

## BLUEPRINTS, EXHIBITS, AND SITE PLANS

### PERIOD MAPS OF US ARMY COAST/HARBOR DEFENSE INSTALLATIONS, 1900-45

Mark Berhow

Reference material used in this section:


























- Hines, Franklin and Frank Ward, *The Service of Coast Artillery*, Goodenough and Woglom Company, NY (1910), reprinted by the Coast Defense Study Group Press, Bel Air, MD (1997), p. 65.
- War Department, United States Army, Office of the Chief of Staff, *Coast Artillery Drill Regulations*, Document No. 474, USGPO, Washington, DC, 1914, pp. 182-183.
- War Department, Office of the Chief of Engineers, *Confidential blueprints for fortifications plats issued by the Office of the C. of E.*, National Archives, Cartographic Branch, College Park, MD (4 sheets, symbols and abbreviations, 195 plats covering 28 coast defenses), maps dated 1921-22. A copy of the complete set of these maps is available through the Coast Defense Study Group. The set is approximately 300 pages, in the negative format (white lines—on—black background), sharp and clear enough to easily read all numbers, symbols and writing. (Unfortunately, there is not such a set of maps available for the WW II-era fortifications, though copies of some are in the collections of CDSG members.)
- War Department, *General Orders No. 114*, Wash. D.C., May 23, 1907, "Abbreviations and conventional signs . . ." [reprinted in the *CDSG News* Vol. 3, Issue 3 (May 1989) pp. 18-19.]
- War Department., Office of the Chief of Staff, Coast Artillery Division, *Artillery Bulletin No. 51 (Serial No. 102)* Subject: "Symbols and abbreviations for harbor charts and fortification index maps.", Wash. D.C., Feb. 4, 1913. [reprinted in the *CDSG News* Vol. 3, Issue 3 (May 1989) p. 17.]
- War Department, Office of C. of E., Letter: 061.2b-F248, To: Recorder, Coast Artillery Board, Fort Monroe, VA, Subject: Confidential Blue Prints, August 9, 1922. 2 indorsements and list of blueprints (11 pages).
- War Department, Office of C. of E., File 323.5, "Symbols and Abbreviations for Use on Fire Control and other Drawings," June 18, 1927 (9 sheets) National Archives, Pacific Southwest Region, Laguna Nigel, CA, RG 77, Box 46, Folder H-5.
- War Department, *Technical Regulations, No. 1050-5, Symbols for Seacoast Defense Fire-Control Maps, Diagrams, and Structures.*, US GPO, Washington, DC, May 10, 1939 (8 pages).
- War Department, *FM 4-155 Coast Artillery Corps Field Manual, Reference Data (Seacoast Artillery and Antiaircraft Artillery)*, US GPO, Washington DC, 1940.
- War Department, Annexes to Harbor Defense Projects, various locations and dates (National Archives RG 407, Records of the Adjutant Generals Office, Entry 366).

Site maps, site plans, annex exhibits, confidential blueprints, D-series maps—these are all terms that have been used to describe various maps which depict sites used by the U.S. Army, at one time or another, in connection with harbor defense fortifications and fire control. CDSG members have circulated copies of many such maps among themselves for many years; lately they have been handed out at the CDSG conferences, and they now often accompany articles in the *CDSG Journal*. These maps have been keys to ferreting out the identification of the various remaining structures during site visits, yet there is some confusion over where these maps come from, what their cryptic symbols mean, and even what they are called.

As new harbor defense construction was proposed, planned and carried out by the U.S. Army Corps of Engineers, the engineers prepared a large number of maps and plans to go with those projects as needed. Once the works were completed, the Corps of Engineers maintained and updated maps of the various military reservations and sites. These maps were kept as part of the records of the various Corps of Engineer district offices around the country. Copies were turned over to qualified parties in the army, such as the Coast Artillery Corps, the Quartermaster Corps, etc. In due course, the records of the Corps of Engineers and the other branches of the army have been turned over to National Archives. Copies of a number of interesting maps, dated from the 19th and the first half of the 20th centuries, have been duplicated from the holdings in the National Archives by historians and researchers.










# 1909 SYMBOL CHART

## SIGNS.

|   |   |
|---|---|
| <i>Primary Station of a Battery</i> .....               |    |
| <i>Secondary Station of a Battery</i> .....             |    |
| <i>Supplementary Station of a Battery</i> .....         |    |
| <i>Battery Commander's Station</i> .....                |    |
| <i>Battle Commander's Station</i> .....                 |    |
| <i>Emergency Station of a Battery</i> .....             |    |
| <i>Primary Station of a Fire Command</i> .....          |    |
| <i>Secondary Station of a Fire Command</i> .....        |    |
| <i>Supplementary Station of a Fire Command</i> .....    |    |
| <i>Illuminating Light</i> .....                         |    |
| <i>Primary Station of a Mine Command</i> .....          |    |
| <i>Secondary Station of a Mine Command</i> .....        |    |
| <i>Supplementary Station of a Mine Command</i> .....    |    |
| <i>Double Primary Station of a Mine Command</i> .....   |    |
| <i>Double Secondary Station of a Mine Command</i> ..... |  |
| <i>Meteorological Station</i> .....                     |  |
| <i>Separate Observing Room</i> .....                    |  |
| <i>Separate Plotting Room</i> .....                     |  |
| <i>Post Telephone Switchboard</i> .....                 |  |
| <i>Searchlight</i> .....                                |  |
| <i>Searchlight 36 inch</i> .....                        |  |
| <i>Searchlight 60 inch</i> .....                        |  |
| <i>Tide Station</i> .....                               |  |
| <i>Signal Station</i> .....                             |  |
| <i>Wireless Station</i> .....                           |  |








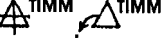

## SYMBOLS AND ABBREVIATIONS—1921 CONFIDENTIAL BLUEPRINTS

| Name  | Abbr.   | symbol | Sta. w/o roof |
|---|---------|--------|---------------|
| Fort Commander's Station                                      | C       |        |               |
| Primary Station, Fire Command                                 | F'      |        |               |
| Secondary Station, Fire Command                               | F''     |        |               |
| Supplementary Station, Fire Command                           | F'''    |        |               |
| Primary Station of a Battery                                  | B'      |        |               |
| Secondary Station of Battery                                  | B''     |        |               |
| Supplementary Station of a Battery                            | B'''    |        |               |
| Battery Commander's Station                                   | BC      |        |               |
| Primary Station, Mine Command                                 | M'      |        |               |
| Secondary Station, Mine Command                               | M''     |        |               |
| Supplementary Station, Mine Command                           | M'''    |        |               |
| Double Primary Station, Mine Command                          | M'-M'   |        |               |
| Double Secondary Station Station, Mine Command                | M''-M'' |        |               |
| Separate Plotting Room  | P       |        |               |
| Separate Observing Room                                       | O.      |        |               |
| Self-contained Horizontal Base                                | C.R.F.  |        |               |
| Emergency Station   | E.      |        |               |
| Spotting Station  | Sp.     |        |               |
| Meteorological Station  | Met.    |        |               |
| Tide Station  | T.      |        |               |
| Searchlight (30, 60, etc., relates to the size of the lights) | S.      |        |               |
| Controller Booth  | C.B.    |        |               |
| Watchers Booth  | W.      |        |               |
| Signal Station  | S.S.    |        |               |
| Radio Station   | R.      |        |               |
| Cable Terminal  | C.Ter.  |        |               |
| Post Telephone Switchboard                                    | P.S.B.  |        |               |
| Mining Casemate   | M.C.    |        |               |

| Name                                      | Abbr.  | symbol  | Sta. w/o roof   |
|---|--------|---|---|
| Loading Room                              | L.R.   |  |   |
| Switchboard Room                          | S.W.B. |  |   |
| Central Powerhouse                        | C.P.H. |  |   |
| Powerhouse (and Searchlight Powerhouse)   | P.H.   |  |   |
| Combined Stations, in same room           |        |  |   |
| Combined Stations, in communicating rooms |        |  |  |
| Combined C and F' Station in same room    |        |  |   |
| Differentiation of auxiliary plants       |        |  |   |

### Abbreviations

|                                 |            |
|---------------------------------|------------|
| Cable Gallery                   | C.Gal.     |
| Cable Tank                      | C.T.       |
| Cable Hut (commercial cable)    | C.H.       |
| Coast Guard Station             | C.G.S.     |
| Engineer Wharf                  | Engr. Whf. |
| Gasoline Tank                   | G.Tk.      |
| Guard House                     | G.H.       |
| Latrine                         | L.         |
| Lighthouse                      | L.H.       |
| Lighthouse Wharf                | L.H. Whf.  |
| Magazine                        | Mg.        |
| Mining Boathouse                | M.B.H.     |
| Mining Derrick                  | M.D.       |
| Mining Tramway                  | M.T.       |
| Ordnance Machine Shop           | O.M.S.     |
| Mine Wharf                      | M. Whf.    |
| Private Wharf                   | Pvt. Whf.  |
| Radio (commercial station)      | Rad.       |
| Railway Wharf                   | Ry. Whf.   |
| Saluting Battery                | Sl.B.      |
| Searchlight Shelter             | S.Sh.      |
| Service Dynamite Room           | S.D.R.     |
| Steamship Wharf                 | S.S. Whf.  |
| Sunset Gun                      | S.G.       |
| Tide Gauge (not a Tide Station) | T.G.       |
| Torpedo Storehouse              | T.S.       |
| Tower                           | Tw.        |
| Water Tank                      | W.Tk.      |
| Weather Bureau                  | W.B.       |

| Additional Symbols and Abbreviations   | Abbr.                         | Symbol   |
|--|-------------------------------|--|
| Pumping Plant  | P.P.                          |       |
| Radio Powerhouse   | R.P.H.                        |       |
| Searchlight Powerhouse   | S.P.H.                        |       |
| 60 inch Searchlight No. 7  | S. <sup>60</sup> <sub>7</sub> |       |
| Coincidence Rangefinder  | C.R.F.                        |  |
| Quartermaster Wharf  | Q.M. Whf.                     |  |
| Subscripts for use in both Legend and on Face of Plat are—                         |                               |  |
| Imp. Improved.<br>(for temporary fire control structures only.)                    | B" imp.                       |  imp. |
| p. Portable.<br>(Principally used for portable searchlights etc.)                  | S <sup>36</sup> <sub>p2</sub> |  p    |
| s. Superseded.<br>(for abandoned buildings, etc.)                                  | 24s.                          |  |
| t. Temporary.<br>(For all uses except fire control structures.)                    | 19t.                          |  |
| Datum Point—location indicated by intersection of lines or by dot at end of arrow. |                               |     |
| Triangulation Station.   |                               |     |
| Intersection Point.  |                               | ◦ BLACK BEACON   |
| Benchmark.   |                               | B.M.<br>X<br>1232  |
| Lighthouse.  |                               |     |

Such other topographic signs as may be necessary will be taken from the Engineer Field Manual (Professional Papers, Corps of Engineers, No. 29) pages 74 to 97.

## System of Numbering (for buildings)

1. Administration Building
2. Commanding Officer's Quarters
3. Officer's Quarters
4. Hospital
5. Hospital Steward's Quarters
6. Non-commissioned Officer's Quarters
7. Barracks
8. Guard House
9. Post Exchange

|                         |   |
|-------------------------|---|
| 10 to 19 and 100 to 199 | Post Buildings  |
| 20 to 29 and 200 to 299 | Quartermaster Buildings   |
| 30 to 39 and 300 to 399 | Ordnance Buildings  |
| 40 to 49 and 400 to 499 | Engineer Department Buildings   |
| 50 to 59 and 500 to 599 | Signal Corps Buildings  |
| 60 to 69 and 600 to 699 | Reserved for future requirements  |
| 70 to 79 and 700 to 799 | Religious and Social Buildings  |
| 80 to 89 and 800 to 899 | Government Buildings not under War Dept. Control  |
| 90 to 99 and 900 to 999 | All Private Buildings (Private dwellings, stores, contractor's buildings and buildings purchased with the land but not assigned to public use.) |

Notes: Maneuver buildings will be classed as post buildings.

**CHANGES IN DESIGNATIONS RELATED TO COAST DEFENSES**

*Coast Artillery Journal* Vol. 63 (1925) pp. 172-73.

Paragraph V of General Orders 13, War Department, June 9, 1925, is of such vital interest to Coast Artilleryman that it is here published in order that it may be available for ready reference:

1. To the end that the designations of units comprising the fortifications of the United States may be more truly descriptive, and that they may more nearly conform to the terms used in other branches of the service, the following changes therein are made:
  - a. The principal harbor defense tactical and administrative unit, heretofore designated the "Coast Defense Command," will hereafter be known as the "Harbor Defense," the commanding officer of such a unit will be called the "Harbor Defense Commander," and his staff the "Harbor Defense Staff."
  - b. The unit heretofore designated the "Fort Command" will hereafter be known as the "Fort."
  - c. Units heretofore designated the "Fire Command" and the "Mine Command" will be known as the "Group."
2. It is not practicable to revise and republish all orders, Training Regulations, Army Regulations, and other War Department publications in which the designations of these units appear; nor is it considered practicable to issue detailed changes in such publications to effect these corrections, as the instances where the designations are used are so numerous as to render such action uneconomical.
3. In the first column of the tabulation in paragraph 5 are enumerated old designations and in the second column the corresponding new designations of units referred to in paragraph 1; and whenever the terms in the first column now appear in any publication issued by the authority of the War Department, the corresponding items shown in the second column will be substituted therefor.
4. Hereafter in all official correspondence between officers and individuals in and under the War Department, in all orders, bulletins, circulars, regulations, and other official publications issued by the authority of the War Department, where mention is made of any of the units referred to in the tabulation in paragraph 5, the designations shown in the second column will be used.

## 5. Old and New Designations

*Old Designation*

Coast Defenses of  
 These coast defenses  
 This coast defense  
 This coast defense command  
 Fixed defenses

Fort command  
 Fire command  
 Mine command

Fort commander's station or command post.

Battery commander's station or command post.  
 Primary station, fire command

Primary station, mine command

Double primary station, mine command

Secondary station, fire command

Secondary station, mine command

Double secondary station, mine command

Supplementary station, fire command

Supplementary station, mine command

Separate observing room

*New Designation*

















Harbor Defenses of.  
 This harbor defense.  
 This harbor defense.  
 This harbor defense.  
 Harbor defense (includes both  
   fixed and mobile armament.)  
 Fort.  
 Group.  
 Group.  
 Harbor defense command post.  
 Fort command post.  
 Group command post (first group,  
   second group, etc.)  
 Battery command post.  
 Primary station (first group,  
   second group, etc.)  
 Primary station (first group,  
   second group, etc.)  
 Double primary station (first  
   group, second group, etc.)  
 Secondary station (first group,  
   second group, etc.)  
 Secondary station (first group,  
   second group, etc.)  
 Double secondary station (first  
   group, second group, etc.)  
 Supplementary station (first group,  
   second group, etc.)  
 Supplementary station (first group,  
   second group, etc.)  
 Observation post.













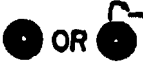
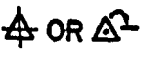



**SYMBOLS**  
**FM 4-155, REFERENCE DATA 1940**  
**(SEACOAST ARTILLERY AND ANTI-AIRCRAFT ARTILLERY)**

TABLE C.—*Symbols for seacoast artillery fire-control maps, diagrams, and structures*

Part 1.—Basic symbols




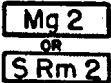
| Name                               | Abbreviation | Symbol  |
|------------------------------------|--------------|---|
| Harbor defense command post        | H D C P      |    |
| Groupment command post             | Gpmt C P     |    |
| Fort command post                  | Ft C P       |    |
| Gun group command post             | G C P        |    |
| Mine group command post            | M C P        |    |
| Seacoast battery command post      | B C P        |    |
| Harbor defense observation station | H D O P      |   |
| Groupment observation station      | Gpmt O P     |  |
| Fort observation station           | Ft O P       |  |
| Gun group observation station      | G O P        |  |
| Mine group observation station     | M O P        |  |
| Battery observation station        | B O P        |  |
| Emergency observation station      | E O P        |  |
| Antiaircraft observation post      | A A O P      |  |
| Battery spotting station           | S O P        |  |
| Separate observation station       | O P          |  |

| Name  | Abbreviation | Symbol |
|---|--------------|--------|
| Operations and plotting room                    | O P R        |        |
| Plotting room                                   | P            |        |
| Self-contained base range-finder station        | R F          |        |
| Magazine  | Mg           |        |
| Shellroom                                       | S Rm         |        |
| Temporary or improvised fire-control structures | Imp          |        |
| Mine casemate                                   | M C          |        |
| Mine loading room                               | L R          |        |
| Searchlight, 60-inch seacoast                   | S L          |        |
| Searchlight, seacoast, other than 60-inch       | S L          |        |
| Antiaircraft searchlight                        | A A S L      |        |
| Searchlight shelter                             | S Sh         |        |
| Searchlight powerhouse                          | S P H        |        |
| Searchlight controller booth                    | C B          |        |
| Data booth                                      | Data B       |        |
| Watchers booth                                  | W Bth        |        |
| Meteorological station                          | M E T        |        |








| Name  | Abbreviation | Symbol  |
|---|--------------|---|
| Tide station                                    | Td           |    |
| Signal station                                  | S S          |    |
| Fire Control switchboard room                   | F S B        |    |
| Post telephone switchboard room                 | P S B        |    |
| Combined fire-control & post telephone S B room | F S B P S B  |    |
| Cable terminal                                  | C Ter        |    |
| Powerhouse                                      | P H          |    |
| Radio powerhouse                                | R P H        |    |
| Central powerhouse                              | C P H        |  |
| Pumping plant                                   | P P          |  |
| Datum point                                     |              |  |
| Triangulation station                           |              |  |
| Intersection point                              |              |  |
| Benchmark                                       | B M          |  |
| Lighthouse                                      | L H          |  |

*Part 2.-Numbers for harbor defense installations.—a.* In harbor defense, seacoast artillery installations of each type are numbered consecutively from right to left, facing the center of the field of fire of the harbor defense. Antiaircraft installations pertaining to the harbor defense may be numbered in any convenient sequence.


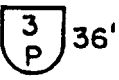
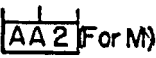
*b.* Groupments, gun groups, mine groups, batteries, and all installations functioning directly under the harbor defense commander, such as harbor defense observation stations, searchlights, and underwater listening posts, are numbered consecutively, each type in a separate series, beginning with number 1. These numbers normally are shown as subscripts to the letter included in the appropriate symbol. Exceptions are included among the examples that follow.

| Name                               | Abbreviation         | Symbol  |
|------------------------------------|----------------------|---|
| Harbor defense observation station | H D O P <sub>3</sub> |  |
| Fort observation station           | Ft O P <sub>3</sub>  |  |
| Antiaircraft observation post      | A A O P 2            |  |
| Magazine or shell room             | Mg 2 or S Rm 2       |  |





*c.* Groupment, group, and battery observation and spotting stations assigned to a unit are numbered consecutively within the unit, each type in a separate series, beginning with number 1. These numbers are shown as superscripts to the letter included in the appropriate symbol, the unit number remaining as the subscript.

| Name  | Abbreviation                       | Symbol  |
|---|------------------------------------|---|
| Groupment observation station                   | Gpmt <sub>2</sub> O P <sub>2</sub> |  |
| Gun group observation station                   | G <sub>2</sub> O P <sub>1</sub>    |  |
| Mine group observation station                  | M <sub>2</sub> O P <sub>1</sub>    |  |
| Battery observation station                     | B <sub>1</sub> <sup>1</sup> O P    |  |
| Spotting station                                | S <sub>3</sub> <sup>1</sup> O P    |  |
| Emergency observation station                   | E <sub>2</sub> <sup>1</sup> O P    |  |
| Temporary or improvised fire control structures | B <sub>3</sub> <sup>2</sup> Imp.   |  |

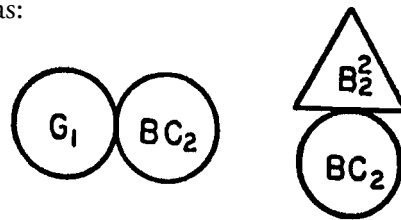
d. In certain cases it is desirable to show additional information regarding an installation, such as its size and whether fixed, portable, or mobile. Such information is placed either in the symbol or to the right thereof.

| Name  | Abbreviation                   | Symbol  |
|---|--------------------------------|---|
| 60-inch seacoast searchlight; fixed, portable or mobile.        | SL 2F (P or M)                 |  |
| Seacoast searchlight other than 60-inch                         | SL <sup>36</sup> <sub>3P</sub> |  |
| Antiaircraft gun battery or composite battery, fixed or mobile. | A A No. 2 (F or M)             |  |

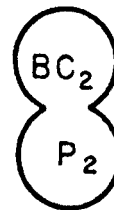
e. Where two stations are combined in one room, the symbols are superimposed one upon the other, and the letters representing each station are inclosed in the combined symbol.

| Name   | Abbreviation  | Symbol  |
|--|---|---|
| Combined groupment command post and fort command post.         | Gpmt Ft Cp  |    |
| Combined battery observation and spotting station.             | B <sub>1</sub> <sup>2</sup> S <sub>1</sub> <sup>2</sup> O P |   |
| Combined group command post and battery command post.          | G <sub>1</sub> B <sub>2</sub> C P                           |  |
| Combined battery command post and battery observation station. | B <sub>2</sub> C P B <sub>2</sub> <sup>2</sup> O P          |  |

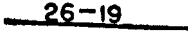
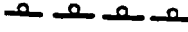
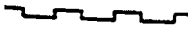
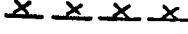



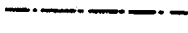

f. Where stations are adjacent in the same structure, the symbols are tangent to each other and are arranged to show the relative location, as:



g. Where communication may be had by voice through a passage, door, window, or voice tube, the symbols are left open at the point of contact, as:



## Part 3.—Communications symbols for use on harbor defense fire-control charts and diagrams.

|  |   |
|--|---|
| Telephone cable (numerals indicate number of pairs and gage) |  |
| Speaking tube  |  |
| Mechanical data transmission line                            |  |
| Electrical data transmission line                            |  |
| Searchlight controller line                                  |  |
| Zone signal and magazine telephone line                      |  |
| Firing signal line   |  |
| Time interval bell line                                      |  |
| Submarine cable (numerals indicate number of pairs and gage) |  |

## Part 4.—Abbreviations

|   |          |
|---|----------|
| Cable gallery   | C Gal    |
| Cable tank  | C T      |
| Cable hut (commercial cable)                            | C H      |
| Coast Guard station                                     | C G S    |
| Engineer wharf  | Engr Whf |
| Gasoline tank   | G Tk     |
| Guardhouse  | G H      |
| Latrine   | L        |
| Lighthouse wharf  | L H Whf  |
| Mine boathouse  | M B H    |
| Mine derrick  | M Drk    |
| Mine tramway  | M Tmy    |
| Mine wharf  | M Whf    |
| Ordnance machine shop                                   | O M S    |
| Private wharf   | Pvt Whf  |
| Radio (commercial station)                              | Rad      |
| Railway wharf   | Ry Whf   |
| Saluting battery  | Sl B     |
| Service dynamite room                                   | S D R    |
| Steamship wharf   | S S Whf  |
| Quartermaster wharf                                     | Q M Whf  |
| Superseded (for abandoned buildings, etc.)              | 24 s     |
| Temporary (for all uses except fire-control structures) | 19 t     |
| Sunset gun  | S G      |
| Tide gage   | T G      |
| Torpedo storehouse                                      | T S      |
| Tower   | Tw       |
| Water tank  | W Tk     |
| Weather bureau  | W B      |