

Report of the Construction

CAMP UPTON, N.Y.

copied from a report prepared by

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REPORT OF CONSTRUCTION OF CAMP UPTON
By Maj. C. K. Meyers.

On June 20th 1917, travel orders and instruction were received to proceed to Yaphank, N. Y. to supervise the construction of the cantonment to be built there.

On June 21st, accompanied by Col. Frank H. Lawton, of the Department of the East, Maj. M. J. Whitson, of the Cantonment Division, the President and General Manager of the Long Island Railroad, an inspection of the property so far as the trail extending through it permitted, was made.

The site of the camp was determined and was located on a U. S. Geological map of the section, The factors controlling the location of the site were that the site should be centrally located on the property, to provide drill grounds on all sides, and that the prevailing winds would not pass over the stables, before reaching the barrack buildings. These factors prohibited the selection of the most satisfactory (from an engineering standpoint) location. The site selected placed the eastern end of the cantonment on low ground. Realizing that the topography shown on the map was only approximate, and that the low ground might prove to be lower than was shown on the map, I objected to the location, insisting that it be changed, - the location recommended by me being to the west and at a right angle to the present location. The suggested location was not accepted due to the direction of the prevailing winds. Had this site been selected the long axis of the camp would have been along a ridge and the camp would have had excellent drainage.

The location being decided upon, the nucleus of an engineering organization was gotten together that evening. The authorized units were platted on a map and forwarded to the Headquarters of the Department of the East.

The location and arrangements of units having been approved, a field party began surveys on June 23rd, instruments and equipment having been borrowed.

The contract was let to the Thompson-Starrett Co., of New York, on June 24th., their representative arriving on June 27th.

The property obtained by the Commander of the East, for the cantonment, a tract of land containing approximately 10,000 acres. The property extended from the South Country Road, a state highway, on the south, to the Middle Country Road on the north, a distance of $6\frac{1}{2}$ miles, and from the Carmans River on the west to the Peconic River on the east, with a maximum width of four miles and a minimum width of one mile. To provide for rifle ranges additional land to the north has been obtained. This tract extends to the Port Jefferson branch of the Long Island Railroad, a distance of $3\frac{1}{4}$ miles, and has a width of $2\frac{3}{4}$ miles. Right to the use of the Tangier property to the south has been obtained. The total acreage at this time is about 19,000 acres, Jan. 15th 1918.

The soil is a very fine sand covered with from one to four feet of sandy loam, which when undisturbed absorbs water readily, but which becomes almost impervious to water when compacted by traffic. In the lowlands there is an underlying strata of impervious hardpan which causes them to be swampy during the wet seasons. The land is rolling and in general is from 25 to 80 feet above sea level, a few mounds being as high as 135 feet.

The property was originally covered with a hard wood forest. The stumps had rotted level with the ground surface, being alive, numerous shoots from four to ten feet high grew from them. These stumps measured up to six feet in diameter and were so numerous that in many places large areas could be walked over by stepping from one stump to another. In addition there were from 30 to fifty pine trees to the acre, measuring up to 12 inches in diameter. This growth played a very important part in the construction and cost of the camp. In addition to the direct cost of removing the brush and trees, the cost of trenching and grading was materially increased. It was necessary to stump, construct and maintain many miles of temporary roads, as trucking could not be

done except along prepared routes.

As it was necessary to house and feed all employees, the clearing placed an additional burden on the housing department. 1400 acres were cleared. It is estimated that the cost of construction was increased by the undergrowth by not less than \$500,000. this figure not including the actual cost of the clearing.

The main line of the Long Island Railroad, which at this point is single track crosses the southern part of the property.

From June 25th until the later part of July, the only work that could be done was that of clearing the site for a temporary camp near the railroad tracks, clearing the site for the permanent buildings, building roads from the railroad to the camp, constructing railroad sidings, and ordering materials and equipment. During this period engineering forces were making surveys of the area, in order to secure the necessary information to determine the location of the buildings and pipe lines before the arrival of material. The surveys developed that the land at the east end of the camp was too low for building purposes. It was necessary to move the site of the camp 2000 feet to the west.

The month of July was one of discouragements. No one, not a resident on the ground could appreciate the hardships placed upon the contractors or could give them the credit due them for the manner under which they stood up under them.

The wages paid were those in force in Brooklyn as of June 1st, 1917. Unskilled labor was paid 37½ cents an hour straight time until instructions were received for payment of time and a half for overtime.

Car, enters received 63½ cents an hour, double time Sat. & Sun.

Trick Masons 75 cents an hour, double time Sat. & Sun.

Chauffeurs, \$4.00 day, \$35.00 week, 10 hours day.

Labor foreman, \$60.00 week

Other mechanics ranged from 62½ cents to 75 cents hour.

The labor as a whole was very poor and was ready to take advantage of every opportunity to loaf on the work. This opportunity was frequently given them as the contractors were unable to secure reliable gang foremen in sufficient numbers.

When the property was acquired arrangements were made with the Long Island Railroad to construct siding facilities for handling the materials for the construction of the camp. The construction of the sidings was not begun until after the contract was let., consequently it was necessary to unload the first material to arrive from the main line and later from a siding built parallel to the main line. It was realized that the progress of constructing the sidings was not sufficient to permit the use for construction purposes. It was therefore necessary in order to unload the material, that the contractor construct temporary tracks. This was done at an expense to the Government of approximately \$65,000. this figure including the cost of the rail and ties which were purchased by the Government. Materials were much longer in transit than was anticipated. The car floats and single tract railroad were unable to handle successfully the increased transportation.

A temporary supply of water was obtained by gasoline and steam driven pumps attached to wells which were located at convenient points.

The sewage system was expensive to construct, and from an engineering standpoint is unsatisfactory. This condition exists as considerations other than drainage controlled the selection of the location of the camp on the property. Both ends of the camp are constructed on low ground, a ridge crosses the camp just west of the center. This condition requires that the sewage from both ends of the camp be raised to permit of its disposal. The sewage passes through septic tanks to filter beds. It was intended to construct thirty one acre disposal beds, the construction of the beds consisting of removing the top soil and providing the necessary distributing pipes and under drains. It was necessary to shut down construction on

account of cold weather after twenty beds had been completed. At No. 3 Pumping station and at the filter beds, by passes to adjacent lowlands were provided to be used in cases of emergency.

It was necessary to house and feed all employees. It was expected that lumber for the buildings would arrive within ten days of placing orders, therefore temporary housing facilities consisting of tents were provided. The first shipment of lumber which was expected in ten days did not arrive until it had been in transit for thirty days.

The mosquitoes from the salt marshes to the south found cover in the undergrowth, making staying out of doors or in the tents unbearable. Almost daily rains so saturated the ground as to cause temporary roads to become series of mud holes.

For three consecutive weeks during this period the contractors employed each week as many men as they had at any times during the period on their payrolls. This large amount of work thrown on their time keeping department placed this department in such a condition that it was unable to handle the work required of it upon the arrival of the materials and the field forces were increased.

CONTRACTORS ORGANIZATION

In general the superintendents were men belonging to the contractors regular organizations, the smaller positions being filled by temporary employees. The organization was unusually strong at the heads of the various departments. It did not, however have in a number of cases the proper calibre men in the smaller positions. The inability to obtain these men was due in part to the large wages made by the mechanics, and the large number of poor mechanics, the better men preferring to work as mechanics rather than assume the responsibility of filling the more important positions. An Auditor recommended by the American Institute of Accountants handled all auditing work. The condition created by the inability of the time keeping department to properly handle their duties gave a number of the workmen and a few time

keepers the opportunity to put through a number of false records.

The largest number of men employed on any one day was 15,000.

About 80% of the men were fed from two large and three small commissaries, the remainder cooking for themselves. The prices charged for meals were, unskilled labor 25¢, mechanics 35¢, and office force 40¢. The quality of food served was good. After the first month the sanitary conditions were satisfactory. The service was that generally found in a construction camp and was not satisfactory to a large number of the men. The poor service was due in part to the inability on the part of the commissary management to keep their employees for any length of time.

Due to the difficulty of securing labor in sufficient quantities, and due to the great amount of field work required, it is recommended that no steam heating plants be used on future construction of this type. Due to the large amount of space occupied, the danger from fire and the dirt incident thereto, the use of room heaters, it is recommended that hot air systems be installed whenever possible.

The heating plant at the Base Hospital has proven to be inadequate to heat all the buildings at the recent low temperature (15 below zero January 1st). All wards were satisfactorily heated. Sufficient pressure could not be obtained to force steam to the buildings at the end of the mains. Better results would have been obtained had a smaller size and better grade coal been furnished.

The Fire Department was in charge of a retired captain of the New York City Fire Department. Working with him was a force which distributed water buckets, fire rails, extinguishers etc., and which made inspections to see that no unusually dangerous fire conditions occurred. A light truck equipped with hand extinguishers was held in readiness to answer any fire alarms. No fires except a few brush fires and automobiles occurred.

The Division Commander assumed command on August 18th.

No. of Troops

Date of Arrival

Barracks compl. to accommodate

<u>No. of Troops.</u>	<u>Date of Arrival</u>	<u>Barracks compl. to accommodate</u>
2200	Sept. 10th	10,650
8581	Sept. 19th-23rd	22,450
8498	Sept. 28th-30th	30,000
10,376	Oct. 8th-12th	35,000
1500	Oct. 30th, Nov. 1st	37,700

A number of completed barracks not occupied by troops were used to house the contractors organization. The camp has never accommodated the full number of troops for which it was made. Sufficient cots for the first troops were not provided. This condition existed however for only a short period. There was a delay in the delivery of the room heaters. However all heaters arrived and were installed before the weather became sufficiently cold to cause suffering among the men.

As it was necessary to house all the men within the camp and as the camp was near New York City, it quickly became infested with a large number of professional crooks and men of the underworld. To handle the condition that resulted, it was necessary to employ a large number of detectives and men with police experience. At first the men arrested were taken before the local authorities but punishment for them could not be obtained. There was requested and established a U.S. Dist. Court at the camp.

During the period of nine weeks after the court was established there were tried 1021 cases, fines amounting to \$2705. and jail sentences of 900 days were imposed. In addition 309 men were held for grand jury. Arrests for assault were made, bribery, violating Sanitary and Fire laws, bringing liquor into Camp, larceny, sodomy, fraud, as undesirable citizens, for gambling, loafing, disorderly conduct, intoxication and other causes. In addition about 1000 men were escorted from the reservation, as they could not account for their presence or had remained after being discharged.

The contractor established a hospital and provided a corps of physicians. All employees were, it was necessary to provide medicines in large quantities, and medical as well as surgical treatment.

Number of deaths from various causes -----3

Number of men treated for accidents ----3498

Number of serious cases treated----- 200

Number of medical cases treated-----9500

Following is a list of carloads of material used in the construction of the Camp, prepared by W.T. McCauley, American Railroad Association representative.

Commodity	Number of cars received	Commodity	Number of cars received.
Lumber	2779	Coal	29
Cots	80	Gravel	419
Nails	23	Brick	62
Ironing Ldy.		Sewer Pipe	212
Mfg. Mchy.	30	Crushed Stone	765
Roofing Paper	88	Frames, Sash, Door	100
Iron Pipe	136	Radiators, Stoves	
Ashes	110	Ranges, etc.	144
Cement	91	Wood Pipe	52
Feed, Hay & Oat	177	Refrigerators	38
Wall Board	34	Tar & Oil	40
		Misc.	333
		Total	5742

The labor was obtained from the local villages as far as possible, but as there were not enough men in the neighborhood the bulk came from New York. The contractor established an employment office in New York where men were hired as needed and sent by special train to the camp. There they were enrolled, given a place to sleep, and assigned to the superintendents of their special class of labor.

Great difficulty was experienced in July and August in the delivery of building materials due to lack of graded roads. After Sept. 1st., the graded dirt roads were far enough in advance to make the sections under construction easily accessible to teams and trucks.

A temporary railroad spur was run thru the center of the camp, with one

branch running south thru the center of unit J, and one branch extending to the west, which was available for cars on July 27th. The permanent railroad tracks to the Division warehouses were available on August 12th for limited use by the contractor. The railroad sidings provided a central location for unloading materials, and with the proper spotting of cars, would not have necessitated, with the exception of the Hospital unit, and average haul for delivery of more than one thousand feet. Before the tracks in the camp were available about five million feet of lumber was unloaded from the spur at the Incenerator and the main line siding north of Broadway.

The time and cost of unloading the cars was excessive, the method used in most cases was casting lumber from several cars into a pile alongside of the track, and then attempting to pile and sort it, which proved very costly and resulted in the loss of considerable lumber and the use for several days of the portion of the track for unloading. Unloading of the cars progressed day and night, the men working in shifts to suit the hours of the switching and spotting operations of the Long Island Railroad, which were sometimes determined by the railroad crews to suit their own convenience. After several days of confusion the Contractor and the Railroad Company agreed on certain hours, and after that the unloading progressed without much interference from switching operations. The car door rollers were not used. If they had been it could have greatly facilitated the unloading of the lumber.

Great trouble was experienced in having the requisite amount of lumber delivered to each building site. It always happened that there would be at each building site an overstock of certain sizes and lengths of lumber and probably would not be enough of other sizes required. This was due partly to the drivers who wanted to unload at the first available point, and partly due to the carpenter foreman, who would order the lumber unloaded at the building they were working on so as to insure their having an abundance of material. Another cause of delay in delivering lumber to different units was the fact that after loads left the yard with instruction to deliver to

a certain building, they would be commanded by another unit superintendent, who would order the delivery of the material to his unit, thereby causing considerable loss of time to the carpenters waiting for material.

All quarters for the men, stable and storerooms were built upon wooden post foundations. All posts were set at least thirty inches in the ground, and those under buildings having heavy floor loads have two inch fir or cypress plates under them, giving at least one square foot bearing area.

In constructing two story buildings a gang of carpenters followed the post gang and placed the first floor sills, joints and rough flooring. Another gang followed and framed the sides flat upon the floor, and the ends flat upon the ground. In framing the sides the wall plate was placed upon the floor along the center of the building and the stud space was marked out on this from templates. The studs were then placed and the door and window openings with their hoods were framed. One ply tar felt was tacked to the studs and novelty siding was then nailed on. The sides were not ready to raise. This was done by men lifting the side along the wall plate and gradually walking underneath the sides and raising it. The lower end of the side was held in position by snubbing lines running each way from the wall plate. When the side was at about 45° of the horizontal it was assisted to a vertical position by men lifting on two by fours previously spiked to the side near the wall plate, and by men pulling on the guy lines on the opposite side. The sides were then braced by two by fours running from the sides to the floor. Very little trouble was experienced from high winds. Three of the smaller barracks were blown down due to faulty bracing. After raising other gangs organized to do certain classes of work followed in order, framing the second floor and roof, placing wainscoting, partitions, upon board, finished floors, doors, windows, and placing tables and counters. The buildings were designed to use commercial lengths of lumber and should have required very little cutting of material. The cutting and ripping was done by 25 portable saws driven by four to five horsepower gasoline engines. From five to eight

of the saws were distributed thru a unit under construction.

Most of the lumber used was a low grade-unseasoned Southern pine, and could not be handled without some loss due to breakage.

The following quantities of material were used in connection with the building operations.

Lumber	51,000,000 feet
Wall Board	3,560,000 Sq.ft.
Foundation Posts	500,000 lin, ft.
Sash	80,413
Doors	11,583
Nails	800 tons
Electric Lights	15,000
Water Closets	3,060
Kitchens equipped	354
Heaters and Stoves	2,832
Steam Heating Plants	125

Three classes of roads were built. Class A roads were built where traffic will be heaviest and where much trucking is necessary. The pavement of these roads is of the penetration type and in general 18 feet wide. A base course of No. 3 stone five inches thick, filled and rolled. A second course of the same size stone rolled slightly, then the voids filled with Tarvia X applied hot under pressure, one and a half gallons to a square yard, #2 stone was spread over this and the whole well rolled before seal coat of Tarvia X, $\frac{1}{4}$ one half gallon to the square yard was spread and covered with a layer of Rose gravel, rolled and road opened to traffic. Sometime later the pavement surface was swept clean and a cold application of Tarvia B spread, one quarter gallon to the square yard, and covered with sweepings and local sand.

Class B roads were built for light traffic only, of natural soil. Class C roads were constructed the same as Class A roads with their first course. Then covered with a layer of No. 2 stone and rolled. This will serve as a base

for further construction if necessary.

The main entry road was graded from the Merrick Road to connect with the Campstreet system, crossing over the main line of the Long Island Railroad on a bridge built in conjunction with the Railroad Company. This road is 4.4 miles in length.

All the road work was done under contract with the Barrett Co.

MEDICAL INSPECTION

It was realized that with the thousands of men coming into Camp there was a great liability of introducing infectious diseases. A medical examination of all men seeking employment was desirable but not practicable. All negroes were examined for small pox before being assigned quarter. Typhoid and paratyphoid vaccines were given to all men who desired it. The general health of the workmen was excellent. There was a mild epidemic of enteritis, due to change of diet, water etc.

Disposal of waste water. In the absence of a sewerage system during construction of Camp cesspools protected by grease traps were constructed. On account of the sandy nature of the soil they were very successful and disposed of large amounts of waste water with difficulty.

Disposal of Garbage. At first garbage was removed by farmers. The amounts soon became so large that farmers could not handle it. Rock pit incinerators were then constructed, one for each commissary. Garbage was placed in cans. When full set on platform or in screened garbage house. A detail of men removed full cans to nearby incinerators where it was burned. Cans were washed inside and outside, dried by burning and oz. of oil in can returned to a platform for clean cans.

Water. Water was obtained from drilled wells. No latrine was placed within 500 feet of well. Unfortunately there was not enough water to provide adequate bathing facilities for the employees.

Latrines. Seating facilities were provided for about 7% of the force employed. A six seat fly proof box with hinged lids, arranged that they automatically closed, was provided. A medical officer was placed in charge of

construction, location and care of latrines. The pits were burned daily with one gallon crude oil and fifteen pounds of straw.