CAP

Department of Commerce and Labor

Separate package.
Registered mail.

LIGHTHOUSE SERVICE

JAN 27 1912

OFFICE OF INSPECTOR, 10TH DISTRICT
ROOM 304, FEDERAL BUILDING
BUFFALO, N. Y.

Buffalo Breakwater North End
Lt.-Sta., N. Y.
Corrected plans and specifications for rebuilding.

January 26, 1912.

The Commissioner of Lighthouses,

Washington, D. C.

Sir:-

1. In reply to Bureau letters of December 21, 1911, and January 23, 1912;

2. The corrected plans and specifications for the reconstruction of the Buffalo Breakwater North End Light-Station, N. Y., are returned by this mail.

3. Referring to certain corrections of the specifications:-

Page 11, The method of bracing the forms against spreading, etc., wires have been tried and found inadequate to ensure plane surfaces in fluid concrete masses of this size; the method with pipe sleeves and removable tie rods has been effectively and economically adopted in its place; any old pipe a contractor may chance to have can be used, as it is subsequently grouted full; and no marks show on the concrete face afterward.

✓ Page 40, The castings for guard channel anchors have been omitted and two bars substituted; the guard channel should be strongly held in place and anchored to the concrete to prevent accumulation of water between and the action of ice or frost forcing it away from the concrete, a single stay at the center of the web will not accomplish the purpose as surely as two bars, one near each flange.

✓ Page 65, The waste pipes of the lavatories and sink have been made sufficiently large in diameter and long enough to prevent any possibility of syphonage; the specifications have been changed as directed, but a plain "S" trap is believed to be the best form for all purposes and the least liable to obstruction or disorder.

✓ Page 66, A six inch back is not listed with fixtures to be hung on concealed wall hangers, and therefore a ten inch back is substituted.

✓ Page 66, This station will be exposed to cold during the open and closed season of navigation, and will be entirely without fires during the winter when keepers will reside ashore; a syphon jet closet is not proof against such exposure or the obstruction of small inner channels; where so used repeated cracking and breaking of the bowls has caused them to be replaced with the simple open flush rim wash-down closet, which has no complex molding or passages, is the cleanest and most effective type made, and which is therefore recommended for approval;

an alternate sheet of the specifications, No. 66, has been included to provide for the Bureau's decision in this matter.

Page 67, The waste pipe of the slop sink is made to discharge into the side of the cess pool in the power-room floor, the point of connection is above the seal of the cess pool trap, syphonage of the slop sink trap is therefore impossible; the catalogued slop sinks are provided with plain "S" traps with cleanouts to enable accumulations, etc., to be removed; any other trap would probably have to be specially ordered.

Plans - Sheet 20, Fig. 1, There should be three doors in the first floor hallway, one at the head of the cellar stairs was by error omitted and has been added to the plan.

4. The following additions have been made since the plans were received from the Bureau:

Gasoline tank; A tank for storage of gasoline, and a cast iron pipe sleeve for access thereto set in the deck extension, have been added on Plate 2, Figs. 2 to 6 inclusive, and page 50 of the specifications.

A window has been provided in the first floor lavatory wall to give light on the cellar stairway; Plate 7, Figs. 8 and 9, and page 56 of the specifications.

5. Water supply for domestic use:

There are two sources of water supply for this station, the lake and the rainfall.

From the lake only a sewage polluted supply can be obtained, the action of the shipping is to keep the surface deposits on the bottom about the breakwater extremity stirred up, this deposit is drawn in and accumulates in the water tanks at the present structure and has to be periodically removed in quantities of a dozen or more bucketfuls of fermenting offensive slime and mud.

Could a sanitarily effective filter be obtained to purify the Buffalo city water supply, drawn from far outside the breakwater, it would not avail in the location of the light-station against such a volume of matter; recent practical tests by the city Chemist of a number of filters offered for adoption in the public schools, established the fact that the water had a higher toxic percentage after filtering than before; and proved the filter a place of infectious deposit and overcharge for the water supply.

The rainfall, accumulated on the roof and carried to the cistern, can gather only the soft coal deposits and sulphur from the atmosphere, both of which will be inoccuous, as the amount of the gas will be small and of no effect, except in its action on the copper flashings, valleys and gutters; it is by no means certain that this contamination will be materially hurtful, but the possibility cannot be denied, and therefore the recommendation is made for approval, that Monel, Toncan or other equally anti-corrosive metal be

substituted for copper in the flashings, valleys, gutters and leaders; or that the copper be heavily tinned over and painted.

The Bureau is requested to alter the specifications in accordance with its decision herein.

6. Temporary light and fog-signal:

The plans and specifications as originally sent to the Bureau contemplated but a fog-bell for use during reconstruction.

Further consideration of this matter leads to the belief that a fog-bell only is inadequate for the port of Buffalo and for a period of a year or more; the loss of property and possibly life, and the responsibility therefor, should a wreck occur during this time, warrants the establishment of a signal adequate to give unquestioned protection.

A plan for a structure to withstand the elements and house one of the boilers now in use at this station, the fog-bell striker, thus providing for a steam whistle signal as at present maintained as well as the fog-bell, also to support the light, has been added to the contract and specifications, page 76; a plan has also been made on a separate sheet.

The approval of the Bureau is requested for this temporary provision which will be maintained by the keepers

of the station.

7. With reference to the Bureau's letter of January 23, 1912, and the weight of the structure, a computation of the same is inclosed herewith.

Very respectfully,

D. V. K. Allen
Lt. Commander, U. S. N.,
Inspector.