

600.94 (handwritten)
114546

CONFIDENTIAL

SPEKM-1

REPORT OF COMPLETED WORKS - SEACOAST FORTIFICATIONS
(Batteries)

HARBOR DEFENSES OF SAN FRANCISCO
~~XXXX~~ MILAGRA RIDGE, CALIFORNIA
BATTERY CONSTR. 244 No. of Guns 2
Caliber 6" Carriages M4

Part I Corrected to September 1944

GENERAL:

Battery commenced 24 March 1943
Battery completed 23 November 1943 (Main Structure)
Date of transfer 18 September 1944
Cost to date of transfer \$299,699.36
Materials of construction Reinforced Concrete
Battery new or modernized New
(If modernized give detailed statement on reverse side)
Trunnion elevation in btry 574.52'
Datum plane 0.00 at MLLW

UTILITIES:

WATER SUPPLY

Source of Coast Guard Water Line
Alternate source None
Size of Main 4" Steel Pipe

SEWER

Connected to sewer Yes
Type of Disposal Septic Tank & Leaching Lines
Type of Latrine Siphon

UTILITIES (Cont'd)

ELECTRIC POWER

Sources of Commercial & Standby
Procured & installed by (XXX or DRD) Standby
Characteristics: Voltage 480/120/208 Ac 3 Phase 3
No. of units and capacity 3 - 125 KVA each
Max. K.W. required for utilities 45 (Transf. Cap.)
Max. K.W. required for non-battle conditions 45 KW
Commercial power provided (yes or no) Yes Capacity 45 KW

Auxiliary power unit provided (yes or no) ~~Yes~~ No Capacity 375 KVA

Type of lighting fixtures CFS = 1 & CFS = 3 Total
Dehumidifying Unit No. Make and capacity Gasproofing Equip-
Rooms Wet or Dry Dry ment installed.
How ventilated Natural Draft
How heated Electric (indirect air)

DATA TRANSMISSION

Type Telephones installed by Signal Corps

REMARKS Installation of gun tubes only remaining OCE work to be accomplished.

ARMAMENT

Revised Reports of Completed Works will be submitted subsequent to installation of gun tubes.

| Emplacement No. | Cal. | Length | Model | Guns | | Mounted | Type | Model | Carriages | | |
|-----------------|------|--------|-------|------------|--------------|------------------|------|-------|------------|------------------------------|-------|
| | | | | Serial No. | Manufacturer | | | | Serial No. | Manufacturer | Motor |
| 1 | 50 | | | | | Carriage Mounted | 6" | M-4 | 21 | Wellman Eng- ineering Co. | |
| 2 | 50 | | | | | Carriage Mounted | 6" | M-4 | 22 | Wellman Eng- ineering Co. | |

PL 114546
16 Sept. 44

Project card # 5 FS-82

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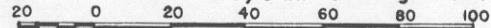
200 32

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REPORT OF COMPLETED WORKS—SEACOAST FORTIFICATIONS
(Battery Plan)

HARBOR DEFENSES OF SAN FRANCISCO, CALIFORNIA
MILAGRA RIDGE
BATTERY N^o 244

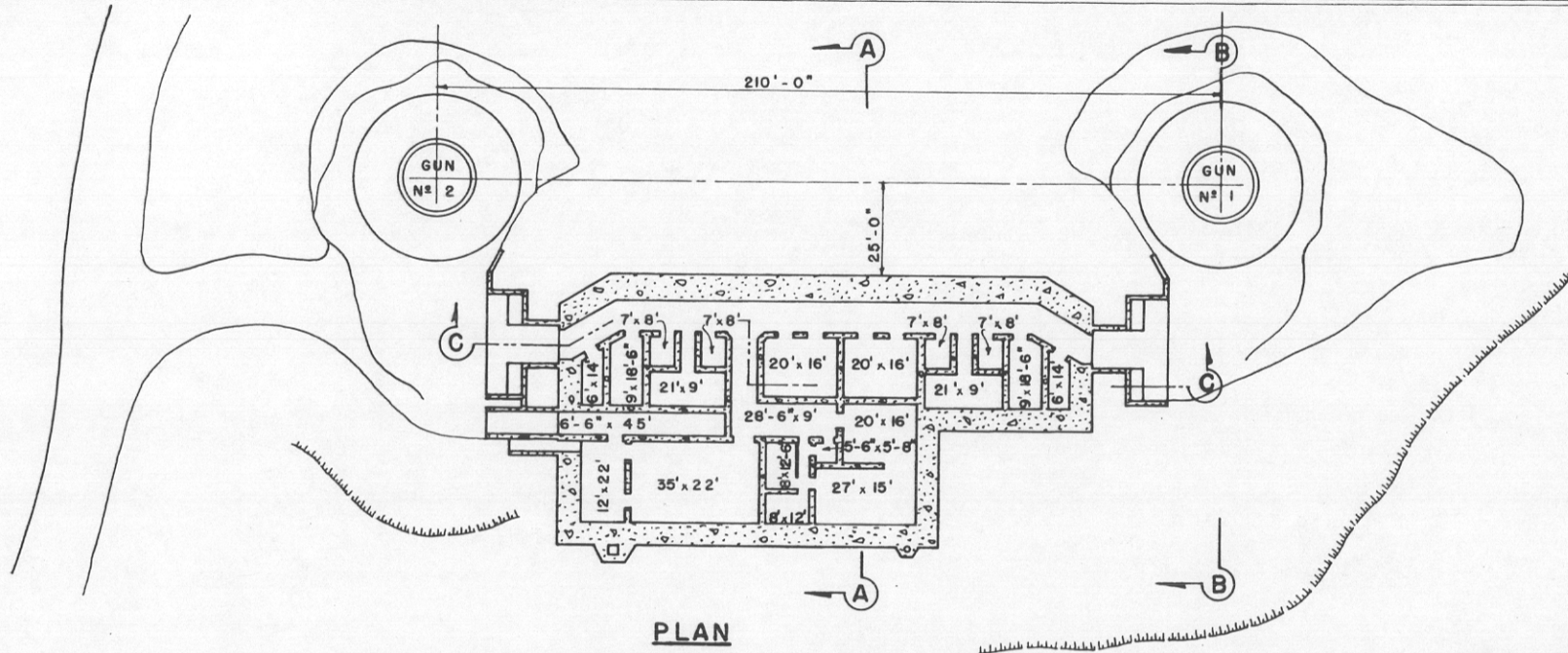
N^o of Guns 2 Caliber-50; 6 in. Carriage - M4



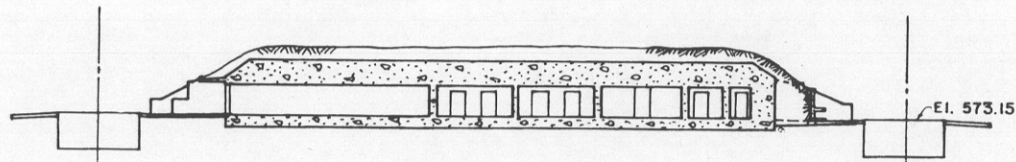
SCALE IN FEET

Part VII

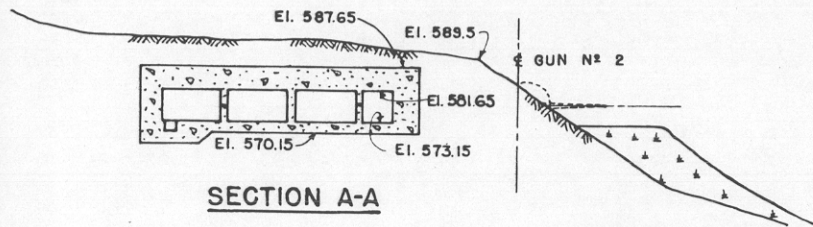
Corrected to August 1944



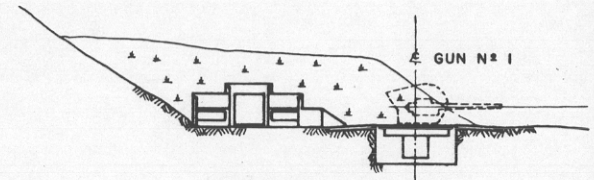
PLAN



SECTION C-C



SECTION A-A



SECTION B-B

U. S. ENGINEER OFFICE, SAN FRANCISCO, CALIFORNIA 74-16-4

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7231

SECRET

SPEKM-1

600,519 (San Fran) CM 72312
REPORT OF COMPLETED WORKS - SEACOAST FORTIFICATIONS
FIRE CONTROL STATION

HARBOR DEFENSES OF SAN FRANCISCO
FORT ... Milagra Ridge, California
STRUCTURE... BC-B'S Constr. No. 244 *Milagra Ridge*

PART II Corrected to September 1943

STRUCTURE: x... 122° 28' 48.154"
Location (by coordinates) y... 37° 38' 28.779"
Location (by site description) ... Milagra Ridge
Date of transfer... 29 November 1943.
Cost to that date... \$ 9,538.93
Type (for observing stat.--tower, dug-in, cottages, etc.)... Dug-in
Type of construction...
(a) Roof ... Reinforced Concrete
(b) Remainder of bldg. ... Reinforced Concrete
How concealed ... Earth Cover & vegetation
How protected ... Earth Backfill
Height above concealment ... Not above concealment
Height above protection ... Not above protection
Conspicuous at ... yards Not conspicuous from sea

UTILITIES:
Electric Power ...
Source of ... Commercial & Batt. 244 Power Plant
Characteristics: Voltage 120/240
780 AC or DC Phase Single
Kilowatts required... 780
Type of lighting fixtures... CSF-1
Heat
How heated ... Not heated
Water Sewer
Connected to water mains... No
Connected to sewer... No
Type latrine ... None

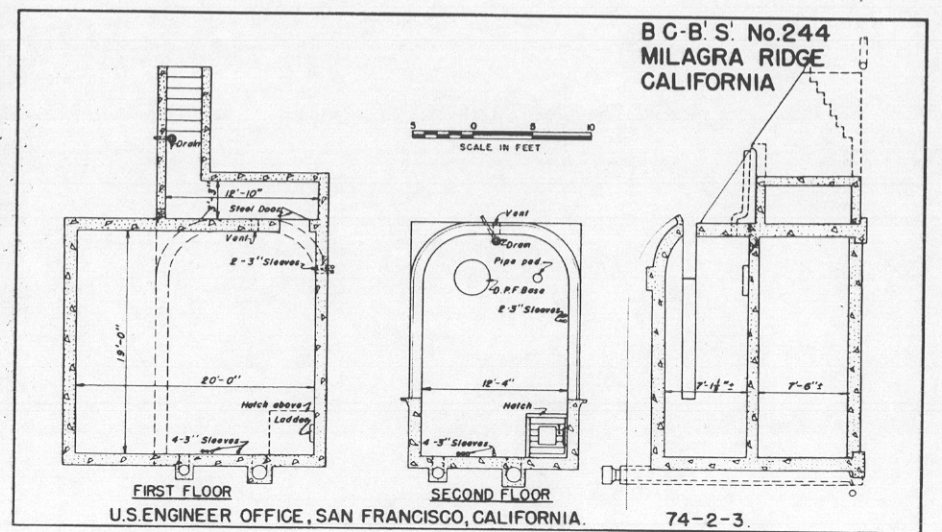
REFERENCE:
Reference of site... Original ground at Inst. 631.0 MLLW
Reference of instrument axis...
Elev. inst. Ped., second floor = 632.49 (MLLW= 0.00)

INSTRUMENTS & EQUIPMENT:
Type of observing inst. ... Installed by others
Type of plotting board ...
DATA TRANSMISSION:
Type ... Telephone (installed by Signal Corps)
Date of transfer ...

TIDE STATION:
Give description of tide gauge ...

ED Form A-162B
16 Sept. 1943

SECRET



FS498 Proj Card 101

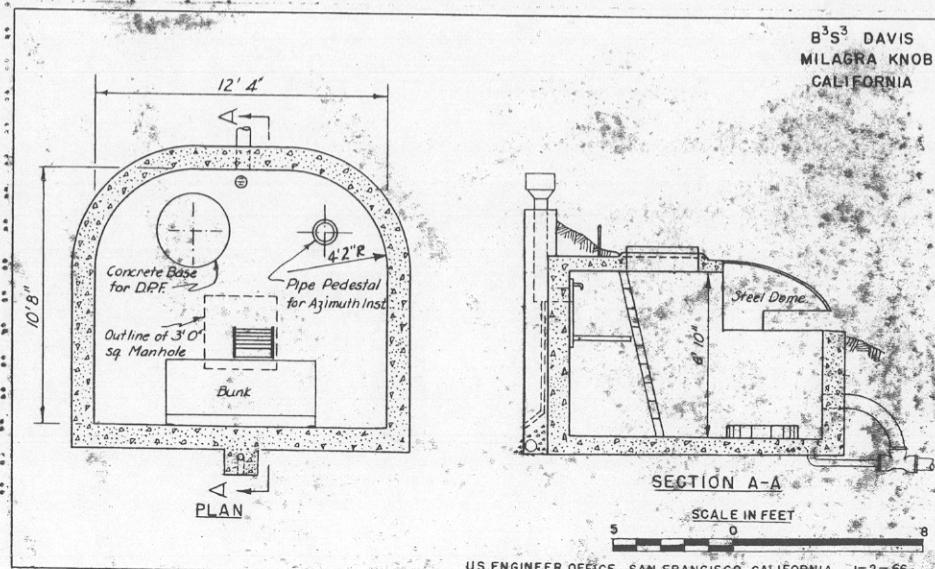
74-2-3

REPORT OF COMPLETED WORKS - SEACCAST FORTIFICATIONS
(Fire Control or Torpedo Structures)

COAST DEFENSES OF San Francisco
Milagra Knob, California
STRUCTURE B³S³ Davis

Form 2. Corrected to November 14, 1941

| | | | |
|----------------------------|-------------------------------------|----------------------------------|-----------------------|
| STRUCTURE | : | :TYPE OF DATA TRANSMISSION | : |
| Location | :Milagra Knob, California | :Type of transmission equipment | :Telephone (Installed |
| | : | | : by Signal Corps) |
| Date of transfer | :November 14, 1941 | :Date of transfer | : |
| Cost to that date | :\$2,898.08 | :Cost of data transmission | : |
| Type of construction | : | : equipment | : |
| (a) Roof | :Reinforced concrete and steel dome | :For tide stations give descrip- | : |
| (b) Remainder of bldg. | :Reinforced concrete | : tion of tide gauge | : |
| How concealed | :Earth cover, vegetation, and | :For datum points give Forts | : |
| | : camouflaged dome | : from which visible | : |
| How protected | :Earth back fill and one inch steel | :For dormitories give stations | : |
| | : dome | : served | : |
| Height above concealment | : Not above concealment | :For cable hut give S.C. type | : |
| Height above protection | :Not above protection | | : |
| Conspicuous at 400 yds. | :Not conspicuous from sea. | | : |
| ELECTRIC ENERGY | : | | : |
| Source of electric current | :None | | : |
| Kilowatts required | :None | | : |
| Type of lighting fixtures | :None | | : |
| HEAT | : | | : |
| How heated | :Not heated | | : |
| WATER AND SEWER | : | | : |
| Connected to water mains | :No | | : |
| Connected to sewer | :No | | : |
| Type of latrine | :None | | : |
| m. or temp. installation: | Perm. | | : |
| Present condition | :New | | : |
| REFERENCE | : | | : |
| Reference of site | :Lat. 37° 38' 38.527" Long 122° 29' | | : |
| | : 20.625" | | : |
| Reference of inst. axis | :Elev. 239.00 M.L.L.W. | | : |
| Elev. of Inst. Pedestal | :234.54' M.L.L.W. | | : |
| Type of observing inst. | :D.P.F. M1 Class 3 No. 75. Also | | : |
| | : Pier Mount for Model 1910 Azimuth | | : |
| | : Instrument | | : |
| Type of plotting board | : - | | : |
| Type and capacity of crane | : - | | : |
| Max. dim. of reel handled | :None | | : |

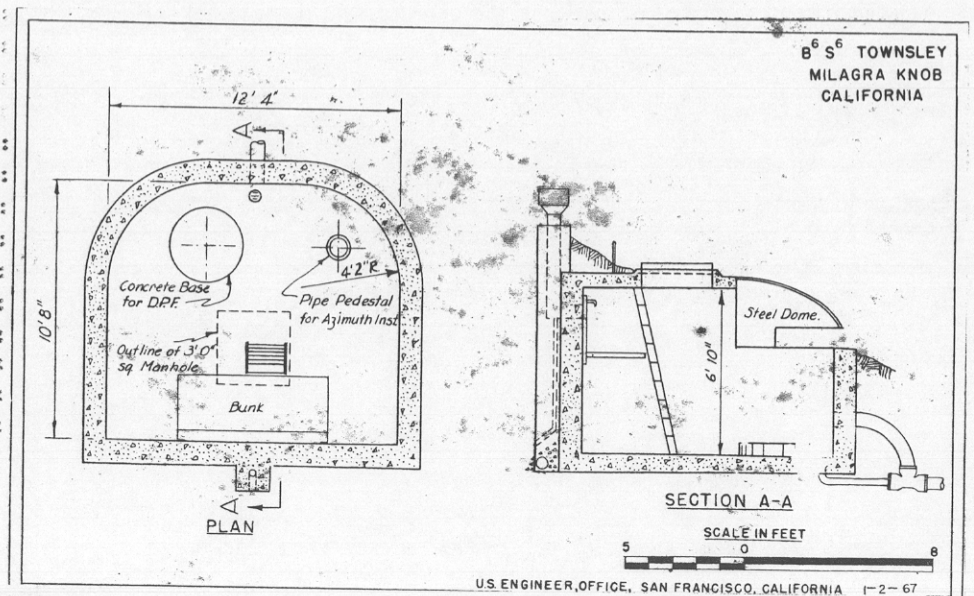


REPORT OF COMPLETED WORKS - SEACOAST FORTIFICATIONS
(Fire Control or Torpedo Structures)

COAST DEFENSES OF San Francisco
Milagra Knob, California
STRUCTURE B⁶ S⁶ Townsley

Form 2. Corrected to November 14, 1941

| | | | |
|-----------------------------|-------------------------------------|----------------------------------|-----------------------|
| STRUCTURE | : | :TYPE OF DATA TRANSMISSION | : |
| Location | :Milagra Knob, California | :Type of Transmission Equipment | :Telephone (Installed |
| Date of transfer | :November 14, 1941 | :Date of transfer | :by Signal Corps) |
| Cost to that date | :\$3,008.53 | :Cost of data transmission | : |
| Type of construction | : | : equipment | : |
| (a) Roof | :Reinforced concrete and steel dome | :For tide stations give descrip- | : |
| (b) Remainder of bldg. | :Reinforced concrete | : tion of tide gauge | : |
| How concealed | :Earth cover, vegetation, and | :For datum points give Forts | :: |
| | : camouflaged steel dome | : from which visible | : |
| How protected | :Earth backfill and 1-inch steel | :For dormitories give stations | : |
| | : dome | : served | : |
| Height above concealment | :Not above concealment | :For cable hut give S.C. type | : |
| Height above protection | :Not above protection | : | : |
| Conspicuous at 400 yds. | :Not conspicuous from sea | : | : |
| ELECTRIC ENERGY | : | : | : |
| Source of electric current | :None | : | : |
| Kilowatts required | :None | : | : |
| Type of lighting fixtures | :None | : | : |
| HEAT | : | : | : |
| How heated | :Not heated | : | : |
| WATER AND SEWER | : | : | : |
| Connected to water mains | :No | : | : |
| Connected to sewer | :No | : | : |
| Type of latrine | :None | : | : |
| Perm. or temp. installation | :Perm. | : | : |
| Present condition | :New | : | : |
| REFERENCE | 38' | : | : |
| Reference of site | :Lat. 37°/39.022" Long. 122° 29' | : | : |
| Reference of inst. axis | :21.433" | : | : |
| | :Elev. 222.00 M.L.L.W. | : | : |
| Elev. of Inst. Pedestal | :217.54' M.L.L.W. | : | : |
| Type of observing inst. | :D.P.F. M1 Class 3 (Not installed | : | : |
| | :at time of transfer) Also Pier | : | : |
| | :mount for Model 1910 Azimuth Ins. | : | : |
| Type of plotting board | :None | : | : |
| Type and capacity of crane | :None | : | : |
| Max. dim. of reel handled | :None | : | : |



12312

600.919 (San Fran.) CM 72312

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SPEKM-1

REPORT OF COMPLETED WORKS - SEACOAST FORTIFICATIONS
FIRE CONTROL STATION

HARBOR DEFENSES OF SAN FRANCISCO
~~PORT~~ Milagra Ridge
STRUCTURE B686 Const. 129 at *Point*

PART II Corrected to October 1943

STRUCTURE:
 Location (by coordinates) x... 122° 28' 57.795"
 Location (by coordinates) y... 37° 38' 27.561"
 Location (by site description) Milagra Ridge below Batt 244
 Date of transfer... 29 November 1943
 Cost to that date... \$ 4,575.27
 Type (for observing stat.--tower, dug-in, cottages, etc.)... Dug-in
 Type of construction...
 (a) Roof Reinforced concrete
 (b) Remainder of bldg. Reinforced concrete
 How concealed Backfill & vegetation
 How protected Backfill
 Height above concealment Not above concealment
 Height above protection Not above protection
 Conspicuous at 200 yards Not conspicuous from sea.

INSTRUMENTS & EQUIPMENT:
 Type of observing inst. ... Installed by others
 Type of plotting board

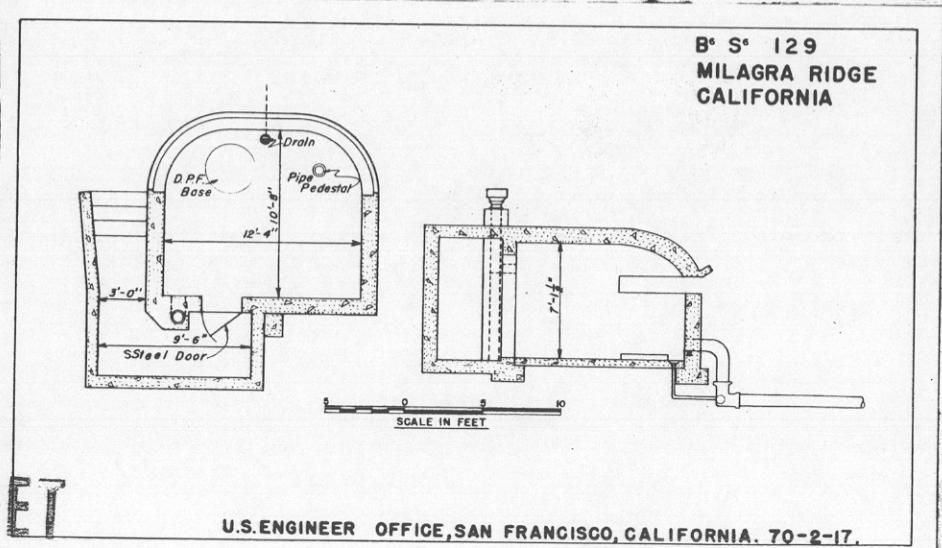
DATA TRANSMISSION:
 Type Installed by Signal Corps.
 Date of transfer

TIDE STATION:
 Give description of tide gauge

UTILITIES:
 Electric Power Yes
 Source of ... Switchboard Batt: 244
 Characteristics: Voltage 120 Ac or DC..Phase..Single
 Kilowatts required... 0.3
 Type of lighting fixtures... CSF-1
 Heat
 How heated ... Not heated
 Water Sewer
 Connected to water mains... No
 Connected to sewer... No
 Type latrine ... None

REFERENCE:
 Reference of site... 478.0 MLLW
 Reference of instrument axis...
 Elev. Inst. Pedestal 476.29 (MLLW= 0.00)

ED Form A-162B
16 Sept. 1943



SECRET

FS 503 -1453 Propy Card 117

600.914 (San Fran) 105960

SECRET

SPEKM-1

REPORT OF COMPLETED WORKS - SEACOAST FORTIFICATIONS
(Transmitter Building and Power House)

HARBOR DEFENSES OF SAN FRANCISCO
~~FOET~~ MILAGRA RIDGE, CALIFORNIA
STRUCTURE... SCR-296 RAD-9-184 *Wallace*

PART II Corrected to August 1944

105960

STRUCTURE: Antenna Tower x. 122° 28' 45.631"
Location (by coordinates) y. 37° 38' 27.087"
Location (by site description) 380' N.E. Gun #2 Btry.
Date of transfer... 22 August 1944 Constr. 244
Cost to that date. \$14,477.62
Type (for observing stat.--tower, dug-in, cottages, etc.) Tower-Transmitter Bldg.-dug-in
Type of construction.....
(a) Roof Transmitter bldg. concrete-pwr. hse. galv. iron
(b) Remainder of bldg. Concrete-galv. iron
How concealed Transmitter bldg. by backfill-pwr. hse. & tower
How protected Transm't. bldg. by backfill-pwr. hse. painting. /not protected.
Height above concealment 25' (Tower)
Height above protection 25' (Tower)*
Conspicuous at 6000 yards appears as water tank.

INSTRUMENTS & EQUIPMENT:

Type of observing inst. installed by Signal Corps
Type of plotting board

DATA TRANSMISSION:

Type installed by others
Date of transfer

TIDE STATION:

Give description of tide gauge

- 1 - 25 KVA Power unit installed in type HO-1A power house.

Tower mounted on concrete pedestals on roof of transmitter building.

- 1 - 25 KVA Transformer, 2400/4160 V.Y. 120/240 V. 1φ and oil fuse cutout installed in manhole (see attached print)

Paste on blue print showing plan of each story of building, giving principal dimensions, including height of ceiling.

UTILITIES:

Electric Power yes
Source of commercial and standby generator
Characteristics: Voltage 120 Ac ~~xxxx~~ Phase.. single.
Kilowatts required.. 16
Type of lighting fixtures. Holophane and CSF-1
Heat
How heated electric heater
Water Sewer
Connected to water mains..... no
Connected to sewer..... no
Type latrine none

REFERENCE:

Reference of site... 665.0 MLLW
Reference of instrument axis.....
Elev. top of pedestals - 673.15 (0.00 at MLLW)

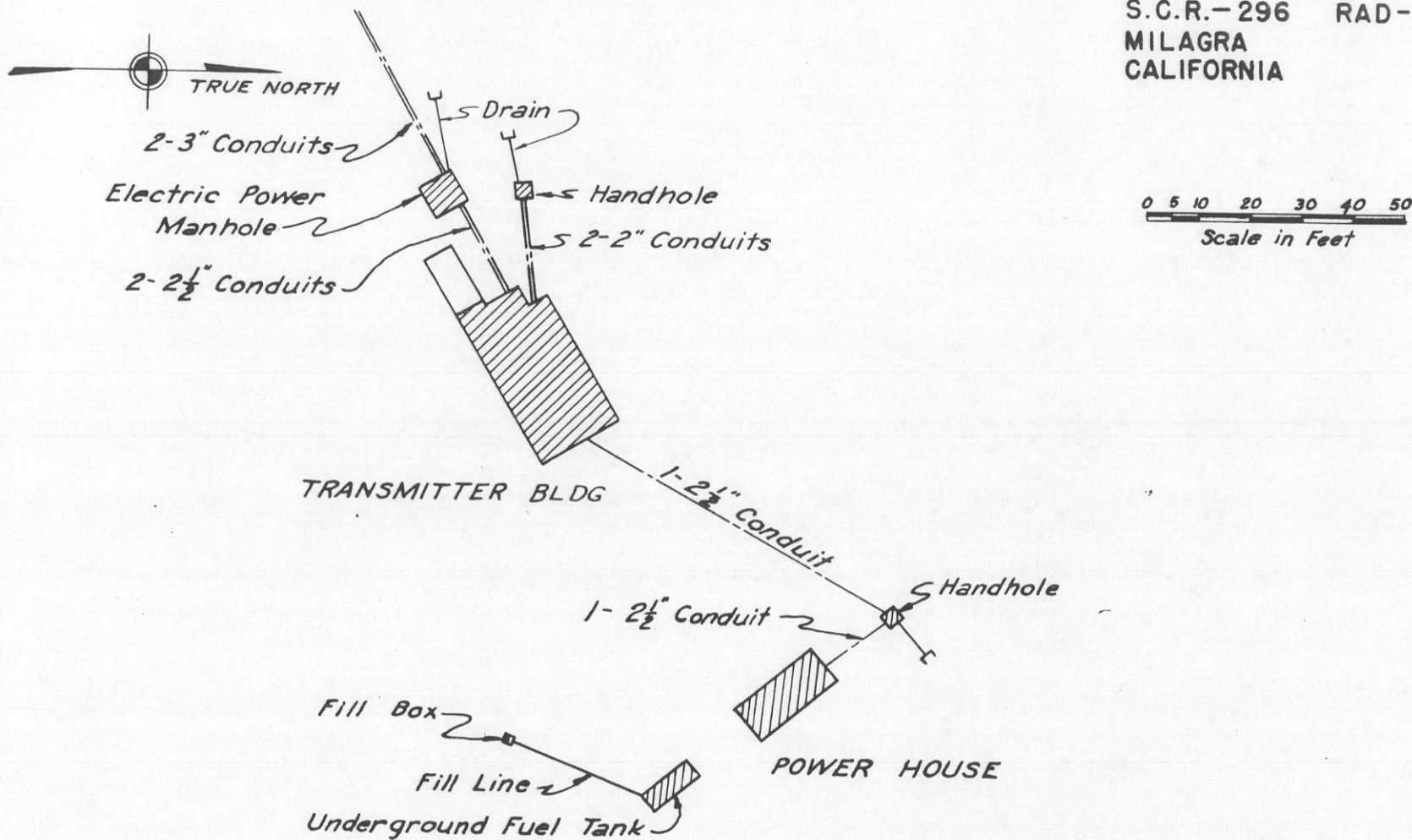
FS-1429

SECRET

2E6 92-4882

SCR 296-A declared obsolete, ltr. AG 17 Jan 46, file AG 413.44 (15 Jan. 46) OB-S-SPOFS. Tower and equipment to be disposed of. ED Form A-162B 16 Sept. 1943 Buildings to be r ined.

S.C.R.-296 RAD-9-184
MILAGRA
CALIFORNIA



600.914(SD)104584

SECRET

SPK-1

REPORT OF COMPLETED WORKS - SEACOAST FORTIFICATIONS
(FIRE CONTROL STRUCTURE)

HARBOR DEFENSES OF SAN FRANCISCO
FORT MILAGRA KNOB
STRUCTURE..... D⁶S⁶ TOWNSLEY of Concrete

PART II Corrected to July 1944

STRUCTURE: x. 122° 29' 21.433"
Location (by coordinates) y. 37° 38' 39.022"
Location (by site description) Milagra Knob, Calif.
Date of transfer 14 November 1941*
Cost to that date \$3,008.53*
Type (for observing stat.--tower, dug-in, cottages, etc.)
Type of construction
(a) Roof Reinforced concrete and steel dome
(b) Remainder of bldg. Reinforced concrete
How concealed Earth cover, vegetation, & camouflaged
How protected Earth backfill & 1" steel /steel dome.
Height above concealment Not above concealment.
Height above protection Not above protection.
Conspicuous at 400 yards Not conspicuous from sea.

D.P.F. M1 Class 3 (not installed)
INSTRUMENTS & EQUIPMENT: at time of transfer) Also pier
Type of observing inst. mount for Model 1910 Azimuth Inst
Type of plotting board None

DATA TRANSMISSION:
Type Telephones (installed by Signal Corps)
Date of transfer

TIDE STATION:
Give description of tide gauge

Perm. or tem. installation - permanent.
Present condition - new.

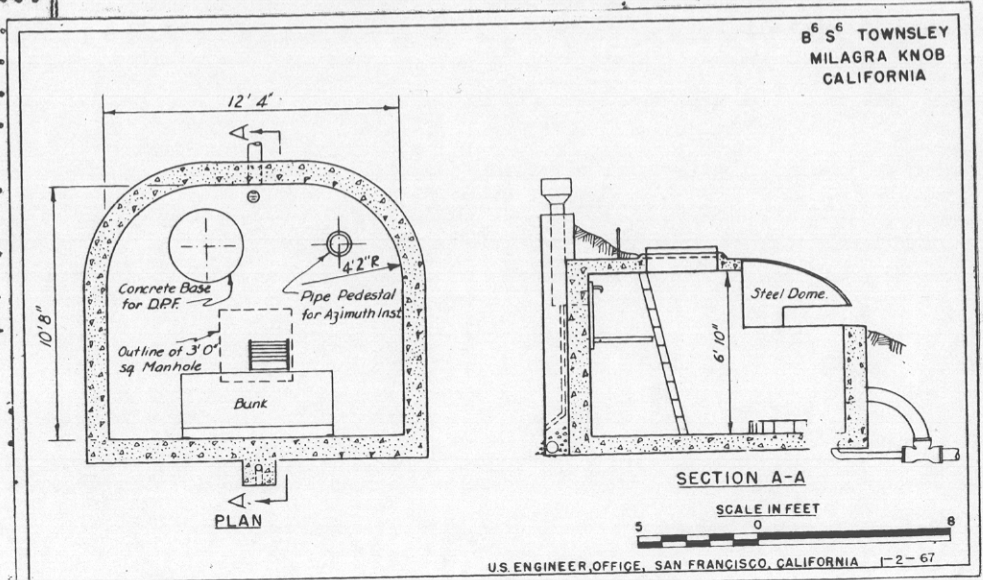
UTILITIES:

Electric Power
Source of none
Characteristics: Voltage...Ac or DC..Phase
Kilowatts required...none
Type of lighting fixtures none
Heat
How heated not heated
Water Sewer
Connected to water mains no
Connected to sewer none
Type latrine none

* See reverse side for work accomplished in 1944.

REFERENCE:

Reference of site 222.00 MLLW
Reference of instrument axis
Elev. of Inst. Pedestal - 217.54 MLLW.



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ED Form A-162B
16 Sept. 1943

600.714(SJ)104584

SECRET

SPERU-1

REPORT OF COMPLETED WORKS - SEACOAST FORTIFICATIONS
(Fire Control Structure)

HARBOR DEFENSES OF SAN FRANCISCO
NEXT MILAGRA KNOB
STRUCTURE. *B'S Davis at Dunston*

PART II Corrected to July 1944

104548

STRUCTURE: x. *12° 29' 20.625"*
 Location (by coordinates) y. *37° 38' 38.927"*
 Location (by site description) *Milagra Knob, Calif.*
 Date of transfer. *November 21, 1944*
 Cost to that date. *\$2,898.00**
 Type (for observing stat.--tower, dug-in, cottages, etc.)
 Type of construction
 (a) Roof. *Reinforced concrete and steel dome*
 (b) Remainder of bldg. *Reinforced concrete*
 How concealed *Earth cover, vegetation and camouflaged*
 How protected *Earth backfill & 1" Steel dome dome*
 Height above concealment *Not above concealment*
 Height above protection *Not above protection*
 Conspicuous at *100* yards *not conspicuous from sea.*

INSTRUMENTS & EQUIPMENT: *D.P.F. M1 class 3 No. 75 also pier mount for Model 1910*
 Type of observing inst. *Azimuth instrument*
 Type of plotting board

DATA TRANSMISSION: *Telephones (installed by Signal Corps)*
 Type
 Date of transfer

TIDE STATION:
 Give description of tide gauge

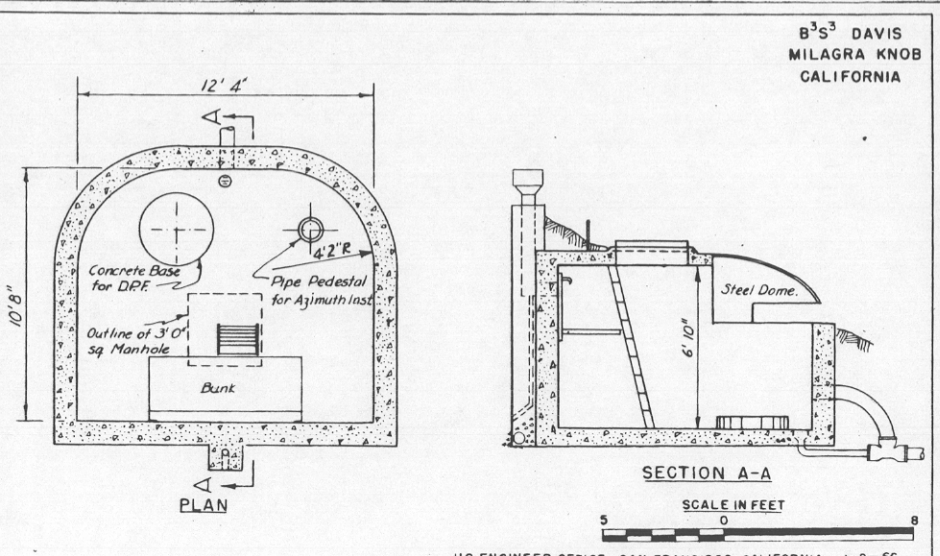
Perm. or temp. installation. *Permanent*
 Present condition *New*

*See reverse side for work accomplished in 1944.

UTILITIES:
 Electric Power *None*
 Source of
 Characteristics: Voltage *Ac or DC* Phase
 Kilowatts required *None*
 Type of lighting fixtures *None*
 Heat
 How heated *Not heated*
 Water Sewer
 Connected to water mains *No*
 Connected to sewer *None*
 Type latrine

REFERENCE:
 Reference of site *239.00 ALLA*
 Reference of instrument axis *234.54 ALLA*
 Elev. of inst. pedestal

ED Form A-162B
16 Sept. 1943



SECRET

600.914(12)104548

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SPEKM-1

REPORT OF COMPLETED WORKS - SEACOAST FORTIFICATIONS
(Power Station for Fire Control Stations)

HARBOR DEFENSES OF SAN FRANCISCO.
FORT. MILAGRA KNOB, CALIFORNIA
STRUCTURE. POWER HOUSE (1-UNIT)

PART II (Modified) Corrected to July 1944

104548

STRUCTURE:

Location (by site description) **Milagra Knob**
Date of transfer **31 July 1944**
Cost to that date **\$1,379.67 (incl. cables & trenching)**
Type (for observing stat. -- tower, dug-in, cottages, etc.) **dug-in**
Type of construction
(a) Roof **Reinforced concrete**
(b) Remainder of bldg **Reinforced concrete**
How concealed **Earth backfill and vegetation**
How protected **Earth backfill**
Height above concealment **Not above concealment**
Height above protection **Not above protection**
Conspicuous at **1000** yards **conspicuous from sea**
Front face of building not concealed or protected.

UTILITIES: (Electrical and Power Distribution)

Commercial Power **Yes from P. G. & E. ***
Generated Power **Yes**
Source of generated power **Standby power plant.**
Characteristics: Voltage **120** AC ~~60~~ Phase **1**
Watt output **0.1 this station, 1.2 for other two stations.**
Number of generator sets installed **one**
Type and rating of generators **3 KVA 125 V AC 30 60 cy**
Generator serial No. **6809**
Furnished by **Signal Corps** installed by **U.S.E.D.**
Type of lighting fixtures **CSF-1**
Generator sets provide power for the following Stations: **B7S Townsley and B7S Davis and this station**

Type of switch installed **1-30 A. 2 Pole fusible & 1-60 A. 2P D.T. non-fusible. 1-60 A 2P+ SH Fusible on Gov't. pole.**

Type and kind of power cable of each location
2-#8 direct burial 600 V cable to both stations.
2-#4 direct burial cable from gov't. pole to Power House.
Number and Type of Transformers. **None**

Switching instructions **standby power connected to top pole & Comm. power connected to lower pole of 60 A. switch. Leads to Base End Stations tied to this switch. Comm. power can be thrown off by 60 A. switch on Gov't pole.**

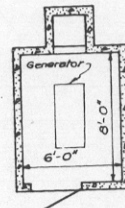
REFERENCES:

Reference of site **229.00 (MLLN--0.00)**
Floor elevation **225.00 MLLN**

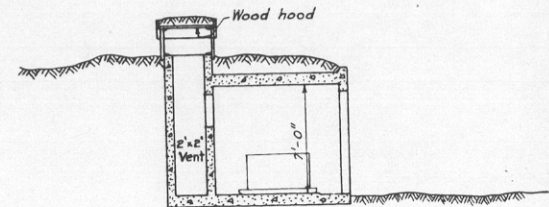
REMARKS

Cost is a portion of total amount of \$40,670.00 set up for Job No. SF FS-21, Dir. Cons. FS-1254. See Reversed Part II for stations shown above for costs. Scar area replanted. *3-#4 WP wires overhead from gov't. pole to pole installed by P. G. & E. extended

POWER HOUSE
MILAGRA KNOB
CALIFORNIA



PLAN



LONGITUDINAL SECTION

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ED Form A-162B