# Form 504

**U. S. COAST AND GEODETIC SURVEY**  
**DEPARTMENT OF COMMERCE**

## DESCRIPTIVE REPORT

| Type of Survey | Planimetric Air Photographic  
<table>
<thead>
<tr>
<th></th>
<th>(Shoreline &amp; Interior)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field No.</td>
<td>Office No. T-5738</td>
</tr>
</tbody>
</table>

## LOCALITY

<table>
<thead>
<tr>
<th>State</th>
<th>Massachusetts</th>
</tr>
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<tbody>
<tr>
<td>General locality</td>
<td>Cape Cod - Nantucket Sound</td>
</tr>
<tr>
<td>Locality</td>
<td>Donas Creek - Bucks Creek</td>
</tr>
</tbody>
</table>

### DATE OF PHOTOS

- **NINE LENS** - 7-14-38  
- **U.S.G.S. SINGLE LENS** - 11-11-38 & 12-14-38

### 1943

**CHIEF OF PARTY**

Fred. L. Peacock

## LIBRARY & ARCHIVES

<table>
<thead>
<tr>
<th>DATE</th>
<th></th>
</tr>
</thead>
</table>
DATA RECORD
T-5738

Project No. (II): H. T. 227-B

Field Office: Air Photographic Party No. 2
Baltimore, Maryland
Chief of Party: Lieut. (j.g.) L. W. Swanson
Compilation Office: Air Photographic Party No. 2
Baltimore, Maryland
Chief of Party: Comdr. Fred. L. Peacock

Instructions dated (II III): Copy filed in Descriptive
September 29, 1938 Report No. T- (VI)

Completed survey received in office: 7/17/43

Reported to Nautical Chart Section: 1/26/45

Reviewed: 4/5/45 Applied to chart No. Date:

Redrafting Completed: 3/12/44

Registered: 12/46 Published: 7/22/46

Compilation Scale: 1:10,100 Published Scale: 1:100,000

Scale Factor (III): 0.99

Geographic Datum (III): N.A. 1927 Datum Plane (III): Mean Sea Level
Reference Station (III): HAWHICH CONG. CHURCH SPIRE, 1887, r.1941

Lat.: 41° 41' 11.645" N 359.3 meters Long.: 70° 04' 35.997" S 832.5 meters Adjusted

State Plane Coordinates (VI):

X = 988,777.17 Ft. Y = 253,426.02 Ft.

Military Grid Zone (VI)
PHOTOGRAPHS (III)

<table>
<thead>
<tr>
<th>Number</th>
<th>Date</th>
<th>Time</th>
<th>Scale</th>
<th>Stage of Tide</th>
</tr>
</thead>
<tbody>
<tr>
<td>G.S.F. 5-62 to 68</td>
<td>11/21/38</td>
<td>11:30a.m.</td>
<td>1:10,000</td>
<td>0.4' Above M. H. W.</td>
</tr>
<tr>
<td>G.S.F. 7-63 to 68</td>
<td>12/14/38</td>
<td>11:30a.m.</td>
<td>1:10,000</td>
<td>0.1' Below M. L. W.</td>
</tr>
<tr>
<td>G.S.F. 7-68 to 7-92</td>
<td>12/14/38</td>
<td>11:25a.m.</td>
<td>1:10,000</td>
<td>0.1' Below M. L. W.</td>
</tr>
<tr>
<td>2404 to 2406</td>
<td>7/16/38</td>
<td>12:00noon</td>
<td>1:10,000</td>
<td>2.0' Above M. L. W.</td>
</tr>
</tbody>
</table>

Tide from (III): Boston, Mass. with time correction to Dennis Port, Mass.

Mean Range: 3.7'  Spring Range: 4.4'

Camera: (Kind or source) U. S. Coast & Geodetic Survey Nine Lens; (Focal length 64'). All negatives are on file at the Washington Office

Field Inspection by: Lieut. A. L. Wardwell
Lieut. E. B. Lewey  date: Nov. & Dec, 1938
July & Aug., 1941

Field Edit by: date:

Date of Mean High-Water Line Location (III):
July 16, 1938 - Before hurricane of 1938
November 21, 1938 - After hurricane of 1938
December 14, 1938 - After hurricane of 1938

Hurricane occurred in September, 1938

Projection and Grids ruled by (III) Washington Off. date: February, 1939

" " " checked by: Washington Office  date: February, 1939

Control plotted by: R. A. Gilmore  date: Feb. 13, 1939

Control checked by: Walter E. Schmidt  date: Feb. 13, 1939

L. W. Swanson, R. A. Gilmore,  2/15-17/39
Radial Plot by: W. C. Russell, William H. VanLooon  date: May, 1942

Isadore M. Zeskind (Shoreline only)  3/6-15/39
Detailed by: Ada May Hobine (Shoreline revised) (Interior Detailed) rough draft  date: Nov. '42 to March, 1943

Reviewed in compilation office by: Harry R. Rudolph  date: June & July, 1943

Elevations on Field Edit Sheet checked by: date:
STATISTICS (III)

Land Area (Sq. Statute Miles): 22 Square Statute Miles

Shoreline (More than 200 meters to opposite shore): 21 Statute Miles

Shoreline (Less than 200 meters to opposite shore): 7 Statute Miles

Number of Recoverable Topographic Stations established: 11

Number of Temporary Hydrographic Stations located by radial plot: 23

Leveling (to control contours) - miles: none

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:
The control plotted on this map drawing consists of ten (10) U. S. Coast & Geodetic Survey triangulation stations, and nine (9) Massachusetts Geodetic Survey traverse stations. They have been shown with the triangulation symbol.

The following control stations are within the detail limits of this map drawing:

Four (4) U. S. Coast & Geodetic Survey Triangulation Stations:

SOUTH HARWICH, FLAGSTAFF, 1887
HARWICHPORT CONG. CHURCH SPIRE, 1887, r.1941
HARWICH EXCHANGE 2, 1934, r.1941
HARWICH CONG. CHURCH SPIRE, 1887, r.1941

Six (6) Massachusetts Geodetic Survey Traverse Stations:

111C, r.1941
111E, r.1941
116AC, r.1941
140A, r.1941
140B, r.1941
140C, r.1941

The following control stations fall just outside the detail limits of this map drawing:

Six (6) U. S. Coast & Geodetic Survey Triangulation Stations:

WEST HARWICH, BELMONT HOTEL, WATER TANK, 1934, r.1941
WEST HARWICH BAPTIST CHURCH SPIRE, 1887, r.1941
WEST HARWICH HOLY TRINITY CATHOLIC CHURCH SPIRE, 1934, r.1941
SWAN, 1934
DENNIS SCHOOL CUPOLA, 1934, r.1941
SOUTH DENNIS CONG. CHURCH SPIRE, 1887, r.1941

Three (3) Massachusetts Geodetic Survey Traverse Stations:

139A, r.1941
139B, r.1941
140D, r.1941

27 RADIAL PLOT:

A combined plot for map drawings, Surveys Nos. T-5736, T-5737, T-5738 and T-5739 was laid in February 1939 by the usual radial method. Celluloid templates were used.

This work was under the supervision of Lieut. L. W. Swanson, Chief of Air Photographic Party No. 2. He was assisted by Lieut. R. A. Gilmore and Lieut. W. C. Russell.
The positions of radial points established by the combined plot were not considered within the desirable accuracy. The positions of a considerable number of radial points were determined by the intersection of two radials because the number of nine lens photographs covering the area was inadequate. The number of control stations was inadequate. However, this compilation office was instructed to accept the plot and detail the shoreline and immediate adjacent culture.

Recommendations were made to the Washington Office to obtain additional photographs and field inspection of the area involved. These recommendations received favorable action.

After the additional single lens photographs and additional field inspection were obtained, individual plots were relaid for the areas represented on the above mentioned map drawings.

The positions of radial points (secondary, minor detail, hydrographic stations and recoverable topographic stations) established by these individual plots were considered within the desirable accuracy.

The number of photographs was adequate.

The identification of the control was adequate.

No exceptional difficulties were encountered except as follows:

SOUTH HARWICH FLAGSTAFF, 1887.

The submitted geographic position of this station was in disagreement approximately 50.0 mm east of the point identified on the field photographs as the station by the field inspection party. The field inspection party recommended the station be considered lost, but this compilation office believes the wrong place was visited and the station should not be considered lost until future field parties have investigated.

DETAILING:

The shoreline and interior culture have been detailed on this map drawing in accordance with the Director's letter dated September 29, 1938.

All detail on this map drawing has been shown by the standard symbols recommended by the Washington Office, and notes fully describing any deviation therefrom have been made on the overlay sheet so that the planimetry may be clearly interpreted by those concerned.
The area of this map drawing was adequately covered by photography. However, dark shadows appeared on the photographs causing considerable difficulty in identifying the shapes of buildings.

Small purple ink circles and green ink circles indicate positions of tertiary points determined by radial intersection, which were considered relatively strong or weak respectively.

In the area along the shoreline, considerable difficulty was encountered in establishing the positions of the tertiary points because the nine lens photographs were taken prior to the hurricane of September 21, 1938 and the single lens photographs were taken after the hurricane.

The mean high water line was outlined on the office photographs in accordance with the field inspection data, and then detailed on this map drawing by using the positions of the previously mentioned tertiary points.

The new stone breakwater south of the entrance to Wychmere Harbor was detailed from data submitted by the field inspection party. This breakwater does not show on any of the photographs. The position of the beacon at the Southeast end of this breakwater should be considered approximate.

No field inspection data was submitted for an area of about two-thirds of a square mile which has been outlined in red ink on the dull side of this map drawing.

All street and road names shown on this map drawing were obtained from information submitted by the field inspection party.

Several ponds appear on this map drawing for which no geographic names were submitted. These have been labeled "Pond".

No field inspection data were submitted to assist this compilation office in identifying what is believed to be a telephone line running southwest from Goose Pond. This compilation office has shown the "line" with the standard symbol for a telephone line and notes have been shown on the map drawing calling for investigation by future field inspection parties.

30 MEAN HIGH WATER LINE:

The mean high water line (firm ground) has been shown by a solid heavy-weight black acid ink line, the center of which should be taken as the true position.

Limits of marsh areas, visible on the photographs or identified by the field inspection party, have been shown by a solid light-weight black acid ink line in conjunction with the conventional marsh symbol.
LOW WATER AND SHOAL LINES:

The limits of shoal areas, as identified on the office photographs in accordance with the field inspection data, are shown by a thin dashed black acid ink line. The limits of mud and sand areas, as identified on the office photographs in accordance with the field inspection data, are shown by a dotted black acid ink line. The limits of "grass in water" areas have been shown by the conventional symbol. These limits are for the use of the hydrographer only. They should not be accepted by any mapping agency as indicating the true position of the mean low water line.

Notes have been made on the map drawing to assist in identifying these areas.

WHARVES AND SHORELINE STRUCTURES:

All piers, wharves, bulkheads, jetties, etc. have been detailed in accordance with the field inspection data.

LANDMARKS AND AIDS TO NAVIGATION:

The positions of one (1) recommended landmark and one (1) aid to navigation are shown with 22mm black acid ink circles on this map drawing. The position of the landmark has been radial plotted. The position of the aid to navigation was determined from fixes and distances submitted by the field inspection party and is to be considered approximate. Their descriptions appear on the map drawing. Form No. 567 (to be charted) has been submitted.

The one (1) Landmark is as follows:

TANK, HARTRICH WATER

The one (1) Aid to Navigation is as follows:

BEACON *WITCHMERE HARBOR JETTY

Form 567 (to be deleted) has been submitted for another beacon shown on Chart 1209 at the entrance to *Wychmere Harbor.

*Disputed geographic name.

HYDROGRAPHIC CONTROL:

The positions of eleven (11) recoverable topographic stations and twenty-three (23) temporary hydrographic stations are shown on this map drawing by 22mm and 12mm, black acid ink circles respectively. The position of one (1) of the recoverable topographic stations was determined by plotting from data submitted by the field inspection party. The positions of all other recoverable topographic stations and temporary hydrographic stations were radial plotted.
HYDROGRAPHIC CONTROL: (cont'd)

The numbers and descriptions of both types of stations have been shown on the overlay sheet.

The descriptions and geographic positions of the following eleven (11) recoverable topographic stations have been submitted on Form No. 524:

*Beacon, Witchmere Harbor Jetty
No. 796 - Tank, Harwich Water
No. 798 - Chimney, Center of first house
No. 801 - Tank, white, water
No. 811 - Chimney, center of large house
No. 814 - Gable, outer, old red building
No. 816 - S. E. Corner, yellow cottage
No. 817 - Steeple, South Chatham Methodist Church
No. 819 - Gable, outer, white cottage
Tank, Water, Harwich
Tank, water, Harwich Port

JUNCTIONS:

Map Drawing, Survey No. T-5739, West and South sides, junction in agreement except as follows:

At Latitude 41° 42' 00" and approximately Longitude 70° 06' 38", same Latitude and approximately Longitude 70° 06' 15", same Latitude and approximately Longitude 70° 06' 52", three separate roads are shown on T-5739 as double dashed line roads and on T-5738 as single dashed line roads. The field inspection party calls for single dashed line roads on Field Inspection Photograph G.S.P. 5-64.

At Latitude 41° 42' 00" and approximately Longitude 70° 07' 35", same Latitude and approximately Longitude 70° 07' 42", and same Latitude and approximately Longitude 70° 08' 28", three separate roads are shown on T-5739 as double dashed line roads and on T-5738 as single dashed line roads. The field inspection party calls for single dashed line roads on field inspection photograph G.S.P. 5-62.

Map Drawing, Survey No. T-5736, East Side, will be made when that map drawing is being detailed.

Upper West and North Sides - No contemporary surveys.

South Side - Atlantic Ocean

RECOMMENDATIONS FOR FUTURE SURVEYS:

This map drawing is believed to be complete in all details of importance for Charting and no additional surveys are recommended.

It is believed that the probable error in the positions of radial points and well-defined objects along the shoreline is not greater than 0.5mm. and the error in the positions of inland radial points and
39 RECOMMENDATIONS FOR FUTURE SURVEYS: (cont'd)

details of importance is not greater than 1.0mm.

43 COMPARISON WITH EXISTING U.S.C.&G.S. TOPOGRAPHIC SURVEYS:

Survey No. L02; surveyed by J. B. Gluck, 1851, scale 1:10,000.

In general the planimetry was in poor agreement between the map drawing and Survey No. L02. It is recommended that the planimetry shown on the Map Drawing supersede that as shown on Survey No. L02.

44 COMPARISON WITH EXISTING TOPOGRAPHIC QUADRANGLES:


Due to difference in scale between this map drawing and the above mentioned quadrangle, small planimetric details could not be readily compared. In general, however, planimetry common to both is in fair agreement except as follows:

At approximately Latitude 61° 43' 30" and Longitude 70° 03' 00"
Greenland Pond is shown on this Map Drawing as a separate pond. On the quadrangle, it is joined with Smalls Pond to the southeast.

At approximately Latitude 61° 41' 30" and Longitude 70° 01' 40"
two small marshy ponds are shown on this map drawing that do not appear on the above mentioned quadrangle.

At approximately Latitude 61° 41' 15" and Longitude 70° 01' 30"
Youngs Ponds are shown on this map drawing as one pond. On the above mentioned quadrangle it appears as two separate ponds.

At approximately Latitude 61° 42' 40" and Longitude 70° 02' 50"
between Eldridges Pond and Walker's Pond a single pond is shown on this Map Drawing. On the above mentioned quadrangle, this pond is shown as two separate ponds.

At approximately Latitude 40° 41' 20" and Longitude 70° 05' 00"
a small pond is shown on this map drawing that does not appear on the above mentioned quadrangle.

At approximately Latitude 40° 43' 20" and Longitude 70° 06' 45"
the area outline by a dashed green ink line appears on the above mentioned quadrangle as Tuckers Pond. This area is shown on this Map Drawing as a group of Cranberry Bogs.

45 COMPARISON WITH NAUTICAL CHARTS:

Chart No. 1208 U.S.C.&G.S., Scale 1:60,000, published November, 1936; reissued July, 1936, issued to this office May 17, 1940.
COMPARISON WITH NAUTICAL CHARTS: (cont’d)

Due to difference in scale between this Map Drawing and Chart No. 1208 (very little interior planimetry shown on this Chart), small planimetric details could not be readily compared. In general, however, planimetry common to both is in fair agreement.

Chart No. 1209 U.S.C.&G.S., Scale 1:80,000; published April, 1941, issued to this office December 16, 1941.

Due to difference in scale between this Map Drawing and Chart No. 1209, small planimetric details could not be readily compared. In general, however, planimetry common to both is in fair agreement except as noted below.

The beacon previously located at the entrance to Wychmere Harbor has been moved to the Southeast end of the new stone breakwater. The new position has been submitted on Form No. 567. The description and position has been submitted on Form No. 524.
Respectfully submitted

Ada May Hobin
Jr. Photogrammetric Aid

Compilation and Descriptive Report
Reviewed by

Harry R. Rudolph
Sr. Photogrammetric Aid

Supervised by

Walter E. Schmidt
Asst. Photogrammetric Engineer

Approved and Forwarded
July 17, 1943

Fred L. Peacock
Chief, Air Photographic Party No. 2
LIST OF GEOGRAPHIC NAMES

Undisputed

- Andrews Pond
- Bakers Pond (west of this sheet?)
- Black Pond (East of Seymours Pond)
- Cornelia Pond
- Doanes Creek
- East Harwich (village)
- Elbow Pond
- Eldridge Pond
- Flax Pond
- Goose Pond
- Grass Pond
- Greenland Pond
- Harwich (village)
- Harwich Port (village)
- Hawks Nest Pond
- Herring Creek River
- Litty Pond
- Ministers Pond
- Long Pond
- Muddy Creek
- Paddocks Pond
- Pine Pond (west of this sheet?)
- Pleasant Lake (village)
- Red River
- Robbins Pond
- Seymour Pond
- Skinkuit Pond
- Slough Pond
- Smalls Pond
- South Chatham (village)
- South Harwich (village)
- Taylors Pond
- Walkers Pond (south of Long Pond)
- Walkers Pond - lower part of Mill Ponds
- White Pond
- Youngs Ponds

add:
- Chatham Roads
- Nantucket Sound (2468)
- Cockle Cove
- Island Pond (near Harwich)
- Bucks Creek
- Grassy Pond (East of Long Pond)
- Cahoon Pond
- Mill Pond
- Black Pond (E. of Eldridge Pond)
- Duane Pond
- Harwich R.R. Station

State No. 28, No. 24, No. 137

Names preceded by * are approved. 3/11/46.
LIST OF GEOGRAPHIC NAMES

Disputed

<table>
<thead>
<tr>
<th>Allens Harbor</th>
<th>Allen's Harbor</th>
<th>Allen Harbor</th>
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<tbody>
<tr>
<td>Briar Pond</td>
<td>Briar's Pond</td>
<td>Briar's Pond</td>
</tr>
<tr>
<td>Briggs Pond</td>
<td>John Josephs Pond</td>
<td>Joseph Pond</td>
</tr>
<tr>
<td>Hinkleys Pond</td>
<td>Hinkley's Pond</td>
<td>Hinkley Pond</td>
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<tr>
<td>Walkers Pond</td>
<td>Bucks Pond</td>
<td></td>
</tr>
<tr>
<td>Wychmere Harbor</td>
<td>Witchmere Harbor</td>
<td>Salt Pond</td>
</tr>
</tbody>
</table>

Tuckers Pond - Called Tuckers Pond on Yarmouth Quadrangle U.S.G.S., but area is now mostly Cranberry Bogs.

Names underlined in red approved by L. Heck on 3/22/46
Divison of Photogrammetry

Review Report of

Planimetric Survey, Manuscript T-5738

Radial Plot.—

The original radial plot for survey T-5738 was part of a combined plot laid in February 1939. Due to inadequate photograph coverage, the plot was rather weak. However, the compilation office was instructed to detail the shoreline and immediately adjacent culture as a base for a hydrographic survey.

In May 1942 a second radial plot was laid for this area using additional single lens photographs. This plot was entirely acceptable.

Detailing.—

Considerable difficulty was encountered in establishing detail points on the shoreline because the nine-lens photographs were taken July 16, 1938, prior to the 1938 hurricane, and the single lens photographs were taken after it, November 21, 1938. The mean-high water line was detailed in accordance with the field inspection data. The stone breakwater south of Wychmere Harbor was also detailed from the field inspection. It does not appear on any of the photographs. The position of the beacon at the southeast end of this breakwater should be considered approximate.

Most of the road classifications have been changed during the review of T-5738. The field inspection for the general area of Cape Cod seems to have classified 90 per cent of all the roads as poor or low class, whereas about 85 per cent of this amount shall be classed as good roads and the classifications have been corrected accordingly during this review.

Comparison with Contemporary Hydrographic Surveys.—

<table>
<thead>
<tr>
<th>Survey</th>
<th>Scale</th>
<th>Date</th>
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</thead>
<tbody>
<tr>
<td>H-6472</td>
<td>1:10,000</td>
<td>1939</td>
</tr>
</tbody>
</table>

The shoreline indicated in red ink on the map drawing for T-5738 was taken from H-6472.

Comparison with Previous Topographic Surveys.—

<table>
<thead>
<tr>
<th>Survey</th>
<th>Scale</th>
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<tbody>
<tr>
<td>T-402</td>
<td>1:10,000</td>
<td>1851</td>
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</table>
Comparison with Nautical Charts.

T-5736 has not been applied to charts 1208 and 1209 at the date of this review. T-5736 shows many cultural and small shoreline changes.

Comparison with Existing Quadrangles (U.S.G.S.).

Harwick, Mass., 7 1/4', 1:31,680, Ed. 1943

Mean High Water Line.

This feature was detailed entirely from the single-lens photographs taken in November and December 1938 after the hurricane, with the exception of the breakwater mentioned in the paragraph under "Detailing", and the small portion in the southeast end of the survey taken from the new position determined by the hydrographic survey and shown on H-6472.

"Witchmire Harbor Jetty" = name corrected to "Wychmere Harbor Jetty" by S.U.C.

Reviewed by H. R. Brooks under the direction of R. M. Berry, April 5, 1945.

Review report prepared by B. G. Jones from reviewer's notes, December 1946.

APPROVED BY:

[Signatures]

Technical Assistant to the Chief, Nautical Chart Branch
Chief, Div. of Photogrammetry Division of Charts

[Signatures]

Chief, Div. of Photogrammetry Chief, Div. of Coastal Surveys
### Record of Application to Charts

<table>
<thead>
<tr>
<th>DATE</th>
<th>CHART</th>
<th>CARTOGRAPHER</th>
<th>REMARKS</th>
</tr>
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<tbody>
<tr>
<td>1-12-47</td>
<td>257</td>
<td>W. C. Hubbard</td>
<td>Before After Verification and Review Completely Applied</td>
</tr>
<tr>
<td>2-7-50</td>
<td>1209</td>
<td>SHE, N W</td>
<td>Before After Verification and Review examined - not applied</td>
</tr>
<tr>
<td>4-25-50</td>
<td>1208</td>
<td>R. J. Sessions</td>
<td>Before After Verification and Review examined - partially applied (related only one landmark only)</td>
</tr>
<tr>
<td>6-18-73</td>
<td>1209</td>
<td>O. Chapman</td>
<td>Considered Adequate Applied - Supervised by later</td>
</tr>
</tbody>
</table>

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.