IN REPLY REFER TO:
333.9-Ft. Hancock, N.J.
(SO)

HEADQUARTERS SECOND CORPS AREA
OFFICE OF THE CORPS AREA COMMANDER
GOVERNORS ISLAND, N. Y.

3W-2

July 17, 1941

Subject: Inspection of Signal Corps Plant in Place at Ft. Hancock, New Jersey, for the Calendar Year 1941.

Thru: Commanding General, Hq. 2nd Coast Artillery District, Ft. Hamilton, New York.

To: Commanding Officer, Harbor Defenses of Sandy Hook, Ft. Hancock, New Jersey.

1. The following is a report of inspection of the Signal Corps Plant in Place recently made at Ft. Hancock, New Jersey:

"Last inspection made October 19, 1939 by H. Caldwell, Electrical Assistant, S.S.A.L.

"This inspection made June 11, 1941 by H. G. Phair, Associate Electrical Engineer, S.S.A.L., in compliance with instructions contained in letter orders, Headquarters 2nd Corps Area, June 6th, 9th and 30th, 1941.

I. SWITCHBOARD, MANUAL:

A 3 position multiple common battery Stromberg Carlson telephone switchboard has recently been installed, replacing the previous 2 position non-multiple Leich Electric Company Switchboard. This installation was a part of uncompleted Project CSO 2-83, (Signal Office, 2nd Corps Area Project #889). At the time of inspection, 100 additional line equipments were being installed and 100 more were on order making 500 in all when completed.

Three hundred line equipments were in service at the time of the inspection with no spares available at the time.

Switchboard tools supplied are suitable and adequate.

Recommend a suitable bulletin holder be purchased and mounted on the switchboard for posting orders and instructions to operators.

II. AUTOMATIC SWITCHBOARD EQUIPMENT:

None.

III. STORAGE BATTERY:

On account of the change from a 30 volt to a 24 volt post telephone switchboard, 3 of the cells of the old post telephone storage battery have been disconnected. The numbering of cells is affected and should be changed accordingly.

The battery is on a rack in a separate battery room used also as a repair shop in the basement of Harbor Defense Headquarters Building.

During alerts which are held frequently, a peak load occurs on this battery due to cutting off power for black outs, and the need to use the battery for ringing power, as well as the excessive traffic at such times. Inspection of the battery was made following an alert call during the previous night. The battery was found in need of an equalizing charge which was given. It is recommended that equalizing charges be given at intervals of four months in accordance with the instructions of the manufacturer.

This battery,which formerly consisted of 15 cells and served a 2 position non-multiple switchboard, now consists of only 12 cells and is considered too small for the 3 position multiple switchboard it now serves. Recording ammeter readings of the current drain are now being taken to check this and in order to ascertain the size of battery to be procured, if such is necessary.

It is recommended that the amounts of water added to each cell be recorded on retained battery reports as this is helpful in checking the performance of the battery.

Fire control storage batteries are covered under Paragraph XX., Fire Control Switchboard Room Equipment.

IV. CHARGING EQUIPMENT AND RINGING EQUIPMENT:

The old rectifier in the post telephone exchange has been retained. It is believed this rectifier will be found too

small to suitably charge a larger storage battery if the latter is provided. A rectifier suitable for giving the requisite equalizing and other replenishing charges should be considered. This matter is being given attention in connection with the general study of battery load.

Ringing equipment for the post telephone exchange consists of 2 telerings operating from the 115 volt lighting circuit. (See Paragraph V. for changeover switch.)

For fire control charging equipment, see Paragraph XX., covering Fire Control Switchboard Room Equipment.

V. POWER PANEL:

This is a BD-68 panel on which are mounted the charging rectifier and 2 telerings. The power panel is also provided with a changeover switch and ringing converter energized from the telephone storage battery for use in case of power cut-off. Satisfactory.

VI. DISTRIBUTING FRAME:

The old distributing frame, a WE type 1425-C, has been approximately doubled in size under Project CSO 2-83. At the time of inspection, additional outside cables were being pulled in for termination on this frame.

VII. WIRE CHIEF'S TEST EQUIPMENT:

This cabinet had been temporarily dismounted prior to the inspection in connection with construction changes in the exchange. Besides the test cabinet, there are 4 lineman's hand sets available.

Additional portable wire chief's testing equipment available is listed on sheet 13 of Form 72.

VIII. RELAY RACK:

Additional line equipments were being provided at the time of inspection, as indicated in paragraph I. above.

Relay rack cables are formed and connected to terminal strips mounted on relay rack.

Fuse strip for battery supply to relay rack equipment is mounted on the relay rack bay with such equipment.

IX. RECORDS:

Drawings of plant are not up to date. Owing to the great number of changes that have been and will be made at Ft. Hancock, it is recommended that the revision of these drawings be given early attention and that a routine be established for regular revision periodically during the period of construction. As the ultimate completion of all work contemplated may be a matter for the remote future, the usual practice of revising and distributing these records upon completion of current construction cannot be too strictly applied to Ft. Hancock at this time.

The names and designations of fire control stations appearing on current plant and other records are in many cases incorrect. The purpose and use of the stations change from time to time according to local circumstances of troop training. It is understood a form of designation for the various stations, that will be adaptable to more flexible use, is being adopted in connection with project annexes in preparation. Until the new project is adopted, these difficulties of identifying stations with current records are likely to continue. They are due of course to the transitional stage through which Ft. Hancock is now passing, including the transition from a set up under an old Harbor Defense Project to one not yet formally approved. To avoid confusion, it is recommended that designations on revised drawings be made to agree with those to be accepted under the forthcoming annexes as soon as practicable.

An excellent system of in and out work orders is in operation to cover frequent changes in telephone installations.

Forms 1160 and 1156 are maintained. The instructions on trouble report WDSC Form 41 should be strictly followed.

X. MISCELLANEOUS REMARKS RELATIVE TO CENTRAL OFFICE:

Telephones are properly classified on the records; however, some further changes in lamp capping on this new switchboard will be made to conform to standard methods as soon as sufficient lamp caps of the colors required are available.

Telephone Service has been greatly improved as a result of providing 3 female operators. Coast Artillery enlisted operators are on duty during relief periods and from 5:00 P.M. to 8:00 A.M. weekly as well as Saturday afternoons and Sunday. Two soldier operators are on duty after hours.

Operating schedule for the business day for female operators is as follows:

No. of operators	Period
1	8:00 A.M. - 8:30 A.M.
2	8:30 A.M. - 9:00 A.M.
3	9:00 A.M. -11:00 A.M.
2	11:00 A.M. -11:30 A.M.
1	11:30 A.M. -12:30 P.M.
2	12:30 P.M. - 1:00 P.M.
3	1:00 P.M. - 4:00 P.M.
2	4:00 P.M. - 4:30 P.M.
1	4:30 P.M. - 5:00 P.M.

There are 10 enlisted Coast Artillery operators, 1 corporal and 9 privates of various ratings. Two privates serve as information clerks.

Directories are issued about every 3 months as required. About 90% of calls are made by number.

Peg count of calls over a period of 3 typical days averaged as follows:

	Per Peak Hour	Per Day	Busy Per Day	Maximum Busies Per Hour
Incoming trunks	51	463	72	
Outgoing trunks	49	366	174	27
Intercommunicating	646	4,043	-	

The peg count indicates that from 3 to 5 more trunks, making a total of from 8 to 10, should be rented as soon as adequate cable pairs can be made available.

For fire protection there is provided a tetrachloride charged fire extinguisher. A bucket of sand with scoop should also be on hand.

Telephone operation would be benefited if access to the room in which the wire chief's maintainers and information clerk are located was not through the operating room. It is believed this could be accomplished by a rearrangement of adjacent office space.

XI. STOREROOM AND SUPPLIES:

Supplies are kept in good order but there is an accumulation of old, obsolete and useless items from bygone regimes which the inspector assisted in identifying and classifying for disposition. It is recommended that the work of eliminating items not needed be pressed to completion as the presence of such items is detrimental to good supply service and storage.

XII. CONDUIT SYSTEM:

Except for conduit installed within the past few years for the post telephone system, the extensive conduit system originally installed in the sandy soil about 35 years ago for fire control cables is of doubtful and uncertain value. Many sections have been found blocked with sand and tree roots and others out of alignment. It is reported that ducts where encased in concrete and installed about 20 years ago have not given trouble. Plans figuring on the use of the conduit system should bear this in mind. The old manholes are relatively small for the large amount of Signal Corps and Engineer Corps cable carried through them and in general require cleaning out of sand which partially covers cables on the bottom.

In order to make maximum use of usable ducts, it is recommended that the consolidation of parallel cables into single cables of larger size be continued. Since last inspection considerable progress along this line was made in the vicinity of Fire Control Switchboard Room No. 1.

XIII. CABLE SYSTEM:

All cables are underground. Considerable cable is being installed as received under Project CSO 2-83 and associated sub-projects including tie cables between Fire Control Switch-

board Room No. 1 and Post Telephone Exchange and cables pertaining to current fire control construction projects.

XIV. POLES AND CROSSARMS:

None.

XV. TERMINALS:

Terminals of post telephone system are in satisfactory condition.

XVI. WIRE LINES:

In the cantonment areas field wire has been strung temporarily pending the arrival and installation of distribution cable.

XVII. TARGET RANGE COMMUNICATION SYSTEM:

None.

XVIII. TELEPHONE STATION EQUIPMENT:

A great number of telephones are bridged as party lines. This has been made necessary by the lack of adequate cable and switchboard facilities. Projects under way will correct this situation.

A drastic increase in the number of telephones has been made necessary owing to developments since the last inspection. A total of upwards of 400 telephones is now considered necessary. The determination of the exact number to be authorized for installation based on information obtained by this inspection is now a subject of correspondence.

Records indicate 139 old type desk and wall telephones still in service. It is recommended that these be replaced by the new anti-side telephones as soon as practicable. They have served their expected life and further extensive repairs, reconditioning, or replacements in kind are not recommended for the reason that it is believed that it would be a false economy.

At the present time telephone fire reporting service is provided by 12 WE type 336E telephones distributed about the post and connected to the telephone switchboard. A satisfactory procedure is set up for the handling of fire calls. A project for a standard type telephone fire reporting system with a switchboard in a proposed fire headquarters to be constructed in the vicinity of the existing fire house is under preparation.

XIX. TELEGRAPH STATION:

A Western Union Teleprinter station operated for the Company by enlisted personnel in connection with their other duties has been established in Post Headquarters, Building No. 24. Telegraph service after hours is handled over the Morse circuit from the office in the Western Union observation tower at the point of Sandy Hook. The Company also uses the tower for maritime reporting and has a line through the reservation for this purpose. Both the Army and the Coast Guard also maintain watches in this tower at the present time.

Upon completion of installation of cable plant now under way, it is proposed to have the present Western Union pole line removed and to place the telegraph line in the cable. The pole line has been poorly maintained and is now in bad condition. Negotiations are now under way with the above end in view.

XX. FIRE CONTROL SWITCHBOARD ROOM EQUIPMENT:

Since last inspection the installations made in Fire Control Switchboard Room No. 1 at old Battery McCook under Project SCD-29 and associated projects have been completed and the equipment no longer needed has been removed.

Essentially the present equipment consists of:

5 Switchboards, BD-74 Combination A
2 Panels BD-75
1 Main Distributing Frame, Cook, of 8 Verticals
1 Switchboard, BD-15, TI Panel
1 TI Apparatus EE-56
2 Rectifiers with Reactors, GE, 12 amp.
1 Battery Storage, Philco, 9FF, 384 amp. hour on steel rack
1 Battery Storage, Philco, 7EFB, 140 amp. hour on wood rack

1 Battery Storage, Exide, EMGO-7, 120 amp. hour on wood rack
1 Set, testing, Wire Chief's, BE 70A
1 Motor Generator, 1KW, 110V.D.C. - 45 V.D.C.
1 Motor Generator, 1KW, 110V.A.C. - 45 V.D.C.

The BD-74 switchboards are operating satisfactorily. Cords are used for cross connecting to a greater extent than it is believed was intended at the time of the design of the switchboard as the permanent base lines have not been determined. Cross connections at the BD-75 panels are made as the circuits become more or less permanent. Detailed records are kept of the connections made.

At the time of inspection 3 new 100 pair cables were in course of installation to the BD-75 panels.

The rear of the BD-65 switchboard has been inclosed.

The BD-15 TI Panel is old. The matter of its replacement by another panel has been initiated.

TI Apparatus is satisfactory for the present. Its replacement by 2 of the type EE-86 as soon as obtainable, however, is recommended.

Rectifiers, satisfactory. Mounted on wall

Storage Battery No. 1, Philco 9FF, satisfactory.

Storage Battery No. 2, Philco 7EFB. This battery in parallel with Battery No. 3 is used as a reserve for Battery No. 1.

Storage Battery No. 3, Exide EMGO-7. This is an old battery that has lost so much of its active material that it should be considered as having fulfilled its useful life. Specific gravity indications confirm this conclusion. It is recommended that it be replaced. The guarantee for this battery expired in 1939.

To provide space in battery room when the new 9FF battery was added, the cells of the 2 smaller batteries were placed on the wood racks in such a manner that the elements cannot be viewed endwise, making inspection difficult. It is recommended that racks in two tiers be provided, if necessary, to remedy this.

Equalizing charges should be given the batteries at intervals of four months in accordance with the manufacturer's instructions.

An ample supply of distilled water should be kept on hand to replenish evaporation from batteries and the amounts added to each cell should be duly recorded on the storage battery reports.

Wire Chief's Testing Set, satisfactory.

The motor generators are used for charging auxiliary to the rectifiers and when only DC current is available. Motor generator frames have not been grounded. At the present time there is no local reserve 115 volt power unit in the vicinity of the fire control switchboard room but one is contemplated.

Considerable work has recently been accomplished in consolidating and organizing communication cable in the vicinity of the fire control switchboard which has been well done. Further consolidation will be required if additional cables are contemplated as there remains only one spare duct of those leading outward from the switchboard room and this may be required for purposes of the Engineer Corps.

Duct ends in manholes and trenches in and near the fire control switchboard should be plugged and sealed.

Water enters the gallery near the fire control switchboard room when the adjacent old mortar pit is flooded during storms. It is recommended that suitable drainage be provided as soon as practicable.

Too much emphasis can not be given the importance of continuously maintaining the proper heating and ventilation for this underground installation. Heating equipment provided should be kept in operation for this purpose at all times.

Linoleum is available for floor covering and should be placed as soon as practicable.

When the room is in active use the noise level is disconcerting to switchboard operators. It is understood that the soundproofing of the room will be initiated as a matter pertaining to the Engineer Corps at the proper time.

The fire control switchboard room is now a corridor for the passage of personnel to other bomb-proofed stations. It is understood, however, that this will be eliminated when reconstruction now under way is completed.

XXI. FIRE CONTROL STATION AND BATTERY EQUIPMENT:

Frequent changes are made in the functions of stations and organizations using them so that fixed installations must be modified in equipment and wiring as the occasion arises. Some stations have been temporarily set up using field wire and hurriedly improvised installations while others previously in use have been abandoned. Information contained in the last approved project annexes was found of limited value as a guide in this respect but the new annexes in preparation will, it is understood, clarify the situation.

As indicated on sheet 8 of Form 72, herewith attached, a great quantity of outmoded telephone equipment is still in use. This old equipment has outlived its usefulness, is not worth the cost of repair and its continuance is not helpful to training. A project has recently been approved for the replacement of this obsolete equipment and the work should be expedited as soon as the material is received.

A beginning has been made in air-conditioning the replacements at Batteries Kingman and Mills which is of course highly desirable from the standpoint of upkeep and preservation of communication equipment there installed. Some condensation of walls, however, was noted as a result of the opening of doors during previous drills. It is recommended that further attention be given this matter to see if the admittance of moisture-laden air can not be reduced. Dampness was also noted in the plotting room at Battery Mills.

Caution is recommended to see that equipment designed for mounting indoors in dry locations is not located in open towers or similar places where liable to exposure to rain or the elements during operation.

Complaint has been received that the ordinary time interval bells as used at Batteries Kingman and Mills are not sufficiently loud, as the noise level is high during drilling at the guns. Experimentation with Klaxon horns as a substitute is being carried on.

XXII. OUTSIDE PLANT NOT OTHERWISE REPORTED (INCLUDING FIRE CONTROL CONDUIT AND CABLE):

There are 7 pay stations. More are needed and will be added when cable pairs become available.

It is estimated that at least 5% of pairs of fire control cables are inoperative from various causes. Present main trunk cables are inadequate but cables are now being installed to supply sufficient pairs.

A 200 pair cable has recently been installed between the post telephone exchange and the fire control switchboard room. At the time of inspection additional 100 pair and 200 pair cables were being installed to reinforce trunk cables in a northerly and southerly direction from the administrative and tactical centers.

Reference is invited to Paragraph XII. above in connection with the old fire control duct system.

A considerable amount of the lateral and local distributing fire control cables are old types which have been in place for a long time. Some have been unused, apparently, for 20 years. These are in poor condition and should be removed where not usable. Cable racking in manholes is conspicuous in its absence and cable in several instances in manholes was covered with sand and debris. Cables are not satisfactorily tagged. Any contemplated use of the stations and batteries involving these cables should consider re-vamping of the cable system.

There is still a quantity of cable in ducts, which has been abandoned but which cannot be pulled out because of cave-ins, sand, roots and other obstructions in ducts. It is believed, however, that the salvage value of the abandoned Signal and Engineer Corps cable which might be removed would be considerable.

In the above connection it is pointed out that the dressing up of cable in manholes will be impracticable without the cooperation of the Engineer Corps which shares the use of manholes and ducts in fire control areas. As complete a separation as circumstances permit should be maintained between the cables of the two services.

The further consolidation of fire control cables was recommended in Paragraph XII. of the foregoing.

The general substitution of sealed binding post chambers for terminal strips at stations and batteries has been proceeding for the past two years and has been a decided improvement.

A rebuilding of the terminating facilities in all cable huts is now under way.

The New Jersey Bell Telephone Company recently constructed underground duct facilities to Cable Huts "C" and "D" and at the time of inspection was placing its cable therein with the view of replacement of its aerial entrance lines.

Additional submarine cables in connection with approved fire control projects were being installed at the time of inspection.

The three experimental submarine cables originally installed at SeaBright, New Jersey, to points off shore for use of the Signal Corps Laboratory are no longer needed and they are to be removed.

A detailed list of matters to which attention is recommended and which relate to the fire control conduit and cable system was left with the Harbor Defense Artillery Engineer.

XXIII. REMARKS, GENERAL INFORMATION AND RECOMMENDATIONS:

The maintenance personnel for the post telephone system are 5 Coast Artillery enlisted men, 1 technical sergeant, 1 corporal and 3 privates of various ratings.

Telephone maintainers have been provided with available CSO Series 5 Circulars applicable to their work. In addition the Harbor Defense Artillery Engineer has made available a complete personal set of Bell System Practices for reference of personnel concerned.

On account of the extent of the fire control system and the large distances to be covered, it is strongly recommended that a maintenance truck be furnished.

This report consists of fourteen (14) pages and is submitted in quadruplicate. The applicable sheets of W.D.S.C. Form 72 will be prepared and furnished upon completion of the work now being accomplished.

Disposition of this report should be as follows: One copy retained for the files of the Commanding Officer, Harbor Defenses of Sandy Hook, Ft. Hancock, New Jersey, and three copies returned to the Commanding General, 2nd Corps Area, Governors Island, New York."

2. Necessary action will be taken by your Headquarters as prescribed in Paragraph 13a. A.R. 105-20, dated December 31, 1940. Your report of such action will make appropriate reference to paragraphs numbered and lettered as above. Any remedial action that may require the action of this Headquarters will be taken as far as available funds will permit.

By Command of Major General PHILLIPSON:

G. H. Garde

RECEIVED JUL 23 194

G. H. GARDE,
1st Lt., A.G.D.,
Assistant Adjutant General.

1 Incl: - Sh. 1,2,3,4,4A,
5,6,6A,7,7A,8,9,
11& 13 of WDSC
Form 72, in quad.

333.91/6
B324

1st Ind. 4J/gr

HEADQUARTERS SECOND COAST ARTILLERY DISTRICT, Fort Hamilton, New York. July 24, 1941. To: Commanding General, Harbor Defenses of Sandy Hook.

For compliance.

By command of Brigadier General WILLIFORD:

Earl Biscoe

EARL BISCOE,
Colonel, C.A.C.
Executive.

1 Incl. n/c

333.9 2nd Ind. JDG/wt

HEADQUARTERS, HARBOR DEFENSES OF SANDY HOOK, Fort Hancock, N.J., July 31, 1941. TO: Commanding General, 2nd Coast Artillery District, Fort Hamilton, New York.

1. Reference inspection report the following is submitted:

Item I: The board installed is a 2 position multiple, 4 Jack Panels per multiple, 3 operator positions, Stromberg-Carlson.

Switchboard tools have not been provided for the repair and maintenance of the switchboard cords. This should be done since it is difficult to get cord replacements. This post has trained personnel capable of making such repairs.

Item II: Noted.

Item III: Concurred.

Item IV: Concurred.

Item V: Concurred.

Item VI: Concurred.

Item VII: The wire chief's test set is outmoded and should be replaced. The test sets referred to are of an obsolete vintage and should be replaced by modern W. E. Co. equipment having a transmitter cut-out button.

Item VIII: Concurred.

Item IX: Concurred.

Item X: Concurred. This will be done upon the receipt of lamp caps which have been on requisition for sometime. Reference previous correspondence with the Corps Area Signal Officer the need for additional female operators is only exceeded by the need of either additional multiple positions or a dial P. B. X. Peg count record shown on report has been exceeded by 50% within recent weeks.

Item XI: Concurred. Upon the receipt of modern telephone equipment, now on requisition, the telephone relics now in use will be junked.

Item XII: Concurred. The manholes are in reality too small in which to work and in general are the size of stand and hand holes used by commercial companies.

Item XIII: Concurred.

Item XIV: Concurred.

Item XV: Concurred.

Item XVI: Concurred. Delay in furnishing the necessary buried cable will cause unnecessary exposure of the plant system to high and low frequency phenomena.

Item XVII: Concurred.

Item XVIII: Concurred. Present indications that this post should be provided with at least 490 extensions. Extensive correspondence covering this is in the hands of the Corps Area Signal Officer. All equipment other than anti-side tone zone should be removed and replaced.

Item XIX: Concurred. Extensive correspondence covering this is in the hands of the Corps Area Signal Officer.

Item XX: Concurred. The BD-15 T.I. panel has been replaced. T.I. apparatus should be replaced by the EE-86 as soon as the EE-86 is made available. Storage Battery No. 3 should be replaced and it is requested that a project be initiated covering the replacement of this battery.

Item XXI: Concurred.

Item XXII: Concurred.

Item XXIII: Concurred. It is strongly recommended that two maintenance trucks (Light Installation - commercial type) be provided.

2. The Harbor Defense Signal Officer and representatives of the Corps Area Signal Officer are and have been taking all remedial steps possible to bring the Fire Control and Post Telephone communications up on a par with Bell System efficiency.

For the Commanding General:

P. K. KELLY,
Lt. Col., 7th C.A.,
Executive.

1 Incl. n/c.

RECEIVED AUG 7 1941

W. D., S. C. Form 72

POST OR FORT Fort Hancock, New Jersey

DESCRIPTIVE DATA RECORD

OF

SIGNAL CORPS PLANT IN PLACE

This report consists of sheets 1,2,3,4,4A,5,6,7,6A,7,7A,8,9,11,13

Rendered by H.G. PHAIR

Rank Associate Electrical Engineer, S.S.A.L.

Date July 17, 1941.

W. D., S. C. Form 72

REPORT OF SIGNAL CORPS PLANT IN PLACE

1. This form is to be completed by the inspector and used for reporting the Signal Corps equipment installed at Government-owned telephone and telegraph systems, fire-alarm and fire-control systems at the time the annual inspection of the system is made by the inspector designated by the department or corps area commander for that duty. The officer in charge of the system will assist the inspector in making out this form by giving him facts and data he may have on record that relate to the equipment to be reported.

2. No sheet of this form, except the title sheet and sheet 11, which should be prepared each time an inspection is made, need be made out when a similar sheet submitted within the preceding three years contains the required data and there have been no changes in the data previously submitted. Where a new sheet is made out, it should be complete for all headings, even though no changes have been made under some of the headings since the last inspection.

POST OR FORT Fort Hancock, New Jersey Date July 7, 1941

Superseding Sheet dated Sept. 6, 1935

* TELEPHONE SWITCHBOARD

(Use another sheet for fire-alarm or separate fire-control switchboards)

Date installed 11/23/40	Magneto lines equipped 20
Manufacturer Stromberg Carlson	Trunk circuits wired 20 / 20 outgoing
Manufacturer's type 3 Position Multiple	Trunk circuits equipped 20 / 20 outgoing
Manufacturer's ~~Serial No.~~ Shipping Order: 10997R	Operating voltage 24 Volts
Signal Corps Serial No. 2771	Distance telephone system is outside B. R. area of telephone company 6 Miles
Order number and date 45-CHI-41 7/29/40	Trunk loop resistance in ohms 412
Common battery or magneto? Common Battery	Are line cables to switchboard under floor or on overhead rack? Under Floor
Multiple or nonmultiple? Multiple	If multiple switchboard, do cables from switchboard double at R. R. or distributing frame? Distributing frame Relay Rack
Number of panels to a multiple 4	Are all positions equipped for service? Yes
Number of positions 3	Is switchboard used as attendant's cabinet of an automatic system? No
Cord pairs per position 15	Location of switchboard H.D. Headquarters
Common battery lines wired 300	Stromberg Carlson drg. #B-5416 8-22-40
Common battery lines equipped 300	Drawing number and date of face and rear equipment layout?
Magneto lines wired 20	

SWITCHBOARD CIRCUIT DRAWINGS

Name of circuit	Number and figure	Name of circuit	Number and figure
Line circuit	B.3610	Generator circuit	B.24910
Cord circuit, local	B.32990	Operator's circuit	B.25300
Cord circuit, universal		Trunk circuit Manual or Dial	B.32970
Pilot circuit	B.25900	Other circuits	B.28470
Fuse alarm circuit	B.3490	Misc. Circuits	B.24910
Night alarm circuit	B.25900 / 24880		
Dial circuit	B.32990		

Drawing number and date showing central office layout 214-1-SK 29-1

Code numbers of equipment listed in Stromberg Carlson Specifications No. F-8148 on file. Circuit description and relay adjustment table also on file.

W. D., S. C. Form 72

POST OR FORT Fort Hancock, New Jersey Date July 17, 1941

Supersedes Sheet dated 9/6/35

* SWITCHBOARD CABLE

Pairs	Manufacturer's code	Signal Corps type	Connects what apparatus	Average length per run	Number of cables
40			Swbd. and Relay Rack	30 Feet	12
40			Relay Rack and Fuse Rack	30 Feet	12

*CORD CIRCUITS

Apparatus	Manufacturer's code	Apparatus	Manufacturer's code
Cap, lamp, green	31A	Relay, supervisory, answering	257Z 11AM
Cap, lamp, red	31A	Relay, supervisory, calling	222B 249HHO
Cap, lamp, white	31A	Relay	249 DBD 248AC 212 CY
Capacitor	39	Relay	249HHO 222B
		Relay	290 ZB
Coil, repeating	11AL	Signal	24-B-2 Lamps
Cord, connecting	S-32K-6'	Socket, lamp	13
Key, ringing and listening	319A	Weight, cord	6
		Apparatus not listed:	
Key, listening		Resistance Coil	10F
Key, ringing			
Plug, cord	SK 3332		

* OPERATOR'S TELEPHONE CIRCUIT

Apparatus	Manufacturer's code	Apparatus	Manufacturer's code
Coil, induction	42B	Key, operator's switching	
Coil, repeating	42B	Receiver	#4 Set
Coil, retardation	21A	Relay	
Capacitator	40		
Capacitor	38	Plug, operator's set	
"	39		
Cord, breast set		Transmitter #4	#4 Set
		Apparatus not listed:	
Cord, receiver		Resistance Coil	10B
Cord, transmitter		Jack	93

W. D., S. C. Form 72

POST OR FORT Fort Hancock, New Jersey

Date July 11, 1941
Supersedes Sheet dated 9/6/35

*AUXILIARY SIGNAL, FUSE ALARM, NIGHT ALARM, TEST, DIAL, GENERATOR, AND MISCELLANEOUS CIRCUITS

Apparatus	Manufacturer's code	Apparatus	Manufacturer's code
Bell, night alarm	200 Ohm	Lamp, pilot	24-B-2
Bell ~~Buzzer~~ fuse alarm	200 Ohm	Lamp, resistance	
Buzzer, night alarm		Receptacle	
Cap, lamp, green		Relay, fuse alarm	381A
Cap, lamp, red	23B	Relay, night alarm	381A
Cap, lamp, white		Relay, pilot	
Coil, retard, dial cct		Relay	
Capacitor, signal cct	44	Resistor, generator	
Capacitor, dial cct		Resistor, ____ ohms, test cct	
Fuse, 3 ~~XX~~ amperes	2602	Resistor, ____ ohms, test cct	
Fuse, ____ amperes	2602	Resistor, ____ ohms, test cct	
Generator, hand	#38	Ringer (buzzer), gen. cct	
Key Fuse Alarm	119		
Key, dial switching cct		Socket, lamp	#9
		Apparatus not listed:	
Key, generator switching	179-A		
Key, generator reversing			
Key, night alarm	172-A		

*LINE CIRCUITS

Apparatus	Manufacturer's code	Apparatus	Manufacturer's code
Cap, lamp, red	27	Relay, line	207A
Cap, lamp, green	27	Signal, magneto	
Cap, lamp, white	27	Socket, lamp	121
		Apparatus not listed:	
Jack, line	130		
Lamp, line	24-B-2		
Relay, cut-off	206BB		

W. D., S. C. Form 72

POST OR FORT Fort Hancock

Date July 17, 1941

Supersedes Sheet dated 3/25/38

*TRUNK CIRCUITS Manual or Dial. See also other sheet

Apparatus	Manufacturer's code	Apparatus	Manufacturer's code
Cap, lamp, busy	SK 3062A	Relay, cut-off	257Z WEY
Cap, lamp, trunk	27A	Relay, ring-up	249MN
Capacitor	38	Relay	
Capacitor	43	Relay	213DD
Coil, impedance (retard)		Relay	263ZC
Coil, repeating	11AL	Signal	24-B-2 Lamps
Coil, resistance	#11	Socket, lamp	#121
Jack, line	132	Apparatus not listed:	
Jack, night			
Key, dial			
Key			

* WIRE CHIEF'S TESTING SET

Date installed 11/23/40	Manufacturer's type of voltmeter WESTON
Manufacturer and code number Kellogg Swbd. & S. Co.	Range of voltmeter 40 Volts
Location Terminal Room	Circuit dwg. number and date 35778 May 3, 1938
	Remarks

CHIEF OPERATOR'S DESK NONE

		Number installed
Date installed	Monitor ccts.	
Manufacturer and code number	Inc. trk. ccts.	
Cct. dwg. number and date	Outgoing trk. ccts.	
Remarks	Cord ccts.	

TARGET RANGE SYSTEM NONE

(Give approximate lengths of cable installed)

Cable	Gage	Armored	In duct	Cable	Gage	Armored	In duct
100-pair				15-pair			
75-pair				10-pair			
50-pair				Other sizes			
25-pair							

Drawing number and date of target range system

W. D., S. C. Form 72

POST OR FORT Fort Hancock, New Jersey Date July 17, 1941

Supersedes Sheet dated 3/25/38

* TRUNK CIRCUITS

Apparatus	MAGNETO Mfrs. Code	OG Manufacturer's code	Apparatus	MAGNETO Mfrs. Code	OG Manufacturer's code
Cap, lamp, busy	SK-3062A	SK-3062-A	Relay, cut-off	240-BC	
Cap, lamp, trunk	27-A	27-A	Relay, ring-up	2572-WEY	
Capacitor	43		Relay		
Capacitor			Relay		
Coil, impedance (retard)			Relay		
Coil, repeating	#11AL		Signal	24-B-2	24-B-2
Coil, resistance			Socket, lamp	121	121
Jack, line	#130	130	Apparatus not listed:		
Jack, night					
Key, dial					
Key					

* WIRE CHIEF'S TESTING SET

Date installed 1940	Manufacturer's type of voltmeter
Manufacturer and code number Kellogg Swbd& S. Co.	Range of voltmeter
Location FCSR #1	Circuit dwg. number and date
Order #9482 Chi 39, 4/21/39	Remarks SC-BE-70A Serial #17

CHIEF OPERATOR'S DESK

		Number installed
Date installed	Monitor ccts	
Manufacturer and code number	Inc. trk. ccts	
Cct. dwg. number and date	Outgoing trk. ccts	
Remarks	Cord ccts	

TARGET RANGE SYSTEM

(Give approximate lengths of cable installed)

Cable	Gage	Armored	In duct	Cable	Gage	Armored	In duct
100-pair				15-pair			
75-pair				10-pair			
50-pair				Other sizes			
25-pair							

Drawing number and date of target range system

W. D., S. C. Form 72

POST OR FORT Fort Hancock, New Jersey Date July 17, 1941

Supersedes Sheet dated 10/22/34

AUTOMATIC SWITCHBOARD

(Describe attendant's cabinet on sheets 1 to 4) NONE

Manufacturer	Line switch capacity
Order number and date	Line switches equipped
Date installed	Selector framework capacity
Date additions made	Selectors equipped
Plunger, rotary, line finder, or relay	Connector framework capacity
Per cent trunking L. S. to selector	Connectors equipped
Per cent trunking first selector to second selector	Location of switchboard
Per cent trunking selector to connector	

Apparatus	Manufacturer's code	Apparatus	Manufacturer's code
Line finder			
Line switch			
Master switch			
First selector			
Second selector			
Connector			
Apparatus not listed:			

*TELEGRAPH STATION

		Manufacturer	Code number
Location Post Headquarters Bldg. #24	Sounder	All equipment is property of Western Union Telegraph Co. Teleprinter in Building #24, Telegraph instruments in marine reporting station.	
Connects to what companies? Western Union	Relay		
	Key		
Number of circuits 3	Protector		
Remarks Station in marine reporting station handles service after hours.	Switchboard		

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W. D., S. C. Form 72

POST OR FORT Fort Hancock, New Jersey

Date July 17, 1941

Supersedes Sheet dated 6/21/37

See Sheet 6A for FC Storage Bat* STORAGE BATTERIES

	No. 1	No. 2	No. 3
Number of cells	12		
A. H. capacity	72		
Manufacturer	Exide		
Manufacturer's type	KXHS-9		
Date installed	9/3/35		
Date new elements installed			
In cabinet or on rack?	Rack		
Which side grounded?	Pos.		
Manufacturer's type thermometer	Exide		

	No. 1	No. 2	No. 3
Manufacturer's type hydrometer	V2S		
Location	Bldg. 26		
Furnishes power for	Post Tel.		
Trickle, float, or cycle charged	Trickle		
How often?	Continuous		
At what rate?			
Remarks			

*CHARGING EQUIPMENT OTHER THAN RECTIFIERS

	No. 1	No. 2
Manufacturer	Crocker-Wheeler	Burke Elec.
Manufacturer's type	285E	Tel.
Kw. output	1 KW	1 KW
Operating voltage	110 V	110 V- xxxxxx
Cycles or d. c	D.C.	A.C. - 60 cyc.
Generator serial number	7577 F.C.	
Motor serial number		126712

	No. 1	No. 2
Date reinstalled	1941	1941
Signal Corps type		
Order number and date		
Location	F.C. Switchboard Rm. #1	
Charges what battery?	F.C. Batteries	

See Sheet 6A for FC Rect. * RECTIFIERS FOR POST TELEPHONE SYSTEM

	No. 1	No. 2
Manufacturer	Westinghouse	
Manufacturer's type	823723	
Amperes	1-3	xxx
Voltage output	19-52	xxxx
Operating voltage	115 A.C.	
Cycles	60	

	No. 1	No. 2
Date installed	9-3-35	
Location	Power Panel Terminal Room	
Charges what battery?	Post Tel.	
Bulb code number	S-289415-C	

* RECTIFIERS FOR CHARGING PORTABLE BATTERIES NONE

Ampere rating	Number in use	Location	Charges what batteries	Approximate number charged per month

* RINGING EQUIPMENT

	No. 1	No. 2	No. 3
Type equipment	Telering	Telering	
Date installed	9-3-35	9-3-35	
Location	Power Panel Terminal room Hdq. Building		

	No. 1	No. 2	No. 3
Manufacturer	Tolker	Tolker	
Manufacturer's type	Model X A-2062	Model X A-2063	
Operating voltage	115	115	
Cycles or d. c	60 Cycle	60 Cycle	

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POST OR FORT ~~Fort Hancock, New Jersey~~ Date July 17, 1941

For F.C. System * STORAGE BATTERIES Supersedes Sheet dated 6/21/37

	No. 1	No. 2	No. 3		No. 1	No. 2	No. 3
Number of cells	15	15	15	Manufacturer's type hydrometer	Z-1109A	Z-1109A	10246
A. H. capacity	384	140	120	Location	F.C. Switchboard Room #1		
Manufacturer	Philco	Philco	Exide				
Manufacturer's type	9FF	7EFB	EMGO-7				
Date installed	1-1-41	11-1-36	9-1-31	Furnishes power for	F.C. System		
Date new elements installed				Trickle, float, or cycle charged	Trickle	Trickle	Trickle
In cabinet or on rack?	Steel rack	Wood rack	wood rack	How often?			
Which side grounded?	Positive	Positive	Positive	At what rate?	2 amp.	2 amp.	2 amp
Manufacturer's type thermometer	Z-758	Z-758	Philco Z-758	Remarks: XXXXXXXXBat. Rack J-2593 (Modified) Hydrometer Holder Z-1168			

CHARGING EQUIPMENT OTHER THAN RECTIFIERS

	No. 1	No. 2		No. 1	No. 2
Manufacturer			Date installed		
Manufacturer's type			Signal Corps type		
Kw. output			Order number and date		
Operating voltage			Location		
Cycles or d. c					
Generator serial number					
Motor serial number			Charges what battery?		

* RECTIFIERS FOR F.C. TELEPHONE SYSTEM

	No. 1	No. 2		No. 1	No. 2
Manufacturer	G.E.	G.E.	Date installed	-1941	1941
Manufacturer's type	6RB6B17	6RB6B17	Location	F.C. Swbd. Room #1	
Amperes	12	12			
Voltage output	1-24 3 cell batteries				
Operating voltage	115	115	Charges what battery?	F.C. Storage Batteries	
Cycles	60	60	Bulb code number	189049	189049
			Reactor Serial	GE 31266-0	31266-0

RECTIFIERS FOR CHARGING PORTABLE BATTERIES

Ampere rating	Number in use	Location	Charges what batteries	Approximate number charged per month

RINGING EQUIPMENT

	No. 1	No. 2	No. 3		No. 1	No. 2	No. 3
Type equipment				Manufacturer			
Date installed				Manufacturer's type			
Location				Operating voltage			
				Cycles or d. c			

3—10152 SHEET 6 A

W. D., S. C. Form 72

POST OR FORT Fort Hancock, New Jersey Date July 17, 1941

See Sheet 7A for FC Distributing Frame * DISTRIBUTING FRAME AND PROTECTING EQUIPMENT Supersedes Sheet dated 9/6/35

Wall or floor type? Floor	Manufacturer Western Electric
Number of verticals 8	Manufacturer's type 1425-C
Capacity, protector (vertical) side 808 Lines	Order number and date 238-CA-35
Protectors equipped 808	Date installed September 3, 1935
Capacity, strip (horizontal) side 49 WE 65	Date additions made November 23, 1940
Terminal strips equipped 49 WE 65	Drawing numbers and dates showing layout of frame
Fuse protector capacity (pairs)	
Fuse protectors equipped	Remarks
Do outside lines connect to protectors, fuses, or terminal strips? Protectors	

Apparatus	Manufacturer's code	Apparatus	Manufacturer's code
Block, protector, bottom	26	Strip, terminal, 2-point	
Block, protector, top	27	Strip, terminal, 3-point	WE #65
Coil, heat	76-A	Strip, terminal, 4-point	
Dielectric (Mica)		Strip, terminal, 5-point	
Fuse, ____ ampere		Test cord, 12 feet	
Protector group	1268A-20 pr. 1268B-23 pr.	Test shoe	
Ring, jumper			

* RELAY RACK

Manufacturer Stromberg Carlson Tel. Mfg. Co.	Date installed
Height 7 feet	Drawing number and date showing layout
Number of bays 3	St. Ca B-177752 shows bays 1 and 2
Relay mounting capacity per bay 200	Remarks

COIL AND OTHER RACKS NONE

Manufacturer	Mounts what equipment?
Coil capacity	
Per cent equipped	

FIRE CONTROL DISTRIBUTING FRAMES

Type	Location	Number installed	QUANTITIES OF EQUIPMENT						
			Coils	12 pr. strips	21 pr. strips	TM-88 terms.	Jack panels	T. I. panels	Other equipment

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W. D., S. C. Form 72

POST OR FORT Fort Hancock, New Jersey Date July 17, 1941

FCSR #1 * **DISTRIBUTING FRAME AND PROTECTING EQUIPMENT** Supersedes Sheet dated 9/6/35

Wall or floor type? Floor	Manufacturer Cook
Number of verticals 8	Manufacturer's type Serial #7854 "L" type
Capacity, protector (vertical) side 808 prs.	Order number and date
Protectors equipped 808 prs., 40 groups	Date installed July 1940
Capacity, strip (horizontal) side 48	Date additions made Nov. 1940, Order 259-CA-41
Terminal strips equipped 44	Drawing numbers and dates showing layout of frame
Fuse protector capacity (pairs) None	
Fuse protectors equipped	Remarks
Do outside lines connect to protectors, fuses, or terminal strips? Protectors	

Apparatus	Manufacturer's code	Apparatus	Manufacturer's code
Block, protector, bottom	2625	Strip, terminal, 2-point	2 clips high with Mounting Bracket #36
Block, protector, top	2625	Strip, terminal, 3-point	
Coil, heat #100 type	Cat. #1232	Strip, terminal, 4-point	
Dielectric (Mica) Acetate .005		Strip, terminal, 5-point	
Fuse, ____ ampere		Test cord, ____ feet	
Protector group #100 type	20 pr. #1231 21 pr. #1239	Test shoe	#100
Ring, jumper	PC #24-215A		

RELAY RACK

Manufacturer	Date installed
Height	Drawing number and date showing layout
Number of bays	
Relay mounting capacity per bay	Remarks

COIL AND OTHER RACKS

Manufacturer	Mounts what equipment?
Coil capacity	
Per cent equipped	

*** FIRE CONTROL DISTRIBUTING FRAMES**

Type	Location	Number installed	QUANTITIES OF EQUIPMENT: Coils	25 pr. strips	21 pr. strips	TM-88 terms.	Jack panels	T. I. panels	Other equipment
BD-75	FCSR #1	2	50	60				BD-15 1	
Order #5524 Chi Jan. 15, 1935, Serial #8 and #10, Auto-Elec								60	

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POST OR FORT Fort Hancock, New Jersey Date July 17, 1941
Supersedes Sheet dated 6/5/36

POWER PANELS, INCLUDING FIRE-CONTROL SWITCHBOARD

	No. 1 FC	No. 2 PT		No. 1 FC	No. 2 PT
Manufacturer	Leonard	Continental	Controls what batteries?	2FC batteries	Post Tel.
Manufacturer's type		Power Swbd.	Location	FCSR #1	Bldg. #26
Signal Corps type	BD-65	BD-68	Date installed	April, 1941	Sept. 9, 1935
Order number and date	15978-NY-38 3-14-38	9893-NY	Serial #9		

Apparatus	No. 1 Panel			No. 2 Panel		
	Manufacturer	Manufacturer's code	Range	Manufacturer	Manufacturer's code	Range
Ammeter	Weston	271	30-0-30	Weston Serial 58652 /	269	20- 0-20
Circuit breaker	Hartman Elec.	B-1	Volts 37 Amp. 50			
Motor starter DC	Ward Leonard	Bull. 1000 2HP				
" " AC	Trumbull Elec.	83221	30 amp.			
Rheostat DC	Ward Leonard	65108	200 ohms	Part of Rectifier		
" AC	Ward Leonard	65108B	200 ohms	52781		
Voltmeter	Weston	271	0-50	Weston Serial/	269	0-50
Other equipment:						
Associated switches and fuses				Associated switches and fuses		
Apron panel contains 12 distributing 2 PST fused switches				2 telerings and one rectifier mounted on panel.		

FIRE-CONTROL EQUIPMENT

Apparatus	Number installed	Apparatus	Number installed	Apparatus	Number installed
Bell, T. I., large	64	Telephone EE 71 Controller, zone sig	38	BE 60 Switch key, set	8
Bell, T. I., small	52	Hand set TS 9A	12	Telephone, B. C	57
Bell, zone sig		Head set HS 17A	191	Telephone, desk	57
Bell, ext. L. R	6	Telephone EE 4 Outlet, zone sig	14	Telephone, gun	23
Box, junc., std		Telephone EE 30 Signal, firing, B-C	18	Telephone, plotters	15
Box, junc., T. R		Signal, firing, pit		EE 27 Cat. Telephone, wall	105
Box, T. I., bell		TS 12A Switch, hand set	20	Switchboards, BD-74	5 Comb. A*
Box, term., 2-strip		Switch, push, zone sig		Switchboards, BD-78	
Box, term., 4-strip		Switch box, base line		Other apparatus: Tel. EE 91	152
Box, term., 8-strip		Switch box, cut-out		Head Set EE 70	297
Box, term., ____ strip		Switch box, transfer		SWBD. BD-72	3
		Hand Set EE 69	39	Tel. Box EE 75	10

* Order #5158-Chi-6-29-39 Serial #16A, 15A, 14A, 13A, 12A.
Made by K.S. & S. Co. Each has 90 #1 circuits and 24 #4 circuits.

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POST OR FORT Fort Hancock, New Jersey — Date July 17, 1941

~~Supersedes Sheet dated 10/22/35~~

* TIME INTERVAL APPARATUS

Location	Signal Corps type	Number installed	Manufacturer	Manufacturer of motor	Remarks
FCSR #1	EE-56	1	Leeds Northrup		

METEOROLOGICAL EQUIPMENT

Apparatus	Signal Corps type	Number installed	Apparatus	Signal Corps type	Number installed
Barometer, Aneroid	-	1	Psychrometer	-	1
Plotting Board ML-55	-	1	Annemometer	-	1
Plotting Board ML-57	-	1	Scales, celluloid ML-87	-	1
Theodolite	-	1	Mecurial Barometer	-	1
Wind Vane	-	1	Scales, celluloid ML-88	-	1
~~T.I. Bell~~	~~-~~	~~1~~			

FORT SIGNAL STATION NONE

Material of mast ..... Year installed .....

Height of mast ..... Year last painted .....

Apparatus	Signal Corps type	Number installed	Books	Edition (year)
Flag sets				

NIGHT SIGNALING EQUIPMENT NONE

Apparatus	Signal Corps type	Number installed	Apparatus	Signal Corps type	Number installed

TELEPHONE PAY STATION AND PRIVATE TELEPHONE LINES ON POST

Location	Authority and date	Are Government cables used	Location	Authority and date	Are Government cables used
2-YMCA Building	Rev. Lic. A	Yes			
1-Post Ex. Building	from Secre-	Yes			
1-Hospital Bldg #19	tary of War	Yes			
1-Officers Club	dated	Yes			
1-NCO Club	March 8, 1921	Yes			
1-Camp Lowe Area		Yes			

W. D., S. C. Form 72

POST OR FORT Fort Hancock, New Jersey Date July 7, 1941

Supersedes Sheet dated 11/29/39

* PRESENT ESTIMATED VALUE OF TELEPHONE AND FIRE-CONTROL PLANT IN PLACE

(Installation cost, less depreciation)

ADMINISTRATIVE TELEPHONE AND TARGET RANGE SYSTEMS

	Value		Value
Telephone switchboard and accessories	$	Outside telephone plant	$
Telephone power plant		Other plant	
Other telephone C. O. equipment		Target range system	
Telephone station equipment		TOTAL	

FIRE-CONTROL SYSTEM

	Value		Value
Cables and conduit system	$	Telephone and other equipment	$
F. C. power equipment		TOTAL	

* TRUNKS AND TIE LINES

Connects to what city	Company	Number	Rate per annum	Mileage cost	Additional message cost	Total cost per annum
Atlantic Highlands	N.J. Bell	5	$ 175.56	$ ---	$ ---6-	$ $877.80

All trunks on extended scope service which includes service to Atlantic Highlands, Highlands, Long Branch, Monmouth Beach, Red Bank, Rumson and Sea Bright.

STATION EQUIPMENT *

Manufacturer Western Electric Co.

Telephones	GOVERNMENT OWNED				Privately owned
	Dial type	Nondial	Extension bell	L. R. bell	
Desk		54			1
Hand set	175*				15
Wall		85			1
TOTAL		139			17

*39 WE 202 type Balance WE 302 AW-3

LIST OF TELEPHONES *

Class A telephones are for official use only and have access to city trunks.

Class B telephones are authorized trunk connections for personal use.

Class C telephones are not permitted city trunk connections.

Class D telephones are for special services, such as fire reporting, watchman, etc., and are not permitted city trunk connections.

Telephone number	Listing	NUMBER INSTALLED					Class of service	Authority for installation
		Desk	Hand set	Wall	Extension bell	L. R. bell		
A list of telephones is kept in the office of the Post Signal Officer which was inspected and found satisfactory.								
	GOVERNMENT OWNED TELEPHONES							
Class A	126	Main Line		33	Extensions			
Class B	71	"	"	7	"			
Class B-2	25	"	"	17	"			
Class C	17	"	"	3	"			
Class D	15	"	"	0	"			
	254			60				

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W. D., S. C. Form 72

POST OR FORT Fort Hancock, New Jersey Date July 11, 1941

Supersedes Sheet dated 6/21/37

SIGNAL EQUIPMENT STOCK NOT INSTALLED

Name of article	Signal Corps type	Manufacturer's code	Number on hand	Condition	Remarks or recommendation, stating whether surplus or required for use at post
Lineman's Handset			4	Serviceable	Needed at Post
Faultfinder			1	"	"
Ammeter, Portable DC			1	"	"
Megger			1	"	"
Sets, test, universal	EE-65		3	Serviceable	Needed at Post
Set, test	I-51		1	"	"
Voltmeter		Weston	1	"	"
Cable reel trailer, 5 ton			1	"	"
Pumps			3	Serviceable	Needed at Post
Electric drill, large			1	"	"
Jacks, cable reel			4	"	"
Axles, cable reel			3	"	"

IN REPLY REFER TO:
333.9-Ft. Tilden, N.Y.
(SO)

HEADQUARTERS SECOND CORPS AREA
OFFICE OF THE CORPS AREA COMMANDER
GOVERNORS ISLAND, N. Y.

3W-2

July 21, 1941.

Subject: Inspection of Signal Corps Plant in Place at Fort Tilden, New York, for the Calendar Year 1941.

Thru: Commanding General, Hq. 2nd Coast Artillery District, Fort Hamilton, New York, and Commanding General, Harbor Defenses of Sandy Hook, Fort Hancock, New Jersey.

To: Commanding Officer, Fort Tilden, New York.

1. The following is a report of inspection of the Signal Corps Plant in Place recently made at Fort Tilden, New York:

"Last inspection made November 2, 1939 by H. Caldwell, Electrical Assistant, S.S.A.L.

"This inspection made June 26, 1941 by H.G, Phair, Associate Electrical Engineer, S.S.A.L., in accordance with letter orders Hq. 2nd Corps Area, Governors Island, New York, dated June 6th, 9th and 30th, 1941.

I. SWITCHBOARD, MANUAL:

A two position non-multiple common battery Kellogg Switchboard and Supply Company telephone switchboard has recently been installed as a part of uncompleted CSO Project 2-97 (SO 2nd Corps Area Project 942) covering temporary housing at Fort Tilden.

At the time of inspection there were 140 spare line equipments on the switchboard but as cable is provided and the general situation at Fort Tilden settles down the number of spare line equipments will be greatly reduced.

The switchboard was functioning satisfactorily.

Switchboard tools are suitable and adequate.

II. AUTOMATIC SWITCHBOARD EQUIPMENT:

None.

III. STORAGE BATTERY:

Three of the cells of the old post telephone storage

333.9-Ft. Tilden, N.Y.
(SO)
(7-21-41)

battery have been disconnected as a result of the change from a 30 volt to a 24 volt switchboard.

This battery is on a wooden rack in a separate battery room in the basement of the post telephone exchange building. A needed freshening charge was given at the time of inspection.

This storage battery, which has lost considerable active material, and the end elements of which are buckling, will shortly be replaced by a much larger battery (12 cells Exide EOS-11) to meet the increased load. The latter battery with associated steel 2 tier battery rack is now due for delivery.

The Fire Control storage batteries are covered under Paragraph XX, Fire Control Switchboard Room Equipment.

IV. CHARGING EQUIPMENT AND RINGING EQUIPMENT:

A.G.E. rectifier, 16 amp., had recently been installed in the telephone exchange which is satisfactory.

Charging equipment of fire control system is covered in Paragraph XX, Fire Control Switchboard Room Equipment.

Ringing equipment consists of two telerings which are satisfactory.

V. POWER PANEL:

This is a BD-68 panel on which are mounted the charging rectifier and two telerings. Satisfactory.

VI. DISTRIBUTING FRAME:

When this inspection was made the small WE #1430 distributing frame in the post telephone exchange was being replaced by a WE #1425-C frame of 5 verticals. Sheet 7 of Form 72 has been revised to cover the new distributing frame.

VII. WIRE CHIEF'S TEST EQUIPMENT:

The Stromberg Carlson wire chief's test set which

333.9-Ft. Tilden, N.Y.
(SO) (Let. to C.O.)
(7-21-41)

was previously installed now is being shipped for repair. A Kellogg Switchboard and Supply Company set, Senior model, is being procured in lieu thereof as other disposition will be made of the older when rendered serviceable.

Besides the test cabinet there are available:

2 Lineman's test sets
1 Weston Voltameter
1 Test set EE-65

Additional testing equipment is needed and will be requisitioned.

VIII. RELAY RACK:

None.

IX. RECORDS:

Drawings of communications are not up to date. Owing to the great number of changes that have been made and will be made at Fort Tilden and its associated stations, it is recommended that the revision of these drawings be given early attention and that a routine be established revision periodically during the period of construction.

The Assistant Artillery Engineer , at the time of inspection, was engaged in gathering and checking data with the foregoing object in view.

A new Form 1160 Cable Record is under preparation to cover changes under Project CSO 2-97 and associated projects now in course of construction. The keeping of line record cards and trouble reports which has been deficient in the past is now receiving serious attention.

No manufacturer's specification was received with the new telephone switchboard. It is recommended that a

333.9-Ft. Tilden, N.Y.
(SO) (Let. to C.O.)
(7-21-41)

copy be furnished with a duplicate for the Office of the Signal Officer, 2nd Corps Area, in order that the supply of maintenance parts be facilitated.

X. MISCELLANEOUS REMARKS RELATIVE TO CENTRAL OFFICE:

The need for proper lamp capping for the new post telephone switchboard was being given attention by the Assistant Artillery Engineer at the time of inspection. A complete re-survey of telephones was also under way as well as a reclassification of all telephones. Steps have been taken to authorize an increase in telephone installations to 73 as a result of the inspection.

Telephone service has been much improved as a result of providing two female operators. Coast Artillery enlisted operators are on duty during relief and from 4:18 P.M. to 8:30 A.M. weekly as well as Saturday afternoons and Sunday.

Operating schedule for the business day for female operators is as follows:

No. of Operators	Period
2	8:30 A.M. - 11:30 A.M.
1	11:30 - 12:15
1	12:15 - 1:00
2	1:00 - 4:18

There are 4 enlisted operators, 1 corporal CAC and 3 privates CAC. As it has been found necessary to keep two enlisted operators on duty continuously after hours the assignment of two additional CAC operators is recommended.

Directories are issued as required. Calls are made by number.

333.9-Ft. Tilden, N.Y.
(SO) (Let. to C.O.)
(7-21-41)

Peg count of calls over a period of 3 typical days averaged as follows:

	Per Peak Hour	Per Day	Busy Per Day	Maximum Busies Per Hour
Incoming trunks	48	250	28	9
Outgoing trunks	16	82	20	4
Intercommunicating	250	1271		

Two trunks had been added prior to the inspection making a total of six. This is considered adequate. One trunk was reserved exclusively for outgoing calls at the time of inspection.

There is no linoleum on the floor of the telephone exchange but it is understood that there is sufficient available at the post for this purpose to be laid upon completion of present installation work.

XI. STOREROOM AND SUPPLIES:
Supplies are stored in a room over the telephone exchange and in open air storage outside the building. The storeroom is inconvenient for handling active as well as heavy supplies. Material in the yard is not secure. It is recommended that a storeroom, conveniently located and of adequate size for all stores, be provided.

The replaced American Automatic Electric Company one position common battery switchboard has been retained at the post with its parts and circuit diagrams. It is proposed to utilize it later within the harbor defense. Some repairs such as jack replacements will be required but these can be attended to locally.

Excess items, if any on hand, will be determined when construction now under way is further advanced.

There are no Signal Corps major items of construction equipment at this post.

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At the time of inspection a large quantity of unserviceable items had been culled out and action had been initiated with a view to their disposition in accordance with regulations.

As indicated in foregoing Paragraph VII, it is recommended that the unserviceable wire chief's test set be sent in to depot for repair and then shipped out in accordance with instructions to be given by the Signal Officer, 2nd Corps Area.

XII. CONDUIT SYSTEM:

There is no standard record of the manhole and conduit system. Certain manholes shown on blueprint records could not be located. The conduit in the administrative area was laid during the past two years in conjunction with conduit provided for Quartermaster purposes.

A quantity of temporary field wires were found run through spare ducts which, however, will be removed when a connection through cable is provided.

The cable placing and splicing now under way in these manholes is being done in a creditable manner.

XIII. CABLE SYSTEM:

At the time of inspection much new cable was being placed and spliced and other cable on order had not yet been received. Some of the new cantonment buildings were without necessary cable connection and limited service was being given using field wires as an improvised makeshift. As indicated in foregoing Paragraph IX, cable data is being rechecked with a view to a complete revision of the record.

A project for a much needed 200 pair tie cable between the post telephone exchange and the fire control switchboard is now receiving War Department consideration.

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During inspection the New York Telephone Company was engaged in placing underground its cable entering the Fort Tilden telephone exchange.

XIV. POLES AND CROSSARMS:

None except for some minor temporary connections.

XV. TERMINALS:

Many terminals are being added in connection with Project CSO-2-97. All terminals now being installed are of the sealed chamber type.

Where TM-173 terminals are exposed outdoors, protection from the weather should be given.

A memorandum of some minor deficiencies requiring correction was left with the Assistant Artillery Engineer.

XVI. WIRE LINES:

None, except some short temporary lines to be removed when cable is installed.

XVII. TARGET RANGE COMMUNICATION SYSTEM:

None.

XVIII. TELEPHONE STATION EQUIPMENT:

A large proportion of the telephones now in use are of the WE 302-AW-3 type and are giving excellent service.

There are many telephones on party lines pending provision of cable for new buildings under Project CSO 2-97.

As indicated in Paragraph X, above, a general re-survey and reclassification of telephones is now under way.

XIX. TELEGRPAH STATION:

The Western Union Telegraph Company has a standard teleprinter with table in Post Headquarters building which is operated for the company by enlisted personnel in addition to their other duties.

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XX. FIRE CONTROL SWITCHBOARD ROOM EQUIPMENT:

Since last inspection, Project SCD-210 covering the installation in this fire control switchboard room has been completed and superseded equipment has been removed.

The major items of present equipment are:

2 Switchboards, BD-74, Combination J

1 Panel, BD-75

1 Main distributing frame, WE 1425C of 4 verticals

1 Switchboard, BD-15, TI Panel

1 TI Apparatus, EE-56

1 Rectifier, GE, 16 amp.

1 Battery, storage, Philco, 7 EPG, 139 amp. hour, on wood rack

1 Set, testing, wire chief's

1 Motor generator, 1 K.W., 110V, DC-45V DC.

BD-74 switchboard installation is satisfactory, as well as that of the BD-75 panel and distributing frame.

The old BD-15 time interval panel has been reused and is operative. Replacement of the EE-56time interval apparatus by the EE-86 has been initiated.

Rectifier is satisfactory.

The storage battery, Philco, 7 EPG, installed in 1935, is still in fair condition. It is, however, inadequate to meet the increased load and an additional battery, 15 cells, Philco, 9 EFP with double tier steel rack is being purchased under order #1136 CA41. The existing battery is on a wooden rack.

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The wire chief's test set, with charging rectifier and BD-15 panel, is mounted on a separate frame convenient to the operator.

The motor generator which operates from 110V DC current is used as reserve in case of failure of the AC mains.

Electrolyte in carboy in the fire control switchboard room should be removed to avoid its possible misuse.

Linoleum is available for the floor of this room and should be placed as soon as practicable.

XXI. FIRE CONTROL STATION AND BATTERY EQUIPMENT:

Except for the modern type telephones provided during the past two years, fire control telephone instruments are old and generally in poor condition. The repair of this outmoded non-standard equipment is not considered justified and a project has recently been approved to replace this equipment. As soon as this is received the replacement should be expedited.

As in the case of Fort Hancock, numerous stations have been temporarily set up using for the most part old type equipment, field wire and hurriedly improvised installations. It is understood that currentaand contemplated fire control construction projects and the annexes to the basic project now under preparation cover what is needed to correct this.

Since last inspection, terminal strips in stations and batteries have been replaced with sealed chamber terminals wherever feasible.

Magazine #2 has a distinct odor of ether. This magazine is used for storage of powder for Battery Harris. It contains a B.C. type telephone and 11 pair terminal, the installation of which is considered a hazard in this room. The substitution of an explosion-proof telephone such as the WE-629A sub-station set or equivalent is recommended

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for powder magazines. The terminal should be removed to some other location.

A memorandum of minor discrepancies relating to the fire control station and battery equipment was left with the Assistant Artillery Engineer, Harbor Defenses of Sandy Hook at Fort Tilden.

XXII. OUTSIDE PLANT NOT OTHERWISE REPORTED:

There are 5 pay stations, 4 being located in the Post Exchange and one in the Summer Camp Area. An increase and wider distribution of pay stations upon completion of cable plant is recommended.

Existing fire control cables are inadequate and considerable temporary field wire is in use. Cables now being installed and proposed are expected to cover these needs. In this connection it is recommended that early action be taken to provide adequate cable pairs for Batteries Kessler and Ferguson and the 155 mm. battery.

With minor exceptions fire control cables are buried in sand. The cable to the Tilden Tower has become exposed and should be covered.

Connection to the Long Beach tower is through the commercial telephone system renting pairs as required. Steps are being initiated to provide government owned cable to this and other points on the Long Island shore.

Since last inspection old terminal strips at fire control stations and batteries have been replaced by sealed binding post chambers.

A detailed list of minor discrepancies relating to the cable terminals and manholes of the fire control system was left with the Assistant Harbor Defense Artillery Engineer at Fort Tilden.

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XXIII. REMARKS, GENERAL INFORMATION AND RECOMMENDATIONS:

Maintenance force consists of:

1 Master Sergeant
1 Technical Sergeant
3 Corporals
4 Privates First Class
5 Privates.

With one or two exceptions these men are comparatively inexperienced so that considerable close supervision must be exercised.

There are 2 clerks, 1 Private and 1 Private First Class. The latter handles supplies in addition to his other duties.

The only copies of CSO series 5 Circulars that were available were:

CSO 5-8
CSO 5-10
CSO 5-13

Copies of Circulars Nos. 3, 5, 6, 14, 15, and 16 of this series have since been furnished to replenish those that were missing. Others not listed are understood to be unavailable except Circular 5-12 of which there is believed to be a stock at Fort Hancock. It is recommended that the circulars be made available to personnel so that they may become familiar with standard instructions and practices pertaining to their work. This is emphasized in the case of Circular 5-12.

There is no fire reporting telephone system. Fire calls are made over the regular post telephones which is considered satisfactory for the present. A project for a standard fire reporting system recently submitted was not favorably considered by the War Department. It is understood that the Quartermaster Corps is arranging to install an electric fire alarm system.

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(SO) (Let. to C.O.)
(7-21-41)

3W-2

This report consists of twelve pages with sheets 1 to 13, (except 10 and 12) of W.D.S.C. Form 72, and is submitted in quintuplicate. Disposition is as follows: One copy for the files of the Commanding Officer, Fort Tilden, New York, one copy for the file of the Commanding Officer, Harbor Defenses of Sandy Hook, Fort Hancock, New Jersey, and three copies should be forwarded to the Commanding General, 2nd Corps Area, Governors Island, New York.

2. Necessary action will be taken by your Headquarters as prescribed in Par. 13a, AR 105-20, dated December 31, 1940. Your report of such action will make appropriate reference to paragraphs numbered and lettered as above. Any remedial action that may require the action of this Headquarters will be taken as far as available funds will permit.

By Command of Major General PHILLIPSON:

TERENCE J. SMITH,
Captain, Engr-Res.,
Acting Assistant Adjutant General.

1 Incl: Sheets 1 to 13
(Except 10 and 12)
Form 72, in quint.

CERTIFIED TRUE COPY:

WILLIAM DUFFY, JR.
2nd Lieut., Coast Artillery,
Assistant Adjutant.

333.9-Ft. Tilden, N.Y.

1st Indorsement

Headquarters, Fort Tilden, N. Y., August 11, 1941. To:

Commanding General, Harbor Defenses of Sandy Hook, Fort Hancock, N.J.

1. In compliance with Paragraph 21, basic communication and Paragraph 13a AR 105-20, the following report is submitted:

I. SWITCHBOARD MANUAL:
No action necessary.

II. AUTOMATIC SWITCHBOARD EQUIPMENT:
No action necessary.

III. STORAGE BATTERY:
Upon arrival of the new storage battery, expected daily, this battery will be completely overhauled.

IV. CHARGING EQUIPMENT AND RINGING EQUIPMENT:
No action necessary.

V. POWER PANEL:
No action necessary.

VI. DISTRIBUTING FRAME:
New frame in operation. Action being taken to (I&I). The old one.

VII. WIRE CHIEF'S TEST EQUIPMENT:
No action necessary.

VIII. RELAY RACK:
No action necessary.

IX. RECORDS:
Drawing of communications progressing with the work itself and nearing completion. Cable records form 1160 completed. Line Record Cards and Trouble Reports instituted and up to date. Requisition placed for manufacturers specifications for the switchboard.

X. MISCELLANEOUS REMARKS RELATIVE TO CENTRAL OFFICE:
Lamp capping completed; a complete resurvey made and report thereof will be sent to Signal Office, 2nd Corps Area very soon. Authorization for 73 Telephones, post switchboard granted since the inspection was made by Mr. Phair. The enlisted operators were increased from 4 to 6.

New directories in process of being Mineographed. A new peg count is being entered at this time. It will be forwarded to Signal Office, Governors Island, N.Y.

Linoleum placed on the floor of the Telephone Exchange.

XI. STOREROOM SUPPLIES:
The assistant HD. A.E. is endeavoring to have storeroom constructed where the mentioned materials can be placed. The replaced switchboard has been shipped to Fort Hancock, where it is believed in use. Correspondence in regard to excess items, now under way. Unserviceable items being disposed of, according to regulations.

XII. CONDUIT SYSTEM:
Manhole record initiated and progressing. Radical changes made therein by installation of the new telephone cable system. Manholes are being renumbered; all field wire has been removed from the ducts.

XIII. CABLE SYSTEM:
Still awaiting some new cable which will allow completion of the Post Telephone System (In underground Conductor). Cable data being gathered for complete revision of pertinent records. Two Hundred pair tie cable now receiving War Department consideration.

XIV. POLES AND CROSSARMS:
No change. Awaiting delivery of Cable.

XV. TERMINALS:
TM 173 terminals are being used only for Temporary wiring, but are being protected from the weather.
Memo mentioned entirely cared for.

XVI. WIRE LINES:
Awaiting Cable delivery for this need also.

XVII. TARGET RANGE COMMUNICATION SYSTEM.
None.

XVIII. TELEPHONE STATION EQUIPMENT:
No action necessary at this time. There are now six telephones on party basis. When cable is delivered, these will be given individual wires and reclassification. Report will be forwarded in a few days.

XIX. TELEGRAPH STATION:
No action necessary.

XX. FIRE CONTROL SWITCHBOARD ROOM EQUIPMENT:
The electrolyte removed and Linoleum placed.
Records Instituted.

XXI. FIRE CONTROL STATION AND BATTERY EQUIPMENT:
New Type instruments now in requisition. Some are delivered and installed now. Magazine #2 telephone removed pending delivery of WE-629A sub-station set or equivalent. Terminal being rectified. Memorandum mentioed entirely cared for.

XXII. OUTSIDE PLANT NOT OTHERWISE REPORTED:
Pay stations increased to six. Battery Kessler now undergoing alterations by the U.S.E.D. Upon the completion of which its cable system will be completed. The 155 Battery has been moved twice in the last two months. It is organized as a mobile unit. It is wired by field wire to permanent cable terminals. Later this battery will be moved again to a new and still unselected site.

Battery Ferguson's work progressing. Cable to Tilden Tower reburied. The commercial Telephone Lines to Long Beach Tower have been disconnected on order of higher authority. It is understood on advice of Signal Corps Personnel that a new cable is to be laid, submarine, by the Signal Corps form Long Beach Tower to Fire Control Switchborar.

"List" mentioned entirely corrected.

XXIII. REMARKS, GENERAL INFORMATION AND RECOMMENDATIONS:
All available obtained, 5-12 pending delivery. Fire reporting system approved and now awaiting installation QMC.

T. E. JEFFORDS
Lt. Col. 7th C.A.
Commanding.

333. 2nd Ind. /eh

HEADQUARTERS HARBOR DEFENSES OF SANDY HOOK, Ft. Hancock, N.J., Aug. 23, 1941. TO: Commanding General, 2nd Coast Artillery District, Fort Hamilton, New York.

1. This office concurs in the premise of the 1st Indorsement.

2. Fort Tilden will be limited in its Fire Control to a considerable degree pending the arrival of new fire control equipment (EE-91 and HS-17A sets) for Batteries Kessler and Fergusson and the installation of the tie cable covered by Project SCD-222 (between Fire Control and Post Switchboard) at Fort Tilden, N. Y.

For the Commanding General:

RECEIVED 2d C. A. DIST. AUG

P. K. KELLY,
Lt. Colonel, 7th C. A.,
Executive.

333.91/13 (C183) 3rd Ind. 4/dcr

HQ. SECOND COAST ARTILLERY DISTRICT, Ft. Hamilton, New York. September 10,1941.
To: Commanding General, Second Corps Area, Governors Island, New York.

Inviting attention to 1st and 2nd Indorsements.

For the District Commander:

RECEIVED Hq. 2nd C.A.C. Dist. SEP 12 1941

4 RECEIVED ADJ GEN'S OFF SEP 12 1941

EARL BISCOE,
Colonel, C.A.C.,
Executive.

333.9-Ft. Tilden, N.Y. 4th Ind. 3W-2
(SO)

Hq. 2nd Corps Area, Governors Island, N.Y., September 19, 1941. To: The Adjutant General, War Department, Washington, D. C.

1. All matters pointed out by the inspector are receiving the necessary attention.

2. Reference is made to the remarks in paragraph 2., 2nd indorsement. The Commanding General, 2nd Coast Artillery District, is being advised that:

a. This Headquarters is following up the undelivered items for the fire control installation at Batteries Kessler and Ferguson with a view to expediting deliveries.

b. Cable under Project SCD-222 is expected to be delivered during the coming month.

For the Commanding General:

54 A G D
SEP 20 1941
Received

OFFICE OF THE CHIEF SIGNAL OFFICER
SEP 24 10 30 AM '41
RECEIVED

1 Incl: - Sheets 1 to 13 (Except 10 & 12) Form 72 in dup.

1st Lt. A.G.D.
Assistant Adjutant General

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