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October 1, 1942

CONSTRUCTION & MAINTENANCE DIVISION

Report of Activities - July 1 to September 30, 1942

The following is a brief summary of construction and maintenance activities, planning, and personnel problems for the various relocation centers.

TULE LAKE

Construction and Maintenance Personnel. Most of the personnel for the construction and maintenance activities have been employed. There has been some turn-over, but this has not been a serious problem.

Construction and Planning. Construction is going forward on housing. No material has been delivered except for the industrial buildings and housing. The locations have been staked for schools and the field forces are prepared to proceed immediately with construction as soon as materials are delivered. At this Center, it was found there was a surplus of warehouses, and of barracks in the MP area that could be remodeled to provide the additional housing needed. PD-200's have been prepared and submitted covering the remodeling of barracks and warehouses into housing for personnel and for schools, and for the industrial buildings. Work has progressed on the industrial buildings to the extent that the foundations and most of the floor slabs have been placed. Construction of the buildings will start as soon as structural lumber, hardware, and other supplies have been delivered.



Plans have been made and PD-200's will be submitted in the near future for the railhead extension that will be required for unloading coal at the project and handling the incoming supplies. Part of the material for interior lining and partitions in the evacuee apartments has been received from U. S. E. D. and work is going forward on the installation.

Maintenance. A great deal of thought has been given to the maintenance problem. The field forces are pretty well organized to handle the maintenance which is being set up on the basis of one evacuee in each typical block who will inspect all buildings daily and make all minor repairs. He will recommend repairs that are necessary to safeguard buildings and utilities in this block that can not be made with the materials and tools in his possession.

Several special maintenance and repair crews have been organized to cope with major maintenance and protection problems that do not rightfully come under the heading of maintenance such as winterizing the evacuee apartments. This requires inclosing around the foundation, provision of storm doors and windows, the installation of space heating equipment, and supplying adequate fire protection. The installation of space heating equipment in all latrines and bathhouses and the general winterizing and installation of space heating equipment in the laundry, recreation, and dining hall is completed or under way. There are some special problems of winterizing in connection with the sewer and water system. Progress is being made on this type of protective work as



rapidly as men can be trained, and tools, equipment and materials can be made available.

#### MANZANAR

Construction and Maintenance Personnel. Personnel at this project has been organized into work groups and a definite program has been set up assigning responsibility and authority. Most of the positions in this organization have been filled and many of the evacuees have been trained as key men and assistants.

Construction and Planning. Plans have been completed and locations made for the school and housing projects at this Center. Some work has been done on connecting utilities but sufficient material has not been delivered as yet to start actual construction work on the buildings. This project is still short of construction tools and equipment. This shortage is gradually being taken care of from surplus. PD-200's have been submitted for the schools and housing.

The foundation has been placed for the garment factory. No other building materials have been received. Material for the lining and partitions furnished by U.S.E.D. has been received and workmen are making installations. Work is somewhat retarded on the installation of linings and partitions for lack of hand tools and because many of the skilled and trained men have taken employment elsewhere.

Maintenance. Maintenance at this project has been organized and materials for winterizing and for miscellaneous maintenance will be requested in the near future on forms PD-408B or on PD-200. Some



material required for winterizing and maintenance is now on hand. A great deal of work will be required on this project in the protection of plumbing and sewage from freezing.

#### MINIDOKA

Construction and Maintenance Personnel. Most of the positions at this project have been filled. There are some special problems at this Center since the sewage installation has not been completed; water-borne sewage, therefore, is not available. Evacuees are now being trained in order that the construction program can get under way as soon as materials are delivered.

Construction and Planning. This project was started late in the summer so that very little has been done in the way of building and planning. However, the field organization has trained work groups and will be in an excellent position to get construction under way as soon as materials are available. PD-200's have been prepared for school and housing projects. Other projects will be covered by PD-200's in the near future. Some materials for the provision of partitions and interior lining have been supplied by U.S.E.D. and are being installed.

Maintenance. Maintenance crews have been organized on this project on the basis of one trained man for each typical block. Not enough tools or materials are available to get a maintenance or winterizing program under way as yet. It is hoped that tools and equipment can be obtained soon from surplus and it appears some materials can be



purchased from the contractor that are in excess of his needs. The winterizing problem here will require a great deal of material because of the rough nature of the ground on which the buildings were placed. Protection of water and sewage installations from freezing will be a serious problem. Some materials for winterizing around the foundations of the evacuee apartments have been supplied by U.S.E.D. and work crews are closing in the foundations.

#### GILA RIVER

Construction and Maintenance Personnel. A great deal of difficulty was encountered on this project in obtaining personnel required in the construction and maintenance organization. At the present time all positions are filled with the exception of an Electrical Engineer, who will be available in the near future. Evacuees are being trained to fill key positions when the construction program gets under way as well as key positions in the maintenance program.

Construction and Planning. Locations have been made on the ground for school buildings and staff housing. Work will get under way in the near future in supplying utilities to these locations. No material has been delivered and no PD-200's have been furnished as yet. This delay was caused by the change from adobe construction to conventional frame construction. The plans and material estimates have been completed and the PD-200's will be forwarded to the War Production Board today or tomorrow. PD-200's and PD-408's will be prepared and forwarded on other buildings on equipment requirements and on



maintenance materials requested as fast as plans and material lists can be completed.

Maintenance. The maintenance problem at this project is quite different from that of the northern projects because of the mild winters. It is expected that natural gas space heating equipment will be installed which will eliminate many of the fire hazards that are present where coal and oil equipment are used.

#### CENTRAL UTAH

Construction and Maintenance Personnel. Most of the positions at this project have been filled, crews are being organized, and a training program is under way. The Center is approximately eighty per cent complete. Here, as at the Minidoka project, there is a serious dust problem. No construction work is possible here since there has been no material purchased or delivered. PD-200's for housing and schools have been prepared and submitted. There is practically no equipment or tools available at the present time. However, there is a supply of tools and equipment being shipped which were obtained from surplus. Plans are being prepared for other building projects required and PD-200's will be forwarded as soon as plans and material lists are completed.

Maintenance. Employees and evacuees are being trained and assigned duties in connection with the maintenance and repair program. Since material and tools are not available, this work cannot be started. Materials required for this program will be purchased locally



and PD-408's will be submitted. Some winterizing of foundations is being carried on by the use of scrap lumber.

Construction. Material for lining and partitions in the evacuee apartments will be supplied by U.S.E.D. and installed by WRA. Some work is being done on this project to protect water and sewage installation from damage by freezing.



## ENGINEERING SECTION

Quarterly Report for the Period Ending March 31, 1943

Construction & Maintenance of Buildings & Utilities

The most important job that faced this division at the beginning of the quarter was the completion of plans and estimates for proposed construction projects for the consideration of the War Production Board, for project approval and priority assistance where controlled material was required. An overall construction program has been prepared covering anticipated needs for all of the relocation centers. This work was carried on by the field organizations and was handicapped in many cases by the lack of trained men who were qualified to prepare applications supported by ample justifications, plans and estimates. While many of the projects were approved, we are finding it very difficult to obtain deliveries of material in sufficient quantities to permit the construction crews to carry any of the projects to completion.

Construction

The training of evacuees in the many skills and crafts became increasingly important as the program advanced and construction materials were delivered. This was in part due to the success of the relocation program that drew from the center's work organizations, many of the key evacuees for relocation. This program also tended to encourage shifting of skilled and professional people between the operation divisions at the centers.



The school and housing projects proposed for all of the relocation centers, having been approved during the preceding quarter, were gotten underway as rapidly as delivery of materials could be made. The change in the trend of the War Relocation Program made it necessary to reconsider part of this building program during this quarter and as a result, the elementary schools for all the centers were eliminated. Upon the cancellation of elementary schools, a survey was started at each of the centers to determine the amount of material and estimate of labor required to recondition existing buildings for use as elementary schools. This survey was completed for several of the centers during this quarter and will be given first consideration in the early part of the next quarter in order that PD-200 applications can be prepared and presented to the War Production Board in an effort to obtain early project approval and priority assistance where required.

#### Administrative Quarters

The provision of quarters to house appointed personnel was given a high priority for this quarter to reduce as rapidly as possible the transportation problem for people residing away from the centers and to save the many hours of time lost in travel. This would also make the employees available on the projects at all times.

#### Irrigation & Drainage

The development of agricultural land, the completion of the irrigation distribution systems and the development of drainage structures



necessary to protect agricultural land, became of increasing importance during this quarter. These projects had to be carried on under adverse conditions in many cases, in order that land, irrigation and drainage facilities would be available for the Agricultural Program that will play such a vital part in feeding the residents of these centers during the next year. Part of this work was done through contract. The primary reason for this was that it was not possible to obtain the heavy equipment and the skilled operators, then too, as this heavy equipment would be required for such a short period of time, it was considered an economy to do some of the heavy earth-moving by contract.

#### Roads

Some work was done on the access roads to the centers during the quarter as well as on the roads within the agricultural area.

#### Maintenance & Utility Operations

The training of men continued to be of vital importance in the maintenance as well as in the construction section during this period, partly because of the loss of key people through relocation and in transfers to other operations divisions.

Winterizing work was continued at most of the centers. Inclosing foundations and the installation of stoves were carried out as rapidly as equipment and materials were delivered. The nature of the buildings in the centers made it necessary to keep repair crews working constantly.



The utilities like the buildings required constant and extensive maintenance. Many of the exposed water and waste lines froze and had to be replaced and reconditioned. A constant battle was waged against the elements by this organization to keep the water and electrical distribution systems and the sewage disposal plant in operation.

#### Utility Equipment Repairs

One of the major jobs of the maintenance section during this period has been the excessive amount of repair work required to keep equipment in operation. This applies to stoves, water-heating equipment, pumps, sewage disposal equipment, boilers and heating plants, as well as refrigeration and laundry equipment. In many cases the water used at the centers is high in mineral which corrodes boilers and hot water lines very rapidly. Some of the water heating boilers have had to be replaced because of failure, due to excessive formation of scale. In many cases the equipment installed in the refrigeration warehouses required extensive reconditioning during this quarter to fit it for the long, hard pull during the hot months. Garbage and trash disposal continued to be a problem. Much of the garbage still being disposed of by burying and burning.

The following is a summary by centers of the activities of the construction and maintenance divisions:



## CENTRAL UTAH RELOCATION CENTER

### Public Works Division

#### Construction

The War Production Board has approved a number of projects required by this center. Construction was started on the administrative housing project in February and was approximately 15 per cent completed at the end of the quarter. Work was also started on the high school buildings, the ice storage house, the garage building as well as on the reconditioning of the irrigation distribution system. Eight miles of road were constructed in the farm area.

#### Maintenance & Operations

The job of maintenance required the attention of most of the Public Works Division during this quarter. Much difficulty was encountered in maintaining the water distribution system. A great deal of time was spent on the winterizing of barracks, sewage facilities and food storage warehouses.

#### Personnel

The Public Works Division at this Center is headed by a Senior Engineer who is assisted by 23 technical and professional appointed employees as well as 6 skilled workmen who direct the work of the construction, maintenance and plant operation organizations. Many of the technical, professional and skilled positions in this organization are filled by evacuees. An average of 478 evacuees were employed during the months of January and February.



## COLORADO RIVER RELOCATION CENTER

### Public Works Division

#### Construction

Work at the center was continued throughout the quarter on the major irrigation project, development of agricultural land, roads project and the irrigation distribution system. About 40 per cent of the school construction was completed during the quarter. Ten buildings in the Military group at Camp 2 were remodeled into apartments and dormitories to house school teachers. The subjugation of agriculture land was continued during this quarter on a 5,000 acre unit of land. About 20 per cent of this work was completed during this quarter. Very little progress was made on the drainage project. It is planned to do this work under contract since it is not deemed advisable to purchase heavy equipment and employ skilled operators that would be required if this work were done with our own forces. This work will be continued through the next quarter.

#### Maintenance

The maintenance of the various buildings and utilities at this center kept several crews of men busy through the quarter. Much of the tar-paper covered sides and roofs of these buildings was blown off and had to be replaced. Installation of stoves were necessary in all evacuee barracks. This was done as rapidly as delivery of materials required for the installations could be made.



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Personnel

Public Works Division is under the direct supervision of the principal engineer who is assisted by forty-one (41) supervisory and technical appointed employees and 322 irregular skilled and semi-skilled employees.



## GILA RIVER RELOCATION CENTER

### Public Works Division

#### Construction

The lack of materials delayed work on all construction projects during this quarter. Work has gone forward on the housing project to a point where these buildings are approximately 50 per cent complete. The Ice Storage warehouses were completed and work has started on the irrigation distribution system and on the road project.

#### Maintenance & Operations

Maintenance work was confined to repairing buildings in general. Some difficulties were encountered in connection with the water distribution system, it being necessary to repair several breaks in the main caused by excessive movement in the line which was not protected by expansion joints.

#### Personnel

The Public Works Division in this center is under the direct supervision of the Senior Engineer who is assisted by seventeen (17) regular employees and forty-nine (49) temporary skilled and semi-skilled employees.



## GRANADA RELOCATION CENTER

### Public Works Division

#### Construction

The lack of materials made it impossible to accomplish very much in the way of new construction at this center during this quarter. Work was being continued on the high school buildings at the end of the quarter. Three apartment buildings are approximately 70 per cent complete.

#### Maintenance & Operations

All of the construction crews in the maintenance organization have been kept busy on the maintenance of existing buildings and utilities. A great deal of difficulty was encountered in obtaining materials required in making repairs and replacements. The sewage disposal plant is not giving satisfactory service. It is hoped that the necessary alterations can be made during the next quarter to insure satisfactory service from this important utility. Maintenance and the operation of utilities at this center continued to be the principal activity.

#### Personnel

The Public Works Division is under the supervision of a Senior Engineer who is assisted by twenty-four (24) regular supervisory and professional employees. An average of 283 evacuees were employed each month during this quarter in connection with the construction program and the maintenance and plant operations.



## HEART MOUNTAIN RELOCATION CENTER

### Public Works Division

#### Construction

Very little construction work was accomplished during this quarter except on the high school buildings. The lack of materials and severe weather delayed work on other projects. Applications for priority assistance have been prepared in a number of cases and several of the more important projects have now been approved by the War Production Board. A great many of the portable type, CCC buildings have been made available from abandoned camps. These buildings have been used to provide temporary housing for many of the activities at this center. Work on the irrigation distribution system has been given the highest priority of any construction project. All available men and equipment have been assigned to work on this project as well as in the preparing of agricultural land for spring planting.

#### Maintenance & Operations

The maintenance program has kept a large number of evacuees and most of the employed personnel busy through the winter months. This center was faced with many maintenance jobs because of the severe nature of the weather. Cold weather set in in October shortly after the construction of the center had been completed and before the maintenance staff had an opportunity to carry out their winterizing program. A great deal of trouble was encountered with the main water lines as well



as with the water distribution system in general, caused by the freezing weather. The frost penetrated to a depth of 39 inches thus breaking and rendering unserviceable many of the water lines.

#### Personnel

The Public Works Division at this Center is under the supervision of a Senior Engineer who is assisted by seventeen (17) regular employees and two (2) irregular employees. Most of the skilled, semi-skilled and a great many of the technical and professional positions are filled by qualified evacuees. An average of 436 evacuees were employed each month during this quarter.



## JEROME RELOCATION CENTER

### Public Works Division

#### Construction

The construction program during this quarter has been confined to the clearing of right-of-way for the drainage ditches and roads, the excavation of drainage ditches and work on staff housing.

Staff Housing is 35 per cent complete. The cabinet shop completed a total of 1,029 items of furniture required by the school and other activities.

#### Maintenance

Most of the appointed personnel in this division and many of the evacuee crews were kept busy during this quarter maintaining buildings, roads and utilities. A great deal of difficulty was experienced in obtaining materials required for maintenance and construction at this center.

#### Personnel

The Public Works Division at this center is under the supervision of a Senior Engineer who is assisted by twelve (12) regular employees. Evacuees were employed on an average of 656 for each of the three months of this quarter.



## MINIDOKA RELOCATION CENTER

### Public Works Division

#### Construction

No construction work except that of doubledecking several warehouses was done during this quarter because of the severe nature of the weather. Staff Housing units were started at the end of the quarter. Much of the material required for the Staff Housing, Schools and other approved projects was received during this quarter and stored.

#### Maintenance & Operations

Since this center was not completed until the early winter, construction and maintenance staffs were faced with a tremendous job of maintenance and winterizing. Severe weather caused failure of the main water distribution system and rendered many of the branch lines unserviceable. The sewage disposal plant was completed during this quarter and has been the source of many maintenance and operation problems. Much of the time of the construction personnel was spent on winterizing evacuee quarters, water distribution system and food storage warehouses. Part of this work consisted of installing plaster-board lining in the evacuee barracks and enclosing the foundations of the buildings. The material required for this work was supplied by the U. S. Engineers.

#### Personnel

The Public Works Division is under the direct supervision of a



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Senior Engineer who is assisted by six (6) technical and professional employees. An average of 135 evacuees was employed by this division during each of the three months of this quarter.



## TULE LAKE RELOCATION CENTER

### Public Works Division

#### Construction

All of the buildings approved for housing employed personnel were completed during this quarter with the exception of some minor details that are awaiting final delivery of materials. Construction work was continued on the high school buildings, the livestock projects and partitions in evacuee barracks. Considerable remodeling and partitioning was accomplished in the administrative office building.

#### Maintenance & Operations

Most of the Public Works personnel and the majority of evacuees employed by this division were used on maintenance work in connection with the evacuee housing, the water distribution system and the sewage disposal system.

#### Personnel

The work of this division was under the direction of the Senior Engineer who is assisted by twelve (12) regular employees and thirteen (13) irregular skilled employees. An average of 489 evacuees were employed each of the three months of this quarter.



## MANZANAR RELOCATION CENTER

### Public Works Division

#### Construction

Six of the Staff Housing units were completed insofar as materials were available during this quarter, six others were started. Winterizing of 300 barracks and the installation of partitions in 25 barracks was completed. Three miles of irrigation ditch and about 1-1/2 miles of concrete pipe were reconditioned which should make for a material savings in stream-bed loss of irrigation water in the forthcoming agricultural production season. Ten miles of road within the area was graded and some oil surfacing completed. Much of the furniture required for the school program was finished by the wood working shop crew. This section unloaded and transported all of the building materials from the rail head at Lone Pine to Manzanar as well as approximately 90 per cent of other supplies received by the center.

#### Maintenance

##### Evacuee Personnel

There is marked improvement reported in the efficiency of the evacuee labor crews at this center during the quarter. This is attributed to the training program and the replacement of many of the younger men who are being relocated, by older men who have families and are better contented to remain in the center.

##### Building Maintenance

Nineteen carpenters have comprised a crew of skilled men who have



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completed 790 miscellaneous repair jobs on the center buildings in addition to the completion of new floors and sugar bins in the mess hall and storerooms. This has released 100 large GI cans to be used in handling garbage.

#### Plumbing

There is a crew of ten evacuees skilled or in-training and one licensed supervisor. This crew has completed 670 repair jobs during the quarter.

#### Utility Operations

This crew is composed of a total of 69 men and have operated and made the necessary repairs to the steam boiler, heating plants and Hanson water heating boilers that supply hot water for all of the camp buildings and the hospital.

#### Fuel Supply

The total of 786,125 gallons of fuel oil was received and distributed throughout the center during this quarter. Storage tanks have been provided to accommodate 36,000 gallons and will be available for use during the next quarter. A total of 116 evacuees were assigned to work with this activity.

#### Heating equipment

A total of approximately 2700 units of heating equipment were maintained during the quarter--many of the repair parts being improvised at the Center.

#### Garbage Disposal

The total of 97 men were employed in the garbage and trash disposal



crews during the quarter. 550 tons of garbage and 1,370 loads of trash were disposed of. Waste fat in the amount of eight (8) tons was collected, dehydrated, deodorized and shipped to a glycerine factory during the quarter. A steam garbage can washer has been designed and installed and garbage cans are being washed daily.

#### Sewage Disposal

The sewage disposal plant at this project is not giving satisfactory service. The pumps that transfer the raw sewage to the digesters have not worked in a satisfactory manner since their installation. The contractor is still maintaining an employee at this plant and hopes to receive replacement pumps in the near future that will assure satisfactory service from this installation.

#### Appointed Personnel

The Public Works Division is under the supervision of a Senior Engineer who is assisted by ten (10) technical and professional employees. These employees are responsible for the organizing of evacuee workmen into work crews, who are in most cases directed by an evacuee foreman. This applies to the construction of buildings, roads, irrigation development and maintenance of all buildings, utilities and the operation of utilities. Thirteen (13) irregular skilled men are employed to assist in laying out work and in supervising the construction and maintenance program.



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Evacuee workmen are employed in all the construction skills and crafts and in many of the technical, professional and supervisory positions. The average number of evacuees employed each month during this quarter has been 417.



## ROHWER RELOCATION CENTER

### Public Works Division

#### Construction

Progress made on the several construction projects that have been approved by the War Production Board is substantially as follows at the close of the quarter:

The high school project is 15 per cent complete.

Work on the automotive and heavy equipment repair shop is 30 per cent complete.

Ice Storage House 5 per cent complete.

Poultry Unit 15 per cent complete.

Drainage structures for the agricultural land 8 per cent complete.

Progress on all construction work was retarded during this quarter chiefly because of weather conditions, unavailability of materials and lack of evacuees skilled in the construction crafts. Steps were taken to train evacuees in the various construction crafts soon after the establishment of this center. This program is being continued to insure a back log of skilled or semi-skilled men to carry on the construction and maintenance program though many of our key men are being relocated.

#### Maintenance & Operations

Most of the appointed personnel and the evacuee work crews have been kept busy with maintenance work and in the operation of the center utilities.



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Personnel

The Public Works Division is under the direct supervision of the Senior Engineer who is assisted by ten (10) regular employees and one (1) irregular employee.

An average of 304 evacuees were employed each of the three months of this quarter.