

PART IV

APPENDIX III

HARBOR DEFENSE PROJECT

HARBOR DEFENSES OF BOSTON

HARBOR DEFENSE PROJECT - HARBOR DEFENSES OF BOSTON

	Paragraph
MISSION	1
GUN DEFENSE	2
FIRE CONTROL INSTALLATIONS	3
SEARCHLIGHTS	4
UNDERWATER DEFENSE	5
ANTIAIRCRAFT GUN DEFENSE	6
SUPPORTING AIRCRAFT	7
GAS DEFENSE	8
PREPARATION OF ANNEXES	9
FINAL APPROVAL	10

ANNEXES

A	Seacoast Guns
B	Fire Control Installations
C	Searchlights
D	Underwater Defense
E	Antiaircraft Gun Defense
F	Supporting Aircraft
G	Gas Defense
H	Estimates - Chief of Coast Artillery
J	Estimates - Chief of Engineers
K	Estimates - Chief of Ordnance
L	Estimates - Chief of Chemical Warfare Service
M	Estimates - Chief Signal Officer

INCLOSURE

1	Fields of Fire, Seacoast Guns
---	-------------------------------

1. MISSION.

- a. To prevent bombardment of harbor facilities and shipping by naval gunfire.
- b. To insure free ingress and egress for our ships.
- c. To deny access to or use of the harbor by enemy vessels.
- d. To support the defense against landing attack within range of the harbor defense weapons.

2. GUN DEFENSE.

a. The following table lists the number of guns now installed in the harbor defense, grouped by classes:

	Fort Heath	Fort Banks	Fort Strong	Fort Stand- ish	Fort Warren	Fort Anderson	Fort Revere	Fort Ruckman	Fort Duvall	Total
Primary, long range	0	0	0	0	0	0	0	2	2	4
Secondary, long range	0	0	0	0	0	0	0	0	0	0
Primary, medium range	3	12	4	4	6	10	2	0	0	41
Secondary, medium range	0	0	0	5	0	2	3	0	0	10
Secondary, short range	0	0	6	3	0	2	0	0	0	11

For details of fields of fire see Inclosure 1, Fields of Fire, Seacoast Guns.

b. (1) There are three main channels through which vessels may pass to President Roads and thence to Boston harbor proper. The North Channel with a minimum depth of 40 feet; South Channel with minimum depth of 30 feet; Nantasket Roads and The Narrows with a minimum depth of 27 feet. To insure free ingress and egress for our naval vessels the defenses must keep enemy ships at least 35,000 yards from the entrance to North Channel. Battery Long, 2 - 16" guns at Fort Duvall has the necessary range and field of fire to carry out this mission. Battery Gardner, 2 - 12" guns, at Fort Ruckman could also fire on ships which approached within 24,000 to 31,000 yards of the entrance to this channel. These batteries then should suffice for this mission. These two batteries are also capable of holding enemy ships at such range as to prevent bombardment of harbor facilities or shipping in Boston harbor proper by naval gunfire. None of the other primary batteries now installed has sufficient range to take any part in this mission except that they could bring heavy fire to bear on ships which attempted to approach within 24,000 to 30,000 yards of the Navy Yard. This would of course have some effect upon the accuracy of enemy gunfire but would not prevent their effective bombardment of the harbor. These batteries would be effective against enemy capital ships which might attempt to close in in order to support a mine sweeping operation against the mine fields which extend from Point Allerton to Fort Heath. They could hold enemy ships more than 15,000 yards from the secondary batteries covering the mine fields. Batteries Stevenson, Winthrop and Ripley, 12" guns, can range beyond the other weapons. The field of Battery Ripley however, is mostly inside the range of other batteries. This also applies to the four mortar batteries, Lincoln, Kellogg, Cushing and Whitman. While batteries Lincoln and Cushing could be

eliminated without seriously threatening the defense they are retained in Class C maintenance for the time being, there being no necessity for using them elsewhere. None of the 10" gun batteries cover water areas which are not covered by other guns of larger caliber. Their fields of fire are also covered by the fields of 6" gun batteries which would be effective against cruisers. They are therefore no longer required.

(2) The water area northeast of the line Cohasset - Winthrop is well covered by the fire of 6" guns. Batteries of this caliber also cover the mine fields at ranges of about 5,000 yards. Although smaller vessels such as destroyers are not compelled to follow the channels, the peninsulas, islands, and shoals at this harbor entrance are such as to compel them to use the relatively narrow space between Point Allerton and Point Shirley if they wish to penetrate to the harbor. The water areas between these two points should be covered by secondary weapons, particularly 3", and the waters west of this line should also be covered. A study of the chart shows that Battery Bumpus, 2 - 3" guns at Fort Andrews and Battery Bassinger, 2 - 3" guns at Fort Strong cover these water areas. The remaining 3" batteries however, would be of such value in extending and strengthening these fields of fire that they are retained.

(3) The water area north and northeast of Nahant is covered by 12" guns and mortars near the outer limits of their fields of fire and partially by 6" guns. It would be possible however for destroyers to approach within 5,000 yards of Fort Ruckman without coming within the field of fire of any of the secondary weapons now installed. Destroyers lying north of Nahant could fire into the left rear of Battery Gardner, the 12" long range battery at Fort Ruckman and could seriously interfere with the operation of these guns. A battery of 155 mm. guns in the vicinity of Nahant could cover this water area very well without any specially prepared platform since the field of fire obtainable from the carriage would be sufficient.

c. (1) In order to carry out the mission of the harbor defense the following armament is considered necessary:

Classification change
662/33-T-1

Lodation	Battery	No. of Guns	Caliber	Type of Carriage	Maximum Range	Maintenance Class	Remarks
Ft. Heath	Winthrop	3	12"	DC	17300	B	✓
Ft. Banks	Lincoln	6	12"	Mortar	14650	C	
	Kellogg	6	12"	Mortar	14650	C	
Ft. Strong	Stevens	2	3"	BC	9000	C	
	Taylor	2	3"	BC	9000	C	
	Bassinger	2	3"	BC	9000	B	
Ft. Standish	Whipple	2	6"	BC	#1 = 15000 #2 = 14000	B	
	Terrill	3	6"	DC	14000	B	
	Williams	3	3"	BC	9000	B	
Ft. Warren	Stevenson	2	12"	DC	17300	B	
Ft. Andrews	Cushing	4	12"	Mortar	14650	C	
	Whitman	6	12"	Mortar	14650	C	
	McCook	2	6"	BC	14400	B	
	Bumpus	2	3"	BC	8700	B	
Ft. Revere	Ripley	2	12"	BC	17300	C	✓
	Sanders	3	6"	DC	14400	B	
Ft. Ruckman	Gardner	2	12"	BC	29300	B	
Ft. Duvall	Long	2	16"	BC	44680	B	
Vicinity of Nahant		4	155 mm.	Mobile	17000	-	Exact location to be determined

(2) The following batteries are no longer required:

Fort	Battery	No. of Guns	Caliber	Type of Carriage	Maximum Range
Strong	Hitchcock	2	10"	DC	14100
	Ward	2	10"	DC	15700
Standish	Burbeck	2	10"	DC	14100
	Morris	2	10"	DC	14100
Warren	Bartlett	4	10"	DC	14100

(3) The guns of Battery Morris and guns Nos. 3 and 4 (tactical) of Battery Bartlett, and an ammunition allowance equal to that of guns in Class C maintenance will be retained in a reduced maintenance status. See paragraph 7, Part III. *See OCCA 662/33-T-3 re. class change*

d. The exact location for the 155 mm. gun battery in the vicinity of Nahant will be determined as prescribed in paragraph 30, AR 100-20, August 26, 1932. The location for the battery as well as other details which may be necessary will be included in an annex which, when approved, will be attached as Annex A, Seacoast Guns. This will include a statement of the War Reserve Ammunition Allowance for each seacoast battery and the Battle Allowance as determined by the local Board.

3. FIRE CONTROL INSTALLATIONS.

a. A fire control project for the 12" long range battery (Gardner) and the 16" battery (Long) has been tentatively approved in 32d Indorsement, AG 665 (11-4-27) (Misc.) E (OCCA 665/3-I dated December 16, 1931.)

b. A study of the requirements will be prepared by the local Board to provide for complete fire control installations for the harbor defenses as changed by this project. When approved, it will be attached to this paper as Annex B, Fire Control Installations.

4. SEARCHLIGHTS.

a. A searchlight project for this harbor defense was approved on February 2, 1920 in 4th Indorsement, AG 470.35 (Misc.Div.). This provided for nine fixed lights and four mobile lights. The Board which made recommendations as to the fire control installations for Battery Gardner (12" long range) and Battery Long (16" guns) also recommended searchlights. Eight mobile searchlights were approved in the 32d Indorsement, AG 665 (11-4-27)(Misc.) E. Eight fixed 60" lights are now installed.

b. The local Board will make a study and prepare a statement of the requirements for searchlights for harbor defense purposes. When approved, this will be attached as Annex C, Searchlights.

5. UNDERWATER DEFENSE.

a. The underwater defense project for this harbor approved by the Joint Board on January 15, 1929, by the Secretary of War on January 16, 1929, and by the Secretary of the Navy on January 17, 1929 provides for the following:

North, South and Black Rock Channels:

Five groups of controlled mines.

Two contact mine fields, one of 195 and the other of 240 mines.

Leader gear through the controlled mine field.

Anti-submarine net.

Nantasket Roads:

Four groups of controlled mines.

Booms or other obstructions off Point Allerton.

Anti-submarine net.

For details as to location see photostat copy of U.S.C. & G.S. Chart No. 1207 showing Defensive Coastal Area Limits and Underwater Defense Project for Boston, Massachusetts, one copy of which is on file in the Office of the Chief of Coast Artillery, one copy at Headquarters, First Corps Area and one copy at the Harbor Defenses of Boston.

b. The local Board will prepare a statement of the requirements for shore installations and other equipment necessary to establish, maintain and operate the underwater defense project in accordance with the instructions contained in paragraph 11 b (2), Part III. This, when approved, will be attached to this paper as Annex D, Underwater Defense.

6. ANTIAIRCRAFT GUN DEFENSE.

a. Antiaircraft guns have been provided as follows for this harbor defense:

Fort Heath,	one 2-gun battery 3"
Fort Banks,	one 2-gun battery 3"
Fort Strong,	one 2-gun battery 3"
Fort Standish,	one 2-gun battery 3"
Fort Revere,	one 3-gun battery 3"

b. (1) The batteries at Forts Heath and Banks are but 1500 yards apart while there is no battery at Fort Ruckman, the site of the important 12" gun battery. The battery at Fort Heath will be increased from two guns to three and a three-gun battery located at Fort Ruckman. The battery at Fort Banks will be eliminated and the guns moved to Fort Ruckman to establish a battery there.

(2) The three batteries at Forts Strong, Standish, and Revere furnish a reasonable defense for the installations in this vicinity. The batteries at Forts Strong and Standish will each be increased by one gun in order that each may have three guns.

c. Antiaircraft searchlights and sound locators are also required. Fifteen lights and sound locators are necessary. In view of the fact that most of the batteries are located on islands some difficulty will be encountered in providing for communication between searchlights and gun batteries. Where possible this will be accomplished by the use of commercial telephone lines.

d. A statement of the requirements for the antiaircraft gun defense will be prepared by the local Board to cover the points mentioned in the preceding paragraphs. Provision for the antiaircraft machine gun defense will be included. When approved, the project will be attached to this paper as Annex E, Antiaircraft Gun Defense.

7. SUPPORTING AIRCRAFT.

Annex F, Supporting Aircraft, will be provided and attached to show the minimum requirements for this harbor defense in aircraft for use in harbor defense artillery fire control and local surveillance, together with information as to availability of emergency or other landing fields from which these planes could operate.

8. GAS DEFENSE.

The gas defense consists of the installations and equipment considered necessary to enable the personnel to operate the armament during a prolonged gas attack. The local Board will prepare a statement of the requirements for the gas defense of elements of this harbor defense. When approved, this will be attached as Annex G, Gas Defense.

9. PREPARATION OF ANNEXES.

a. Annexes A to G, inclusive, will be prepared by the local Board. Each annex will include a complete statement of the installations to which it pertains, and details, including estimates of cost, of installations required to complete the project. Tables and charts will be used where practicable to reduce to a minimum the bulk of papers constituting an annex. Complete correspondence pertaining to the subject matter of the annexes will not be included but may be referred to by file numbers of The Adjutant General's Office. When these annexes are approved by the War Department they will serve as the basis for unified estimates to be prepared by the Chiefs of interested Arms and Services.

b. Annexes H, J, K, L, and M will be prepared by the Chiefs of Arms and Services as indicated on the title page of this paper. These annexes will be unified estimates of the cost of the approved project. They will be prepared after Annexes A to G, inclusive, have received the approval of the War Department.

c. The following priority in the provision of armament and accessories in this harbor defense will govern.

- (1) Completion of fire control projects for seacoast armament installed.
- (2) Submarine mine materiel as prescribed in approved project.
- (3) Searchlights for harbor defense purposes to complete project.
- (4) Fire control installations for antiaircraft batteries now emplaced.
- (5) Additional antiaircraft guns, fire control and searchlights.
- (6) Additional shore installations for underwater defense project.

10. FINAL APPROVAL.

The approval of this project by the War Department establishes it as the basic project for the Harbor Defenses of Boston. As annexes are approved they supersede existing projects covering the same installations.