8780

[illegible] Ch. No. 12[illegible]

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Photogrammetric Shoreline

Field No. .... Office No. T-8780
Ph-7(46)C

LOCALITY

State Delaware

General locality Delaware River

Locality Smyrna River

1946

CHIEF OF PARTY
E. L. Jones
AND
Thos. B. Reed

B-1870-1 (1)

8780

Form T-1

DATA RECORD

T- 8780

Quadrangle (II):

Project No. (II): PH 7(46)

Field Office:
New Castle, Delaware

Chief of Party:
E.L.Jones

Compilation Office:
Baltimore Photogrammetric Office

Chief of Party:
W.F. Deane

Instructions dated (II III):
25 March 1946, 19 July 1946

Copy filed in ~~Descriptive~~ Office Files
~~Report No. T-~~ (VI)
of the Division of Photogrammetry

Thos. B. Reed

Completed survey received in office:
22- April 1948

Reported to Nautical Chart Section: 29 April, 1948

Reviewed: 14 May 1948 Applied to chart No. Date:

Redrafting Completed:

Registered: 16 August 1948 ~~Published~~: Vault Copy

Compilation Scale: 1:10,000 ~~Published~~ Scale: 1:10,000

Scale Factor (III): 1.000

Geographic Datum (III): N.A. 1927 Datum Plane (III): M.H.W.

Reference Station (III): SMYRNA RIVER FRONT RANGE LIGHT, 1933

Lat.: 39 21' 52.01 1603.9m Long.: 75 30' 52.27 2151.3m Adjusted

State Plane Coordinates (VI): Delaware:-

X = 472,332.23 Ft. Y = 496,938.85 Ft.

New Jersey:-

* X = 1,760,274 Ft. Y = 194,564 Ft.

Military Grid Zone (VI)

* No check on this position.

PHOTOGRAPHS (III)

Number	Date	Time E.S.T.	Scale	Stage of Tide
1609 - 1615 incl.	3/1/46	1520-1530	1:10,000	6.6' above MLW
1947 - 1960 incl.	3/12/46	1125	1:10,000	6.3' above MLW
1940 - 1941 incl.	3/12/46	1100	1:10.000	5.9' above MLW

Actual tide observation at Philadelphia

Tide from (III):

Mean Range: 5.8' Spring Range: 6.7'

Camera: (Kind or source) U.S.Coast & Geodetic Survey wide angle single lens, type "D" camera - focal length 6"

Field Inspection by: Richard Morton & I.Y. Fitzgerald date: June-Aug. 1946

Field Edit by: D. G. Flippo date: Spring 1948

Date of Mean High-Water Line Location (III): As of data of photographs supplemented by field inspection during June-August 1946

Projection and Grids ruled by (III) T.L.Janson date: August 9, 1946

" " " checked by: T.L. Janson date: August 9, 1946

Control plotted by: Leroy A. Senasack date: Sept. 27, 1946

Control checked by: George O. Fellers date: Sept. 27, 1946

Radial Plot by: Frank J. Tarcza date: 1-15-47

Detailed by: Donald M. Brant date: 2-17-47; 3-12-47 to 3-20-47

Reviewed in compilation office by: Joseph W.Vonasek date: 2-24-47 to 2-28-47

Elevations on ~~Field Edit Sheet~~ Map Manuscript checked by: Not applicable date:

STATISTICS (III)

Land Area (Sq. Statute Miles): 10 square statute miles

Shoreline (More than 200 meters to opposite shore): 10 statute miles

Shoreline (Less than 200 meters to opposite shore): 20 statute miles

Number of Recoverable Topographic Stations established: 5

Number of Temporary Hydrographic Stations located by radial plot: 2

Leveling (to control contours) - miles: Not applicable

Roman numerals indicate whether the item is to be entered by, (II) Field Party, (III) Compilation Party, or, (VI) the Washington Office.

When entering names of personnel on this record give the surname and initials (not initials only).

Remarks:

MAP T- 8780 PROJECT NO. Ph-7-46-C SCALE OF MAP 1:10,000 SCALE FACTOR 1.000

STATION	SOURCE OF INFORMATION Acc. No. (INDEX) Pg. No.	DATUM	LATITUDE OR y-COORDINATE LONGITUDE OR x-COORDINATE	DISTANCE FROM GRID IN FEET. OR PROJECTION LINE IN METERS FORWARD (BACK)	DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)	FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS FORWARD (BACK)
Delaware River & Bay Mon. 1933, r. 1946	G1751 130	N.A. 1927	39 25' 03.689"			113.8 1736.6	
			75 32' 25.067"			599.7 835.6	
LISTON U.S.E. 1932, r1933, r1946	G1664 76	"	39 24' 59.150"			1824.1 26.3	
			75 32' 19.175"			458.7 976.6	
COLLINS BEACH 2 1933, r.1946	G1664 66	"	39 23' 32.736"			1009.5 840.9	
			75 31' 25.999"			622.2 813.6	
COLLINS BEACH, U.S.E.1911, r1933 r 1946	" 78	"	39 23' 33.004"			1017.8 832.6	
			75 31' 25.548"			611.4 824.4	
DEAKYNE, 1833	G2105 151	"	39 22' 52.544"			1620.4 229.9	
			75 31' 43.011"			1029.4 406.6	
* WINDMILL, ~~ROUND~~ SQUARE WHITE TOWER, 1933 r. 1946	G1751 130	"	39 22' 39.346"			1213.4 636.9	
			75 31' 30.017"			718.5 717.6	
DELAWARE USE, 1932 r.1933, r. 1946	G1664 77	"	39 22' 38.734"			1194.5 655.8	
			75 30' 56.920"			1362.4 73.7	
SMYRNA RIVER FRONT RANGE LT. 1933, r. 1946	G1751 131	"	39 21' 52.01"			1603.9 246.4	
			75 30' 52.27"			1251.3 185.1	
FLEMING, 1933, r. 1946	G1664 67	"	39 21' 15.214"			469.2 1381.1	
			75 33' 00.748"			17.9 1418.7	
PARKS USE , 1932 r1933, r. 1946.	G1664 76	"	39 20' 23.519"			725.3 1125.0	
			75 28' 59.041"			1413.9 23.0	
SUB.STA.COLLINS Beach 2, 1933, (1946)		"	39 23'			1074.8 775.6	
			75 21'			609.3 826.5	
FLEMING, 1933 R.M. 2		"	39 21'			439.1 1411.2	
			75 32'			1399.2 37.4	

1 FT. = .3048006 METER

COMPUTED BY: L.A. Senasack DATE 9/27/46 CHECKED BY: G.O. Fellers DATE 9-27-46

M-2388-12

*Reported to Geodesy 5/14/48

FIELD REPORT

MAP MANUSCRIPT, SURVEY NO. T-8780

The area of this shoreline survey is in the area covered by Topographic Surveys Nos. T-8755, ~~T-8756~~, T-8758 and T-8759. For data covering Survey No. T-8780, refer to the field reports of the above mentioned topographic surveys.

RADIAL PLOT REPORT

PROJECT NO. PH-7(46)-C

DELAWARE RIVER

Surveys Nos. T-8780, T-8782, and the Southern Portion of T-8778

1. GENERAL DESCRIPTION:

Surveys Nos. T-8780, T-8782 and the southern portion of T-8778 are three of 12 shoreline maps in sub-project No. Ph-7(46)C, located along the Delaware River and Bay. These three surveys are located on the western shore of the river between Leipsic River and Appoquinimink Creek. These surveys are to be compiled in accordance with instructions dated 25 March 1946 and 19 July 1946 by graphic photogrammetric methods.

2. LAYOUT:

The layout of the maps, horizontal ground control, and photograph centers are shown on the attached sketch.

3. PHOTOGRAPHS:

The photographs used in this radial plot were taken with the U. S. Coast and Geodetic Survey wide angle type D camera, contact scale, 1:16,000, ratioed to a scale of 1:10,000.

4. MANUSCRIPTS:

The projections for this radial plot were ruled with polyconic projections, scale 1:10,000, New Jersey State Grids, and Delaware State Grids (5,000 foot intervals). Projection and grid lines were ruled with ruling machine and checked in the Washington Office.

5. CONTROL:

To supplement the existing horizontal control stations recovered and identified for photographic control, the field inspection party established station REFUGE, 1946.

6. FIELD INSPECTION:

The field identification of horizontal control, with the exception of station GAME, 1933, was good. However, the field party recommended that sub-station GAME, 1933, should not be used to control the radial plot because of doubtful identification.

7. SUMMARY:

A few more horizontal control stations would have been desirable, especially along the southern part of Survey No. T-8782 where the only control station available to control the plot was REFUGE, 1946. An entire flight, photographs Nos. 1591 to 1596 incl., and photographs Nos. 1933 and 1934, were not controlled by horizontal stations.

The photographs covering the area were single lens photographs having only 40% or less forward overlap. Additional flights with a greater percentage of overlap would have strengthened the plot considerably.

DETAILS OF RADIAL PLOTTING

8. The scale of the projection sheets was determined in the Washington Office. The plot was made with celluloid templets.

9. After all identified horizontal control had been plotted on the projection sheets, it was immediately evident that the amount of control in the southern part of Survey No. T-8782 was insufficient to obtain the desired accuracy for radial plotting.

In order to strengthen this part of the plot without establishing additional horizontal control by field methods, it was decided, after consultation with Mr. Bennett G. Jones of the Washington Office, to first run a 1:20,000 radial plot of the area and transfer pass points established from this plot to control the 1:10,000 radial plot.

Therefore, the radial plot was made for Surveys Nos.T-8555 to T-8559, scale 1:20,000, and all pass points, located by this plot which were common to Surveys Nos. T-8778, T-8780, and T-8782, were transferred from the 1:20,000 radial plot to the projection sheets for Surveys Nos. T-8778, T-8780, and T-8782. The transfer of these common points to the 1:10,000 projections was accomplished as follows:

The points to be transferred were fixed by radials drawn on celluloid templets through intersections of projection lines, intersections of state grid line, or the intersection of a projection line with a state grid line. At least 4 radials were drawn on ~~the~~ each templets. The templets were then superimposed on the 1:10,000 projection sheets with the radials, which were extended for scale difference, passing through their corresponding projection line or grid line intersections. The pass point was then pricked through the templet to the 1:10,000 scale projection sheet.

10. All horizontal control stations and pass points were then transferred to their respective base sheets by carefully matching the common New Jersey State grid lines. The base sheets were joined by matching common New Jersey State Grid lines.

11. A combined radial plot was laid for the areas of Surveys Nos. T-8780,T-8782, and the southern portion of T-8778, using celluloid templets. All of the horizontal control that could be accurately identified on the office photographs was "held to" tangentially or better, except substitute station GAME. This substitute station, upon recommendation of the field party, was not used

in the radial plot because of doubtful identification. The results obtained from this radial plot were satisfactory.

12. The projection sheets for Surveys Nos. T-8778, T-8780, and T-8782 were then placed over the templets as laid on the base grid sheets and after matching common New Jersey State Grid lines, the pass points as radially intersected, and the photograph centers were pricked directly on the projection sheets.

13. The positions of all pass points and photograph centers are within 0.5 millimeters of their correct geographic positions.

REMARKS

14. The identification of horizontal control and selection of substitute stations was good.

15. The photographic coverage for shoreline delineation was sufficient; however, additional controlled flights would have increased the accuracy of the plot.

Respectfully submitted
24 February 1947

Harry R. Rudolph
Supervisor

Approved and forwarded
7 March 1947

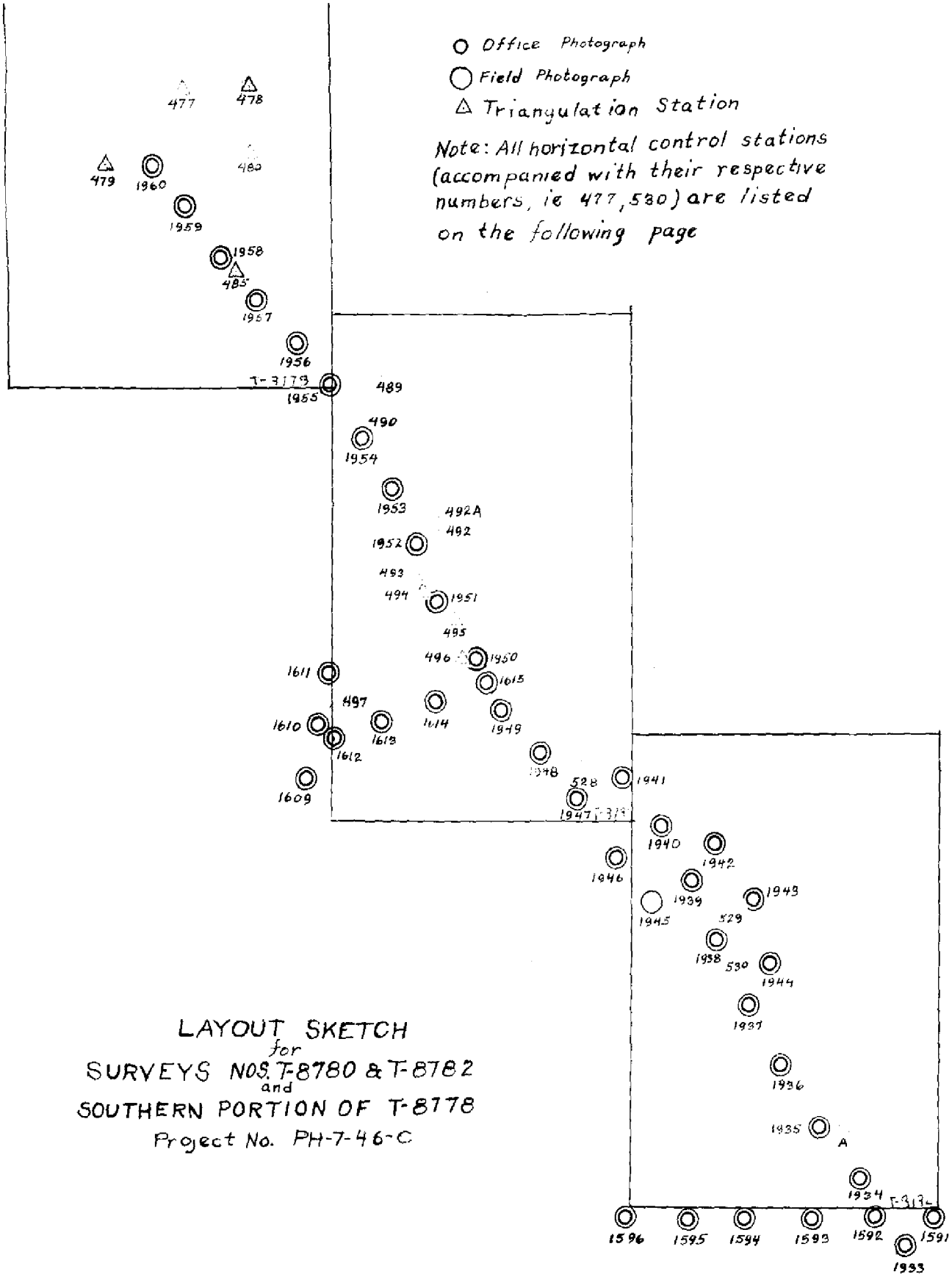
William F. Deane
Officer in Charge
Baltimore Photogrammetric Office

LIST OF CONTROL

PROJECT PH-7(46)-C

Surveys Nos. T-8780, T-8782, and the Southern Portion of T-8778

No.	Name of Station	Method of Identification
477	LISTON FRONT 1933; r 1946	Sub. Sta.
478	REEDY ISIAND JETTY MIDDLE LT., 1934; r. 1946	Direct
479	FENNIMORES, 1933; r. 1946	RM No. 1 Pricked Direct
480	REEDY ISLAND DYKE FLASHING GREEN LIGHT, 1933; r. 1946	Direct
485	REEDY ISLAND FR. RANGE LT., 1934; r.1946	Direct
489	DELAWARE RIVER AND BAY MON., 1933, r. 1946	Direct
490	LISTON (USE), 1932; r. 1946	Direct
492	COLLINS BEACH 2, 1933; r. 1946	Sub. Sta.
492A	COLLINS BEACH (USE), 1911; r. 1946	Not identified
493	DEAKYNE, 1843	Not identified
494	WINDMILL, ROUND WHITE TOWER, 1933; r. 1946	Direct
495	DELAWARE (USE), 1932; r. 1946	Direct
496	SMYRNA RIVER FR. RANGE LT., 1933; r. 1946	Direct
497	FLEMING, 1933; r. 1946	Sub. Station
528	PARK (USE) 1933; r.1946	Direct
529	BOMBAY (USE), 1933; r. 1946	Direct
530	GAME, 1933; r. 1946	Sub. Sta.(Recommended not to be used.)
A.	REFUGE, 1946	Direct



LAYOUT SKETCH
for
SURVEYS NOS. T-8780 & T-8782
and
SOUTHERN PORTION OF T-8778
Project No. PH-7-46-C

COMPILATION REPORT

MAP MANUSCRIPT - SURVEY NO. T-8780

26. CONTROL:

See radial plot report for layout of control in this area.

27. RADIAL PLOT:

Refer to the report for combined radial plot covering the areas of T-8780 to T-8782 and the south portion of T-8778, submitted to the Washington Office, 7 March 1947. ~~Filed in Division of Photogrammetry General Files~~ Attached.

28. DELINEATION:

The compilation is in accordance with the written instructions pertaining to Project Ph-7(46), dated 19 July 1946. Filed in Division of Photogrammetry Office Files.

Because of insufficient photographic coverage around the area of TAYLORS GUT and along the western part of CEDAR SWAMP it was not possible to delineate these areas to the limits of the sheet. For delineation of interior details, see surveys Nos. T-8755, ~~T-8756~~, T-8758, and T-8759.

30. MEAN HIGH WATER LINE:

Approximately 50 percent of the mean high water line was identified by the field party. The remainder was delineated by the compilation office after stereoscopic examination of the photographs.

31. MEAN LOW WATER LINE:

Approximately 10 percent of the mean low water line was identified by the field party and the remainder was delineated by a careful office interpretation of the photographs.

32. DETAILS OFFSHORE FROM THE MEAN HIGH WATER LINE:

No comment.

33. WHARVES AND SHORELINE STRUCTURES:

The ruins of the docks along WOODLAND BEACH have been delineated even though the field inspection party deleted them on the photographs. It is believed, however, that the ruins or piles still exist and that the field party intended to indicate that they are no longer usable as docks.

34. LANDMARKS AND AIDS TO NAVIGATION:

Refer to Form 567 attached to this report.

Filed in Division of Charts.

35. HYDROGRAPHIC CONTROL:

Two hydrographic signal sites have been shown on this map manuscript. A list of descriptions is attached to this report.

36. LANDING FIELDS AND AERONAUTIC AIDS:

None.

37. GEOGRAPHIC NAMES:

Geographic names have been taken from final name standards dated 12-9-46, furnished by the Washington Office. A list of the geographic names is attached to this report.

38. JUNCTIONS:

A satisfactory junction has been made with Survey No. T-8782 to the east and junction will be made with Survey No. T-8778 to the west when that survey is compiled. No contemporary surveys exist to the north or south.

44. COMPARISON WITH EXISTING TOPOGRAPHIC SURVEYS:

T-8780 has been compared in detail, with the U. S. Geological Survey, Smyrna Quadrangle, scale 1:62,500, and U. S. Army Engineers Shiloh Quadrangle scale 1:62,500, and found to be in good agreement with each.

45. COMPARISON WITH NAUTICAL CHARTS:

T-8780 has been compared to Nautical Charts No. 1218 scale 1:80,000 and No. 294 scale 1:40,000 and found to be in fair agreement.

The following topographic information shown on T-8780 is of sufficient importance to warrant immediate application to the chart:

None.

The following topographic details above the plane of mean high water are not shown on this manuscript, but are believed to still exist and should be carried forward on the chart.

None.

Low water features are shown in part and will be completed by the hydrographic party.

Respectfully submitted:
10 April 1947

Donald M. Brant
Photogrammetric Aid
Compilation and Descriptive Report

Harry R. Rudolph
Supervisor

Joseph W Vonasek
Photogrammetric Engineer
Photogrammetric Office
Reviewer

Approved and Forwarded
27 April 1948

Officer in Charge
Baltimore Photogrammetric Office

NOTES
FOR
HYDROGRAPHIC PARTIES

DELAWARE RIVER

MAP MANUSCRIPT, SURVEY NO. T-8780

PROJECT No. PH 7(46)C

The 2 millimeter circle, accompanied with a name and date, is the position of the recoverable topographic station and when accompanied by a number is the position of a hydrographic signal site. Two copies of the list of descriptions of the signal sites have been furnished for your use.

T-8780 has been compared to Nautical Charts No. 1218 scale 1:80,000 and No. 294 scale 1:40,000 and was found to be in fair agreement.

The following topographic information shown on T-8780 is of sufficient importance to warrant immediate application to the chart:

None.

The following topographic details above the plane of mean high water are not shown on this manuscript, but are believed to still exist and should be carried forward on the chart.

None.

Low water features are shown in part and will be completed by the hydrographic party.

Respectfully submitted
10 April 1947

Donald M. Brunt
Photogrammetric Aid

Approved and forwarded
27 April 1948

Officer in Charge
Baltimore Photogrammetric Office

LIST OF HYDROGRAPHIC SIGNAL SITES

Site No.	Description	Pricked on Photo. No.
5507	Top center of white silo.	1953 & 1954
5904	Pole on shack on old dock	1940

Listed by:

Donald M. Brant
Photogrammetric Aid

Checked by: Joseph W Vonasek
Photogrammetric Engineer

GEOGRAPHIC NAMES

Big Break ✓
Broadway Meadows ✓
Cedar Swamp ✓
Collins Beach ✓
Delaware ~~River~~ BAY ✓
Delaware Point ✓
FlemingsLanding ✓
Liston Point ✓
Little Break ✓
Middle Drain ✓
Persimmon Hummock ✓
Pierson Cove ✓
~~Rivershore Ditch~~ RIVER SHORE DITCH ✓
Shorts Landing
Sluice Race ✓
Smyrna River ✓
Straight Ditch ✓
Taylors Gut ✓
Woodland Beach ✓

Check marks indicate
Name approved on quadrangle [T-8755 T-8758
by Heck. Cross-check
verified by HRll

Division of Photogrammetry
Review Report of
Shoreline Map Manuscript T-8780

Subject numbers not used in this report have been adequately covered in other parts of the descriptive report.

26. Control.--The name of triangulation station, Windmill, Round White Tower, 1933, has been changed on the map manuscript to, Windmill, Square White Tower, 1933. The recommendation for changing the name was submitted to the Division of Geodesy on May 14, 1948.

27. Radial Plot.--The compilation office found that the identified horizontal control was too sparse to lay a rigid single-lens 1:10,000 hand templet plot. The deficiency was alleviated by first laying a 1:20,000 scale, nine-lens plot and transferring pass points which were common to both plots. The combination of field horizontal control, extended by the office nine-lens plot, furnished sufficient horizontal control to obtain a rigid single-lens plot for the delineation of the shoreline map manuscript.

28. Delineation.--As mentioned in the compilation report, insufficient photo coverage in the vicinity of Taylors Gut and the western portion of Cedar Swamp rendered delineation impracticable. The features mentioned have been delineated on the overlapping quadrangles T-8755 and T-8758.

A field edit survey was made on the overlapping quadrangles. The applicable results of the field edit survey have been applied to the shoreline map manuscript.

37. Geographic Names.- -The Geographic Names shown on the map manuscript have been approved by the Geographic names Section of the Div. of Charts.

39. Junctions.--Junction with T-8778 to the west has not been made. (Refer to compilation report).

44. Comparison with Existing Topographic Surveys.--In addition to the comparison, mentioned in the compilation report, comparison was made with the following topographic surveys. All common detail is superseded by T-8780.

63	1:20,000	1841
141	1:10,000	1841
1547 a	1:20,000	1882-3
1547 b	1:20,000	1882-3
1601	1:5,000	1875
4667	1:10,000	1931-2

45. Comparison with Nautical Charts.--Comparison was made with the following nautical charts;

1218	1:80,000	1942	Corrected to Dec. 1947
294	1:40,000	1943	10th Edition Corr. To Nov. 1947.

Shoreline map manuscript T-8780 adequately portrays all shoreline features and they supersede the same features on charts in all areas common to both. This map manuscript has not been applied to nautical charts.

46. Adequacy of Compilation.--Map manuscript T-8780 is complete in all details as a base map for nautical chart revisions and corrections, and as a base map for hydrographic surveys.

Reviewed by:

Harland R. Cravat
14 May 1948

APPROVED:

L. E. Griffith
Chief, Review Section
Div. of Photogrammetry K.H.M. 12/22/48

H. R. Edmonston
Chief, Nautical Chart Branch
Division of Charts

K. T. Adams
Chief, Div. of Photogrammetry

C. K. Green
Chief, Div. of Coastal Surveys
12/28

NAUTICAL CHARTS BRANCH

SURVEY NO. T-8780

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
2-2-49	294	P.M. Andrew	~~Before~~ After Verification and Review Partially Applied.
10-49	294	R.J. Hlutsky	→ Before ~~After Verification and Review~~
9/5/51	1218	W Evans Jr	~~Before~~ After Verification and Review examined for critical corr'ns: not applied at this time.
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.