

**Primary Battery File**

**National Archives, Washington D.C.**

**Record Group 77**

**Correspondence of the Chief of Engineers**

**Entry 96**

**File, Fort, Battery:**

**1892: 3946**

**Ft. Monroe**

**Northeast Bastion Battery**

**United States Engineer Office,**

601 Eighteenth Street, N. W.,

*Washington, D. C.,* October 31, 1892.

**Brig.Gen.Thomas L. Casey,**

**Chief of Engineers, U.S.A.,**

**Washington, D.C.**

**General:**

In accordance with instructions contained in letter of July 22, 1892, I have the honor to submit herewith an estimate of cost of the construction of an emplacement for one 10-inch gun on a disappearing carriage in the salient of the fifth front of Fort Monroe, Virginia, as shown on the tracing sent to this office October 18, 1890, together with a tracing showing the details of construction.

In the project submitted by Lieut.Colonel P.C.Hains, Corps of Engineers, May 27, 1891, for the construction of emplacements for two 8-inch guns in the redoubt of Fort Monroe, certain changes were recommended by him from the original plans of the Board of Engineers and these changes, as modified by the Board and the Chief of Engineers and finally approved by the latter officer, have been adopted in the present project, as the conditions are precisely similar.

The plan of the Board placed the floor of the magazines at 4 feet above high tide, but, as stated by Lieut.Col.Hains, the tide at times rises higher than 4 feet and in April, 1889, reached a height

of 5 1/2 feet, so he recommended that the magazine floor be established at reference (+5') instead of (+4'). This recommendation was concurred in by the Board and approved by the Chief of Engineers, the latter making the further modification of commencing the concrete work at reference (+2') instead of at (0). These changes are adopted in the present case.

Raising the reference two feet throws the interior crest of the emplacement back 3 feet, and in order to keep the passageway 10 feet wide along the covered-way, as shown on the Board tracing, it becomes necessary to build a retaining wall, as shown on the accompanying tracing.

The Board further recommended that the exterior slope of the concrete mass in front of the emplacement should extend only 12 feet below the surface, and below this level should be bounded by a vertical plane and that the entrance to the magazines should be shifted to a position in the prolongation of the general passageway along the magazines so as to avoid using the shell room as a general passage-way. These changes are also embodied in the present project together with the return or wing, 21 feet deep, of the concrete to protect against fire striking in reverse, as was done in the 2-gun emplacement in the Redoubt.

#### ESTIMATE OF COST:

##### Removal of Old Work:

300 cubic yards concrete stone at \$2.50	\$750.00
100 cubic yards soil, sod, etc., at 75 cents	75.00
3100 cubic yards sand at 30 cents	930.00

New Work:

Bridge 150 feet long at \$5 per foot	\$ 750.00
Laying track, derricks, etc.,	300.00
Excavation for concrete--5000 cu.yds.at 30 c.	1,500.00
Concrete--10,900 cu.yds.at \$5.50	59,550.00
Sand parapet--11500 cu.yds.at 30 c.	3,450.00
Soil--1100 cu.yds.at \$1.00	1,100.00
Sheathing for concrete	200.00
Centres for magazines	500.00
2 doorways at \$450.00	900.00
2 doorways at \$50.00	100.00
2 flights of steps at \$250.00	500.00
Coping for retaining walls	1,500.00
Ventilating pipes for magazines	100.00
	<u>\$72,205.00</u>
Contingencies 10%	<u>7,220.00</u>
	<u>\$79,425.00</u>

With regard to the cost of the two emplacements at the Fort now under construction as compared with the allotment therefor, I have the honor to submit the following statement:

The balance in the Treasury is \$70,479.06; outstanding liabilities, including contracts for materials, amount to some \$40,000, leaving about \$30,000 available for current expenses, and it is thought that this amount will suffice to complete the work.

Very respectfully, your obedient servant,

*Chas. C. L. Davis*

Major, Corps of Engineers.

410  
F.M.

1 tracing inclosed.



**United States Engineer Office,**

601 Eighteenth Street, N. W.,

*Washington, D. C., October 7, 1892.*

**Brig.Gen.Thomas L. Casey,**

**Chief of Engineers,U.S.A.,**

**Washington,D.C.**

**General:**

I have the honor to acknowledge the receipt of Department letter of October 5, 1892, calling upon me to submit detailed drawings and estimates of cost of construction of an emplacement for a 10-inch gun on disappearing carriage in the salient of the fifth front of Fort Monroe, Virginia, and I respectfully report in reply that good progress was being made on the drawings and estimates when the subject of the preparation of plans for sewerage came up by the instructions of <sup>the</sup> Department contained in 6th indorsement dated September 28, 1892, upon plan of sewerage for the Hygeia Hotel, (Inc. 27 of 3437-E.D.-1893), and since then the gun emplacement has been laid aside for what seemed the more immediately pressing subject of sewerage.

It is hoped by the end of the present month the gun emplacement plans and estimates can be submitted.

Very respectfully, your obedient servant,

*Chas. E. Davis,*

511-P.M.

**Major, Corps of Engineers.**





July 1, 1892

David. Major D. C. S.

Brig. Gen. Thomas L. Casey  
Chief of Engineers, U.S.A.  
Washington, D.C.

In reply to Sept. 28th letter of  
Gen. Casey, relative to the  
to construct at end of present  
month, the carrying out of  
estimates for 10" pipe and  
disappearing carriage.  
at Fort Monroe - Captain  
DeLong.

October 7, 1892.

I have the honor to acknowledge the receipt of Department let-  
ter of October 5, 1892, calling upon me to submit detailed drawings  
and estimates of cost of construction of an emplacement for a 10-  
inch gun on disappearing carriage in the salient of the fifth front  
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aside for what seemed the more immediately pressing subject of sew-  
erage.  
It is hoped by the end of the present month the gun emplace-  
ment plans and estimates can be submitted.  
Very respectfully, your obedient servant,

Major, Corps of Engineers.

511-P.M.

Gun emplacement, Fort Monroe.

Office of the Chief of Engineers,

Washington, D. C.

November 8 92

Maj. Charles E. L. Davis,

Corps of Engineers,

Washington, D. C.

(Through Col. William P. Craighill,

Corps of Engineers,

Division Engineer, Southeast Division.)

Major:

The receipt is acknowledged of working drawings and estimate of cost of construction of an emplacement in the salient of the fifth front of Fort Monroe, for one 10-inch gun on disappearing carriage.

In constructing this emplacement, the cover of the magazine should be reduced as indicated by the red line on section C-D of the tracing herewith, in which EFG is the exterior limiting line of concrete cover. The outer dimension.



signs of the parapet are retained, even additional to that given by the mounds being of sand.

Until definite information as to gun platform is obtained, the communication with the magazine, the entrance immediately in front of the gun position, and the description of the emplacement as shown on the drawing, should not be finished.

In the present, the sum of \$60,000 is allotted from the appropriation for Gun and mortar Batteries, Act of July 28 1892, toward the construction of this emplacement, with which you are now charged.

After the changes on the tracing have been noted, you will please return it to this office.

You are requested to submit a revised estimate of cost, based on the modification above stated.

By command of Brig. Gen. Casey,

Very respectfully, your obedient servant,

John S. O. Knight  
Captain, Corps of Engineers.

John S. O. Knight  
Captain, Corps of Engineers.

United States Engineer Office,

601 Eighteenth Street, N. W.,

*Washington, D. C.,* December 8, 1892.

Brig.Gen.Thomas L.Casey,

Chief of Engineers,U.S.A.,

Washington,D.C.

General:

In compliance with the instructions contained in Department letter of November 8, 1892, (Inclo.2 of 3946-E.D.1892), I have the honor to return herewith the tracing showing the emplacement for one 10-inch gun in the salient of the fifth front of Fort Monroe, Virginia, the changes on the same having been noted on the records of this office.

I also submit herewith a tracing showing in plan the new lines of the concrete cover and a further modification which - with the reduced thickness of concrete - can be effected by dispensing with the retaining wall along the ditch of the main work.

With a view to uniformity and facility of construction, the limiting lines of the concrete have been made continuous both in front of the magazines and the gun, as shown, involving a slight increase in the thickness of the concrete at the latter point.

The estimate of the cost of the emplacement has been revised and it is found that a nett reduction of \$11,485.-can be made by

