AMERICA'S BUILDERS

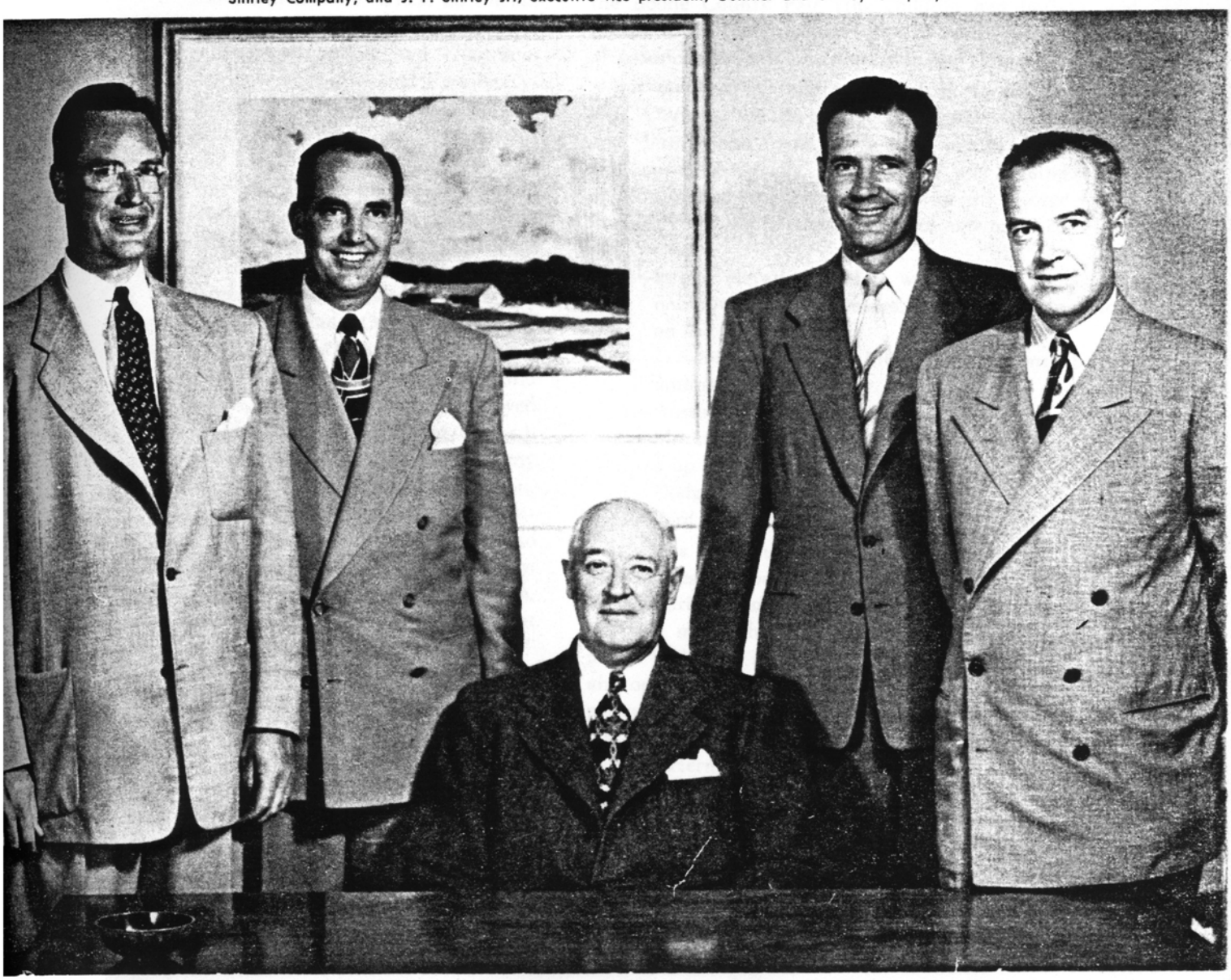
Volume III LOS ANGELES 44, CALIFORNIA Number 8

GUNTHER & SHIRLEY CO.

As told by J. P. Shirley Sr.

It was in 1890 that my father, Michael Shirley (1850-1932) moved from Ottawa, Ontario, Canada, to Omaha, Nebraska, to establish a home for his growing family and to continue in the construction business. He was born near March Corners, Ontario, on a small farm and after finishing school in 1870 formed a partnership with Jim Corbett known as Shirley-Corbett which specialized in grading and commercial building construction. One of the last jobs the firm did in Canada was a bank building in Montreal. When the bids were opened Shirley-Corbett were low bidders by 20%. So back to the office they went to check their estimate—and sure enough they had made a mistake and

J. P. Shirley and four sons. From left to right are Robert G. Shirley, M. D., Beverley Hills pediatrician; Gunther J. Shirley, president, Metropolitan Savings and Loan Association, Los Angeles; J. P. Shirley, president, Gunther and Shirley Company; Joseph A. Shirley, vice president, Gunther and Shirley Company, and J. P. Shirley Jr., executive vice president, Gunther and Shirley Company.



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left out one exterior wall of the building. Nevertheless they built the job and by laying all of the brick in the wall themselves they ended up without a loss. My father impressed on me the two-fold moral of the story many times —first, do not make mistakes and second, carry out your commitments

Whether or not the narrow escape had anything to do with the move from Canada to the United States I do not know. In any event, the move was made, and Michael Shirley formed a partnership in 1890 with his brother-in-law, Edward Phelan, which was known as Phelan-Shirley Company with headquarters in Omaha. Uncle Ed Phelan was quite a character. A big man, he took considerable pride in his physical accomplishments and oftentimes trained with Farmer Burns who was at that time heavyweight wrestling champion of the world. Uncle Ed was always able to give the champ a pretty good run for his money.

During those early days the Phelan-Shirley partnership devoted most of its efforts to railroad work, performing jobs for the Burlington, the Milwaukee, the Illinois Central and other railroads throughout the central states as well as considerable work for the Canadian Pacific and Canadian Railways in western Canada. On one of the jobs, at Wetaskewin, Alberta, Canada, which the firm subbed from the lovable deans of railroad builders, Timothy and Michael Foley of Foley Brothers, the partners employed as first-aid man a young chap named J. O. Baker, a fourth year medical student. Forty-six years later, in 1942, my son Phelan who was at that time working in Edmonton, Alberta, Canada, had a phone call at six o'clock one morning from Doctor Baker. "Say," said Doctor Baker, who was now one of the most famous medical men in western Canada and had recently delivered my son's first son, "Are you any relation to the Phelan-Shirley outfit that worked here for the Canadian National in the 1890's?" Well, the answer was yes—and a friend of fifty years ago had found a friend in my son.

It was during the 1890's that Uncle Ed Phelan while on a trip from Omaha to Canada to visit the jobs was having dinner on the train. He was getting a little short sighted and had forgotten his 10c store glasses, so he asked the waiter to read him the menu. The waiter carefully read the entire menu, took the order, served the meal, brought the check and later came back for his tip with hopes running high. When he saw the badly worn nickel on the plate he blurted out to Uncle Ed, "You see'd all right dat time, boss."

In 1905, after I had worked for Phelan-Shirley for eight years, the construction business seemed unusually competitive and it was decided after many conferences with my family that I would quit contracting and enter business with my brother-in-law, Herman Gunther. Herman's father and brother had established a general mercantile business in Albion, Nebraska, in 1870 and after considerable dickering Herman and I made a deal to buy them out.

So we moved to Albion, located in the central part of the state of Nebraska, and there mother and I spent fifteen peaceful years starting to raise our family of four boys and one girl. Herman's family was somewhat smaller—one daughter and one son. We enjoyed the many simple pleasures that are given only to people in small rural communities, box lunch socials, swimming in the sandpits, picknicking in the country, skating in winter on Beaver Creek, picking wild berries in the early summer, the Boone County Fair (the children had horses), and all the while doing our level best to instill good principles of Americanism and Christianity in our children.

But my love for construction could not be denied for long. During 1919 the construction business was booming and Herman and I sold our general merchandise business and moved to Omaha. Our first job was grading a subdivision on the outskirts of Omaha for the George Realty Company and we purchased a brand new outfit consisting of:

2—Stroud elevating graders with 24 inch belts, each one powered by 12 mules, eight on front and four on the Pusher.
20—1 cubic yard Stroud Little Red Wagons (bottom dump).
1—Austin Western 8 ft. Blade.
2—Mormon Scrapers.
1—3 up Fresnos.
1—Dodge touring car (canvas top)
1—Ford one-ton truck.

It was a beautiful outfit all shiny with new paint and new harness for our prime movers consisting of 90 head of Missouri's finest mules. We had called on Uncle Ed to pick the mules; he could sit all day haggling about the points and price of a single head. But he did a fine job and our first contract turned out well—our price was 64c per cubic yard measured in cut and we averaged just under 800 yards per day per grader on an 800 foot haul. My partner, Herman, kept the books and did the buying; my eldest son, then 15 and out of school for summer vacation, was the water boy and drove the supply truck, while I doubled as dump boss and general superintendent. At the

end of an eleven-hour shift we were all pretty happy to get back to camp and fall in for a good night's sleep in the bunkhouse. We had made the mistake of building the bunkhouse right next to the grain storeroom with the result that our peaceful slumbers were frequently disturbed by pack rats inside and outside of the bunkhouse. It was truly a fearful sight to see a twelve inch rat with a much longer tail silently rustle along a window ledge silhouetted against the night sky.

As we were finishing this first job we had some long haul work and as a result were short of wagons. I had heard of a man Peterson—"Big Wagon" Ed he was called —who had developed a three cubic yard bottom dump wagon pulled by four mules. These wagons more than doubled the capacity of our Stroud wagons, and Peterson had put side boards on the wagons so they would carry three and a half cubic yards; I found Peterson and made a deal to rent four of his big wagons. We also bought two 60 HP Best crawler tractors to pull the elevating graders which were the first gasoline engine tractors used in the State of Nebraska.

During this time we became pretty well acquainted with Ed Peterson and admired the big raw-boned Swede with his great capacity for work. A year or so later Herman Gunther and I formed a new partnership with "Big Wagon" Ed called Peterson, Shirley and Gunther.

In 1921, while we were doing some work for the Milwaukee R. R. in Illinois, John D. Rockefeller asked the chief engineer of the Milwaukee if he could recommend a railroad contractor to undertake a job in Cuba. We were subsequently awarded our first job out of the country—the construction of ninety miles of railroad for the Atlantic Fruit Company in Cuba at a contract price of $1,850,000. That was a pretty big job in those days, but we moved in lots of mules and lots of big wagons and finished the job on schedule.

In 1922 we were low bidder on fifty-two grading and bridge jobs at one letting to the Highway Department of the State of Nebraska—low bidder on every job advertised and believe me there was great consternation among the contractors throughout the State. And there was no little consternation among Ed, Herman and myself. First of all, had we made a mistake? or a series of mistakes? and could we do fifty-two jobs in one year? The jobs were awarded before we could find out whether we had made a mistake or not so we went to work. And believe me it was plenty of work. But by freeze up time it was all done, all done and all accepted with the exception of one bridge on which our price was $12,000.00 and which we had built on the wrong creek. The State at first refused to pay us but upon investigation it developed that we had built the bridge at the location staked by the engineers, that the resident engineer had accepted the bridge, and that a bridge was needed there anyway. So after about a year of considerable conversation, the bridge was accepted and payment made.

In the following year our firm was awarded its biggest contract to date, the $3,500,000.00 North and South Railroad planned as a connecting link between Illco on the Burlington just west of Casper, Wyoming, and Miles City Montana, on the Northern Pacific, a distance of approximately 300 miles. This line was independently sponsored and was a bold move on the part of a group of oil men and promoters to capture from the established carriers a large part of their freight.

We carefully planned and planted the job with forty grading outfits and scheduled completion for the fall of 1924. Fortunately, as we were to find out later, we concentrated on the southerly end of the job with the idea of leap-frogging the outfits in a northerly direction to thus allow for steel to be started from the south by the late summer of the first year. Everything went according to plan and by August 1st we had finished the first forty miles of line and were starting to lay steel. But then came August 10th and our estimate check for July failed to arrive—on the 11th no check, on the 12th we phoned New York and found that the owner was out of funds.Under the circumstances we immediately shut down all grading operations, paid all our bills as soon as we could get the money together and filed attachments on the work. But we did decide to complete the steel as far north as Salt Creek and for a period of five years we were the owners and operators of the North and South Railway Sherman Canfield, a sturdy frontiersman who had served with Buffalo Bill Cody for twenty years as a young man, was our general manager In 1929 we sold the rails and rolling stock and at long last got our money out of the job. Through the years there followed a long series of railroad and highway jobs in Iowa, Wyoming, Nebraska, Colorado, Texas, New Mexico, Missouri, the Dakotas, Montana, Minnesota, Michigan and Illinois.

Then in the spring of 1931 we formed a joint venture with the W. E. Callahan Construction Company of St. Louis, Missouri, to bid the Madden Dam in the Panama Canal Zone. We were low bidder at $4,750,000.00 and found we had left a half million dollars on the table. And as we sat in our Washington hotel room after the letting there were some pretty long faces. Somebody figured out that $500,000.00 in one dollar bills would make a stack 170 feet high, somebody else that it would buy three whole train loads of beer. But we did not have the $500,000.00 and we did have a job on the tough Chagres River in the heart of tropical jungles with average rainfall of 100 inches, so we took off our coats and went to work. And that was the start of a long association and deep friendship for Paul Grafe, now chairman of the board of Grafe-Callahan Construction Company. Paul and I decided to move our families to Panama and it was agreed that Paul would

Mrs. Herman Gunther, widow of the late Herman Gunther, co-founder of Gunther and Shirley, and her son, Herman Gunther II, vice president of Gunther and Shirley Company.

head the job. "Big Wagon" Ed Peterson would look after the grading; I would handle the office and Bill Callahan and Herman Gunther would keep the home fires burning. We assembled a crew of the best construction men that ever worked on one job, Harvey Slocum, general superintendent, fresh from Owahee Dam in Oregon and now established as the foremost dam builder in the world; Evan Ashlock, now chief engineer of Gunther and Shirley Company; Everett Seabury, now president of Grafe-Callahan Construction Company; Johnnie Meents, now a successful contractor in Houston, Texas; Adolph Ackerman, now consulting engineer of Madison, Wisconsin; Joe Frein, now chief engineer of Morrison-Knudsen; Howard Maxton, for many years treasurer of Raymond Concrete Pile. Also there was Mickey Connor, retired Morrison-Knudsen project manager and the astute Charlie Dunn, who heads up International Engineering, plus many many others who helped make the job a success.

Everything went according to plan until one dark day in the fall of 1932 when the angry Chagres River, swollen to capacity by unending downpour and flowing a record 135,000 second-feet, overtopped the cofferdam, flooded our foundations and destroyed portions of our tramway and gravel loading facilities. But after two weeks of twenty-four hour per day repair work we were in business again pouring concrete. The job was completed ahead of schedule and at a fair margin of profit despite the $500,000.00 which we were low at bidding, and, best of all, the Chagres River was under control.

At the end of the Madden Dam project the partnership of Peterson, Shirley and Gunther was dissolved and Herman Gunther and I continued our original partnership for awhile and then in 1935 organized Gunther and Shirley Company, a Nebraska corporation with headquarters in Los Angeles.

In the meantime, associated with the W. E. Callahan Construction Company, we had been awarded the contract for construction of the All-American Canal consisting of 40,000,000 cubic yards of excavation through the toughest and hottest section of the Great American Desert. The job was placed under the able management of Colonel L. D. Crawford, a long time dragliner and a designing engineer of considerable ability. Under his guidance many innovations were written into the record of the industry, the lightweight oversize bucket, twenty-four hour per day operations in temperature up to 135° Fahernheit accomplished through devices for cooling both men and machines, and preventive maintenance to keep the machines in operation without major overhauls in a manner quite similar to that practiced by today's medical profession on the human machine.

Up to the time of World War II there were a number of other major projects—Alcova Dam in Wyoming, and Mormon Flat in Arizona for the Bureau of Reclamation; Prado Dam near Corona, California, for the Corps of Engineers; the Delaware Aqueduct and Shafts for the City of New York; John Martin Dam in Colorado—all crowned by the monumental Shasta Dam.

Shasta Dam for the Bureau of Reclamation contained 6,000,000 c. y. of concrete and was built by a group of thirteen construction companies who banded together under the name of Pacific Constructors, Inc. The story of that job has been told in the book published by the contractor, but I would like to reprint here the Dedication of that volume which sounds a note of humility for our industry:

> "To that army of workmen whose skilled hands, through heat and cold, rain and snow, have fashioned this massive bulwark of stone, cement and steel against the floods, this book is faithfully dedicated. Here is harnessed the power of a mighty river—Here is provided security—Here is builded a monument to far-sighted men—An achievement that all who participated can look to with just pride."

Then came World War II which posed almost insurmountable problems for the constructon industry,—it demanded instantaneous expansion of facilities; the abandonment of time-proven methods. The accent was on youth, aggressiveness, flexible minds, resourcefulness, and a never ending demand for accomplishment.

Our company is proud of the part it played on two major defense projects, The Canol Project and the Hawaiian Project.

The Hawaiian Project covered all the islands in that group plus those lying on the Ferry Command route to Australia (Christmas, Canton, Fiji, and New Caledonia). Work was well under way on that Sunday morning of December 7, 1941, when Pearl Harbor was attacked. Our crews, at that time numbering in excess of 2,000, were

immediately called to the beach heads to help defend the Islands against the invasion which was believed inevitable. With guns in hand, trenches were dug, barricades erected, airfields breached, roads mined, and air shelters constructed. In a few days, however, the men were back at their normal tasks, runways and landing fields, fueling systems, tank farms, underground storage, pipelines, underground repair and maintenance facilities, barracks, warehouses, railroads, tunnels, warning stations, radio and radar stations, and roads. And all the while progress was impeded by war regulations, ship sailings cancelled and delayed while convoys were organized, precious materials and equipment and men standing by awaiting transportation, black-outs; yet the work had to proceed twenty-four hours per day.

I think it well to recall in these days of international tension a rather curious situation that developed in our work at Oahu immediately after the Japanese attack on Pearl Harbor As anyone will know who has visited the Islands, a high percentage of the population is Japanese, and Japanese contractors have for years done most of the construction. As one of our rush assignments on December 7, 1941, the Army ordered us to build a civilian evacuation encampment for 10,000 women and children which would be used in the event of invasion or further aerial attacks. By Monday morning we had recruited a crew of some 300 Japanese consisting of contractors, superintendents, foremen, craftsmen and unskilled labor—all Japanese and all wearing overalls. For some thirty days contractors, superintendents, foremen, craftsmen and laborers, drove nails, sawed boards, poured concrete shoulder to shoulder to protect their adopted homeland from the attacks of their fatherland. The incident adds a little further proof—if anybody needs it—that we have a pretty good citizenry in these United States.

And then the Canol Project—Canol, short for Canadian oil—is an epic of the north country where, in the words of Robert W Service, "the mountains are nameless and the rivers all run God alone knows where." But Canol is a war story

In the spring of 1942 after the Japanese had over-run the islands of the South Pacific, they became a serious threat to America in the North. From Alaska the Aleutian Islands stretch out like stepping stones toward Japan. If the enemy could scramble over these stepping stones and gain a foothold on the mainland of Alaska, they might cripple our shipping in the North Pacific and launch aerial and amphibious attacks against the west coast of Canada and the United States.

Alaska was not wholly defenseless. But its bases were few and inadequate. They could be supplied only by sea or air. By land there was no through road, not even a trail, between Alaska and the most northerly extensions of existing Canadian rail lines or highways connecting with those of the United States.

To overcome this gap in our vital defenses, the United States Army in March of 1942 started building the Alaska Highway With its southern terminus at Dawson Creek, British Columbia, it would give us an emergency land route 1,600 miles long to Fairbanks in the heart of Alaska. But, still more important, it would tie in a chain of airports and flight strips for the use of fighter planes, bombers and transports. The Canadian government had already carved out airports between Edmonton, Alberta—Canada's most northerly city—and Whitehorse, Yukon Territory, nearly a thousand miles to the northwest. These linked others in Alaska, on which initial construction had been started by the U. S. Civil Aeronautics Authority All of the airports would have to be enlarged and emergency strips constructed to accommodate the ever-increasing traffic, including Lend-Lease fighters and bombers being ferried to our ally, the Soviet Union.

The trucks using the Alaska Highway would need fuel. The planes using its fields would need fuel.

And when the Alaska Highway was begun there was no certainty that the shipping lanes to Alaska could be kept open. Besides, the tankers required to fuel the highway were in urgent demand elsewhere.

But there was oil available in the North—a known and already producing source.

In the wilderness of northwestern Canada oil had been found along the banks of the Mackenzie River more than 150 years before and had been developed on a small scale since 1920. This most northerly producing field on the North American continent, seventy-five miles from the Arctic Circle, was located at Norman Wells. This oil had some important virtues. It had a paraffin base and a low pour point—it would flow at temperatures down to 70° below zero or lower. The extent of the field was unknown, but geologists estimated that with additional wells it could be counted on to produce 3,000 barrels of oil a day

Out of this combination of circumstances the United States War Department evolved a plan. With the consent of the Canadian Government, The Army Corps of Engineers, aided by civilian contractors, would develop the Norman Wells field to produce at least 3,000 barrels of oil a day. Simultaneously they were to run a pipeline to a point on the Alaska Highway and there build a refinery to turn the Norman crude into gasoline for planes and trucks and other uses. This point was at the Yukon town of Whitehorse, head of navigation on the Yukon River system, with rail connection to tide water, and about midway along the highway. That was the plan. It marked the beginning of the greatest construction job since the Panama Canal. In respect to area covered, time of accomplishment, and sheer pioneering, the pipeline and refinery project, combined with the Alaska Highway, was destined to become the biggest construction program in the history of the world to that time.

The job was basically one of supply—to get the men and the equipment and the materials and to deliver them to the places where the work was to be performed. Norman Wells location of the oil was 1,200 miles downstream from the most northerly railhead at Waterways. Only a handful of antiquated sternwheelers and tugboats and possibly 1,500 tons of barge were available. No airports, no roads. From Peace River, another railhead, the distance to Norman Wells was a thousand uncharted miles of wilderness. Whitehorse, the refinery site, was a thousand miles over the Alaska Highway from Dawson Creek. The Alaska Highway was a winter road only.

In brief summary, Canol required 9,000 miles of supply routes and the handling of 100,000 tons of freight. It required 1,500,000 barrels of oil storage, 1,600 miles of pipeline, thirty-seven pumping stations, 200 permanent buildings, portable camps for 3,000 men, construction camps for an additional 5,000 men, ten airfields, 2,000 miles of access road, 27,000 tons of barges, eleven 700-horsepower tugs, twenty-five others, thirteen docks, thirty aircraft, thirty-eight winter road outfits, and one 3,000-barrel refinery plus $20,000,000.00 in the usual run of contractors' equipment such as trucks, cranes, tractors, shovels, etc.

And it was necessary to recruit 10,000 men; employment offices in California, Texas, Oklahoma, Minnesota, Washington, New York, Missouri and Canada displayed this sign:

THIS IS NO PICNIC

Working and living conditions on this job are as difficult as those encountered on any construction job ever done in the United States or foreign territory. Men hired for this job will be required to work and live under the most extreme conditions imaginable. Temperatures will range from 90° above zero to 70° below zero. Men will have to fight swamps, rivers, ice and cold. Mosquitoes, flies and gnats will not only be annoying but will cause bodily harm. If you are not prepared to work under these and similar conditions — DO NOT APPLY

I do not like to dwell on Canol too long but there is one portion of the job that deserves special mention. We call it the Winter Road. The requirement was to build 1,200 miles of winter road through utter wilderness from Peace River, Alberta, the head of rail to Camp Canol in the Northwest Territory, and transport 9,000 tons of freight a distance of 1,000 miles. The work order was received the latter part of September and by April 19 of the following spring a total of 18,000 tons of freight had been received at Peace River and 10,703 tons had been moved for a total of 10,703,014 ton miles. Freight was hauled by tractor trains pulling sleds carrying materials, equipment and cabooses outfitted for sleeping quarters and mess. Trucks operated between staging points at 100 mile intervals where drivers changed shifts. All in all 1,431 men were employed during the peak together with 148 tractors, 268 trucks, 216 sleds and cabooses plus miscellaneous items. All operations were under the able management of B. A. Weiss who is now the chief engineer and general manager of the Imperial Irrigation District in California's great Imperial Valley.

Since the war years we have built tunnels, dams, transmission lines, pumping plants, power plants, canals, storage depots, apartments, office buildings, hangars, barracks, and a large number of single-family dwellings.

And in the meantime, we have found time to carve out of raw desert a 1,300-acre irrigated ranch on the banks of the Colorado River near Yuma, Arizona. There we grow cotton, alfalfa, barley, maize, bermuda and have feeding facilities for over 1,000 head of cattle. Realizing that water was most critical to the success of farming in desert lands, we set about to insure an over-abundant, unfailing supply First, we tapped the underground waters and found sufficient quantity to supply our lands with 10,000 gallons per minute which is more than adequate. Still not content, we obtained rights to 7,000 acre feet per annum from the surface flow of the Colorado River. This required the installation of 400 horsepower of electrically driven turbine pumps, but we feel the insurance is well worth the price.

I might mention one other endeavor that started during the latter years of the great depression, actually in 1937 at which time we organized a savings and loan association with some $50,000.00 of capital—largely through the good offices of my old friend Bob Martin whom I had met and known in Panama during the construction of Madden Dam. Bob passed to his reward a few years ago and was succeeded as president by my son Gunther who now heads the Metropolitan Savings and Loan Association of Los Angeles which has assets of $35,000,000.00 and reserves, capital and surplus of $3,000,000.00.

And now in retrospect—the construction industry gives but little time for retrospect—it demands that full time and attention be given the present with only an occasional wary glance to the challenges of the future and the lessons of the past. But I feel we can take a little time at long last at least to appraise the present in review of the past. First of all, it is rather pleasant to reminisce about old friends and associates—it makes me most thankful to Almighty God. It is rather comforting to have, as the shadows lengthen, the love and affection of my five children and twenty grandchildren and of the Gunther family It is rather satisfying that the Company is continuing to grow, that it is well grounded in the skills of the industry and well trained in high moral and ethical ideals, and that its personnel are resilient, alert and ready to cope with the demands of an ever challenging world—with their feet, their hands and their minds.

HERMAN GUNTHER, SR. 1877–1935

STATEMENT OF CONTRACTS PERFORMED

by

GUNTHER AND SHIRLEY COMPANY

(1934 TO PRESENT)

As independent Contractors and in Association with Others

PROJECT, OWNER AND DESCRIPTION	CONTRACT AMOUNT
ALL AMERICAN CANAL for U.S.B.R.—1934 ..... Irrigation canal ~~consisting~~ of 39,683,000 c.y. of ~~common~~ and rock ~~excavation~~ through Great American Desert with temperatures of 140 deg. F—Southern California.	$4,859,587.00
ALCOVA DAM for ~~U.S.B.R.~~—1935 ..... Earth and rockfill diversion dam with concrete spillway, cofferdam, ~~deep, caverned foundation~~, pressure grouting—Wyoming.	$1,805,000.00
ALCOVA TUNNELS for ~~U.S.B.~~R.—1936 ..... 2½ miles of 14 ft. horseshoe tunnel with full concrete lining—Wyoming.	$888,000.00
SUNDANCE HIGHWAY for STATE OF WYOMING—1936 ..... 15 miles state highway including grading, surfacing, reinforced concrete bridges—Wyoming.	$163,000.00
MANVILLE HIGHWAY for STATE OF WYOMING—1937 ..... 10 miles state highway, including grading and surfacing—Wyoming.	$100,000.00
MORMON FLAT SPILLWAY for ~~U.S.B.~~R.—1937 ..... Reinforced concrete spillway including excavation, cofferdam, ~~grading~~ and two 50 ft. slide gates—Arizona.	$396,000.00
DELAWARE AQUEDUCT SHAFTS for N.Y. BOARD OF WATER SUPPLY—1937 ..... Access shafts for tunnel, including excavation, concrete lining—New York.	$1,774,000.00
SHASTA DAM for ~~U.S.B.R.~~—1938..... 5,000,000 c.y. excavation, 6,000,000 c.y. concrete, 10,000,000 lbs. miscellaneous steel, cofferdam and river diversion, second highest dam in U.S.A.—CALIFORNIA.	$43,670,000.00
COACHELLA CANAL for ~~U.S.B.R.~~—1938 ..... 9,000,000 c.y. ~~common~~ and rock excavation for irrigation canal—California.	$500,000.00

STATEMENT OF CONTRACTS PERFORMED (Continued)

PROJECT, OWNER AND DESCRIPTION	CONTRACT AMOUNT
PRADO DAM for ~~U.S.E.D.~~—1938 Earthfill dam containing 5,000,000 c.y. embankment with 1,000 ft. concrete lined spillway, outlet works, 80 ft. deep toe trench—California.	$4,250,000.00
DELAWARE AQUEDUCT TUNNELS for N.Y. BOARD OF WATER SUPPLY—1939 Excavation and lining of 13½ ft. diameter tunnels—New York.	$10,650,000.00
JOHN MARTIN DAM for ~~U.S.E.D.~~—1940 Coffer~~man~~, sheet pile cut-off, 500,000 c.y. concrete, 7,000,000 c.y. earthfill wing dams—Colorado.	$7,160,000.00
HAWAIIAN DEFENSE for ~~U.S.E.D.~~—1940 Airports, ammunition magazines, fuel storage, barracks, control stations, warehouses, hangars, military camps, etc.—~~T.H.~~ HAWAII	$120,000,000.00
HAWAIIAN AIRPORTS for ~~U.S.E.D.~~—1941 Excavation and asphalt concrete surfacing for 5 airports on Maui, Molokai and Hawaii—~~T.H.~~ HAWAII	$1,801,000.00
CONCRETE AGGREGATES for PANAMA CANAL—1941 Design, erect and operate concrete aggregate plant for production of aggregates for third set of locks—~~C.Z.~~ PANAMA CANAL ZONE	$2,400,000.00
NASSAU DEFENSE for ~~U.S.E.D.~~—1942 Airports, fuel storage, military housing, warehouses—Bahama Is.	$12,000,000.00
CANOL PROJECT for ~~U.S.E.D.~~—1942 ~~1,600~~ 1800 miles road, 1,600 miles pipeline, 10 airports, refinery, pumping stations and tank farms—Alaska and Canada.	$125,000,000.00
NOME PIPELINE for ~~U.S.E.D.~~—1942 Fuel unloading line—Alaska.	$225,000.00
SIOUX ORDNANCE DEPOT for ~~U.S.E.D~~—1942 Barracks, concrete igloos, roads, railroads, ~~storage~~—Nebraska.	$9,750,000.00
CHEMICAL WARFARE DEPOT for ~~U.S.E.D.~~—1942 75 miles railroad, 76 miles road, 500 man camp, complete with mess hall, utilities, barracks, steam plant, sewerage disposal plant, repair shops, concrete storage igloos—Utah.	$4,700,000.00
SAN DIEGO TUNNELS for ~~U.S.N.~~ DEPARTMENT OF THE NAVY—1945 Excavation, concrete lining for three 6 ft. diameter horseshoe tunnels—California.	$1,128,000.00
TRANSMISSION LINE for ~~SO.~~ SOUTHERN CALIF. EDISON CO.—1945 ~~150 miles~~ Excavation and concrete for cast-in-place pile footings—California.	$140,000.00

STATEMENT OF CONTRACTS PERFORMED (Continued)

PROJECT, OWNER AND DESCRIPTION	CONTRACT AMOUNT
SAN DIEGO PIPELINE for ~~U.S.N.~~—1945 20 miles of 72" precast concrete pipe (~~underground~~)—California.	$2,250,000.00
BIG CREEK TUNNELS AND DAM for SO. CALIF. EDISON CO.—1945 Tunnel and dam repair consisting of excavation, concrete, backfill —California.	$300,000.00
GRANBY DAM for ~~U.S.B.R.~~—1946 Earth and rock fill dam containing over 5,000,000 c.y. embankment with concrete lined spillway—Colorado.	$6,000,000.00
HORSETOOTH DAM for ~~U.S.B.R.~~—1946 2 earth filled ~~saddle~~ dams for terminal reservoir containing 10,000,000 c.y. embankment, concrete outlet works and outlet tunnel —Colorado.	$7,700,000.00
LEE LAKE DAM for TEMESCAL WATER COMPANY—1946 Diversion dam with fixed concrete overflow weir—California.	$90,000.00
TOOELE STORAGE DEPOT for ~~U.S.E.D.~~—1946 Erection of 125 steel storage tanks with concrete foundations for dehumidified equipment storage—Utah.	$160,000.00
GRANBY PUMPING PLANT for ~~U.S.B.R.~~—1947 Intake structure pumping plant building and 3,000 ft. 12 ft. diameter cast-in-place concrete discharge line—Colorado.	$4,140,000.00
GRANBY PUMPING CANAL for ~~U.S.B.R.~~—1949 Completion of partially built canal consisting of unwatering, excavation and slope stabilization—Colorado.	$300,000.00
CHASE KNOLLS APARTMENTS for CHASE PROPERTIES, Inc.—1949 19 buildings, 260 apartments—California.	$1,900.000.00
METROPOLITAN FEDERAL BUILDING for METROPOLITAN ~~FED.~~ ~~SAV.~~ & LOAN ASS'N.—1949 Class "A" reinforced concrete office building—California.	$500,000.00
HUNGRY HORSE POWER PLANT for ~~U.S.B.R.~~—1951 Installation of powerhouse machinery, switch yard and completion of powerhouse—Montana.	$1,792,000.00
AIRCRAFT MAINTENANCE HANGAR for ~~U.S.N.~~—1951 Naval auxiliary air station Miramar, California. Steel and reinforced concrete construction.	$3,040,000.00

STATEMENT OF CONTRACTS PERFORMED (Continued)

PROJECT, OWNER AND DESCRIPTION	CONTRACT AMOUNT
HANGAR BUILDING for ~~U.S.N.~~ DEPARTMENT OF THE NAVY—1951	$3,065,000.000
Litchfield Park Naval Air Facilities—Arizona. Structural steel and reinforced concrete construction.	
STORM DRAIN for ~~U.S.N.~~ DEPARTMENT OF THE NAVY—1952	$256,000.00
Gunite channel and 48 inch concrete pipe storm drain—Arizona.	
AIRCRAFT MAINTENANCE SHOPS and LINE BUILDINGS for ~~U.S.N.~~ DEPARTMENT OF THE NAVY—1952	$445,000.00
Concrete and frame buildings, roads, paving and utilities—California.	
BACHELOR OFFICERS QUARTERS and MESS for ~~U.S.N.~~ DEPARTMENT OF THE NAVY—1953	$938,00.00
80,000 square feet airconditioned building complete with utilities—California.	
AMMUNITION STORAGE FACILITIES for ~~U.S.N.~~ DEPARTMENT OF THE NAVY—1953	$388,000.00
Reinforced concrete ammunition buildings, roads, pavement and culverts—California.	
NORTHLAND MANOR HOMES—1953	$2,250,000.00
170 single dwellings and 38 duplexes—California.	
CHIEF JOSEPH DAM POWER HOUSE for ~~U.S.E.D.~~ CORPS OF ENGINEERS—1953	$3,420,000.00
Installing 16—100,000 H.P. Francis type turbins, governors and all electrical equipment—Washington.	
HARTFORD MANOR HOMES—1954	$1,994,000.00
166 single family dwellings, California.	
PILOT KNOB HYDRO PLANT for Imperial Irrigation District—1955	$2,794,000.00
Excavation, dewatering, reinforced concrete, power plant including turbins, governors, generators—50,600 horsepower—California.	
THE DALLES POWER PLANT for Corps of Engineers—1956	$3,420,000.00
Completion contract including 14—123,800 horsepower Kaplan type turbines, governors, fishwater pumps, etc.—Oregon.	
PALISADES POWER PLANT for ~~U.S.E.D.~~ CORPS OF ENGINEERS—1956	$875,000.00
Completion contract including 4—39,500 horsepower turbines and generators—Idaho.	
EVERGREEN ACRES—1956	$2,520,000.00
168 single family residences—California.	
FORT LEE—CAPEHART HOUSING for Corps of Engineers—1956	$7,209,000.00
525 living units—Virginia.	

STATEMENT OF CONTRACTS PERFORMED (Continued)

PROJECT, OWNER AND DESCRIPTION	CONTRACT AMOUNT
YUMA TEST STATION—CAPEHART HOUSING for ~~U.S.~~ Corps of Engineers—1957 209 living units—Arizona	$2,958,537.00
AMERICAN AGGREGATES PROJECT for Metropolitan Water District of Southern California—1957 Preparing concrete aggregates for second syphon Metropolitan Aqueduct—California	$ 600,000.00
CANYON-CHERRY POWER DEVELOPMENT for City and County of San Francisco Public Utilities Commission—1958 Complete penstock, powerhouse and turbine installation—California	$5,230,174.00
WELLTON-MOHAWK ~~DIVISION~~ PUMPS, for BUREAU OF RECLAMATION ~~Arizona Gila Project~~—1959 Pumping Station alterations—Arizona	$ 94,822.00
HOOVER POWER PLANT for Bureau of Reclamation—1959 Installation of 190 ft. rim tower and final 115,000 h.p. turbine—Nevada	$ 767,976.00
WANAPUM DEVELOPMENT for Public Utility District No. 2 of Grant County—1959 Installation of 10 turbines and generators—Washington	$3,162.917.00
WHALE ROCK CONVEYANCE CONDUIT for Department of Water Resources, State of California—1960 Concrete pipeline—California	$1,743,360.50
CONVERSION OF POL FACILITIES for Department of the Navy, Bureau of Yards and Docks—1960 Conversion of four 14,000,000 gallon tanks, pipelines, tunnels and pumping stations—Hawaii	$4,142,000.00
PATTERSON RESERVOIR for Alameda County Water District—1960 Construction of reservoir, excavation and related work—California	$ 539,448.71
EFFLUENT OCEAN OUTFALL for The City of San Diego—1961 Construction of the effluent ocean outfall for the sewage collection, treatment and disposal system—California. (2½ miles, 108″ pipeline laid in Pacific Ocean to depths of 217 feet.)	$7,784,000.00
TRINITY, CLEAR CREEK AND SPRING CREEK POWERPLANTS for Bureau of Reclamation—1961 Completion of powerplants and switchyard—California	$2,949,000.00
FLAMING GORGE POWERPLANT for Bureau of Reclamation—1962 Completion of powerplants and switchyard—Utah-Wyoming	$1,971,823.50
OCEAN OUTFALL INTAKE ~~A~~ FOR THE City of San Diego, a 1962 project	$1,260,000.00
KEYSTONE DAM, OKLAHOMA, a 1964 project ~~U.S.~~ Corps of Engineers Completion of the power intake and closure of diversion sluices.	$2,140,000.00

PARDEE POWERPLANT - EAST BAY MUD

THERMAL - SHAWNEE -

STATEMENT OF CONTRACTS PERFORMED (Continued)

Project, Owner and Description	Contract Amount
DECOTO RESERVOIR for Alameda ~~Co.~~ County Water District - 1964 15 Million gallons lined and covered reservoir - California	$ 652,449.00
LAS VIRGENES SEWAGE DISPOSAL PLANT for Las Virgenes Municipal Water District - 1964 Complete sewage treatment plant - California	$ 741,000.00
AMERICAN SAMOA WATER SUPPLY & DISTRIBUTION SYSTEM for Government of American Samoa - 1964 12 miles pipelines, reservoirs, dams, pumping stations and chlorinators	$1,300,000.00
SAN LUIS PUMP-GENERATOR PLANT for ~~USBR~~ Bureau of Reclamation - 1965 8 - 55,000 H.P. combination pump-generators - Los Banos, California	$3,839,000.00
MILE 18 PUMPING PLANT for ~~USBR~~ Bureau of Reclamation - 1965 6 - 125' head 1 million gallons per minute pumps Los Banos, California	$2,832,607.00
WHITE ROCK POWER PLANT for Sacramento Municipal Utility District - 1965 Complete reinforced concrete power plant with 2 - 140,000 H.P. turbines - California	$4,933,271.00
DALY CITY RESERVOIR for ~~City of Daly~~ Daly City, California - 1965 1,500,000 gallons prestressed concrete reservoir - California	$ 158,000.00
BOUNDARY DAM POWER PLANT for City of Seattle - ~~1966~~ 1967 Complete mechanical and electrical installation 4 - 208,000 H.P. turbines - Washington	$3,532,412.00
WESTMINSTER RESERVOIRS for City of Westminster - ~~1967~~ 1967 Two 5,000,000 gallon reservoirs with pumping plants and mechanical work - California	$1,101,908.00
SAN BERNARDINO TUNNEL for Department of Water Resources - 1967 1968 Subcontract for Mechanical Work and Tunnel Liners - California	$1,064,980.00

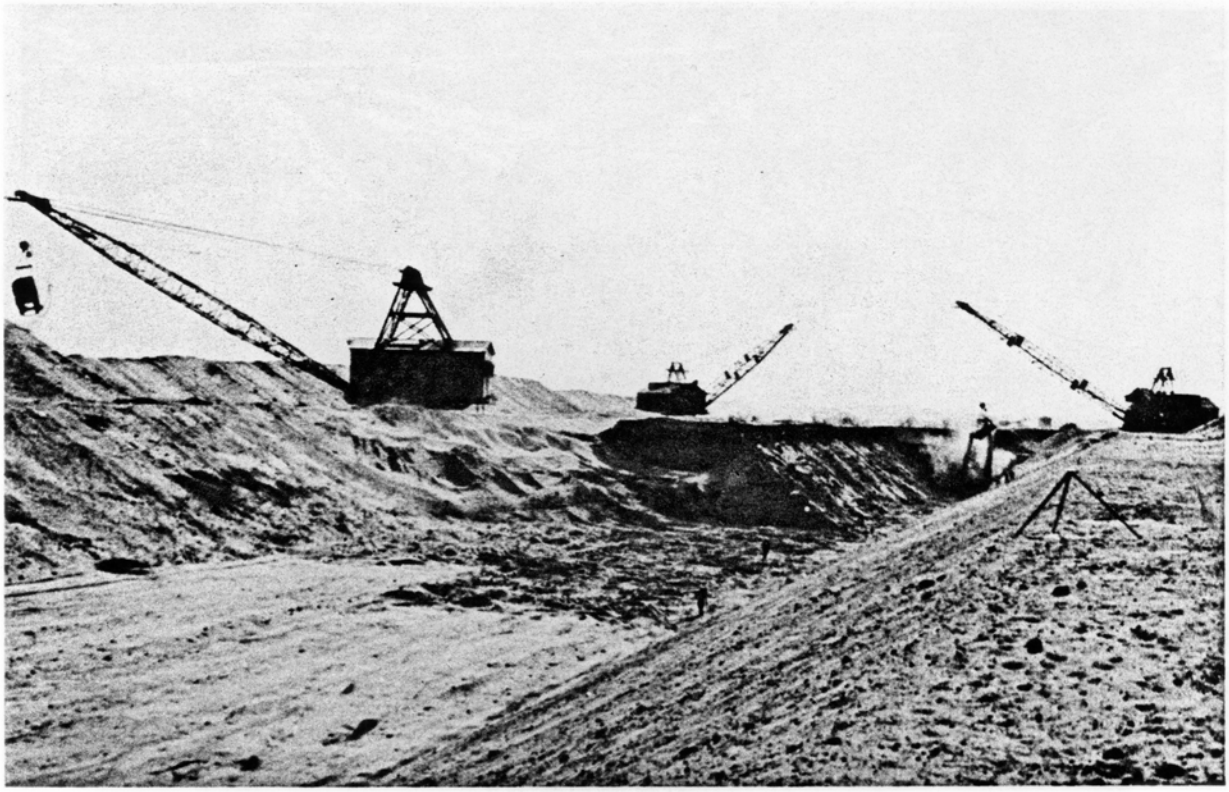
some doubts that this should be included. It has nothing to
prove present stability.

PETERSON, SHIRLEY AND GUNTHER, OMAHA, NEBRASKA

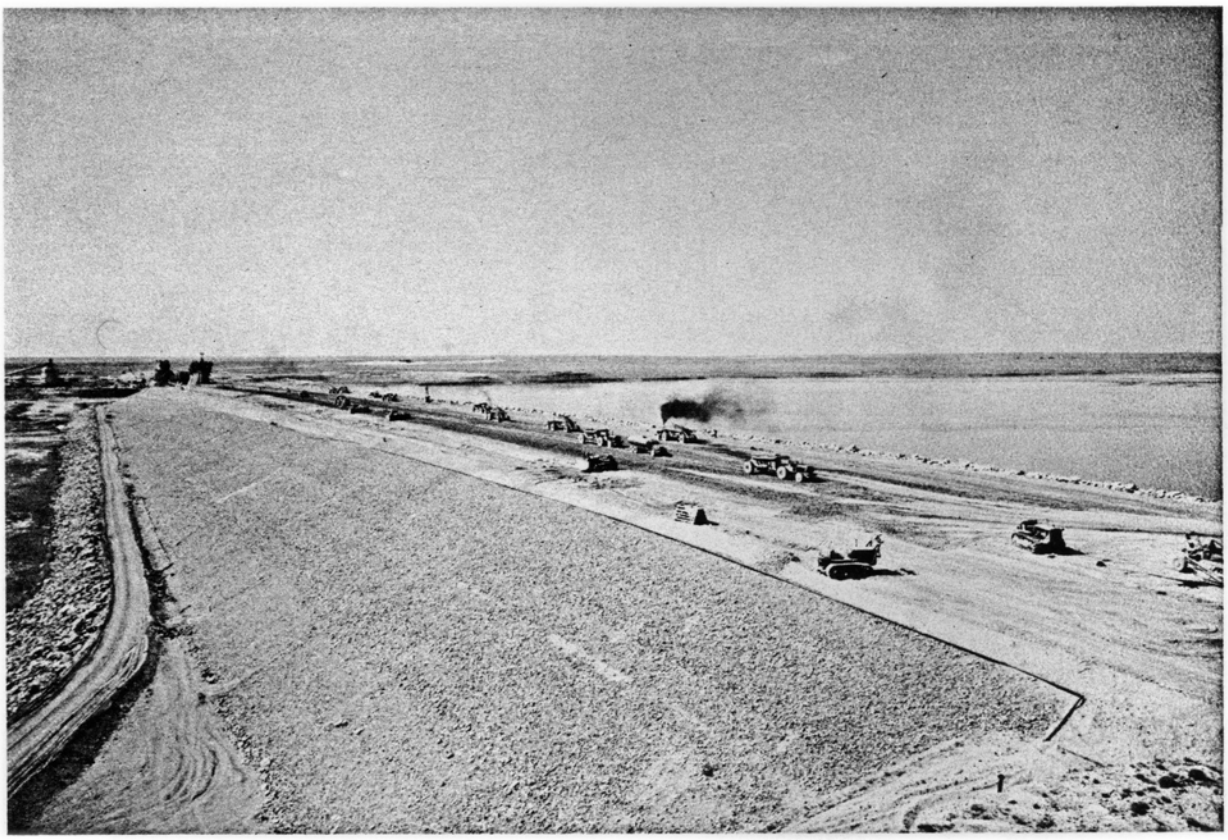
Statement of Contracts Performed and Completed

(1921 TO 1932)

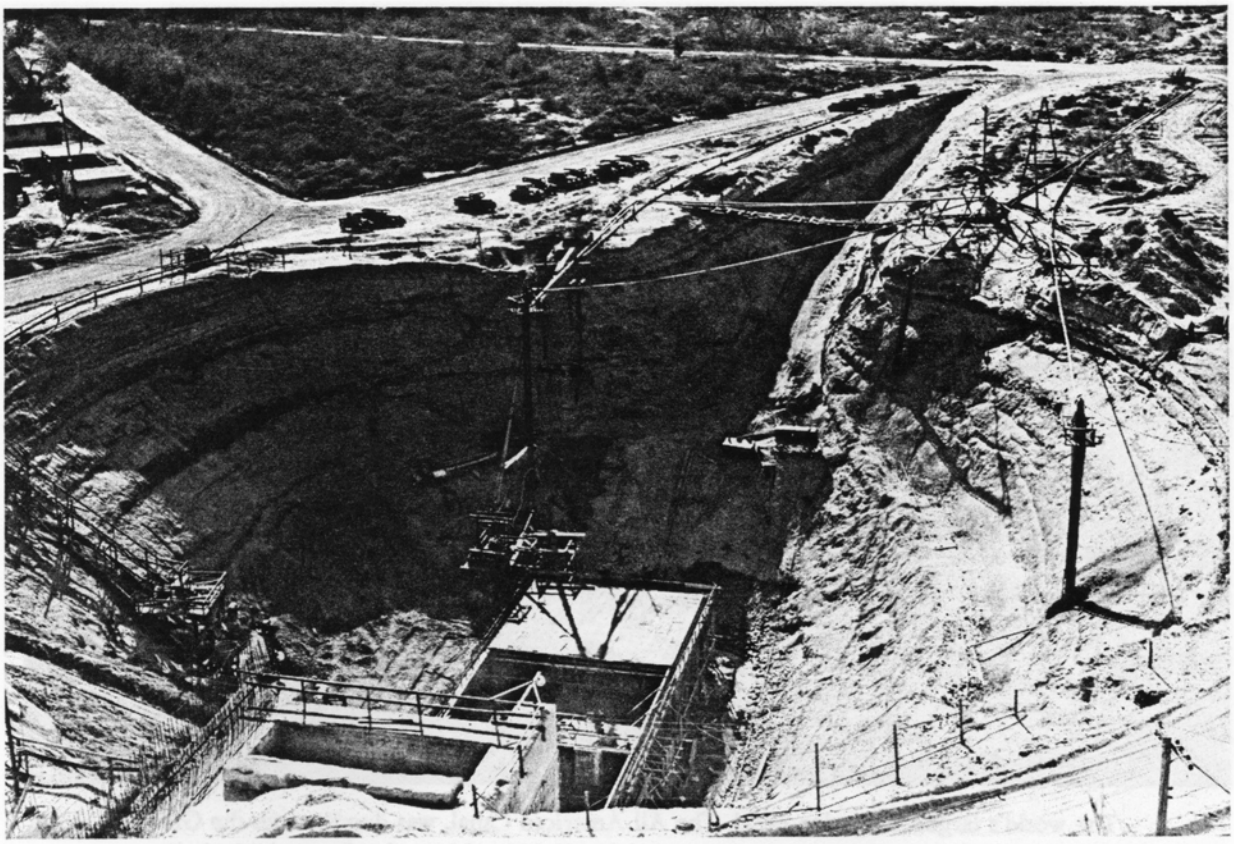
FOR	TYPE PROJECT	JOBS	YEAR	AMOUNT
Atlantic Fruit Company, Cuba	Railroad	1	1921	$1,850,000.00
Union Pacific, South Omaha	Bridge	1	1921	69,599.88
New Mexico State Highway	Highway	9	1921-22	666,757.32
South Dakota State Highway	Highway	8	1921-22	291,593.29
Eagle County, Colorado	Highway	1	1921-22	68,157.29
State of Iowa	Highway	19	1921-23	1,052,422.17
State of Nebraska	Highway	72	1921-28	2,478,523.00
C.R.I. & P.R.R. Frgt. Terminal	Railroad	1	1922	25,075.00
Convent of Mercy, Omaha	Grading	1	1922	2,637.50
Denver & Rio Grande R. R., Colo.	Railroad	1	1922	5,597.40
White Cons. Co., Illinois	Railroad	1	1922	21,343.81
E. A. Wickham Cons. Co., Iowa	Highway	1	1922	43,534.57
U.S. Dept. of Agri, Colorado	Highway	1	1922-23	61,688.21
Durango Co., Colorado	Highway	1	1922-23	53,100.62
Morrison Co., Colorado	Highway	1	1922-23	45,165.05
Union Pacific, Marysville, Kans.	Railroad	1	1922-23	9,507.43
C.B. & Q.R.R. Saluda, Ill.	Railroad	1	1922-23	42,065.53
Eldorado & Santa Fe—Kansas	Railroad	1	1922-24	468,335.67
U.S. Dept. of Agri., Centennial, Colo.	Highway	1	1922-24	48,821.28
C.B. & Q.R.R. So. Bend, Nebr.	Railroad	1	1923	14,524.20
Chicago, Terra Haute SE., Ill.	Railroad	1	1923	236,682.17
North & So. R.R., Wyoming	Railroad	1	1923	3,500,000.00
Union Pacific, Ft. Collins, Colo.	Railroad	1	1924	126,323.35
Calumet & Hecla Copper Co., Mich.	Railroad	1	1924-25	450,000.00
C.M. St.P. & P., Yds. St. Paul, Minn.	Railroad	1	1925	300,000.00
Union Pacific, So. Omaha	Earth fill	2	1925-26	42,152.75
C.B. & Q.R.R., Bayard, Nebr.	Railroad	1	1926	20,853.81
C.B. & Q.R.R., Lincoln, Nebr.	Railroad	1	1926	39,437.50
Union Pacific, Reliance, Wyoming	Well	1	1926	6,140.00
Union Pacific, Bluffs, Iowa	Railroad	1	1926	40,561.60
Union Pacific, Yoder, Wyoming	Railroad	1	1926	37,218.58
Union Pacific, Ripple, Colo.	Railroad	1	1926	10,083.21
Goshen & Platte Cos., Wyoming	Railroad	1	1928	69,422.26
Canadian Pacific R.R. 54 mi.	Railroad	1	1928	152,000.00
Ft. Worth & Denver City Ry., Texas	Railroad	1	1929	2,535,900.00
C. & N.W.R.R., Winner, S.D.	Railroad	1	1929	600,000.00
C. & N.W.R.R., Winner, S.D.	Railroad	1	1929	201,369.46
Bates & Rogers—Kentucky	Railroad	1	1929	192,975.39
Waco Light & Power, Texas	Earthfill Dam	1	1929	313,949.50
Canadian Pac. R.R. 86 mi.	Railroad	1	1930	209,728.27
San Angelo Power, Texas	Dam	1	1930	90,677.60
C.M. St.P. & P.R.R., Missouri	Railroad	1	1931	1,275,100.00
Dallas Light & Power, Texas	Dam	1	1931	193,935.27
Wyoming State Highway	Highway	1	1931	96,600.00
Bureau of Roads, Denver, Colo.	Highway	1	1931	113,800.00
Bureau of Roads, Denver, Colo.	Highway	1	1931	118,200.00
The Panama Canal—Madden Dam	Concrete and Earthfill Dams	1	1931	4,750,000.00
State Highway, Montana	Highway	1	1932	248,800.00



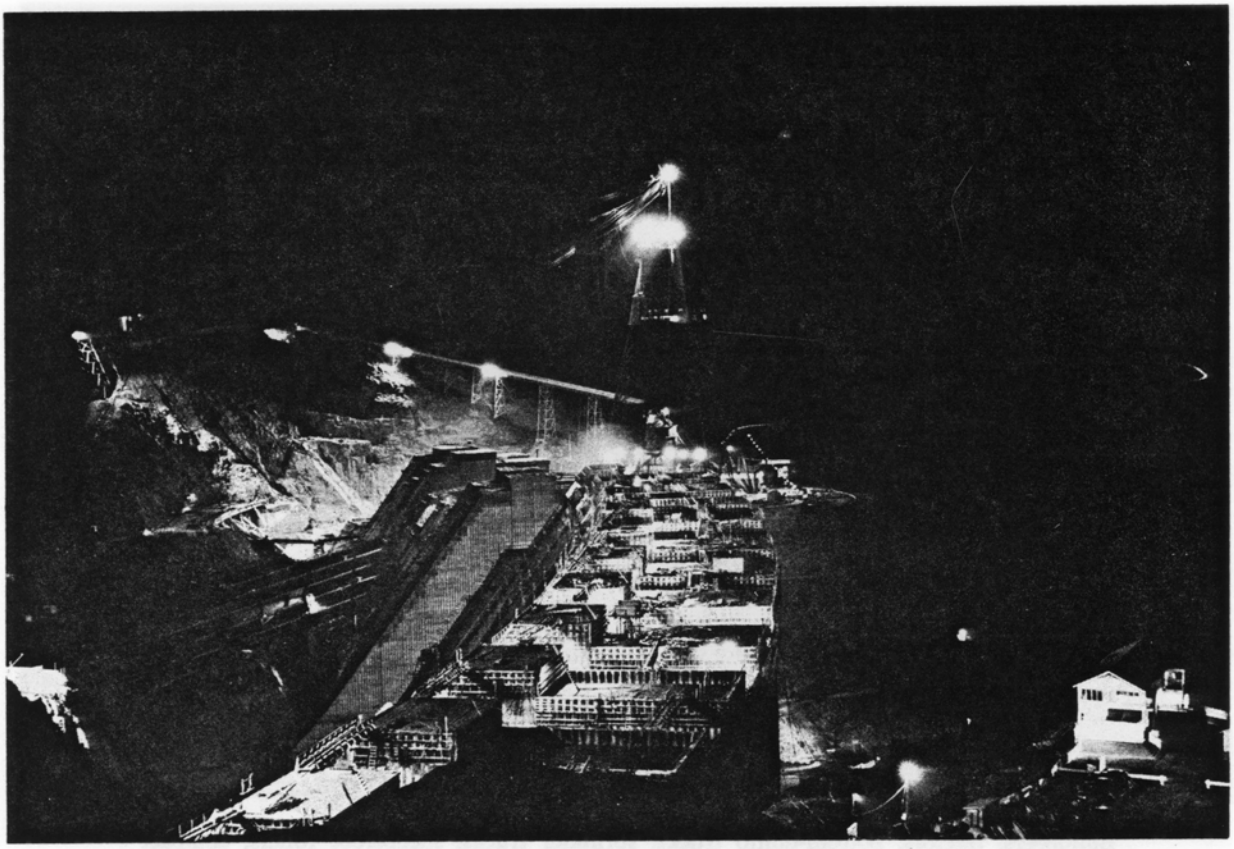
The world's largest irrigation canal, The All American Canal, was dug through the Great American Desert requiring the excavation of 40,000,000 cubic yards of material including shifting sand dunes with temperatures often exceeding 135° F.



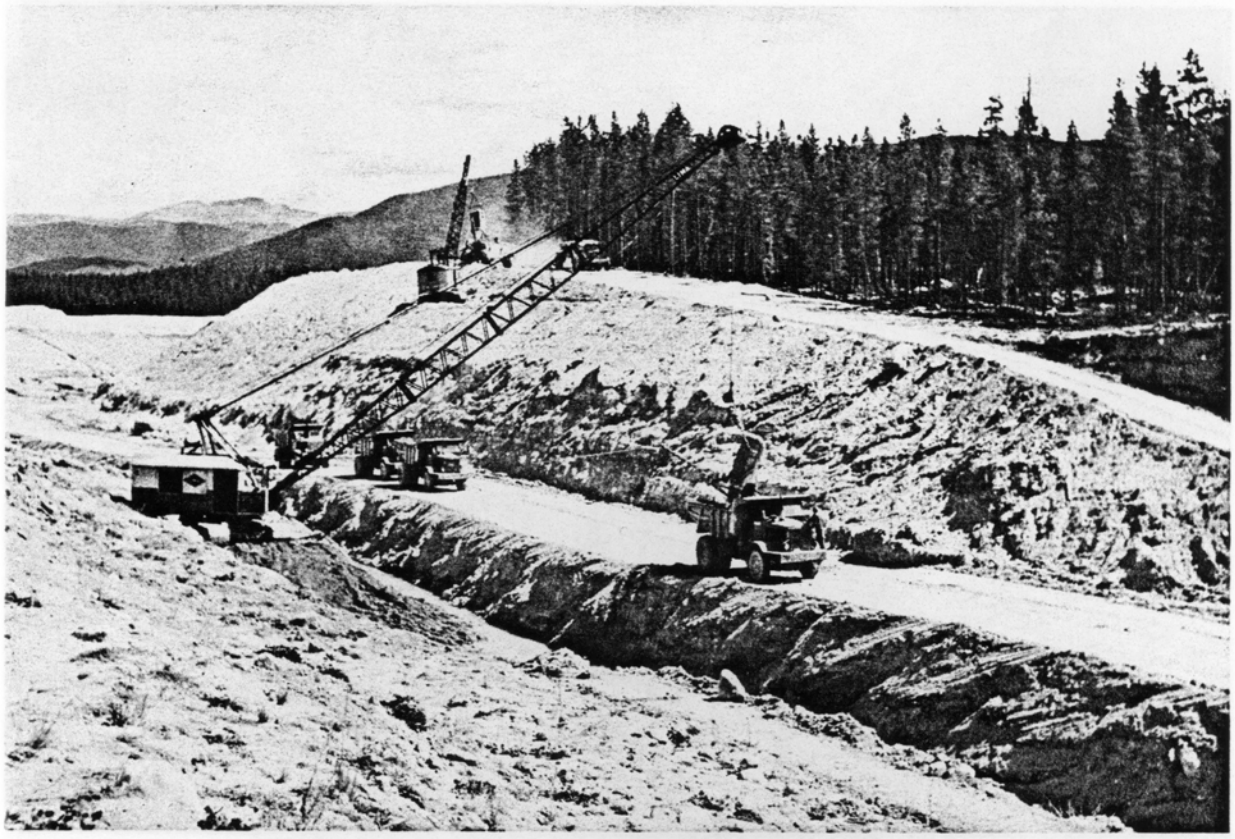
Bulldozers, tractors, bottom-dump trucks, sprinkler trucks, sheepsfoot rollers, compact earthfill wing dams for John Martin Dam in Colorado containing over 8,000,000 cubic yards of earthfill and 500,000 cubic yards of concrete.



Foundation excavation 70′ below river channel for spillway anchor block of concrete.

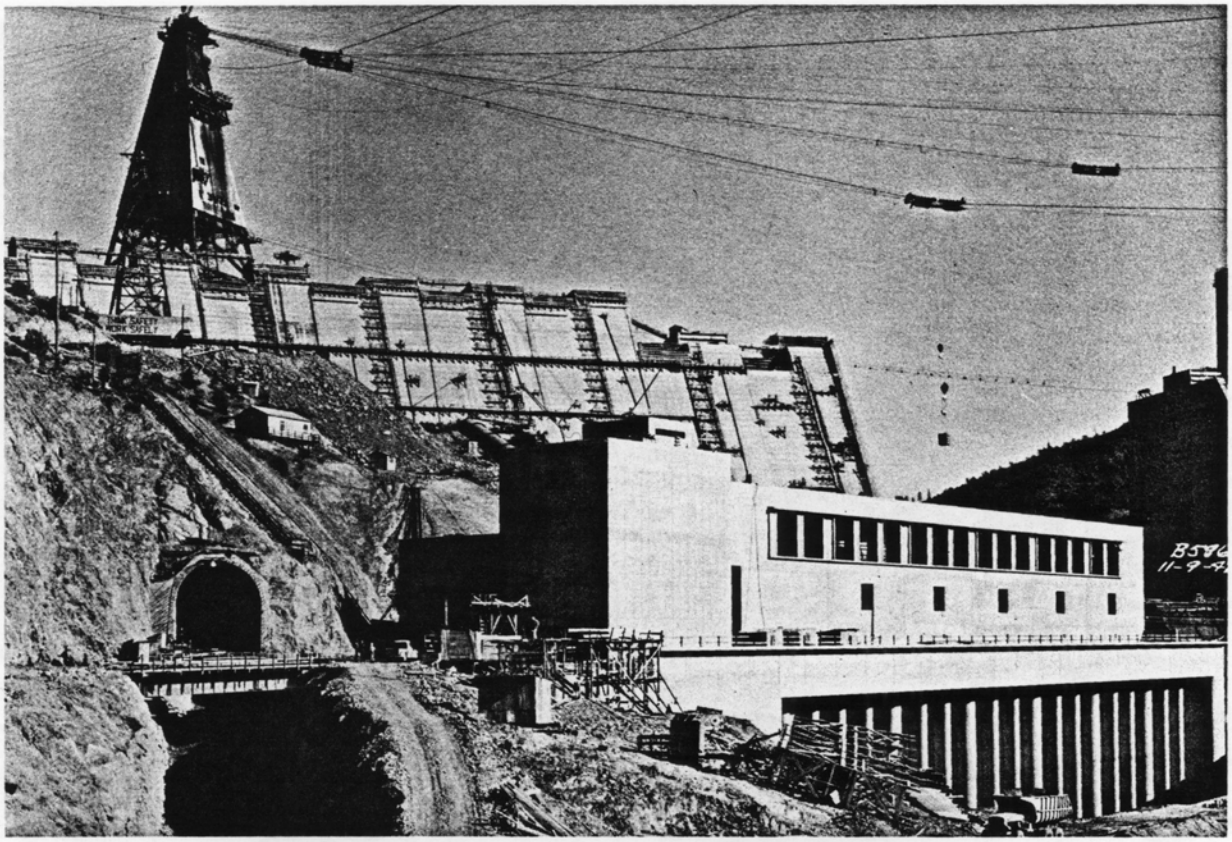


Work is carried on around the clock to rush completion of the Bureau's monumental Shasta Dam containing 6,535,000 cubic yards of concrete.

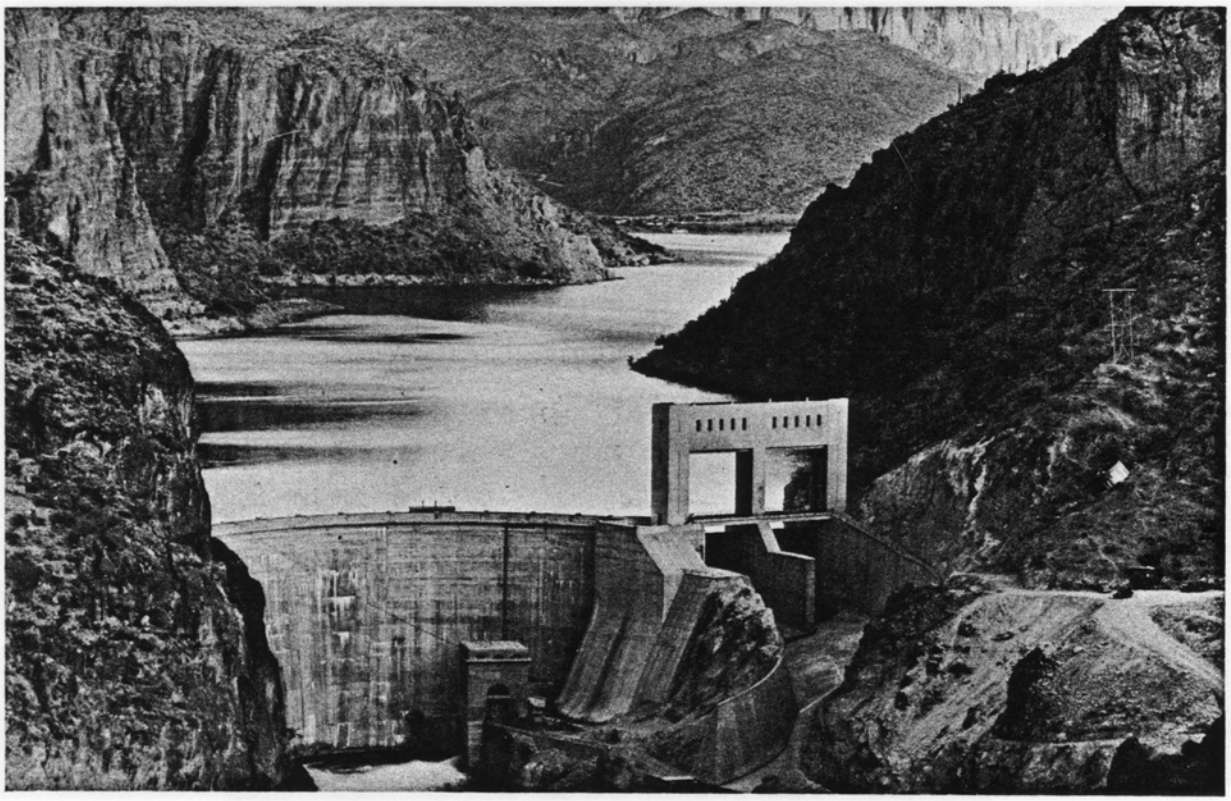


Wet materials including quicksand was removed in digging the Granby Pump Canal high in the Rocky Mountains.

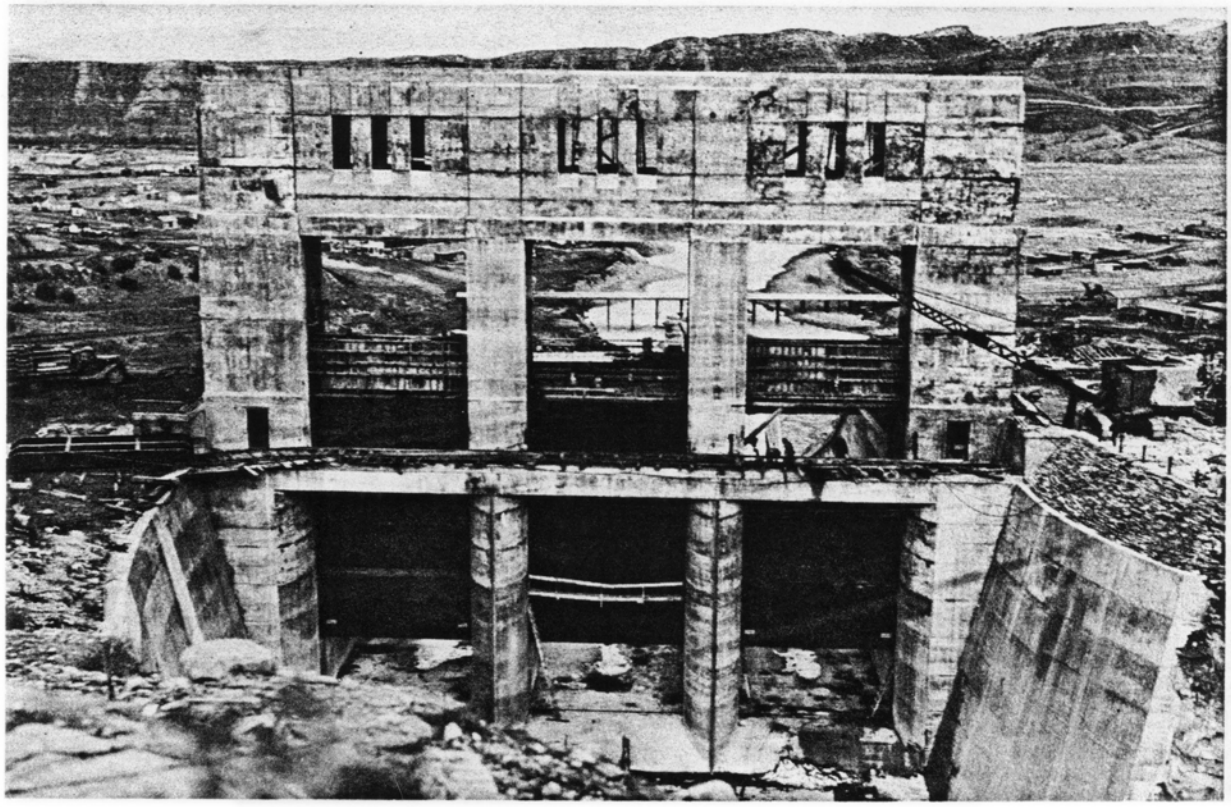
Tandem Euclids dump 40 tons of earth rock for Horse Tooth Dam.



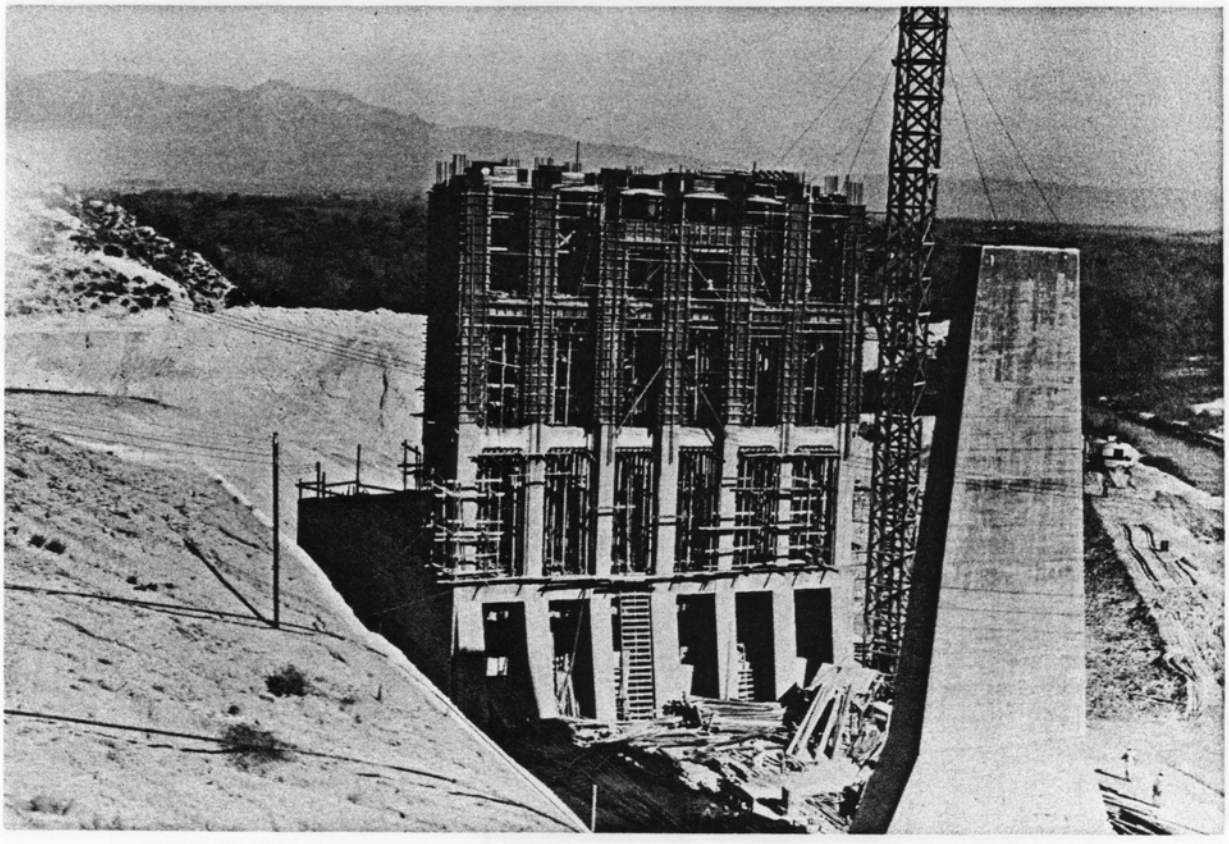
Tunnel — Power Plant — Penstocks — Dam — Headtower containing mix plant.



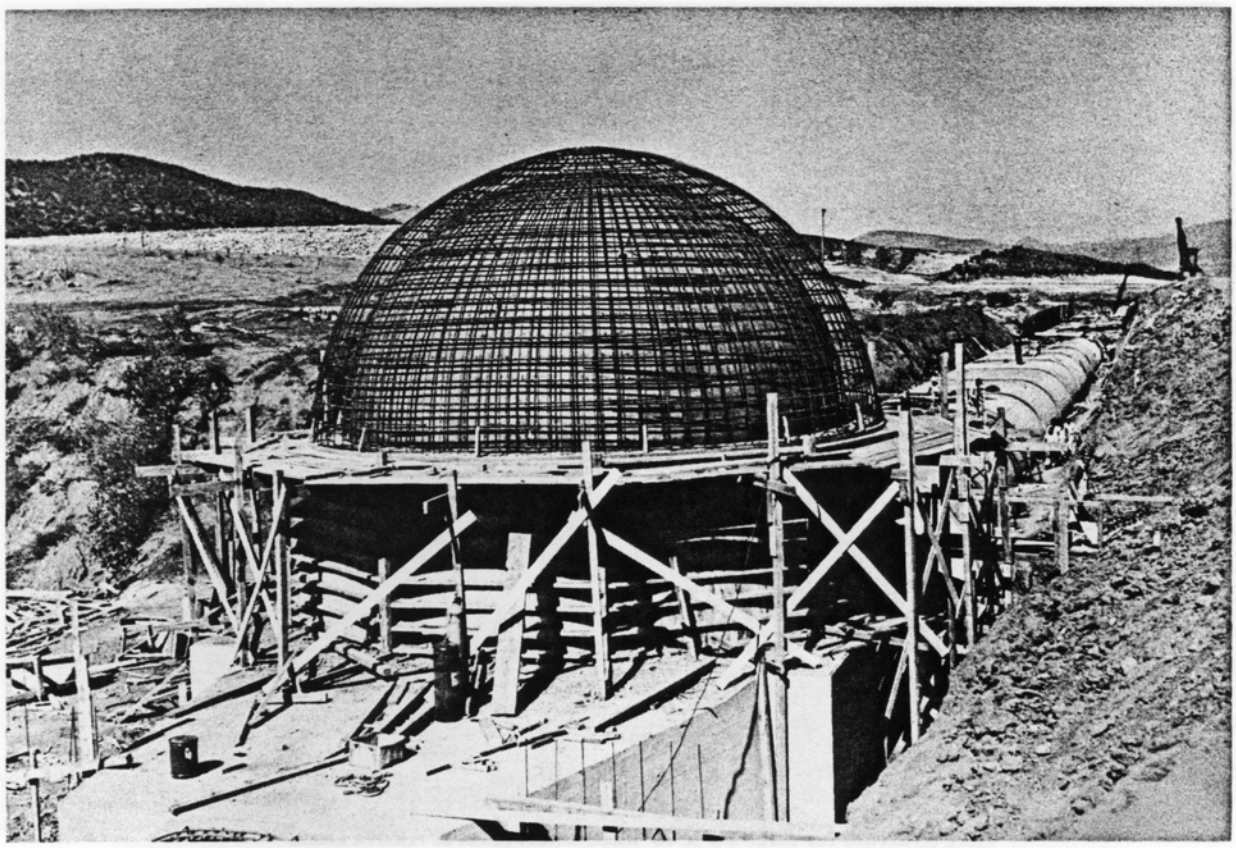
Mormon Flat Dam and Spillway serving Arizona's Salt River Valley.



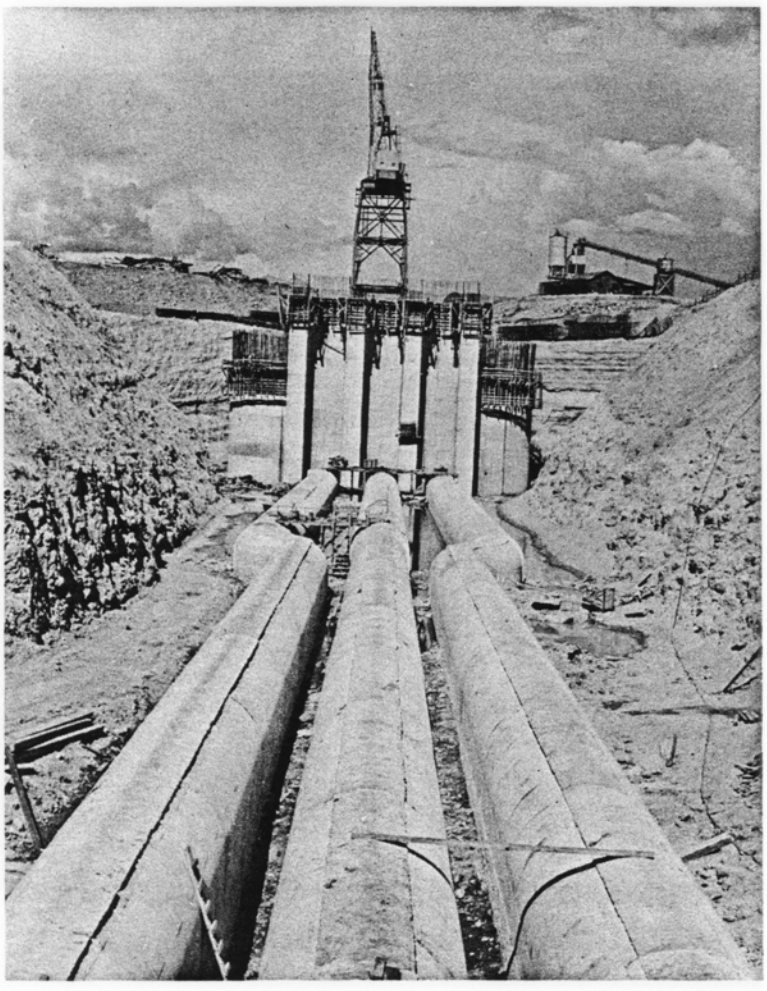
Gate structure for three 26′ x 40′ fixed wheel gates at Alcova Dam.



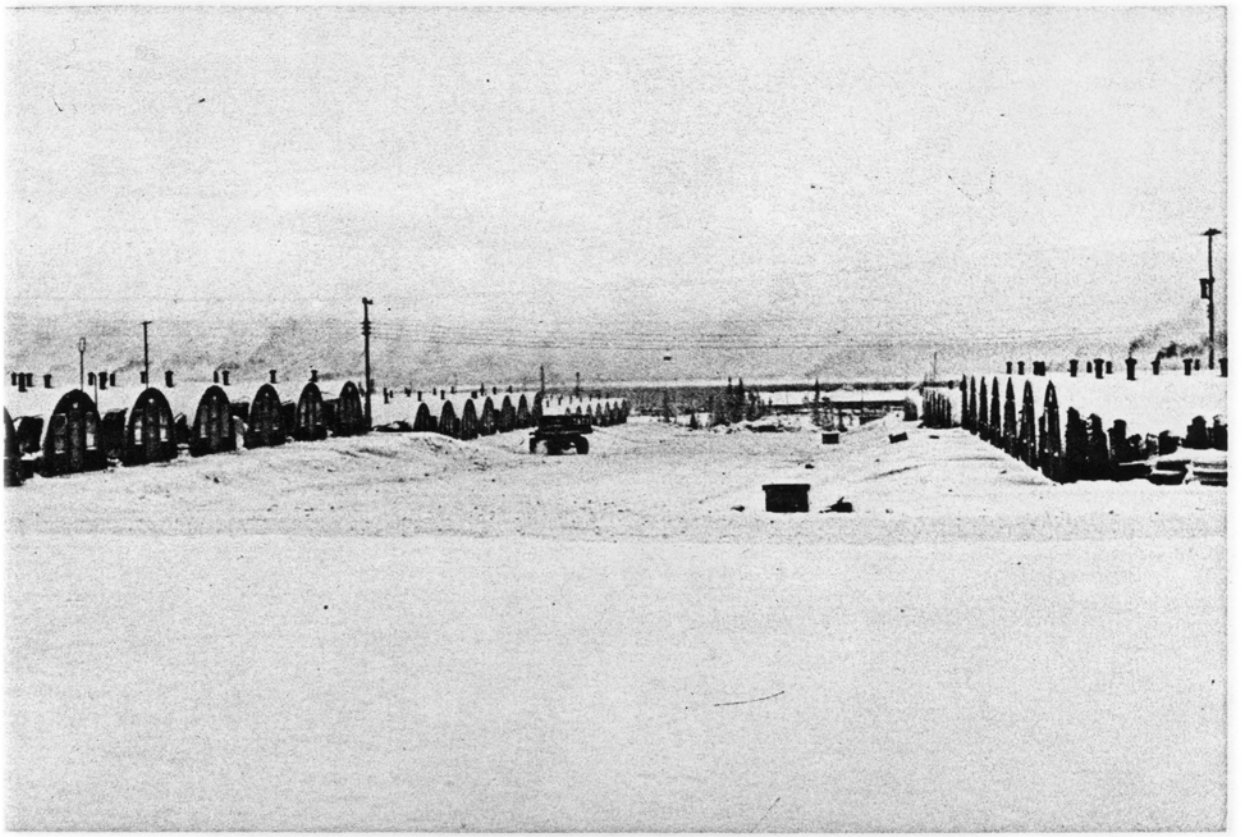
Outlet works with bridge pier in foreground at Prado Dam for United States Engineers.



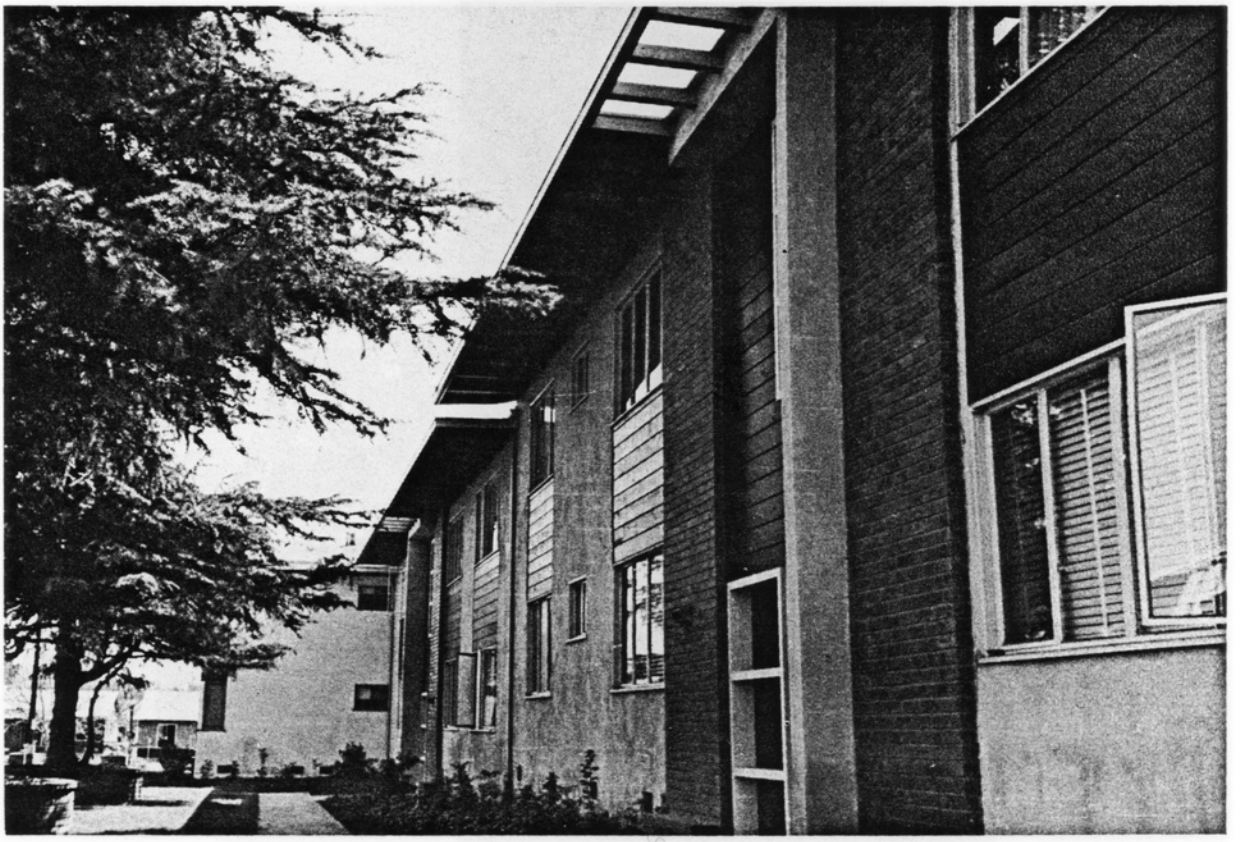
Reinforcing for Valve house and cast-in-place outlet conduit on Colorado's Big Thompson project.



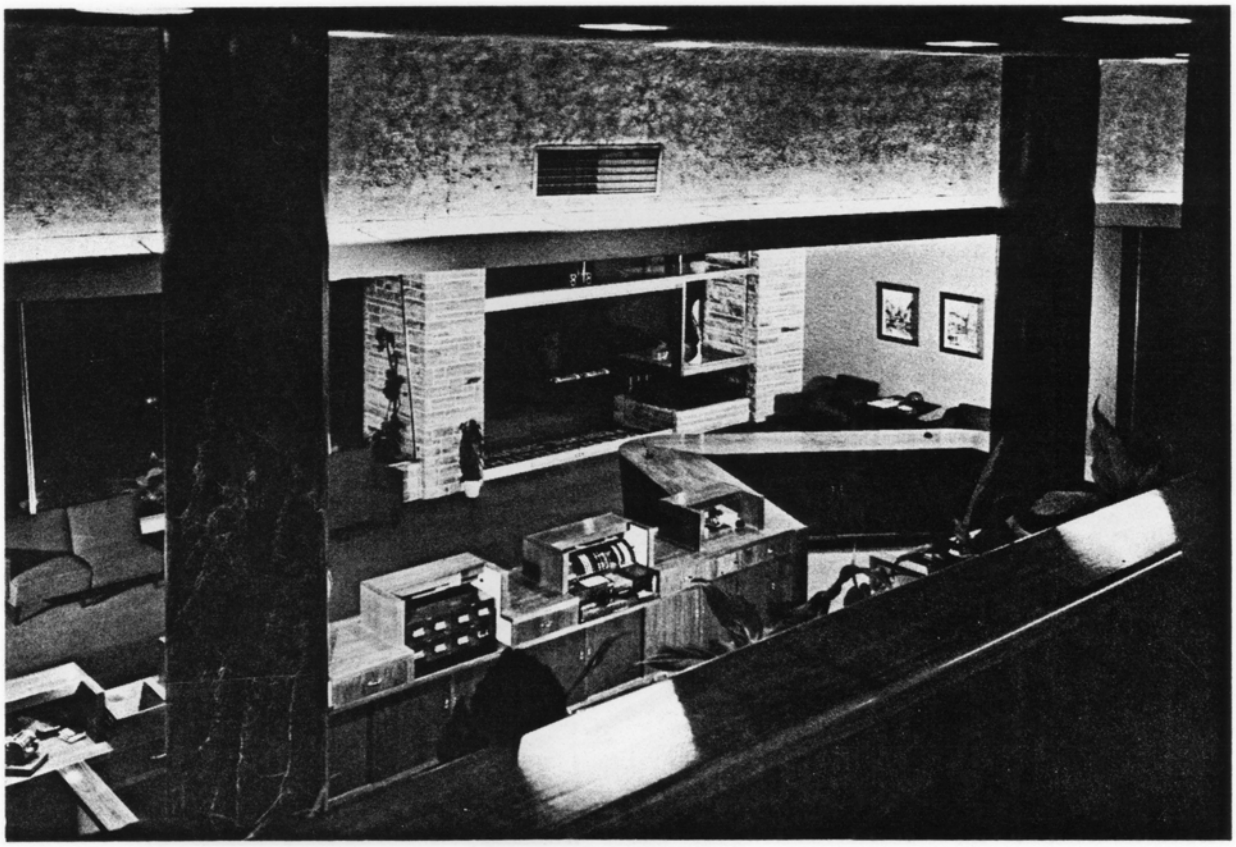
Intake pipes and pumping plant to handle 660 second feet with gantry crane and mix plant in background.



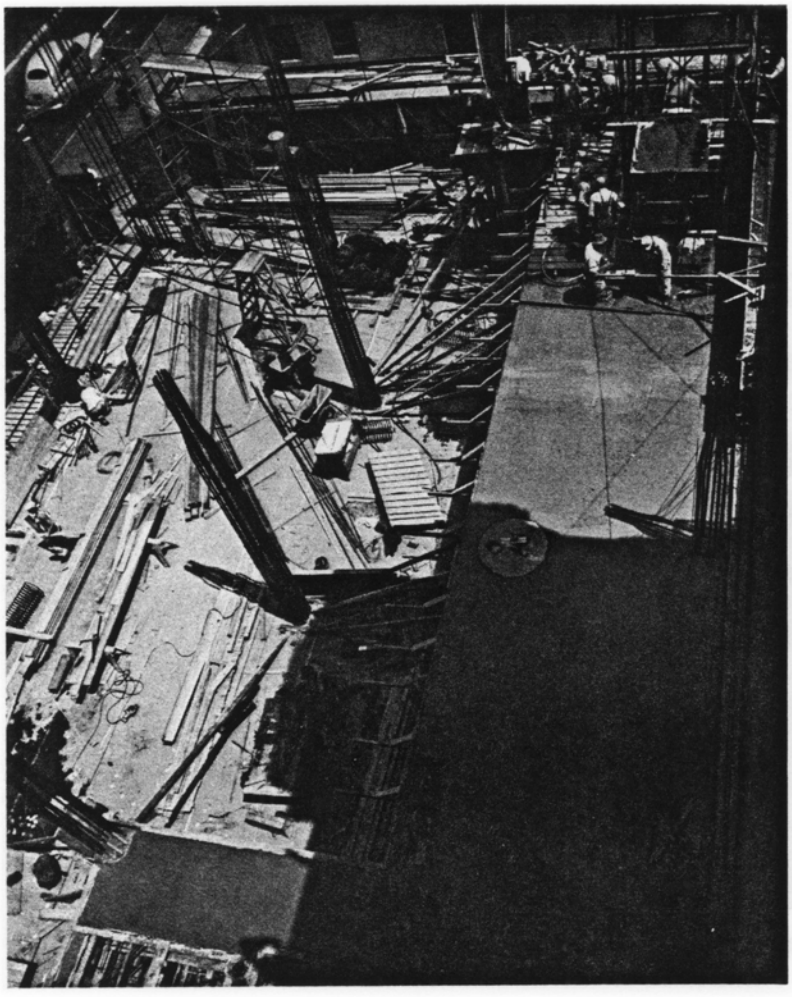
Construction camp for 1,000 men built just south of the Arctic Circle.



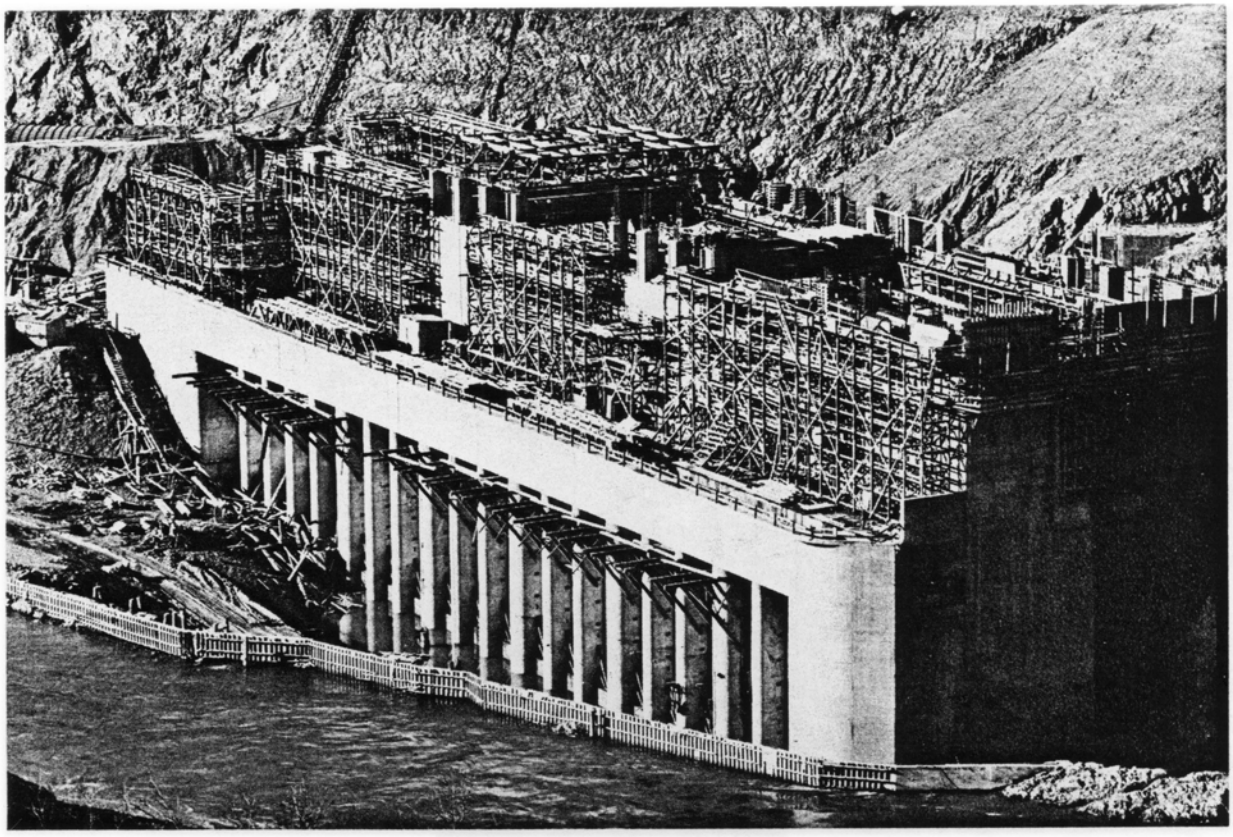
260 apartments built for Chase Properties, Inc. under FHA Title 608.



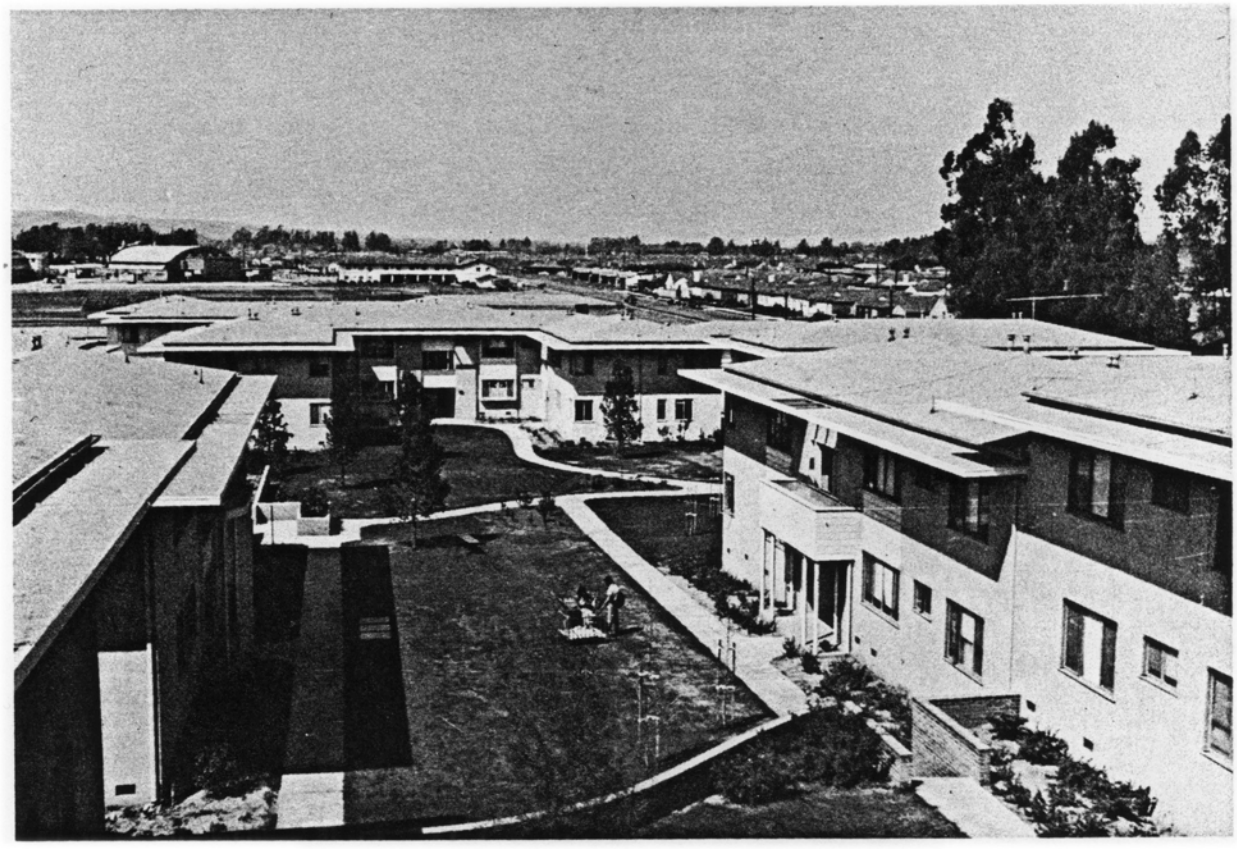
Modern office interior.



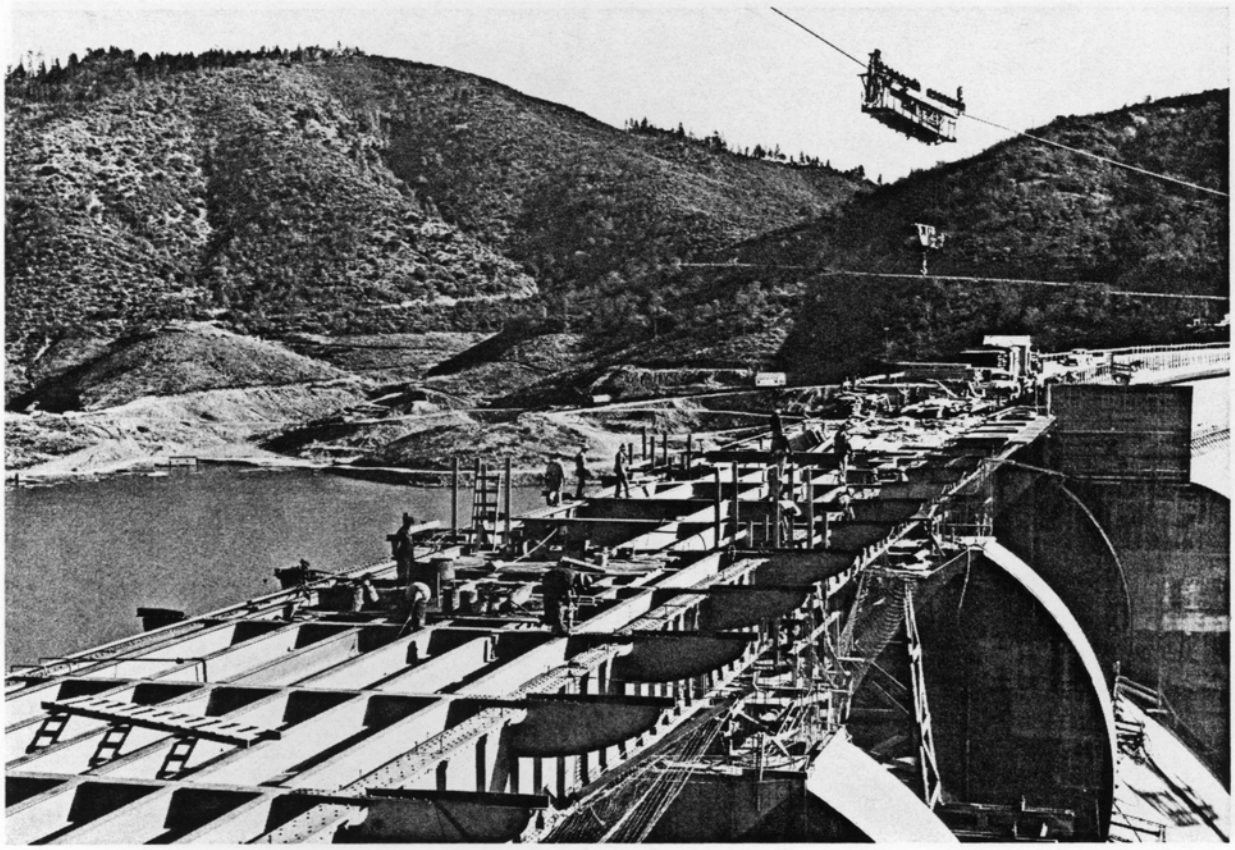
Looking down on slab pour.



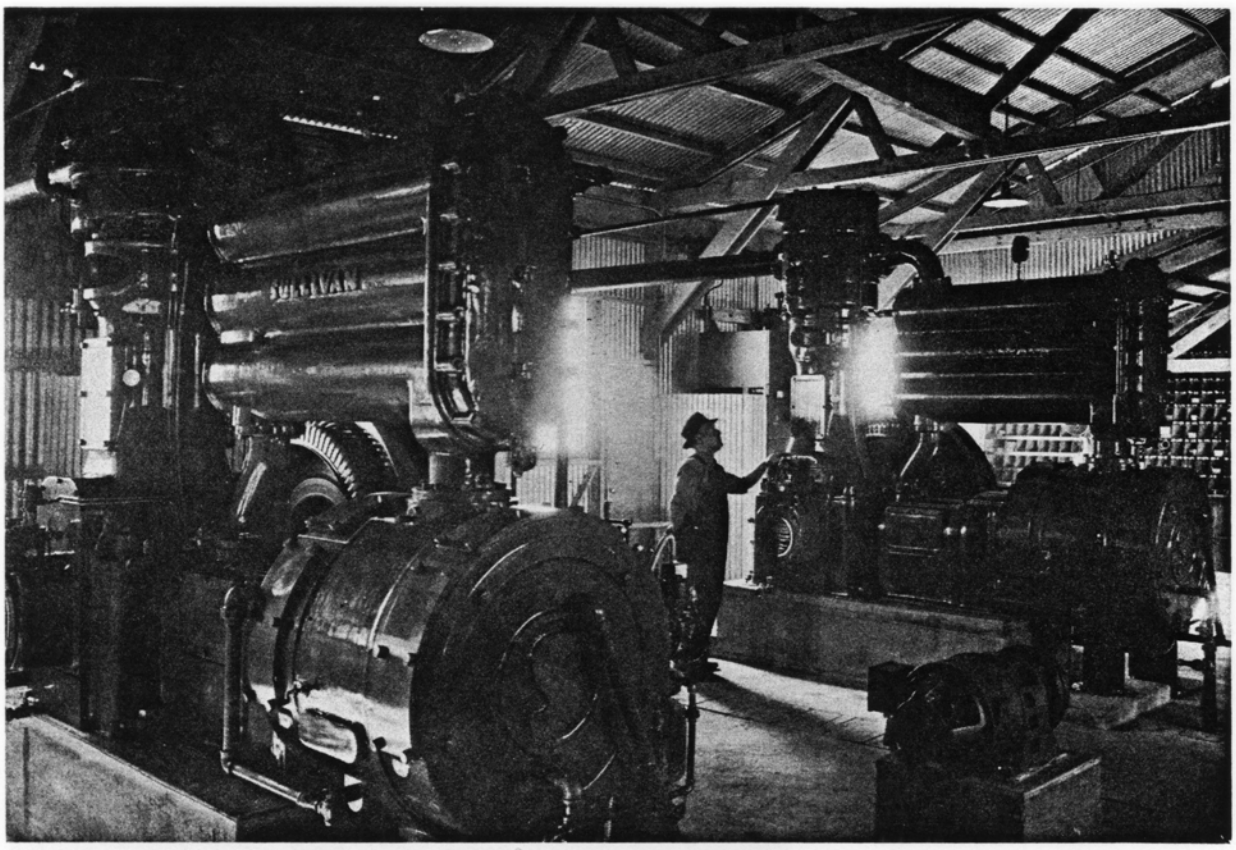
The power plant takes shape.



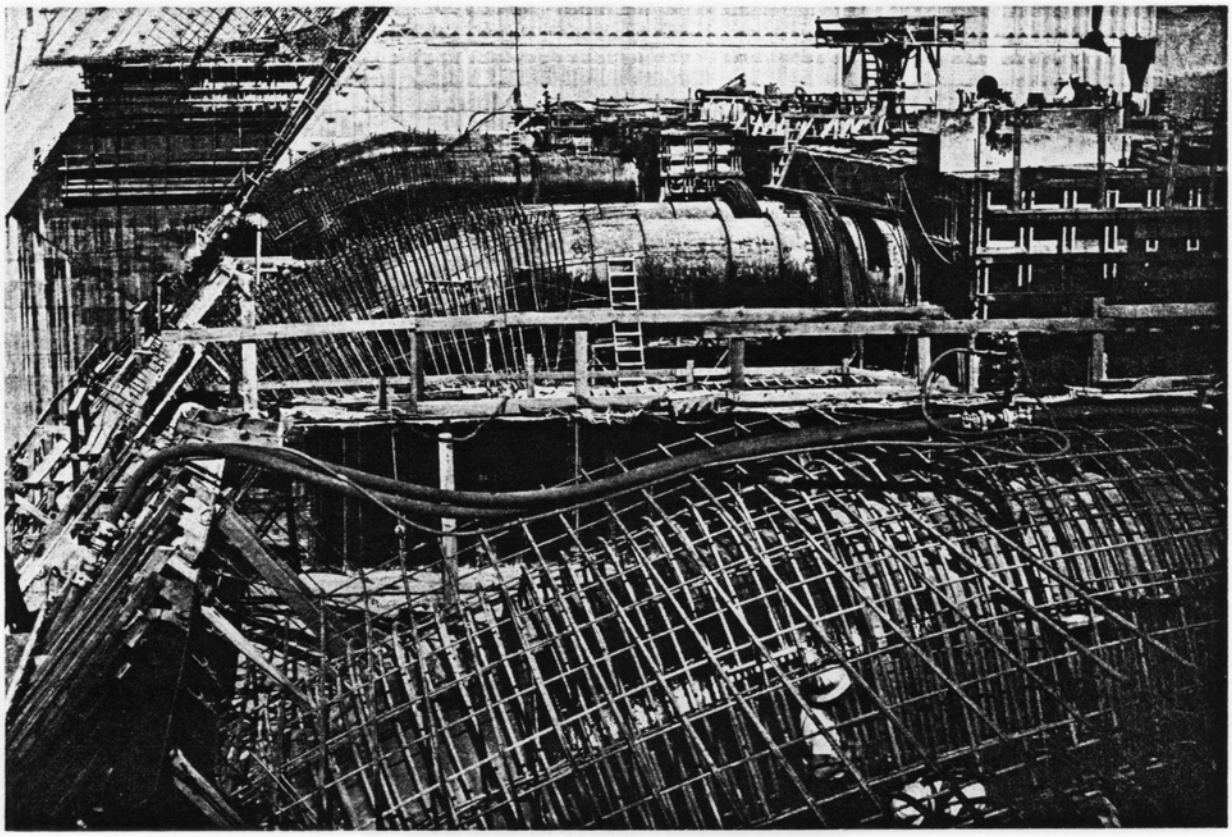
Redwood, brick and stucco combined on housing project.



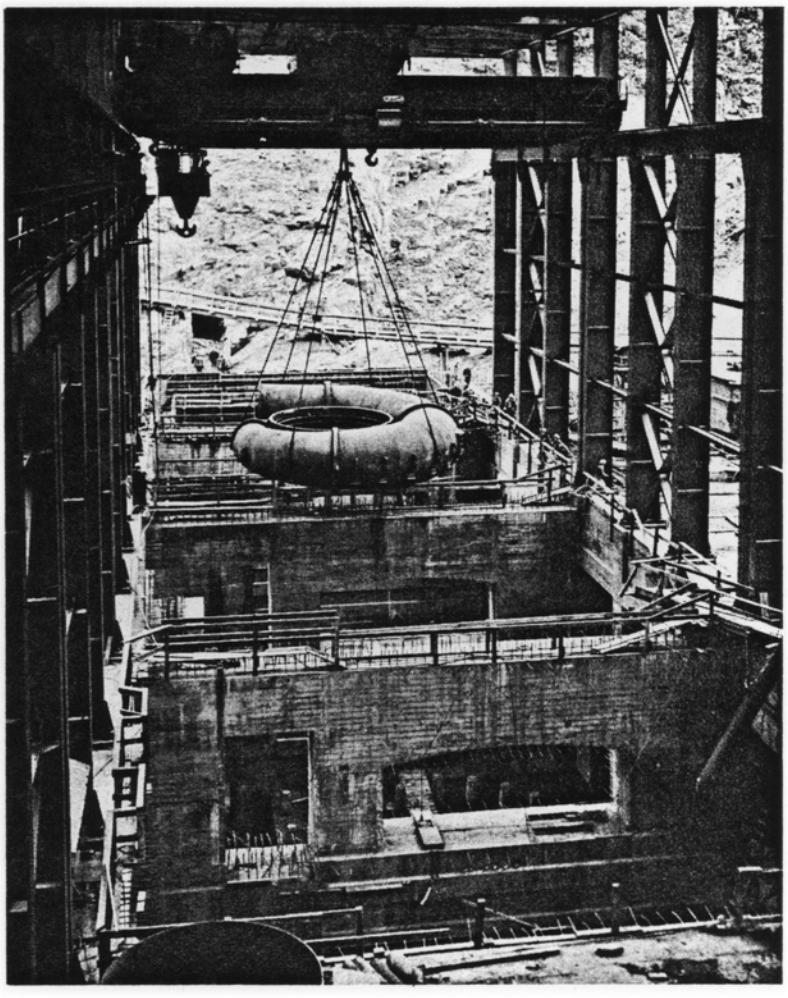
Steel and Concrete bridge.



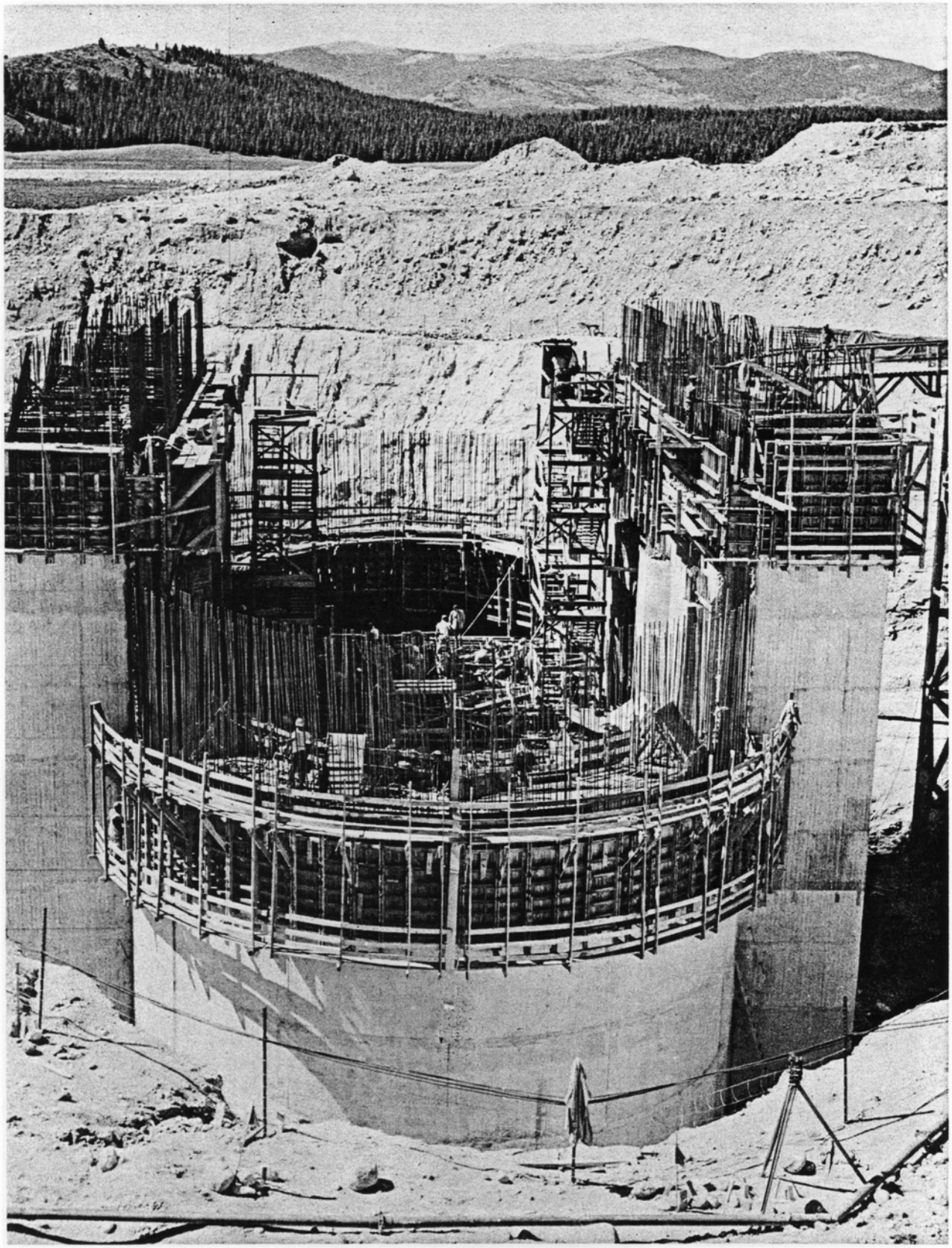
Compressor plant installation.



Penstocks showing heavy reinforcement.



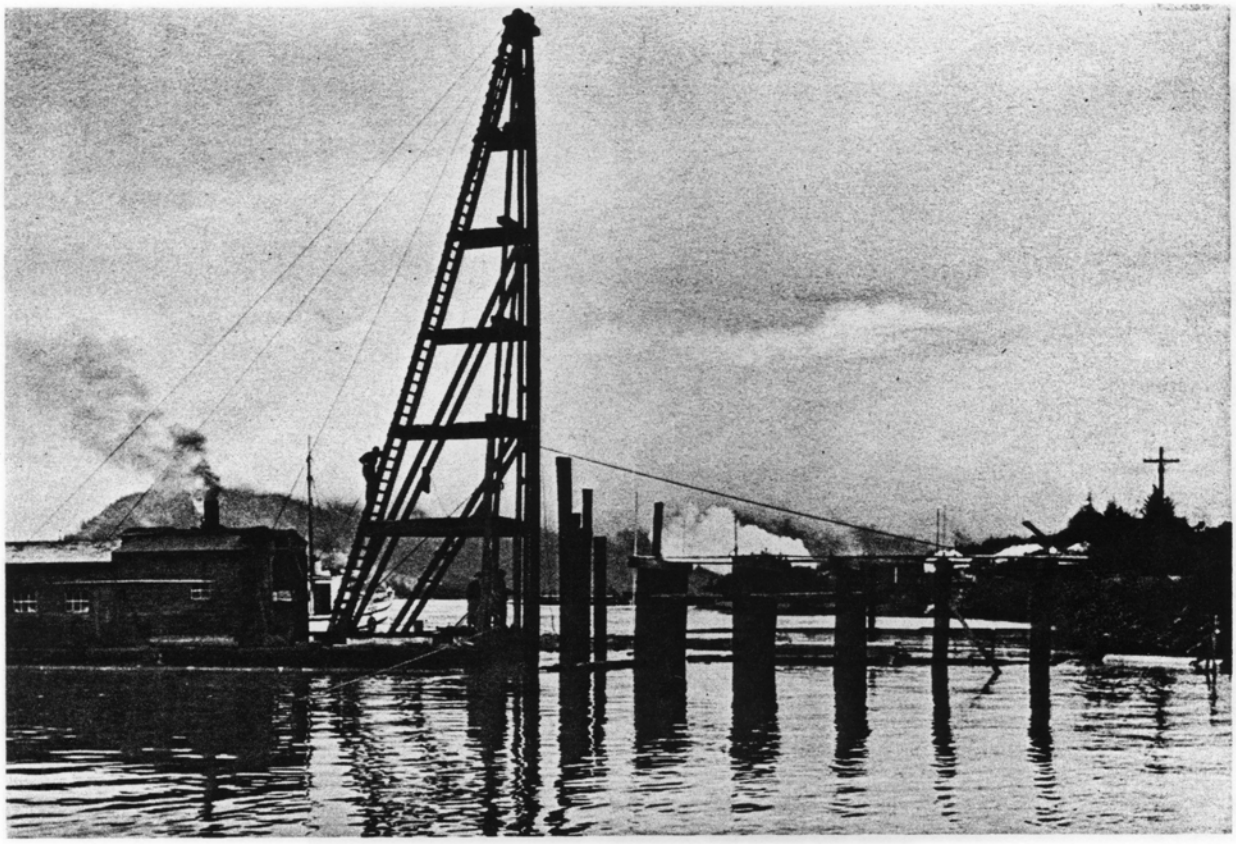
Lowering one of the four scroll cases at Hungry Horse Power Plant.



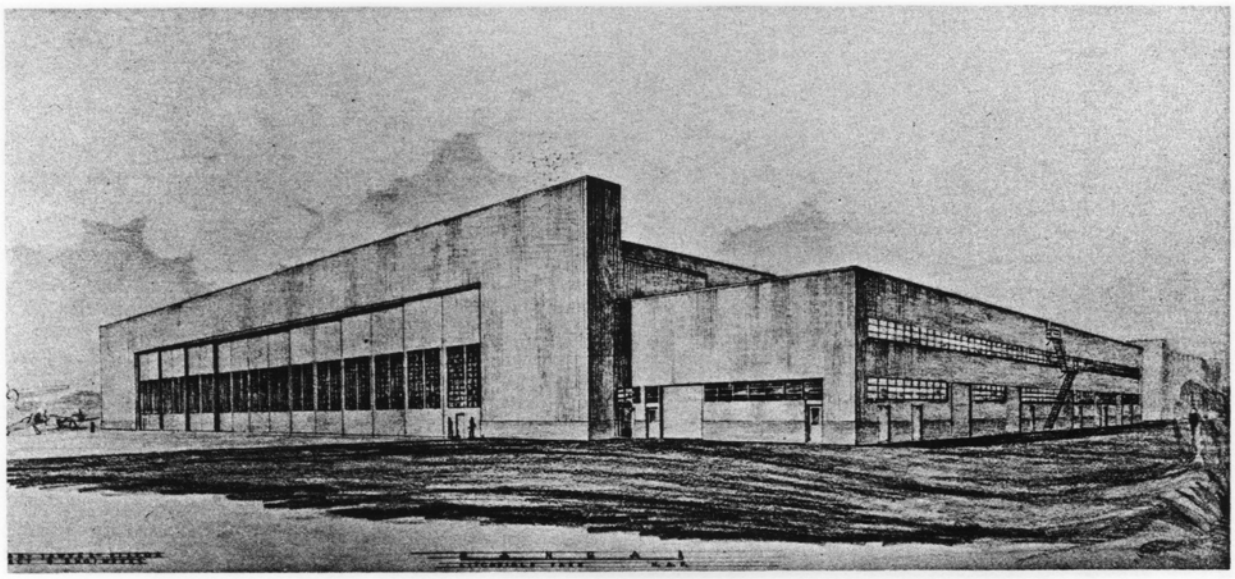
Foundations for Granby Pumping Plant.

Welding of the Canol Pipe Line was continued even at temperatures of 60° below zero.

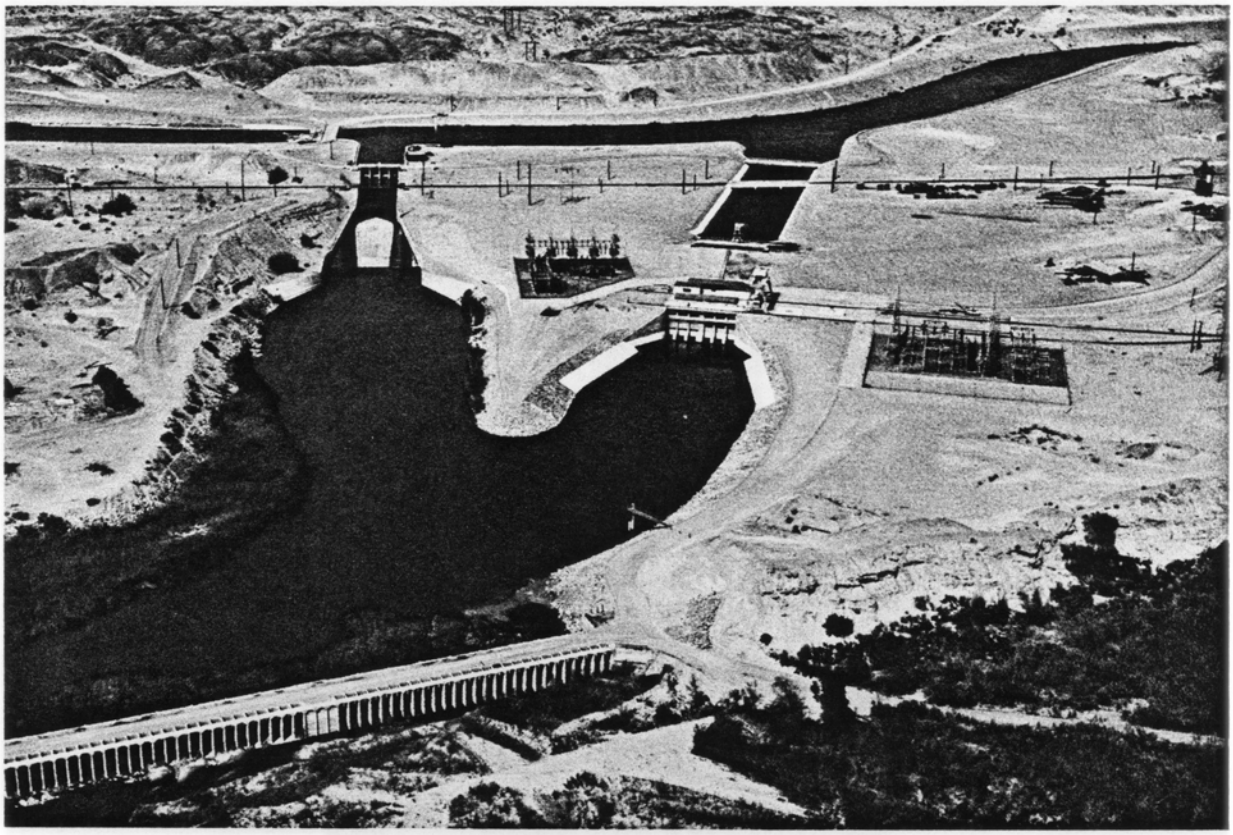
Hauling 500 tons of pipe on sleds over lake ice with one diesel powered tractor.



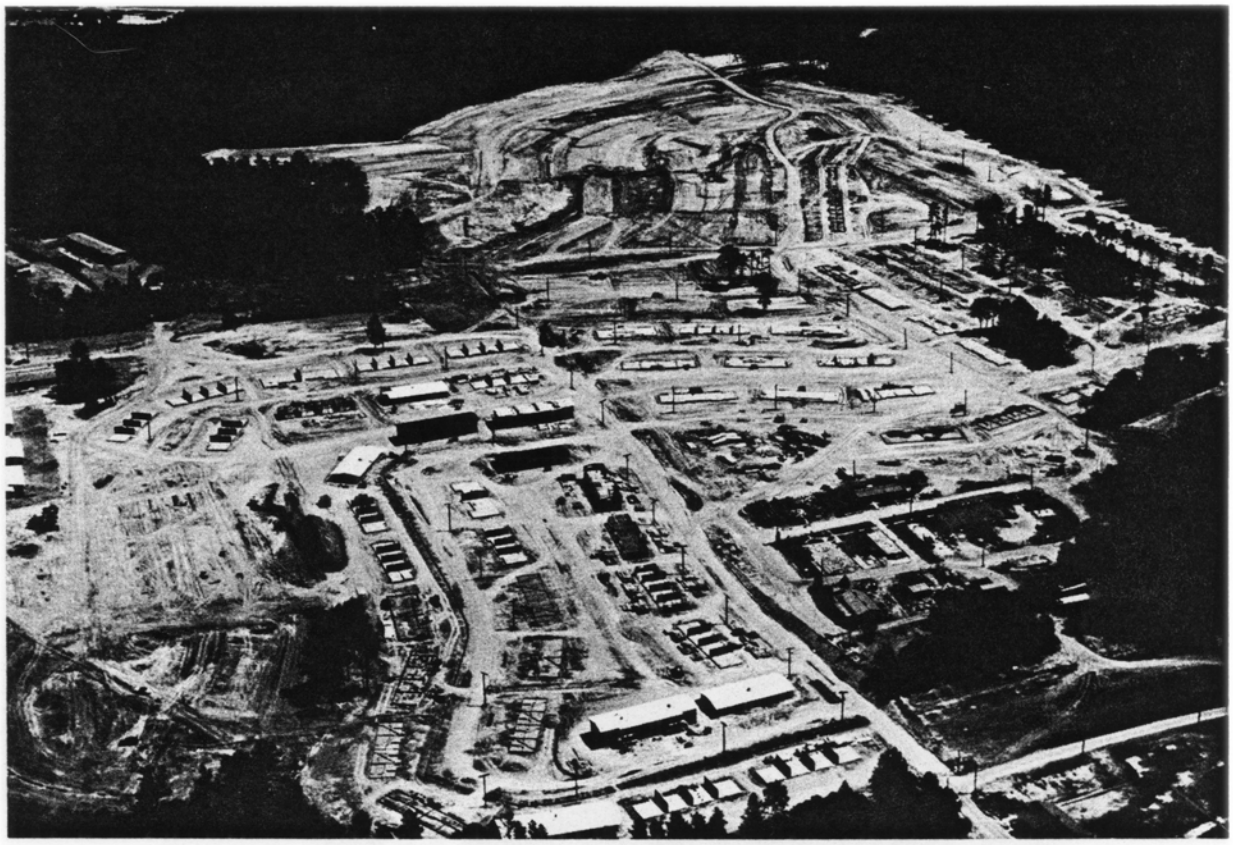
Driving timber piles for dock at Port Edward, Canada.



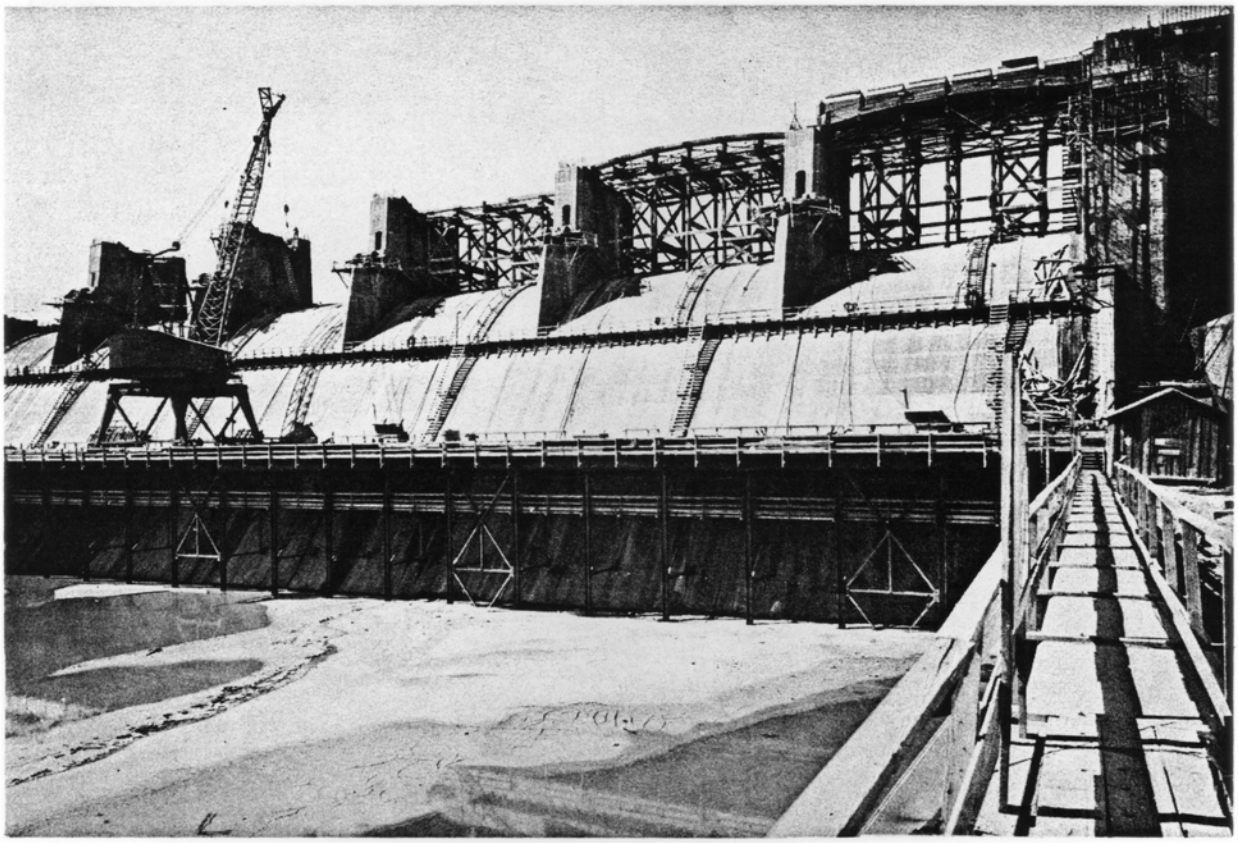
Hangar building, Naval Air Facility, Litchfield Park, Arizona. 135,000 sq. ft. in area.
Structural and reinforced concrete throughout.



Pilot Knob Hydro Plant —an $8,000,000 project.

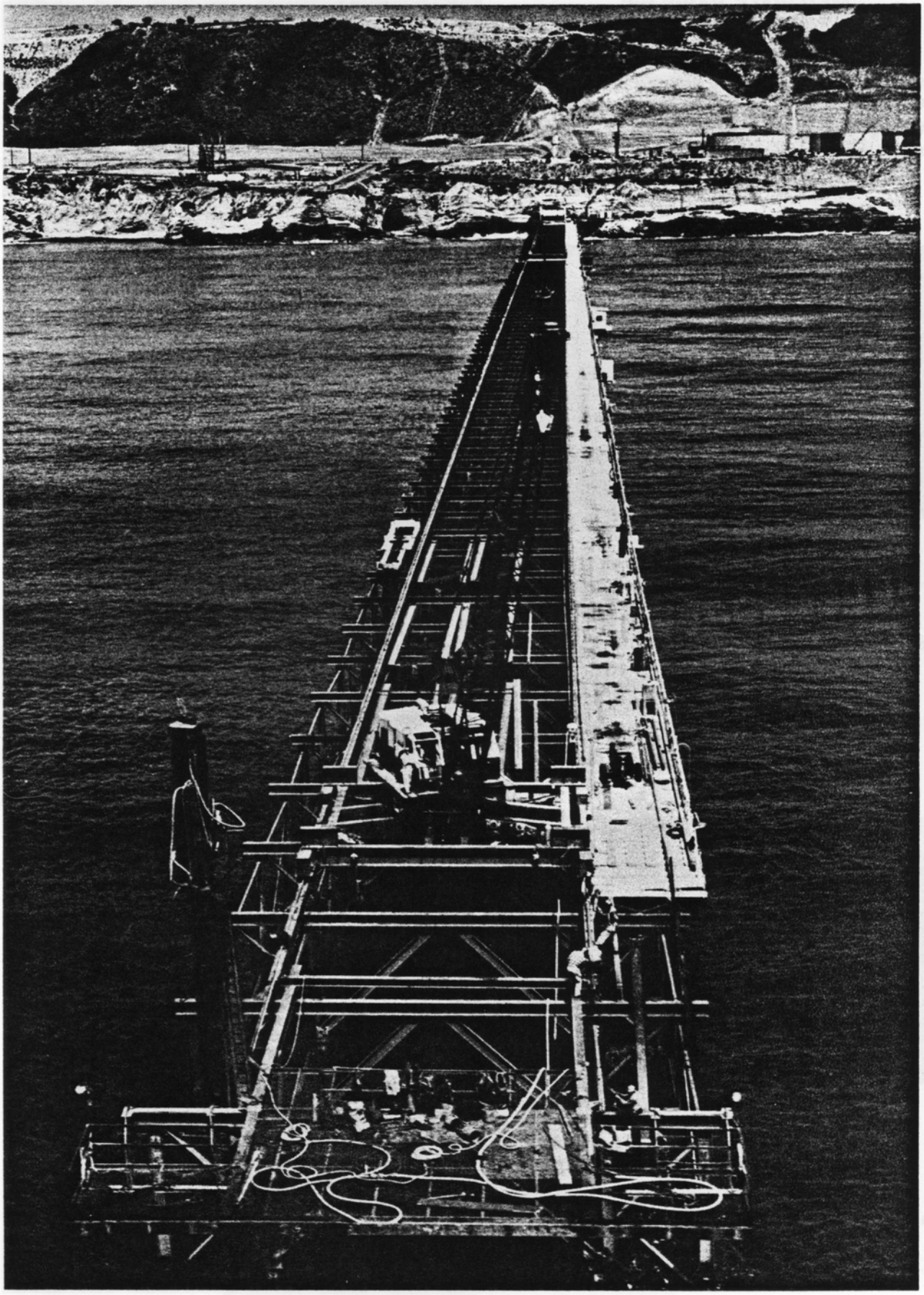


500 Housing units at Fort Lee, Virginia for War Department under Capehart Act.



Topping out John Martin Dam in Colorado for the U.S. Army Corps of Engineers.

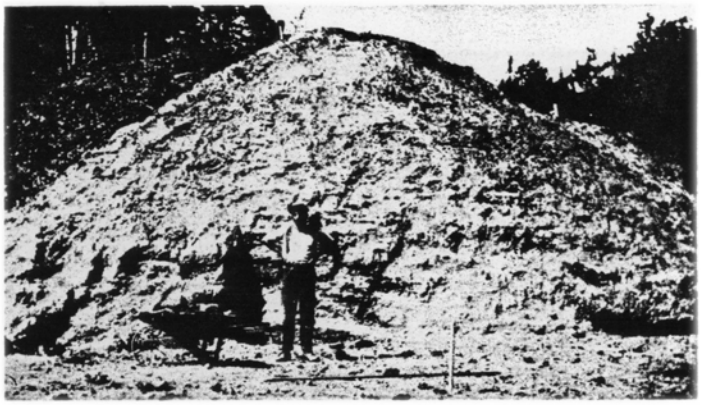
Holing through on the San Diego Aqueduct for the United States Navy.



2800′ steel trestle constructed for laying San Diego Outfall sewer through surf. Total length of outfall: 2½ miles.

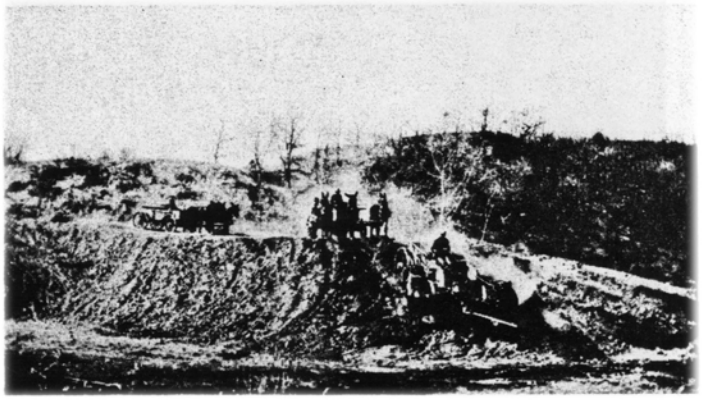
MATERIALS HANDLING
1890 - 1930

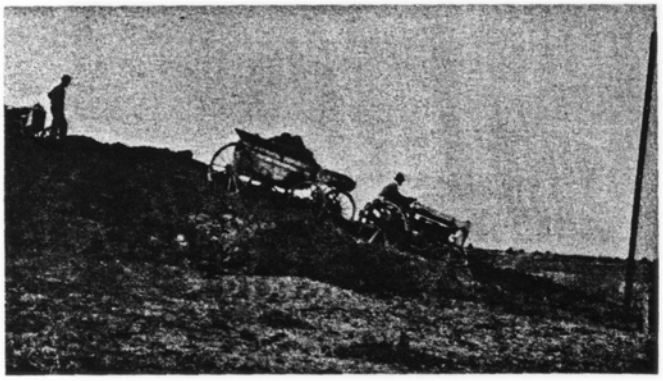
In 1890 most excavation was performed by hand labor —the machine was often limited to one wheel. Jobs were frequently parcelled out to a number of individual contractors on what was called "Station Work."— C N Ry—Canada.



In 1900 4-up Fresnoes handled excavation at a cost about equal to present day methods.

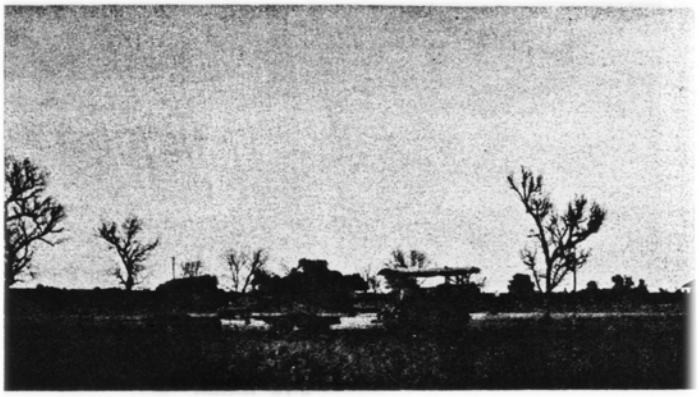
Little Red Wagons were used in 1910—loaded by elevating graders or steam shovels.





In 1920 wheeled tractors frequently pulled the same Little Red Wagons.

In 1930 crawler tractors pulled tandem crawler wagons. The pay load increased from 150 lbs. in 1890 to 40,000 lbs. in 1930.



ACKNOWLEDGMENT

For their important contributions to the success of many of the large projects on which the Company has been engaged, grateful acknowledgment is made by Gunther and Shirley Company to the contracting organizations with which it has been associated. Over the years the list has grown to sizeable proportions. It reads like a roster of Construction Americana.

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