, 106, 107, 108, 109, 110, 112, 114, 115, 116, 117, 120, 121, 122, 124
 Contract termination - (See defaulted contracts) — 13, 27, 41, 44, 47, 48, 54, 59
 Cosmo Indust. Co. Ltd. — 85, 87
 Counterpart funds — 17
 Crash programs — 6, 38, 44, 50-52, 55, 56, 59, 61, 63, 64-66, 86, 122
 Cronin, Daniel — 34

D

DACs — 6, 13, 15, 42, 56, 58, 83, 94, 120
 Dae Lim Industrial Co. Ltd. — 31, 40, 42, 55, 72, 73, 76, 86, 100, 105
 Dae Won Enterprise — 72, 110
 Dai Han Elec. Dev't. Co. — 72
 Dai Shin Constr. Co. Ltd. — 72, 105, 106, 112
 Daniel, Mann, Johnson & Mendenhall - (DMJM) — 41, 47, 50-51, 53, 64, 72, 73, 102, 105, 115, 117
 Davis, BG Ellsworth I. — 6, 12, 34
 Davis, Brody, Chermayeff, Geisner, Deharak & Associates — 91
 Day, Colonel Franklin — 83, 91, 94
 DDEWP - (See WESTPAC) — 94, 95
 Declining workload — 17, 28, 33, 34, 40, 91, 94, 95, 97, 100, 107, 119, 122
 Defaulted contracts — 12, 27, 40, 48-49, 53, 122
 Design — 1, 5, 6, 7-8, 14, 15, 16, 17, 22, 24, 27, 35, 38, 50, 53, 55-56, 59, 61, 63-64, 66, 72, 73, 74, 76, 80, 83, 90, 91, 94-95, 98, 105, 106, 107, 108, 109, 112-113, 115, 117-118, 119, 121, 122
 Dillard, BG John — 62
 DOD — 1, 38, 40, 42, 56, 57, 59, 62, 64, 76, 83, 91, 94, 117
 DOD design & construction agent — 38, 40, 44, 59, 117
 Dong Ah Constr. Ind. Partnership Co. — 76, 114
 Dong Sung — 26, 88
 Camp Drake — 26, 50-52

E

802nd Engineer Battalion (Construction) — 66, 102, 108-109
 Education — 6, 10-13, 15, 16, 27, 31-33, 35, 37, 122, 124
 Camp Edwards - (See S & I Battalion) — 76
 Eighth Army - (See EUSA)
 EL & S — 58, 84, 95, 99, 102, 113, 119
 Encouragement of local industry — 19, 25, 33, 37, 42, 57, 122, 124
 Engineering & Design rate — 94, 95
 Engineering Division - (later Branch) — 6, 7-8, 13, 15, 16, 34, 35, 37, 50, 55, 56, 59, 63, 64, 66, 83-84, 85, 91, 93, 94, 95, 117, 119
 Engineering Liaison Office — 34
 EUSA — 2, 5, 6, 7, 8, 13-14, 22, 24, 25, 27, 28, 32, 35, 37, 40, 41, 42, 58, 62, 76, 83, 84, 86-87, 94, 95, 98, 105, 106, 108, 112, 117, 119, 120, 123
 E Wha Constr. Co. Ltd. — 87
 EXPO '70 — 90-91, 93

F

1st Cavalry Division — 10, 12, 13, 25, 34, 36, 57
 Fifth Air Force — 10, 14, 28, 63, 83, 94
 5 year limitation — 56
 44th Engineer Battalion (Construction) — 19-22, 31, 67, 102, 119
 45th Infantry Division — 36
 51st Composite Wing — 114
 406th Medical Laboratory — 50
 Far East Associates Inc. — 75
 FED (R) — 15, 34, 50, 56, 83, 91, 95
 Fiscal year - (See particular year)
 D. F. Fischer & Sons, Inc. - (FEMCO) — 38, 57, 72, 102, 103, 106
 Formal advertising — 12, 33, 44, 48
 Forward area - (See individual units) — 61, 108, 110-111, 122, 123
 Fuchu Air Station — 48, 49
 Funding - (See MCA, MCP, O&M, etc.) — 5, 6, 7, 13, 14, 16, 17, 19, 24, 33-34, 35, 37, 38, 40, 41, 44, 45, 46-47, 48, 50, 51-52, 54, 55, 56, 61, 62, 63-64, 66, 74, 77-78, 79, 82-83, 86, 90, 91, 94, 95, 107, 108, 111, 112, 114, 116, 117-119, 120, 122

G

G-7 — 76
 GAO — 118-119

Gateway to Korea — 54
 GFM — 6, 12, 13, 15, 16, 17, 25, 28, 33, 34, 41, 52, 53, 74, 80, 81, 82, 102
 Gold drain - (See IBOP) — 42
 Gold flow - (See IBOP) — 42
 Green Park — 48, 49
 Groden, Eugene — 86

H

Hakata — 50
 Hakoziaki — 52
 Han Il Dev't. Co. Ltd. — 72, 98-99
 Han Kook — 98-99
 Han Kook Kun Up Constr. Co. — 108
 Hansen Field House — 25
 Han Sung Constr. Co. Ltd. — 6
 Han Yang Dev't Co. Ltd. — 76
 Hardy Barracks — 15
 Helicopter travel — 27, 83
 Heung Han — 116
 Heung Hwa Machinery Co. Ltd. — 30
 Hialeah - (See Pusan) — 117
 Highpoint — 111
 Hiro Port — 54
 Hitachi Constr. Co. Ltd. — 52
 Hoengsong — 100-102
 Honolulu Engineer District — 28, 54, 94
 Hood International — 38, 40
 Hopkins & Munfey — 7
 Hori Komuten Co. Ltd. — 50
 Horizontal program or phase — 66, 67, 69-70, 71, 74
 Hospital rehabilitation — 50-52, 59
 Camp Howze — 74, 76-78
 Camp Hovey — 25, 112, 113, 114
 Camp Humphreys - (K-6) — 28, 38, 40, 56, 95, 97, 98-100, 102, 105, 108-110, 113, 114, 117, 119, 120
 Huwin Corp. — 105
 Hwa Il Indust. Co. Ltd. — 76
 Hyun Dai Constr. Co. Ltd. — 17-19, 59, 63, 67, 70, 74, 86
 Hyup Hwa Constr. Co. Ltd. — 56
 Hyup Woo Industrial Co. Ltd. — 105, 112, 115

I

I Corps — 8, 12, 35, 74, 76, 120
 IBOP — 17, 33-34, 35, 38, 40, 42, 44, 47, 48, 53, 55, 56, 57, 59, 83, 86, 122
 Imbalanced workload — 35
 Imjin River — 76
 IMODCO — 52
 Inchon — 17, 30, 80
 Inchon Tidal Basin — 8, 17-19, 24, 25, 37, 122
 Increased workload — 42, 59, 61, 62, 83, 91, 121, 122
 Indochina. - (See American buildup in SE Asia) — 44, 50, 52, 56, 59, 90
 Inoue Kogyo — 26
 International Cooperation Administration - (ICA) — 17
 International Co. Ltd.—67
 International Electronic Corp.—72, 98
 International Industrial Co. Ltd.—102, 103, 106
 Camp Irwin—112, 114
 Irwol San — 40, 41
 Israel-Arab experience—62
 Itazuke—37
 Iwakuni Marine Corps Air Station—48, 49, 54, 84, 90
 Iwo Jima—54

J

JAO—7, 14-16, 35, 44, 45, 56, 59, 84, 90, 94, 95
 Japan—1, 2, 5, 6, 7, 13, 14-16, 17, 26, 31, 33, 34, 35-37, 38, 40, 44-56, 59, 61, 79, 82, 83, 84, 85-86, 90-91, 93, 94, 95, 106, 122
 JED—v, 94, 95, 107, 117
 JHW Inc.—37, 78
 Jin Duk Ind. Co.—98, 105, 112, 113
 Johnson, President—63, 76
 Joint venture—26, 38, 40, 42, 50, 52-53, 56-57, 63, 67, 70, 71, 72, 73, 74, 76, 78, 80, 82, 85, 86, 87, 88, 91, 98, 102, 105, 106, 108, 109, 110, 111, 112, 115, 116
 Jones, Colonel Tom — v, 27
 Jones & Laughlin Steel Co.—80

K

K-2—(See Taegu)—84, 86
 K-6—(See Camp Humphreys)
 K-14—(See Kimpo)

K-16—112, 117
 Camp Kaiser—25
 Kajima Constr. Co. Ltd.—54
 Kamaksan—106
 Kamiseya Naval Security Group Activity—50, 54, 55
 Kanagawa Engineering Co. Ltd.—50
 Kanam-Ni—75
 Kang Hwa-Do—106
 Kangnung—41, 110
 Kanto Plain—48, 50
 Kawakami Ammunition Storage Depot—54
 KCA—(See USACA-K)—5, 6, 10, 14, 16
 Keang Nam Enterprise Co. Ltd.—88, 100
 Keystone Corp.—48
 Kimpo Airfield (K-14)—28, 42, 56, 57, 70, 86
 Kinki Electrical Constr. Co. Inc.—50, 52, 54
 Kishine Barracks—50-52
 KNS—6, 95
 Kcng Yang Enterprise Co. Ltd.—42
 Kong Yong Enterprise—24-25
 Koomi Industrial and Trading Co. Ltd.—30
 Korea Communications Engineering Co.—111
 Korea Development Corp.—64-68, 80-82, 86
 Korea Enterprise—25
 Korea Hume Pipe Constr. Co. Ltd.—115
 Korea Machinery & Constr. Co. Ltd.—40, 105, 115, 116
 Korea Wideband Primary Ground System—111, 119
 Korean history—1-3
 Korean National Railroad—78, 102
 KORSCOM—103
 Koshiba—52
 Koyank-Gok—38
 Kromer, BG Phillip F.—6, 7
 Kuk Dong Constr. Co. Ltd.—74, 105, 106
 Kumori Ordnance Center—(See Camp Colbern)—38, 40
 Kun Dong Constr. Co. Ltd.—115
 Kunsan—25, 28, 34, 40, 42, 56, 61, 62, 63, 64-66, 67-69, 71, 72, 73, 74, 83-84, 86, 88, 91, 95, 98, 105-106, 107, 114, 115-116, 117, 120, 121
 Kun Sul—57
 Kun Yang Ent.—75, 76, 102
 Kwangju Air Base—61, 63, 64, 69, 70, 71, 72, 74, 84, 91, 95, 114, 116
 Camp Kyle—76, 106
 Kyong Dong Industrial Co. Ltd.—42
 Kyong-Gi—95
 Kyung Jin Dev. Co. Ltd.—102
 Kyung Nam Constr. Co. Ltd.—87

L

Lampert, MG James B.—25
 Laos—40
 Larger packages—38, 40, 41, 59, 98, 100, 105, 107, 111-112, 116, 120, 122
 Legal office—6, 13
 Camp Long—98, 102, 112
 Lyon Associates—64, 73, 106, 108, 110, 114, 117

M

Mabuchi Kensetsu Co. Ltd.—48
 Madison—107
 Mangil San—40-41
 Mariana Islands—40
 Marines—38, 54, 59, 90
 Camp Market—108, 117, 119
 Marshall Islands—40
 Masan—95, 97, 102, 107, 110
 Master planning—116-117, 119, 121
 MCA—5, 7, 21, 22, 25, 35, 38, 40, 50, 56, 57, 59, 77, 85, 94, 95, 98, 102, 103, 107, 108, 110, 112, 114, 116, 120
 McChord Air Base—81
 McCulloch, Colonel John J.—85-86
 McCutchen, Colonel—v, 34
 MCP—4, 5, 38, 40, 46, 47, 53, 57, 59, 98, 102, 105, 107, 108, 114, 116, 122
 USS Meandros—67
 Memorandum of Understanding—40
 Camp Mercer—117
 Merger—34, 56, 91, 93, 94-97, 107
 Meyer-Paek Agreement—14, 35
 Mido Commercial and Industrial Co.—26
 MIDPAC—95
 Military Assistance Program—(MAP, See Mutual Aid Program)—28
 Military Construction Appropriation Act of 1960—23-24, 34, 35

Military hospital rehabilitation—(See hospital rehabilitation)—50
 Military Transportation Management Terminal Services—80
 Mi Ryung Constr. Co. Ltd.—105
 Misawa—44, 47-48, 49
 FED mission—6, 94, 95
 Mitsubishi—45-47, 50, 52, 54
 M & O—(See O & M)—7
 Modern Volunteer Army—(MVA or VOLAR)—98, 102-105, 107, 110
 Moduluxes—71-72, 113
 Monetary reforms—17, 33, 119-120
 Mooring facilities—(See POL mooring facilities)
 Morrison-Knudsen International Co. Ltd.—72, 73, 76-77
 Moving of FED elements—6-7, 10, 15-16, 34, 56, 83-84, 91, 93
 Moyer Recreation Center—26
 Mullen Overseas Co.—76
 Murphy's Law—108, 121
 Mutual Aid Program—(MAP)—28, 38, 40, 41, 57
 Mutual Defense Treaty—14
 MWK International Ltd. Inc.—74

N

NAF—5, 7, 25, 108, 111, 119
 Nak San Enter. Co. Ltd.—85
 Nam Kwang Constr. Co. Ltd.—56
 Namsan—107, 120
 Napier, Mr.—18
 Naval Security Agency—44
 Navy—38, 40, 50, 52-53, 54, 59, 61, 85-86, 90, 94
 Navy Bureau of Yards and Docks—40
 Negishi—50
 Network analysis system—66, 70
 New England Engineer Division—83
 Niblo Barracks—120
 Nielsen, Ole P.—31
 Nihon Kokudo Kaihatsu K. K.—53
 Niitaka Co. Ltd.—44
 Nikko Constr. Co. Ltd.—50
 Niles, Colonel E. W.—7
 Nimble—113, 117
 Nishimatsu Corp. Co. Ltd.—46, 48
 Nissei Kohiji Co. Ltd.—50
 Nisshin Kako Kensetsu—44
 North Pacific Engineer Division—8, 83

O

106th General Hospital—50
 121st Evacuation Hospital—86, 93, 105
 OCE—v, 1, 6, 13, 21, 25, 34, 64, 83, 86, 95, 118, 119
 OEC—(See USOM-K)—5, 8, 14, 16, 25, 27-28, 122
 OED—5, 6, 15-16, 34, 76, 83, 91, 93, 94, 95
 Ohbayashi-Gumi Ltd.—44, 91
 Ohio River Division Laboratories—76
 Ohki Construction Co.—36-37, 44, 45
 Camp Oji—15, 34, 50-52, 55, 56
 Okinawa Reversion—95, 97
 O & M—(See M & O)—25, 35, 40, 56, 63-64, 105, 106, 107, 108, 111, 112, 114, 117-119, 120, 121
 Omaha Engineer District—98
 Open-end contracts—117
 Operation Command Safety—83
 Organization—(FED)—6-7, 10, 13, 16
 Camp Ori—(See Alexander Williams)—25-26
 Osaka—90, 93
 Osan—10, 25, 28, 42, 56, 57, 61, 62, 63, 64-66, 69, 70, 71, 72, 73, 74, 84, 86, 88, 91, 94, 95, 98, 105, 106, 107, 114-115, 119, 120
 Other Procurement Army—(OPA)—113
 Oujongbu—13, 38, 57, 75-76, 94, 95, 106
 Overhead—17, 28, 33, 94, 95, 97, 107, 118
 Owada—50

P

PACAF—40, 64, 71
 Pacific Architects & Engineers—7, 98, 102
 Packages—38, 40, 41, 59
 Camp Page—111, 112, 117
 Paik Hak Construction Co. Ltd.—25
 Palgong-San—40-41
 Pan Asia Ind. Co. Ltd.—72
 Panmunjon—30
 Patterson, LTC—83
 PEMA—108
 Performance bonds—11, 44, 57
 Personnel—6, 7, 13, 15, 16, 34, 38, 42-44, 46, 47, 50, 55, 56, 59, 83, 85, 93, 94, 95, 108, 117, 119, 120, 122

Petersen-Sharpe Engineering Corp.—40-41
 Pipeline, trans-Korea—4, 31, 61, 62, 63, 74, 77-78, 79-82, 91, 109, 110, 122
 PMK—(See PROV-MAAG-K)
 Pochon—100-102
 POD—v, 4, 6, 13, 16, 32, 34, 37, 40, 56, 83, 93, 94, 95, 97, 107, 117, 122
 Pohang—30-31, 38, 40, 56, 58, 62, 79, 81, 82, 110
 POL—(See pipeline)—23, 30-31, 40, 44, 52, 53, 56, 59, 62, 72, 76, 79-82, 84, 90, 91, 95, 109, 110, 115, 124
 POL mooring facilities—52, 59, 110
 Poong Jun Industrial Co. Ltd.—38
 Poong Lim—106
 Portland Engineer District—102
 Pre-engineered—45, 71-72, 73-74, 85, 87, 98, 106, 109, 112-114, 119
 Problems—6, 7-13, 14, 15, 16, 17, 18-19, 22, 23-25, 27-28, 32, 33-34, 35, 37, 38, 40-47, 48-50, 52, 54, 55-56, 59, 61, 63, 64-69, 70, 71, 73, 74, 76-77, 78-79, 80, 81-83, 86, 90, 91-93, 100-102, 104, 105, 106, 107, 108-111, 112, 114, 115, 117-119, 120, 121, 122
 Procurement — 6, 7, 8, 13, 15, 16, 17, 19, 25, 33-35, 38, 42, 44, 45, 46-47, 48, 50, 51-53, 55, 56, 66-67, 82-83, 86, 91, 162, 105, 112-114, 119-120, 122, 123
 Projects — (FED) — 5, 6, 7-10, 12-13, 14-15, 16, 17-31, 35-37, 38-42, 44-58, 59, 61-82, 85, 86-91, 93, 97-107, 108-118, 119, 120-121, 122
 Projects — (KCA) — 5-6
 Project Adventurer — 106
 Project Rocktop — 40-41
 Project Running Light — (See Kamiseya) — 50
 PROV-MAAG-K — 5, 7, 8, 14, 16, 25, 27-28, 109, 122
 USS Pueblo — 61, 63, 83, 85-86, 90, 94, 107, 122
 Pusan — 4, 8, 10, 13, 17, 22, 28, 66, 67, 80, 111
 Pusan cold storage warehouse — 17, 24-25, 37
 Pyongtaek — 28, 79, 100-102, 105, 106
 Pyong Yang-Do — 41
 Pyung Wha Constr. Co. — 71

R

R-212 — 75-76, 100-102
 Rand Corp. — 31, 44, 48
 RAPCON Center — 48
 Real estate — 13-14, 16, 35, 42, 58, 84, 95, 117
 Rear detachment — 34
 Camp Red Cloud — 27, 76, 106, 110, 117
 Red Horse Squadron — 69, 70, 71
 Reduction-in-force — (RIF) — 34, 38, 41, 42, 47, 56, 59, 94, 95, 107, 117
 Reed and Martin Inc. — 67, 78
 Relocatables — 71, 99, 108, 112-114, 121, 123
 Reorganization — 1, 7, 10, 15, 16, 34-35, 56, 83-84, 91, 93, 94-97, 107, 119, 121, 122
 Reversion — (See Okinawa Reversion)
 Reynolds — 54
 Richards, Colonel Daniel E. — 24
 Richmond — 107
 Camp Roberts — 85
 Rocktop — (See Project Rocktop)
 ROK Ministry of National Defense — 14, 35, 84, 109
 ROK Ministry of Transportation — 31, 56
 Ryukyu Islands — 40

S

2nd Engineer Battalion — 113
 2nd Engineer Group — 113
 2nd Infantry Division — 56, 57
 7th Infantry Division — 5, 10, 12, 25, 34, 94, 97
 7th Logistics Command — 19
 FY 66-S — 52-54, 122
 FY 67-S — 52
 FY 68-S — 4, 61-93, 94, 95, 98, 100, 102, 105, 107, 110, 114-115, 122
 6921st Security Wing — 48
 6986th AFSS — 46
 S&A costs — 17, 33-34, 37, 38, 95, 108, 118, 119, 121
 SAD — (Strategic Arms Depot) — 74, 75, 99
 Sae Won Dev't. Co. Ltd. — 110
 Safety — 6, 11, 13, 14, 32, 56, 59, 83, 93, 94, 95, 124
 Sagami-Ono — 50
 Sagawa Gumi Co. Ltd. — 47
 Camp Saint Barbara — 25
 Saito, Mr. — 83
 Sam Ahn Ind. — 78
 Sam Bu Constr. Co. Ltd. — 19, 31, 38, 42, 76, 88, 98
 Sam Duk Indust. Co. Ltd. — 30
 Sam Il Enterprise — 13, 25
 Sam Il Ind. Co. Ltd. — 107, 111

Sam In Enterprise — 25, 40
 Sam Sung Constr. Co. Ltd. — 13
 Sam Whan Enterprise Co. Ltd. — 56, 64, 67, 73, 86, 103, 105
 Sam Young — 109
 San Francisco Engineer District — 13, 80
 Sanko Kogyo — 26
 Santa Fe Engineers Inc. — 67, 80-82
 Sanwa Denki Kogyo Co. Ltd. — 52
 Sasebo — 54, 83, 90
 Savannah Engineer District — 83
 Sayama, Etsuo — 34
 Schedules — (design or construction) — 61, 62-63, 66, 67, 91
 Sea Range — 110
 Camp Sears — 76
 Seattle Engineer District — 8, 17
 Seburyama — 37
 Se Gae Indust. Co. Ltd. — 115
 Seo Il Indust. Co. Ltd. — 108
 Seoul — 2, 6, 8, 10, 11, 13, 17, 22, 24, 26, 27, 28, 34, 35, 56, 61, 76, 79-80, 81, 83-84, 85, 86, 93, 94, 98, 103, 106, 109, 110, 118, 120, 122, 124
 Seoul Area Command — 30, 34
 SFLNO — 13, 67, 80
 Shimizu Constr. Co. — 36
 Shin Heung Const. Co. — 26, 38
 Shin Il — 106, 110
 Shin Kun Indust. Co. Ltd. — 19
 Shin Kwang Indust. Co. Ltd. — 102
 Shin Sung Ent. — 115-116
 Shin Yang Corp. — 108-109
 Shore-to-ship — 52-53, 54, 59
 S&I — (Supervision & Inspection) — 47, 91, 95, 105, 122
 Simil Constr. Co. Ltd. — 87
 Sin Chon River — 88
 Sin U Constr. Co. — 26
 Snakenberg, Euclid — v, 34
 Society of American Military Engineers — 86
 Sockcho — 110
 SOFA — (Status of Forces Agreement) — 38, 58, 63, 84, 100, 107, 108, 114, 115, 116, 121, 122
 Solar Division, International Harvester — 81
 Southeast Asia — 38, 44, 50, 52, 53, 54, 56, 59, 62, 83, 84, 90, 94, 105, 122
 Southeast Asia Emergency Fund — 62
 Southwest Division — 83
 Spicknall, Thomas — 12, 48, 49, 53
 S & T Battalion — (Supply & Transportation) — 74, 76
 Standard drawings — 7
 Camp Stanley — 74, 76-78, 106, 110, 114, 117
 Stolte, Inc. — 41, 67, 80-82
 STRATCOM — 106-107, 111, 112, 116
 Suh Chin Ent. Co. Ltd. — 110
 Suh Rim — 112
 Sumitomo Shoji Kaisha — 44, 48
 Sung Ae Won Orphanage — 88
 Superhooch — 77, 91, 110
 Supplemental agreement — 47, 63, 66, 67, 70, 98, 100, 102, 105, 107, 109, 116, 119, 121
 Supply Division — 6, 13, 16, 34, 56, 59, 94, 95
 Surplus Commodity Fund — 35
 Susaek — 100-102
 Suwon — 38, 57, 61, 63, 69, 70, 71, 72, 74, 84, 91, 94, 110

T

24th Infantry Division — 5, 10
 31st Field Artillery — 25
 39th Air Division — 48
 213th Aviation Company — 109
 249th General Hospital — 50
 Tab Vee — (Tab V) — 63
 Tachikawa Air Base — 48, 49
 Tacoma — 111
 TAC Sites — 25, 27, 37, 40, 106, 112, 116
 Taegu — 10, 13, 26, 30, 34, 35, 40, 42, 56, 57, 61, 63, 64, 69, 70, 71, 72, 74, 76, 79-80, 84, 86, 91, 94, 95, 98, 105, 106, 107
 Tae Hung Ind. Co. Ltd. — 72, 73, 98, 105, 112
 Taejon — 23, 76, 79, 81
 Tae Wha Constr. Co. Ltd. — 40
 Taft-Hartley Injunction — 80
 Taisei Constr. Co. Ltd. — 50, 53
 Taisei Road Constr. Co. Ltd. — 53
 Taiwan — 40
 Takano Constr. Co. Ltd. — 53
 Tango — (UGCP) — 95, 97, 102, 105, 107, 109

Tectonics Inc. — 74, 102
 Tekken Kensetsu Co. Ltd. — 50-52, 90
 Telescopic Engr. & Constr. Corp. — 113, 117
 Thailand — 40
 Camp Thompson — 75, 99
 Title II Agreements — 46-47, 56, 102, 106
 Tokorozawa — 50-52, 55
 Tokyo — 2, 7, 15, 16, 31, 34, 48, 50, 56, 59
 Tokyu Constr. Co. Ltd. — 54
 Tongduchon — 106, 112
 Tong Hung — 98
 Tong Wha Co. Ltd. — 56
 Tong Yang Construction & Engineering — 72, 75
 Toshiba Electrical Constr. Co. Ltd. — 50
 Totsuka Naval Radio Station — 48, 49, 50, 54
 Tower Hotel — 85
 R. M. Towill Corp. — 42, 117
 Toyo Kensetsu Co. — 44
 Training programs — (See education)
 Trans-Asia — 7, 38, 53, 106, 110, 117
 Trans-Korea POL pipeline — (See pipeline)
 Tri-service wage scale — 47
 Troop labor — (See individual units) — 5, 19-22, 27, 31, 56-57, 75, 76, 83, 102, 105, 109, 112-114

U

Uisang Bong — 40-41
 Ulsan — 80
 UNC/EUSA — 102
 UN Command — 2, 14, 30
 Underground Command Post (UGCP) — (See TANGO) — 95, 102, 107
 United States Information Agency — (USIA) — 90, 91, 93
 Urgent MILCON — 105-106, 107, 114, 116
 USACA-J — 5, 7, 15, 16
 USACA-K — (See KCA) — 5, 6, 7, 116
 USAHOMES — (US Army Homes) — 44-47, 59, 90
 USARJ — 50, 56
 US Army Engineer Waterways Experiment Station — 75
 US Army Troop Support Command — 113
 USARPAC — 50, 51, 79
 US buildup in SE Asia — (See American buildup in SE Asia)
 US Congress — (See Congress)
 USFK — 1, 6, 15, 62, 66, 98, 117, 119
 USOM-K — (See OEC) — 17, 28, 86

V

Vertical segment — 71, 73-74
 Vietnam — (See American buildup in SE Asia) — 40, 44, 50, 56, 57, 59, 62, 105
 Vinnell Corp. — 40, 63, 67, 70, 74, 86

W

Wadong-Ni — 23
 Waegwan — (See Camp Carroll) — 22, 40
 Wakkanai — 40, 44, 45-47, 48, 49, 59
 Camp Walker — (See Taegu) — 86, 97, 102-105, 117
 Well Drilling — 58, 60
 WESTPAC — 94-97, 98, 102, 105, 106, 107, 108, 111, 114, 115, 116, 117, 120, 122
 Wheeler Medal — 86
 Camp Alexander Williams — (See Camp Ori) — 25-26
 Adrian Wilson Associates — 50, 52, 64, 102, 115, 117
 Wonder arches — 67-71
 Wonju — 24, 95
 Wonsan — 61
 Workload — 4, 10, 17, 25, 35, 37, 38, 40, 50, 59, 83, 91, 94, 100, 106, 107, 108, 116, 117, 118, 119, 121, 122
 WWMCCS — 105

Y

Yang-Gu — 100-102
 Yawolsan — 106
 Yokohama — 50
 Yokosuka Naval Base — 50, 52-53, 54, 56, 84
 Yokota Air Base — 48, 49, 52, 53-54, 59, 84, 90
 Yongchon — 80
 Yong Dong Po — 13, 85, 109
 Yongmun San — 40-41
 Yongsan — (See Seoul) — 76, 85, 87, 94, 97, 98, 102-105, 108, 109-110, 111, 112, 114, 117, 120
 You One — 98, 105, 112, 116
 Yu Il — 109-110

Z

Camp Zama — 7, 14, 50, 56, 83, 91, 94
 Zurn Engineers — 72, 76, 105, 115

BIOGRAPHY OF THE AUTHOR

Earle Whitmore was born in October 1943 in Columbia, South Carolina. Her childhood divided between school in the suburbs of New York City and summers in South Carolina and New England. She did her undergraduate work at Wilson College, Ohio State and Syracuse University graduating in 1971 with a BA and a Major in Art History. Her graduate work took place at Vassar College and Syracuse University. She holds an MA degree from Syracuse, awarded in 1972. Her previous publications include *Portraits, West Point Museum* released in 1974, "Artists at West Point Before 1865," in 1973, and the exhibition catalogue *Water Colors and Drawings by Brevet Major General Truman Seymour*, in 1974. Her employment includes two years as the art curator for the West Point Museum where she both directed the Truman Seymour Exhibition and obtained a National Endowment for the Arts grant to support it. While at West Point, in preparation for the Bicentennial of the United States, she wrote a comprehensive survey of the paintings in the Museum Collections dated before 1914 by native American artists or those who worked in the US for the Smithsonian's Bicentennial Inventory, and several narratives and walking tours of West Point and its environs at the request of a number of agencies including the Department of the Interior. Most recently, she has served as Historian for the Far East District, US Army Corps of Engineers, in Seoul, Korea. Ms. Whitmore is married to an Army officer and currently lives in Washington, D.C., where she has resumed research for several articles begun before her Korean tour.

