Office of Light-House Inspector,

SIXTH DISTRICT,

Charleston, S. C., January 1st, 1877.

Sir,

I have respectfully to inform you that I have to day forwarded to the Superintendent of Lights at Savannah, Ga. Certificate of incompetency of the Acting Keeper and the two Assistants at Dykes Light Station. The condition of the Station when last inspected was decidedly bad and indicated both ignorance and neglect on the part of the Keeper and assistants. I therefore respectfully recommend their dismissal and the transfer of the Keeper of Oyster Beds Beacon (Patrick Egan) to this station, as Principal

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Very respectfully
Your Obt Servt
H. G. A. Benham
Captain & L.H. Inspector

Prof. Joseph Henry LLD
Chairman L.H. Board
Washington, D.C.

THE NATIONAL ARCHIVES OF THE UNITED STATES

Office of Light-House Inspector,
SIXTH DISTRICT,
Charleston, S. C., July 1st, 1877.

Sir;

I have the honor to submit the following report for the year ending June 30th 1877, of the condition of the aids to navigation in this District, which extends from New River Inlet, N.C. to, and including Cape Canaveral Light, Florida, and embraces part of the coast of North Carolina, the coasts of South Carolina and Georgia and part of the coast of Florida.

Inspector. - Capt. A.E.K. Benham, U.S.N.

Engineer. - Capt. W.A. Jones U.S.A.

In this District there are:

Light-houses and lighted beacons . . . 35

Day or unlighted beacons 75

Light Ships in position . . . 212 4

doubtless result from the drainage of the two fresh water ponds in it vicinity

361 – Martin's Industry Light Ship ("34")
The Spar deck will need caulking some time this year.

362 & 363 – Hilton Head Range Beacons
To be built

364 & 365 – Parry Island Range Beacons
To be built

366 – Daufuskie Island Range Beacon (front)
This beacon is in good order.

367 – Daufuskie Island Range Beacon (rear)
Repairs are required to lantern deck and roof of dwelling where they leak and to plastering over head in watch room and second story passage way

368 – Sybee Main Light.
The tower is in rather worse condition than it was at the date of my last

report. When repairs were made two years ago the cracks in the lower walls were cemented, but they have since opened and are somewhat enlarged, particularly those on the inside— There are but three rooms in the Assistant Keepers dwelling and as men with families are frequently selected for assistants the accommodations are considered insufficient. I respectfully recommend that no further repairs be made to either of the houses and when no longer fit for use, that new ones be built— A fence around buildings is also recommended.

369— Tybee Beacon

An iron beacon to replace the present wooden structure is now building and will be completed in a short time

370- Upper Knoll Light Vessel (21)

Her hull is very much decayed

371- Cockspur Island Beacon.

This beacon is in good repair and only needs new plate glass for lantern.

372- Oyster Beds Beacon

The beacon is in good condition - Repairs are required to the dwelling.

373 & 374- Long Island Range Beacons.

To be built.

375- Fig Island Beacon.

This station is in good order.

376- Sapelo Main Light.

All necessary repairs have been made and the station is in good order.

The usefulness of this light could be Materially increased by raising it high enough to show above the trees to the Nth and E^d^ in the direction of

"Maple Leaf"
St Augustine, Fla. Old tower and dwelling near shore on South side of entrance.
Cape Canaveral, Fla. Old tower standing near the present light-house

Very respectfully
Your Obt Servt
A G H Bunham
Captain & Th Inspector

Prof. Joseph Henry, L.L.D.
Chairman L.H.B. Board
Washington, D.C.

THE NATIONAL ARCHIVES OF THE UNITED STATES

Office of Light-House Engineer, 24

SIXTH DISTRICT,

Charleston, S. C., July 7th, 1877

Sir

The following report of operations in the Sixth Light House District during the month of June 1877: is respectfully submitted

New Light Stations

Oak Island North Carolina.

The work of rebuilding the range beacons for which an appropriation of $4000 was made by Congress is defered by the Boards direction The appropriation is available.

Charleston Main Light South Carolina

Nothing has been done at this station during the past month. It is proposed to apply the balance of the appropriation to painting the tower, which work will be commenced as soon as practicable.

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be at Bay Point examinations are being made at that place for suitable locations

366-367. Daufuskie Island Range Beacons

Daufuskie Island So. Ca.

This station needs overhauling and painting which will be done by the repair party during the ensuing year.

368. Tybee main Light. Tybee Isld. Georgia

The tower at this station is an old structure built in 1793. During a Cyclone in 1871 the tower was seriously damaged being cracked in five different places from the base upwards; these cracks have gradually increased in extent, rendering the tower unsafe. As there is no way of repairing it satisfactorily a new tower is recommended to be built and an estimate of $50000 (537) is submitted for its commencement. The work can be began without delay on government land near the site

of the present tower and an uninterrupted light secured thereby.

At the date of the last annual report the cracks in the tower had been pointed to show any further settlement, and the tower white-washed; A recent examination shows the cracks to have opened and the pointing to have fallen out.

The drainage of this Station is very defective and was last summer the cause of much sickness. – The assistant Keepers dwelling a temporary building put up for quarters during the re-establishment of the light in 1867. is dilapidated and not worth repairing.

An appropriation of $5000 is respectfully submitted to build a dwelling, drain the grounds and enclose the buildings with a fence. 535

369. Tybee, Front, Beacon. Georgia.

An appropriation of $3000 having been

at the last Session of Congress. for rebuilding the front beacon an iron beacon on plans approved by the Board is being built at Charleston to take the place of the present wooden one; and is nearly completed.

371. Cockspur Beacon Savannah River Ga.

The beacon is in good condition. The Keepers Dwelling, common to this and Oyster Beds, Lights is recieving extensive repairs, the foundation piles are being re=newed, the roof reshingled, siding and plastering repaired and the building painted and whitewashed.

372. Oyster Beds Beacon Savannah River Ga.

This station is in good condition

373. 374 - Tybee Knoll - Savannah River Ga.

Titles and jurisdiction to two pieces of land 536
of five acres each on Long Island have been ceded by the Governor of the State of Georgia to

Office of Light-House Engineer, 2d D.

SIXTH DISTRICT.

Charleston, S. C., March 29, 1877.

Inclosure

Sir:

I have the honor to forward to the Board herewith a copy of a report of Capt G. C. Post, U.S. Engineer upon the condition of the north end of Tybee Island, Georgia, and the insecurity of the phone line in the immediate vicinity of Tybee Beacon.

I have visited the locality in company with Capt Post and after due consideration concur substantially with his views.

It seems to me that the drainage referred to should be done by the Light-House Establishment since the health of its employés at the station is very much jeopardized by the presence of these stagnant pools of fresh water.

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It will be seen from the sketch and over

Capt Post's remarks that unless something be done at once, Beacon Pond will be flooded and communication with the beacon be seriously impeded, if not cut off.
Furthermore, if the encroachment upon the beach continues, the present site of the beacon will not long remain, in which connection it is to be observed:
(1) that the distance between the beacon and main-light is now insufficient, and
(2) that Beacon Pond extends inland nearly as far as the main lighthouse.
As Congress has just made appropriation for the rebuilding of this beacon the question of preserving a site upon which to place it is one that calls for immediate attention.

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Palmetto-crib jetties filled with brush and stone — similar to those placed by

the Board at Sandy Hook N.Y. – will probably be found economical and a sufficient protection

Should the Board decide to place jetties here I will make the necessary survey and estimate upon being informed of its intention.

Very respectfully

W. A. Jones

Capt & Engineers U.S.A.E.

The Chairman U.S.A. Board.

Washington D.C.

THE NATIONAL ARCHIVES OF THE UNITED STATES

Savannah Ga.
Feby 23d 1877

Lt. Col. G. A. Gillmore
Corps of Engineers
Bvt. Maj. Genl U.S.A.
New York City

Genl

In compliance with your endorsement of Feby 3
on the communication of Mr John [illegible] relative to the washing
away of the North Eastern point of Tybee Island, and the lack
of proper drainage of the portion of the Island owned by the
U.S. Government, I have to make the following report.
On Feby 12th I visited Tybee Island for the purpose of ascer-
taining the condition of the portion belonging to the U.S. and
revisited it on the 19th to observe the effects of a heavy storm
from the North East that had occurred in the meantime.
The enclosed sketch gives the present condition of the N.E.
point of the Island, the line A C a - A 2 showing the present
ordinary high water mark on the beach, and the line A C D - A
over

the sand hills or hummocks upon whose base the ordinary flood tides under the influence of the N.E. gales, and the Spring-tides rise, and which are being gradually washed away by the storms. OP is the line of ordinary low water, outside of which there appears to be a beach channel, narrow at its North end and increasing in width towards the South, through which I am told, the tide passes in a Northerly direction on the flood, and Southerly on the ebb tide. Being without a boat I was unable to make an examination of this channel. Beyond the channel there is an extensive shoal over which the water varies from 2 ft. to 6 ft. mean low water. At half tide or less, except during extraordinary tides, this part of the Island is completely protected from all seas by this shoal, which causes them to break before reaching the beach. Between half tide on the flood and half tide on the ebb during the N.E. gales the principal damage is done, the water at half tide under the influence of the wind being sufficiently deep to allow waves of considerable size to pass over this shoal, and break upon the beach near the foot of these

hills, the effect increasing as the water rises which gradually undermines them. The sand removed is drawn into the beach channel, and by the current carried towards the South to near the mouth of Tybee Creek where the Island is increasing in size.

At present the effects of these gales commences slightly at the point A, and increases until it attains its maximum along the line B E, beyond which their effect is again but slight. From A to D the Island is protected by sand hills ranging from 4 ft. to 20 ft. in height and varying in thickness from 10 ft. to 75 ft. at their bases, the smaller hills being near the point D. From D to E, a distance of 32 yds, there is a breach in the line of hills, through which the sea has already passed in upon the Island about 100 yds. Beyond this from E to F, a distance of 54 yds, there is a series of sand hummocks from 3 ft. to 5 ft. high. From F to G, 110 yds, there are neither sand hills nor hummocks, but the general level of the Island is about 2 ft. above extreme high water level. Beyond G the

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Sand hills again commence and range from 10 ft. to 20 ft. in height.
Along the beach from B to D the sand hills present a very irregular line owing to the temporary protection afforded some of them by the trees and shrubs that have fallen on the beach during their partial destruction and have shielded their exposed faces from the further encroachments of the sea. In many places the unprotected hills were washed away several yards more than those on either side of them which though lower were protected in this manner. At one place that I measured, a hill 10 ft high was washed into 10 yds, while those on both sides of it were but 5 ft. in height, but being protected by trees and shrubs extended to the line of high water on the beach.

I was informed that the line of high-water had advanced from 60 ft. to 80 ft. inland during the last 4 or 5 years. The foundation of the old beacon light given on the Coast Survey Chart of 1869 beyond the reach of high water was found on the beach 40 yds. in front of the present line

This foundation 18 months ago was just below this line.
In the present condition of this end of the Island it is probable that the next N.E. storm occurring at Spring tides will reach the second beacon, also given on the Coast Survey Chart, and Flood Beacon Pond upon the edge of which it is situated. This pond or marsh extends in the rear of the line of sand hills about 2000 yds and covers an area of some 80 acres, 2/3 of which is included in the land purchased by the U.S. in 1875. The general level is from 2 ft to 5 ft. below ordinary high water. The beacon is now only 50 yds from the place reached by the sea during the last gale and is separated from it by only a few sand hummocks 2 ft or 3 ft high.
As a means of increasing the beach and affording permanent protection to this portion of the Island I would recommend the construction of at least two stone jetties on the beach of this North Eastern portion, the position, length and direction, to be determined

after a survey and careful study of the currents along the beach. This may also show the necessity of having more than two jetties. It is possible that loaded palmetto cribs could be substituted for the stone. As a temporary measure those portions of the sand-hills which are now being most rapidly carried away, might be protected by cutting down small trees growing in the vicinity and placing them upon their exposed faces, thus at least delaying the action of the sea and winds, as is seen in the examples cited. For closing the breach already made, and which should be done without delay, small cribs might be constructed and placed in it, afterwards filling them with sand, but I believe it will be quite as effective and at much less cost, to form an obstruction by gathering together the stumps and trunks of trees in the vicinity making it 42.5 5 ft. high and covering it with sand to the thickness of 15 ft. at its base, the whole to be covered with branches

and trunks of trees to form an obstruction to the wind and cause a further accumulation of sand as it is blown about.

It is estimated that the closing of this gap and the temporary protection of such hills as should be sheltered in the manner proposed would cost $201.50 i.e. $93.00 or 6 days work for 10 men and a foreman at $15.50 per day for the former, and $108.50 or 7 days work at the same per day for the latter.

The portion of the Government land to which attention is called in Mr Dareen's letter as being in an unwholesome condition are Beacon Pond, a place called alligators Pond about 800 ft. west of the main light house, and a pond N.W. from this light about 400 ft. All of these ponds collect the surface water, the results of rain storms, where it becomes stagnant and remains until slowly absorbed and evaporated. They have always from one to three feet of water in them.

The Southern boundary of the Gov: lands passes across the Eastern side of Beacon Pond about 700 yds South of the beacon (See Coast Survey Chart 1869) bearing as before stated about 2/3 of the pond upon the U.S. tract.

About 100 yds South of where the eastern side is intersected by the North West boundary the Tybee tramway divides this pond into two parts, the Southern of which has been drained by the Company interested in the improvement of the island. This has been done by a series of drains leading into a main which conducts the water into Horsepen Creek, from whence it flows into Tybee Creek. To drain the portion of this pond or marsh included in the U.S. tract, a ditch of 1200 yds in length would be required, as the only safe outlet for this water could be obtained by conducting into the main leading into Horsepen Creek. This it is estimated would cost $500.00 427

To drain Alligator Pond, which covers a surface of 1/4 of an acre, where the water is usually from 1ft to 3½ ft

deep, into a marsh about 150 ft distant, and which is covered during high water Spring tides about 1 ft. deep, it will require the removal of 175 cub. yds. of sand at a cost of $125.00

To drain the pond South West from the light house, which covers a surface of 1600 Sqr. yds, merely requires the re opening of a drain 400 yds long, which was opened by the light house Department some years ago. This, it is estimated, can be done for $50.00

Recapitulation

Closing gaps and protecting sand hills	$201.50
Draining Beacon Pond	500.00
" Alligator "	125.00
" pond South west of Light house	50.00
Total.	$876.50

As the draining of these ponds which, although they are wholly outside of the land purchased by the Lighthouse Department, is likely to be of more

benefit to that Department than to any other portion of the Gov: service, it is thought that any expenditure for this purpose should be made by it. They are also more largely interested in the preservation of the present N. E. portion of the Island, for should the sea break in and flood Beacon Pond the present range beacon would be in such danger that it would be necessary to change its position, and place it either upon the range of hills in front of where it now stands, and which are being gradually washed away, or move it back to the opposite side of the pond, where the short distance between the two lights, would partially destroy their effectiveness as range lights.

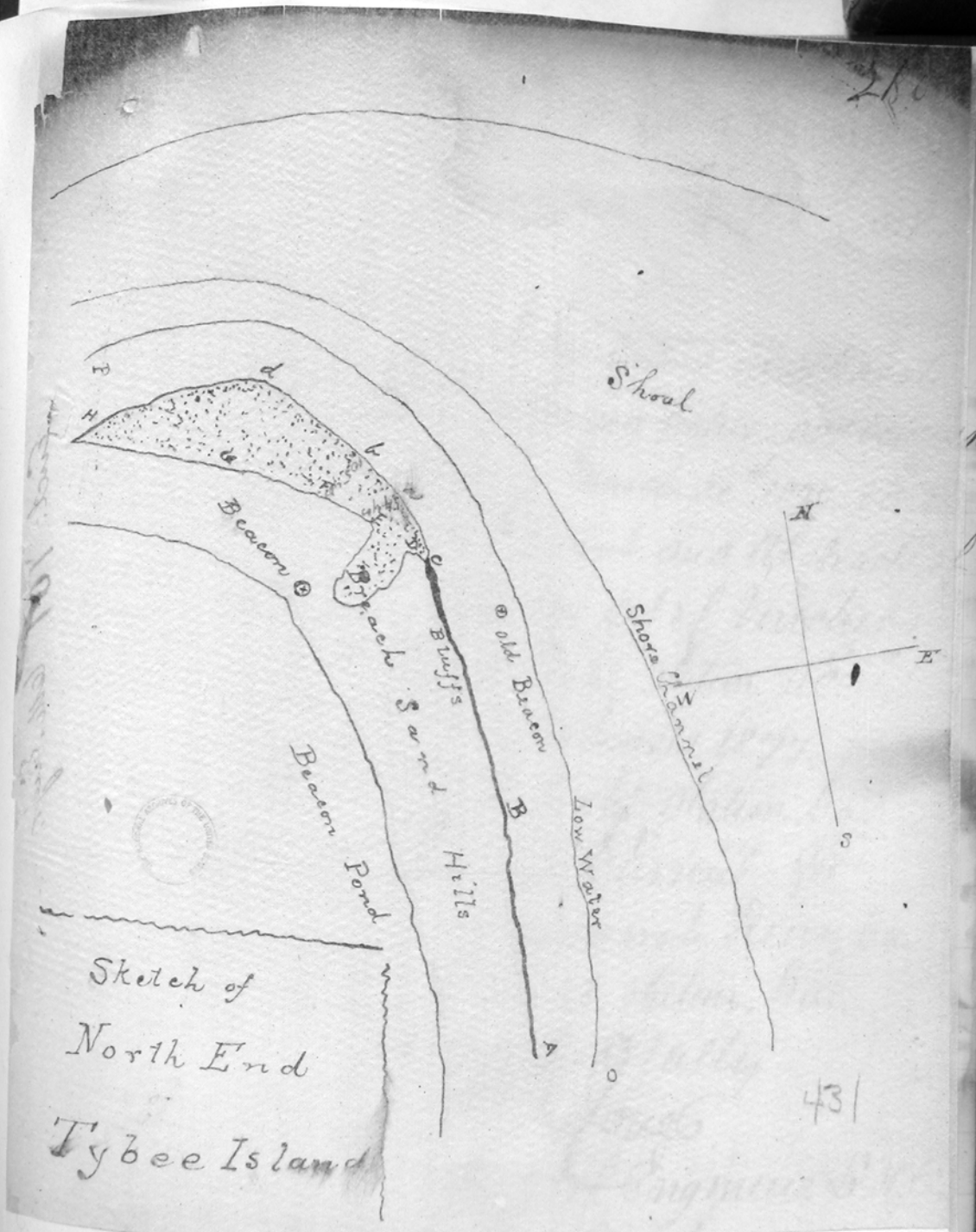
I have already called the attention of Capt. Jones U.S. Engineer, Lighthouse Engineer of this District, to this fact, and he has announced his intention of making an examination of the

Doland as soon as possible.
As soon as he makes this inspection I will forward a supplementary report. I would therefore suggest that nothing be done in regard to this matter until this report is received.
The paper referred to me for report is herewith returned.

Very respectfully
Your Obt. Servt.
(Signed) Dan C. Post
Capt of Engineers U.S.A.

(A true copy)

THE NATIONAL ARCHIVES OF THE UNITED STATES


Shoal
Shoal Channel
Low Water
Old Beacon
Bluffs
Beach Sand Hills
Beacon
Beacon Pond
N
E
S
W
A
B
C
D
H
Sketch of
North End
Tybee Island