

Primary Battery File

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Record Group 77

Correspondence of the Chief of Engineers

Entry 103

File, Fort, Battery:

18746

Ft. Columbia

Btty Ord

FORTIFICATIONS AT MOUTH OF COLUMBIA RIVER,
RIVER AND HARBOR IMPROVEMENTS IN OREGON.

CAPTAIN W. L. FISK.

UNITED STATES ENGINEER OFFICE,

P. O. DRAWER 50.

PORTLAND, OREGON.



January 22, 1897.

Brig. Gen. Wm. P. Craighill,
Chief of Engineers, U. S. A.,
Washington, D.C.

General:-

I have the honor to submit the following plans and estimate for the construction of 2 emplacements at Chinook Point, Wash. for 8-inch B. L. R. on disappearing carriage L. F. 1896.

The plan shown on accompanying blue print is not quite complete, but it is desired to begin advertising as soon as possible for materials of construction, and advantage is therefore taken of permission granted in your letter of Jan. 2 (1883), to submit partial project. The estimate is believed to be as nearly exact as possible for work at an entirely new place.

In regard to site, the battery has been moved 100 feet to the rear and 50 feet to the right, from position indicated by the Board of Engineers. This position will largely diminish front fill, and concrete foundation, and offers no apparent objection except an increased cutting on the inclined ridge at the left of the battery, to permit a 60 degree field of fire to that flank. This will be of slight importance.

The maximum depression required is 2°. This is 3° more depression than that required at point Adams. The Superior Slope is therefore made 3° steeper and becomes 1 on 10. It was found impossible to give this slope for the entire 120° of fire, without unduly diminishing the magazine protection. The form of superior slope shown on plan was adopted as a compromise.

The thickness of concrete was taken arbitrarily at 10 feet for guns and 17 feet for magazines, as recommended by the Division Engineer for Point Adams. Assuming this thickness, the added magazine protection of earth was computed by Major Knight's rule.

The drainage is not shown on present plan. It will consist of 6" drains, one to each emplacement, running directly under the latrine from a 3' x 3' x 4' sump on the road gutter in rear, and debouching upon the slope in front of the Battery.

No suitable site appears to exist at present for the Electric Light Plant, where adequate protection could be obtained without undue cost. For this reason, it is thought best to erect a temporary wooden building for this plant, in rear of the Battery, and to construct a suitable place for the plant in the future in the slopes of the Mortar Battery or of Emplacement No. 4 of this Battery, whenever they may be constructed. In case of sudden necessity for protection it could be easily secured by a temporary wooden bomb-proof.

The increased depth of concrete on the front of the parapet is omitted, as sufficient protection is obtained with a

parapet of this type, to prevent penetration under the platform.

No observing station or relocating room is shown on this plan, it being considered more advantageous to locate it upon the traverse of #4, not yet constructed.

The following is the estimated cost of construction with accessories:-

4,426 cubic yards of concrete @ \$8.25	\$36,814.50
4,080 sq.ft. of granolithic finish @ 20¢	816.00
3,136 sq.ft. of sidewalk finish @ 12¢	376.32
36,480 lbs. of steel I beams @ 3¢	1,094.40
4,670 lbs. of steel plates @ 3¢	140.10
19,550 cu.yds. of fill @ 35¢	6,842.50
11,000 cu.yds. of excavation @ 50¢	5,500.00
41,800 sq.ft. of slope protection @ 3¢	1,245.00
200 ft. of road gutter @ 50¢ (material included above)	100.00
200 ft. of road covering (wood)	90.00
Overhead trolleys complete,	1,200.00
4 Cranes @ \$200.	800.00
4 prs. of lifts @ \$500 (includes motor)	2,000.00
14 Doors @ \$40.00	560.00
8 Doors @ \$20.00	160.00
4 Window Sashes @ \$30.00	120.00
4 Window gratings @ \$5.00	20.00
Railings to Platforms,	80.00
Rear Stairs,	300.

Carried forward	57,958.

	\$57,958.82
Brought forward,	4.00
Telephone Wire, 400 ft.	
400 ft. 6" sewer pipe,)	
400 ft. of 2" galv. iron pipe,)	131.38
500 ft. of 1" galv. iron pipe,)	
26 ft. of 8" sewer pipe,)	160.50
5350 sq.ft. of plastering @ 3¢	2,000.00
R.R. track and moving plant,	----- 60,254.70
10% for contingencies,	6,025.47 ----- \$66,280.17

Electric Light Plant:

1-60 H.P. Engine,	\$600.00	
1-80 H.P. Boiler,	800.00	
1 D. C. Dynamo,	500.00	
Tools, Feed Pump, etc.	400.00	
Instruments, switches, etc.	100.00	
34 Lamps @ \$1.60	54.40	
Leads,	25.00	
House	165.00	
	----- 2,644.40	
Installation 10%	264.44	2,908.84
	-----	400.00
Water supply - flume 1/2 mile long,		5,152.00
Quarters, etc.		11,000.00
Wharf,		----- \$85,741.01

Very respectfully,

Your obedient servant,

W. B. Fisk

Captain, Corps of Engineers, U.S.A.

Through Col. Chas. R. Suter,
Corps of Engineers, U.S.A.,
Pacific Division Engineer.

1 inclosure
(blue print in sep. pkg.)

CHIEF OF ENGINEERS

18746
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R DEPARTMENT, Land, Ogn.,

January 22, 1897.

T i s k, W. L.

Captain of Engrs.

Submits plans & estimate for the construction of 2 Emplacements at CHINOOK POINT, Washn., for 8-inch B-1. R. on disappearing carriage.

(Total est. \$85,741.01)

1 enclos. (b-p.) E. D. ...
to 2 in Mr. S. ... Dr. 92, ...

and by ... Engr.

X

RECD. BACK OFFICE CHIEF OF ENGRS. FEB 25 1897
ms. 2 accounts

1st Endorsement.
U. S. ENGINEER Office,
Pacific Division,

San Francisco, Cal.,
January 27, 1897.

Respectfully forwarded to the
Chief of Engineers, U. S. A.

Not having seen the plans prepared by the Board for this size of gun, nor drawings of the gun and carriage, I cannot judge fully as to the details of the plans presented. They seem generally judicious. I would suggest however, that unless the distance between centres of guns as shown is considered imperative, this distance might be diminished and expense saved by having but one magazine and shell-room for both guns. This would also enable a pair of lifts to be dispensed with, and a covered communication between the two emplacements would be provided. The guard rooms are

entirely too small. Additional space might be given by taking in a portion of the curved tool-room, or perhaps better still, by carrying the back wall of the loading platform straight across, as is now done at one end.

Chas. R. Sutter

Colonel of Engineers T. S. A.

Division Engineer

2nd endorsement.

Office Chief of Engineers,
U. S. ARMY,

February 9, 1897.

Respectfully returned. It is considered preferable to defer the installation of an electric light plant until it can be permanently located, either in the 4th emplacement or in the mortar battery. An observation station should be provided on the right flank of emplacement No. 1. It is desirable to have such stations of simple form in various portions of the battery and particularly on each flank. The saving that could be

effected by doubling up the magazines and shell rooms is not considered of sufficient importance to justify a reduction of the gun interval. The traverse gallery should, however, be made continuous, as recommended by the Division Engineer.

The trolley service should be simplified by omitting one of the trolleys in the shot room and leading the other into the shell room, as indicated in pencil on the blue print. The shot carts are not considered necessary, as the shot can be readily brought under the cranes without their use.

With the above exceptions the plans are approved.

When such record as may be necessary has been made, these papers will be returned to this office.

By command of Major Gen. Wilson:

W. M. Wilcox
Captain, Corps of Engineers.

18746

Inclo. 2 in sep. roll.

Through Col. CHAS. R. SUTTER,

Corps of Engineers,
Division Engineer, Pacific Division.

RECD. U. S. ENGR. OFFICE, PAC. DIV. FEB 15 1897

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