U. S. COAST AND GEODETIC SURVEY
DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey: SHORELINE-PHOTOGRAMMETRIC

Field No.: Ph-31(48)
Office No.: T-9087

LOCALITY

State: CONNECTICUT

General locality: CONNECTICUT RIVER

Locality: CONNECTICUT RIVER BRIDGE TO WINDSOR, CONNECTICUT.

19448

CHIEF OF PARTY

R.J. Sipe, Chief of Party.
C.W. Clark, Portland Photogrammetric Office

LIBRARY & ARCHIVES

DATE: OCT 19 - 1953
DATA RECORD

T-9087

Project No. (II): Ph-31 (48)P Quadrangle Name (IV):

Photogrammetric Office (III): Portland, Oregon Officer-in-Charge: Charles W. Clark
Instructions dated (II) (III): 9 April 1948 (Field) 9 February 1949 (Office)
Copy filed in Division of Photogrammetry (IV)

Method of Compilation (II): Graphic

Manuscript Scale (III): 1:10,000 Stereoscopic Plotting Instrument Scale (III):

Scale Factor (III): None

Date received in Washington Office (IV): JAN 17 1951 Date reported to Nautical Chart Branch (IV): JAN 24 1951

Applied to Chart No. Date: Date registered (IV): 19 Nov. 1952

Publication Scale (IV): 1:19,000 Publication date (IV): (Date of Issue July 1952)

Geographic Datum (III): N.A. 1927 Vertical Datum (III): Mean River Level

Mean sea level except as follows:
Elevations shown as (26) refer to mean high water
Elevations shown as (3) refer to sounding datum
I.e., mean low water or mean lower low water

Reference Station (III): FULLER (M.D.S.H.C.) 1935

Lat.: 41° 47' 59.330" 1830.4 m Long.: 72° 39' 42.426" 979.5 m Adjusted x
(20.7 m) (405.7 m)

Plane Coordinates (IV): State: Conn Zone: Unadjusted

y = 352, 163, 65 x = 624, 054.07

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

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

Form T- Page 1
Areas contoured by various personnel
(Show name within area)

Shoreline
DATA RECORD

Field Inspection by (II): E.T. Jenkins & R.A. Horn
Date: 7/7/48 to 7/29/48

Planetable contouring by (II):
Date:

Completion Surveys by (II):
Date:

Mean High Water Location (III) (State date and method of location): 7/7/48 to 7/29/48 Located on field photographs.

Projection and Grids ruled by (IV):
Date:

Projection and Grids checked by (IV):
Date:

Control plotted by (III): Alfred C. Holmes
Date: 1/18/50

Control checked by (III): Roy A. Davidson
Date: 1/19/50

Radial Plot or Stereoscopic: James L. Harris and Alfred C. Holmes
Date: 2/17/50

Control extension by (III):

Stereoscopic Instrument compilation (III):
Contours

Manuscript delineated by (III): Carita C. Wiebe
Date: 7/20/50

Photogrammetric Office Review by (III): Ree H. Barron
Date: 8/31/50

Elevations on Manuscript checked by (I) (III):
Date:
Camera (kind or source) (III): Camera "J" U.S.C. & G.S. Single lens

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>48-J-795</td>
<td>5-2-48</td>
<td>12:14</td>
<td>1:10,000 ratio</td>
<td>1.0 ft. above M.L.W.</td>
</tr>
<tr>
<td>48-J-803</td>
<td>5-2-48</td>
<td>12:37</td>
<td>1:10,000 ratio</td>
<td>0.9 ft. above M.L.W.</td>
</tr>
<tr>
<td>4-J-309</td>
<td>5-2-48</td>
<td>12:44</td>
<td>1:10,000 ratio</td>
<td>0.9 ft. above M.L.W.</td>
</tr>
<tr>
<td>0 to 10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Tidal information applies only during lowest river stages. (See Field Inspection Report for T-9093 and T-9094, Project Ph-31(48)F sub-heading 7, "Mean High-Water").

Tide (III)

<table>
<thead>
<tr>
<th>Ratio of Ranges</th>
<th>Mean Range</th>
<th>Spring Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>2.6</td>
<td>3.7</td>
</tr>
<tr>
<td>0.7</td>
<td>1.7</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Subordinate Station: Hartford, Conn.
Subordinate Station:

Washington Office Review by (IV): Lena T. Stevens
Final Drafting by (IV): M. Webber
Drafting verified for reproduction by (IV): S. Bean

Proof Edit by (IV):

Land Area (Sq. Statute Miles) (III): 90.4
Shoreline (More than 200 meters to opposite shore) (III): 12.2
Shoreline (Less than 200 meters to opposite shore) (III): 9.3
Control Leveling - Miles (II):
Number of Triangulation Stations searched for (II):
   Recovered: 17
   Identified: 5
Number of BMS searched for (II):
Number of Recoverable Photo Stations established (III):
   None
Number of Temporary Photo Hydro Stations established (III):
   None

Remarks:

Date: 7 Aug. 1952
Date: 10/3/57
Date: 5/7/57
Date: 6/13/57

Form T-Page 4
Summary to Accompany T-9087

Shoreline Survey T-9087, scale 1:10,000 (latitude 41° 46' to 51', longitude 72° 35' to 40½') is one of 20 maps in planimetric and shoreline project Ph-31(48). This project has six parts (A to F) and extends from Nantucket Island, Mass. to and including the Connecticut River, Conn.

T-9087 is one of the F group and includes that part of the Connecticut River between the Connecticut River Bridge (Hartford to East Hartford) on the south, and the town of Windsor and Farmington River on the north.

The F group consists of 8 shoreline surveys of the Connecticut River (T-9087 to T-9094 inclusive) extending from Long Island Sound to about five miles north of Hartford.

After the map manuscripts in this project have been reviewed, smooth-drafted, reproduced, and registered, a Completion Report will be written and filed in the Bureau Archives under the project number. This report will include:

1. A brief description of any historical or procedural matters peculiar to the project.

2. A project index sketch.

3. Important pertinent correspondence.

4. Any special reports (boundary, radial plot, etc.) not already incorporated with the Descriptive Reports.

5. Statistical data.

6. A list of classified and accessioned data filed in the Bureau of Archives.

7. A list of supplementary maps and plans, and the Chart Letters (by file number) forwarded to the Division of Charts.

8. Copies of project instructions.
FIELD INSPECTION REPORT
QUADRANGLES 9087 AND 9088
PROJECT Ph-31 (48)
SUB-PROJECT "P"

Riley J. Sipe, Chief of Party

All phases of the field work were done in accordance with The Director's Instructions, Project Ph-31(48), Field, dated 9 April 1948.

The field work on these sheets was performed by the following personnel on the dates indicated:

<table>
<thead>
<tr>
<th>Name &amp; Title</th>
<th>Field Work</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>E. E. Jenkins</td>
<td>Recovery, Shoreline, and</td>
<td>7/7/48</td>
</tr>
<tr>
<td>Engineering Aid</td>
<td>Inspection</td>
<td>7/29/48</td>
</tr>
<tr>
<td>R. A. Horn</td>
<td>Recovery, Shoreline, and</td>
<td>7/7/48</td>
</tr>
<tr>
<td>Photogrammetrist</td>
<td>inspection</td>
<td>7/29/48</td>
</tr>
</tbody>
</table>

1. Description of the Area.

The area surveyed includes the Connecticut River from Rocky Hill, Connecticut to, and including a portion of, Windsor, Connecticut; also the land area adjacent to the river in this locality.

The river is well marked by Aids to Navigation and has adequate water depth for the passage of large barges and medium size tankers up to the Shell Oil Company in Hartford, which is just north of the Charter Oak highway Bridge. Beyond this point to the northern limits of sheet 9087 there are no aids to navigation; the channel, as such, is definitely variable since there is a constant fluctuation of the sand bottom which, in addition to the numerous underwater obstructions, makes navigation hazardous even by smaller boats unless the navigator is familiar with the waters.

The principal settlements within the confines of these sheets are Glastonbury, Hartford, and Windsor, Connecticut. The predominant occupation of the inhabitants is manufacturing of many descriptions; ranking next in importance is the carefully nurtured crop of tobacco that is grown.
2. **Completeness of Field Inspection.**

Field inspection is completely and adequately covered on the photographs.

3. **Interpretation of the Photographs.**

The photography is considered excellent, no difficulty was encountered in the interpretations of the photographs.

4. **Horizontal Control.**

All horizontal control stations were searched for and the majority recovered. Stations were identified in accordance with the Project Instructions. Form 526 is submitted regarding the status of each station.

5. **Vertical Control.**

Not applicable to this project.

6. **Contours and Drainage.**

Not applicable.

7. **Mean High Water Line.**

See Report on Sheets 9093 and 9094. Also, "SPECIAL REPORT—U.S. ENGINEER'S REFERENCE PLANES—CONNECTICUT RIVER".

8. **Low Water Line.**

The approximate low water line of part of the shores in the quadrangles was indicated by the standard symbol, under conditions mentioned in paragraph # 7.

9. **Wharves and Shoreline Structures.**

All wharves and shoreline structures discernible on the photographs have been inspected and explained on the photographs. Additional delineations were made where necessary.

10. **Details Off-shore from Mean High Water Line.**

Off-shore detail discernible on the photographs has been labeled appropriately; that not discernible is discussed in sentences that follow.
Near the South Glastonbury Range Lights, in approximately mid-stream, there is a log obstruction not apparent on the photograph. A three-point fix was taken at this point and is submitted on same. (Plotted on T-9088)

Also, between the Connecticut River Bridge and the New York, New Haven, and Hartford Railroad Bridge there are five obstructions not discernible on the photograph. They appear to be the remains of a series of dolphins that have been broken off, the remains of which bare at low water. A sufficient number of angles or "cuts" have been taken and the results submitted for their location. (Plotted on T-9087)

11. **Landmarks and Aids to Navigation.**

All landmarks and fixed aids to navigation in the quadrangles were investigated. Form 567 is submitted with the information determined.

For the sake of clarity a note is added here on the Glastonbury, First Congregational Church Spire. This object was listed as a triangulation station and a landmark, and as such was destroyed in a hurricane in 1938. However, the church and spire were rebuilt, with a slightly altered geographic position, and the spire today is an excellent landmark. It is listed as such on Form 567, but it should not be confused with the original because of the proximity of positions.

12. **Hydrographic Control.**

Not applicable to this project.

13. **Landing Fields and Aeronautical Aids.**

There are two major landing fields in this area; also identified on the photographs are the Municipal Airport Beacon and the Hartford Radio Range.

14. **Roads.**

The roads and trails were classified in accordance with Photogrammetry Instructions number 10, dated 14 April 1947, and the Amendment to the above dated 24 October 1947.

15. **Bridges.**

All bridge information for the area covered by this report as listed in the U. S. Engineer's 'List of Bridges Over Navigable Waters in the United States', dated 1 July 1941 was verified. All clearances were carefully measured.
with a steel tape and the published clearances were found
to be correct except for the following discrepancies which
have been reported to the District Engineer. The three-span,
fixed, Charter Oak Highway Bridge at Hartford, Connecticut
is listed with a horizontal clearance of the right span of
150 feet and a vertical clearance of 80 feet. Our measure-
ments of the left or west(channel) span, between the Mean
High Water mark on the pier in the stream and the Mean High
Water Line on shore, reveal the clearance to be 251 feet.
The minimum vertical clearance was found to be 72 feet with
a maximum vertical clearance of 78.6 feet.

   Adequately indicated on the photographs.

17. Boundary Monuments and Lines.
   Not applicable to this project.

18. Geographic Names.
   In accordance with the Project Instructions, a systematic
   investigation of geographic names was not made. However,
   important points were identified and a few additional names
   supplied. One discrepancy was noted on Nautical Chart 267;
   the highway bridge at Hartford, Connecticut is shown as
   Memorial Bridge. After a thorough investigation it was
   verified that the proper name of this bridge is the "CONNEC-
   CUT RIVER BRIDGE".

Submitted:
Date 29 July 1948

E. J. Jenkins
Engineering Aid

R. A. Horn
Photogrammetrist
SPECIAL REPORT
PROJECT Ph-31(48)
SUB-PROJECT "F"

U.S. ENGINEER'S REFERENCE PLANES - CONNECTICUT RIVER

R.J. Sipe, Chief of Party

Enclosed with this report is data furnished by the U.S. ENGINEERS OFFICE of Boston, Massachusetts in response to my request for information on Mean Low Water and Mean High Water reference planes.

In practice it was found that the mean stage of the river is quite apparent where the banks are steep, as is the case over most of the project, and the shoreline could be readily identified on the photographs.

Where the banks are flat the shoreline for charts is marked by the line of vegetation, either trees or marsh, and this was identified as apparent shoreline or vegetation. For example, when the shoreline was found to be more than a few meters inside, the vegetation line and apparent shoreline (or vegetation line) was mapped.

In order to make a comparison for purposes of record the shoreline as identified was referenced by hand level to a number of the U.S. Engineer Bench Marks for which elevations and descriptions are given in the enclosed data. The results of these observations are as follows:

<table>
<thead>
<tr>
<th>BENCH MARK</th>
<th>SHORELINE AS IDENTIFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portland Bar- B.M. Lawler</td>
<td>7-9090</td>
</tr>
<tr>
<td>9.1 ft. above local M.L.W.</td>
<td>5.6 ft. above local M.L.W.</td>
</tr>
<tr>
<td>Press Barn Bar- B.M. 54</td>
<td>7-9088</td>
</tr>
<tr>
<td>14.9 ft. above local M.L.W.</td>
<td>4.7 ft. above local M.L.W.</td>
</tr>
<tr>
<td>Clay Banks Bar- B.M. 49</td>
<td>7-9088</td>
</tr>
<tr>
<td>9.4 ft. above local M.L.W.</td>
<td>4.3 ft. above local M.L.W.</td>
</tr>
</tbody>
</table>

Submitted:
Date 7/29/48
Robert A. Horn
Photogrammetrist

The report including tables, graphs, and map are found with the Completion Report F filed in the Library.
PHOTOGRAHMETRIC PLOT REPORT
Map Manuscripts Nos. T-9087 to T-9090 Incl.
Project Ph-31(48)F

21: AREA COVERED:

This radial plot covers the shorelines of the Connecticut River and adjacent interior areas (approximately 3 miles wide) along both shores of the river from Cromwell, Connecticut to Windsor, Connecticut. It comprises Map Manuscripts Nos. T-9087 to T-9090 Incl.

22: METHOD:

The same methods were used as those described in side heading 22: "METHOD" of the Photogrammetric Plot Report for Map Manuscripts Nos. T-9083 to T-9086 Incl. (1948) Project Ph-31(48)A, which is included in the Descriptive Report for T-9083 (1948).

23: ADEQUACY OF CONTROL:

There is a probability that the extreme north portion of this radial plot between Latitude 41° 48' 35" and Latitude 41° 51' (an area of approximately 14.0 square miles) is not of as high an accuracy as that obtained for the remaining area of this radial plot. In order to complete the radial plot, in this questionable area, to the northern detail limits of Map Manuscript No. T-9087 it was necessary to graphically locate pass points without the aid of any horizontal control stations because either no horizontal control stations existed in this area or none were recovered.

For the area south of Latitude 41° 48' 35" the field party identified an ample number of horizontal control stations to rigidly fix the orientation of the templates. All identified stations were held to during the running of the radial plot.

Attached to this descriptive report are copies of three letters dated 8/1/50, 8/3/50, and 8/14/50 which contain data relative to the triangulation position of "EAST HARTFORD, HOCKONUM METHODIST EPISCOPAL CHURCH, SPIRE".

Also attached is a letter dated 6 October 1950 relative to a discrepancy in the triangulation position of "PICKERING ELEVATED TANK". This office has not been informed of the results of any investigation of this discrepancy at the date of the writing of this report.

24: SUPPLEMENTAL DATA:

There were no graphic control surveys furnished for the area of this radial plot.
25:  **PHOTOGRAPHY:**

The photography was adequate for the area of this radial plot.

26:  **REMARKS:**

Attached are Forms M-2388-12 for map manuscript No. T-9037 and a letter size sketch, showing map limits, photograph centers and the horizontal control stations used to control the radial plot.

Approved:  
Charles W. Clark  
Officer-in-Charge

Respectfully submitted:  
J. Edward Deal Jr.  
Cartographer
Radial Plot Report for

Five Log Obstruction Positions

Determined for T-9087 and Chart 267

Five log obstructions in the Connecticut River at Hartford, between the Connecticut River and New York, New Hampshire and Hartford R.R. Bridges, which bare at low water and are not discernible on the photographs, were observed for directions from three identified photo points and submitted on form 24A by the field party under R. J. Sipe and dated July 21, 1948.

These three photo points were fixed in a radial plot of three acetate templates adequately controlled by triangulation in the Hartford area.

These three determined photo points and the triangulation station, TRAVELEERS, were then used to fix three more acetate templates with the observed directions to each of the log obstructions. Cuts to these obstructions from the photo points yielded small triangles, but the positions so determined are believed to be within .5 millimeters of true position.

Templates were made from 1:10,000 photographs J 807, J808, and J 810, and laid on Obstruction Plan No. 189 at 1:15,000, previously compiled in the same area. In scaling the resulting positions of the log obstructions a correction factor was necessary for the slightly shrunk manuscript. These positions are submitted on the accompanying form No. 567.

Further verification of these positions may be had upon the laying of radial plots for the complete area, T-9087 and T-9088, by the Baltimore Office in the near future.

Submitted by:

L. M. GAZIK, Photogrammetrist

Approved by:

Date: September 27, 1948
\( \text{PH-31(48)F} \)

\( \triangle \) = Horizontal Control Recovered

\( \bullet \) = Topographic Stations

\( \circ \) = 1948 Photography
<table>
<thead>
<tr>
<th>STATION</th>
<th>SOURCE OF INFORMATION</th>
<th>LATITUDE OR ( \nu )-COORDINATE</th>
<th>DISTANCE FROM GRID IN FEET OR PROJECTION LINE IN METERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>HARTFORD, FOURTH CONGREGATIONAL CHURCH SPIRE, 1935</td>
<td>G-3536, P. 205, 1927</td>
<td>41° 46' 46.124&quot;</td>
<td>West of map limit</td>
</tr>
<tr>
<td>FULLER (M.D.S.H.C.) 1935</td>
<td>G-3536, P. 158</td>
<td>41° 47' 59.330&quot;</td>
<td>1423.0 (428.1)</td>
</tr>
<tr>
<td>GARCIA (M.D.S.H.C.) 1935</td>
<td>G-3536, P. 158</td>
<td>41° 48' 34.200&quot;</td>
<td>512.1 (873.6)</td>
</tr>
<tr>
<td>EAST HARTFORD FIRST NATIONAL TANK (EL.) 1935</td>
<td>G-3536, P. 204, 1935</td>
<td>41° 48' 58.366&quot;</td>
<td>250.2 (1600.9)</td>
</tr>
<tr>
<td>EAST HARTFORD CONGREGATIONAL CHURCH TOWER, 1875</td>
<td>G-3536, P. 158</td>
<td>41° 37' 43.425&quot;</td>
<td>1246.9 (138.7)</td>
</tr>
<tr>
<td>BURNSIDE METHODIST CHURCH, 1891</td>
<td>G-6763, P. 296</td>
<td>41° 37' 43.206&quot;</td>
<td>555.9 (829.1)</td>
</tr>
<tr>
<td>HARTFORD, NE SCHOOL HOUSE CHIMNEY, 1891</td>
<td>G-6763, P. 295, 1935</td>
<td>41° 47' 53.397&quot;</td>
<td>213.4 (1637.7)</td>
</tr>
<tr>
<td>AMERICAN INDUSTRIAL 1935</td>
<td>G-4047, P. 41</td>
<td>41° 40' 25.537&quot;</td>
<td>1870.5 (90.6)</td>
</tr>
<tr>
<td>HARTFORD, NORTH METHODIST CHURCH SPIRE, 1891</td>
<td>G-3536, P. 204, 1935</td>
<td>41° 40' 35.956&quot;</td>
<td>830.3 (555.3)</td>
</tr>
<tr>
<td>NEW YORK, NEW HAVEN AND HARTFORD RAILROAD TANK (EL.) 1935</td>
<td>G-3536, P. 205</td>
<td>41° 46' 43.347&quot;</td>
<td>1337.3 (513.8)</td>
</tr>
<tr>
<td>EAST HARTFORD EPISCOPAL CHURCH SPIRE 1891</td>
<td>G-6763, P. 295, 1891</td>
<td>41° 46' 24.03&quot;</td>
<td>1237.8 (147.9)</td>
</tr>
<tr>
<td>HARTFORD, Conn. River Bridge, West Base Ecc. (USB) 1935</td>
<td>G-3536, P. 205</td>
<td>41° 40' 09.205&quot;</td>
<td>741.4 (1109.7)</td>
</tr>
</tbody>
</table>

1 FT = 0.3048006 METER

COMPUTED BY: J.C. Lajoya

DATE: 7/7/49

CHECKED BY: G. Richter

DATE: 7/8/49
<table>
<thead>
<tr>
<th>STATION</th>
<th>SOURCE OF INFORMATION (INDEX)</th>
<th>LATITUDE OR Y-COORDINATE</th>
<th>LONGITUDE OR X-COORDINATE</th>
<th>DISTANCE FROM GRID IN FEET. OR PROJECTION LINE IN METERS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CONNECTICUT RIVER Bridge East Hartford East Base (USE 1909), 1935</strong></td>
<td>G-3536</td>
<td>41° 46' 09.188&quot;</td>
<td>72° 39' 51.586&quot;</td>
<td>283.5 (1567.6)</td>
</tr>
<tr>
<td><strong>HARTFORD, MRS. SAGE'S HOUSE TOWER, 1891</strong></td>
<td>P. 295</td>
<td>41° 48' 00.635&quot;</td>
<td>72° 39' 44.127&quot;</td>
<td>19.6 (1831.5)</td>
</tr>
<tr>
<td><strong>HARTFORD, CHENEY BUILDING FLAG- STAFF, 1891</strong></td>
<td>G-6763</td>
<td>41° 46' 03.597&quot;</td>
<td>72° 40' 24.019&quot;</td>
<td>111.0 (1740.1)</td>
</tr>
<tr>
<td><strong>HARTFORD, ST. PAT- RICK'S CHURCH SPIRE, 1891</strong></td>
<td>G-6763</td>
<td>41° 46' 08.392&quot;</td>
<td>72° 40' 42.604&quot;</td>
<td>258.9 (1592.2)</td>
</tr>
<tr>
<td><strong>HARTFORD, WINDSOR AVENUE CHURCH 1891</strong></td>
<td>P. 294</td>
<td>41° 46' 56.305&quot;</td>
<td>72° 40' 33.706&quot;</td>
<td>1737.1 (114.0)</td>
</tr>
</tbody>
</table>

**Note:** West of map limit
31: **DELINEATION:**

Graphic methods were used for the compilation of this map manuscript.

There were no unusual methods used for the compilation work.

The field inspection was in general satisfactory. There were some places along the shoreline where the high-water line was not clearly indicated by field inspection.

All planimetric details, except complete building coverage, have been detailed for the area of this map manuscript. The portion of the area of Nautical Chart No. 267, which falls within the detail limits of this map manuscript has been delineated in accordance with paragraph 5 of the office instructions for Project Ph-31(49)F.

All buildings falling within an area approximately 300 meters back from the shoreline of this map manuscript have been delineated. Outside of this area only landmark buildings have been delineated.

32: **CONTROL:**

The horizontal control stations were well identified and the placement and density were satisfactory.

Refer to side heading 23: "Adequacy of Control" of the Photogrammetric Plot Report for additional facts.

33: **SUPPLEMENTAL DATA:**

There were no supplemental data furnished this office for the area of this map manuscript.

34: **CONTOURS AND DRAINAGE:**

The stereoscope was used to verify the drainage delineated by the field inspection party. Drainage not indicated by field inspection was delineated by office examination of the photographs and by comparison with the U.S. Geological Survey and Army Map Service quadrangles of the area.

Contours are not applicable.
35: **SHORELINE AND ALONGSHORE DETAILS:**

There were some small portions of shoreline where the mean high-water line was not clearly indicated by field inspection. In these places a delineation was made by stereoscopic study of the office photographs.

Refer to sub-heading 7: "Mean High-Water" of the combined field inspection report for T-9093 and T-9094 (1948) and sub-heading 8: "Low-Water Line" of the combined field inspection report for T-9091 and T-9092 (1948).


The approximate limits of one shoal area, which could be seen on the photographs, and also several areas that bare at low-water, which could be seen on the photographs, have been detailed.

Alongshore details have been shown as delineated by the field inspection party.

36: **OFFSHORE DETAILS:**

There are no offshore details.

37: **LANDMARKS AND AIDS:**

Forms 567 are being submitted for the entire area of Project Ph-31(48)F. Copies attached.

38: **CONTROL FOR FUTURE SURVEYS:**

There were no recoverable topographic stations recommended by the field party for the area of this map manuscript.

39: **JUNCTIONS:**

Complete and satisfactory junctions have been made with adjoining map manuscripts.

40: **HORIZONTAL AND VERTICAL ACCURACY:** See Item 66.

Refer to side heading 23: "ADEQUACY OF CONTROL" of the Photogrammetric Plot Report.

Vertical accuracy is not applicable.
46: **COMPARISON WITH EXISTING MAPS:**

A visual comparison was made with U.S.G.S. Hartford North, Conn., 7 1/2 min. quadrangle, Scale 1:31,680 Edition of 1945.

A visual comparison was made with U.S.G.S. Manchester, Conn., 7 1/2 min. quadrangle, Scale, 1:31680 Edition of 1944.

47: **COMPARISON WITH NAUTICAL CHARTS:**

Comparison was made with Nautical Chart No. 267, Scale, 1:20,000 published 3/22/48, hand corrected 10/14/48.

"ITEMS TO BE APPLIED TO NAUTICAL CHART IMMEDIATELY"

None.

Approved:

Charles W. Clark
Officer-in-Charge

Respectfully submitted:

J. Edward Deal, Jr.
Cartographer
PHOTOGRAMMETRIC OFFICE REVIEW
T-9087

1. Projection and grids  
2. Title  
3. Manuscript numbers  
4. Manuscript size  

CONTROL STATIONS
5. Horizontal control stations of third-order or higher accuracy  
6. Recoverable horizontal stations of less than third-order accuracy (topographic stations)  
7. Photo hydro stations  
8. Bench marks  
9. Plotting of sextant fixes  
10. Photogrammetric plot report  
11. Detail points  

ALONGSHORE AREAS
(Nautical Chart Data)
12. Shoreline  
13. Low-water line  
14. Rocks, shoals, etc.  
15. Bridges  
16. Aids to navigation  
17. Landmarks  
18. Other alongshore physical features  
19. Other alongshore cultural features  

PHYSICAL FEATURES
20. Water features  
21. Natural ground cover  
22. Planetary contours  
23. Stereoscopic Instrument contours  
24. Contours in general  
25. Spot elevations  
26. Other physical features  

CULTURAL FEATURES
27. Roads  
28. Buildings  
29. Railroads  
30. Other cultural features  

BOUNDARIES
31. Boundary lines  
32. Public land lines  

MISCELLANEOUS
33. Geographic names  
34. Junctions  
35. Legibility of the manuscript  
36. Discrepancy overlay  
37. Descriptive Report  
38. Field inspection photographs  
39. Forms

40. Reviewer

41. Remarks (see attached sheet)

FIELD COMPLETION ADDITIONS AND CORRECTIONS TO THE MANUSCRIPT
42. Additions and corrections furnished by the field completion survey have been applied to the manuscript. The manuscript is now complete except as noted under item 43.

Compiler  
Supervisor

43. Remarks:
I recommend that the following objects which have been inspected from seaward to determine their value as landmarks be charted on the charts indicated.

The positions given have been checked after listing by

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<thead>
<tr>
<th>STATE</th>
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<th>SIGNAL NAME</th>
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<th>LONGITUDE</th>
<th>METHOD OF LOCATION AND SURVEY NO.</th>
<th>DATE OF LOCATION</th>
<th>CHARTS AFFECTS</th>
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This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and nonfloating aids to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.
I recommend that the following objects which have been inspected from seaward to determine their value as landmarks be charted on the charts indicated. The positions given have been checked after listing by 

Charles W. Clark
Chief of Party.

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<tr>
<th>State</th>
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<th>Description</th>
<th>Signal Name</th>
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<th>Longitude</th>
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### Connecticut

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<th>SIGNAL NAME</th>
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<th>DATUM</th>
<th>METHOD OF LOCATION AND SURVEY NO</th>
<th>DATE OF LOCATION</th>
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<td>Cy's Hollow Lower 97</td>
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<td>Clay Banks Front 100</td>
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<table>
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<th>Connecticut</th>
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<tbody>
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<td>Glastonbury Upper 92</td>
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NOTE: See attached rough copies of Forms 567 for recommendations made by the field party for these non-floating aids.

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Charles W. Clark
Chief of Party

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<th>Longitude</th>
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<th>Date of Location</th>
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<th>Offshore Chart No.</th>
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<td>TOWER</td>
<td>Overhead Cable, east tower</td>
<td>41 19</td>
<td>951.8</td>
<td>72 20</td>
<td>952.8</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>TOWER</td>
<td>Overhead Cable, west tower</td>
<td>41 21</td>
<td>331.8</td>
<td>72 21</td>
<td>176.8</td>
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<td></td>
<td>HOUSE</td>
<td>Ely's Chimney</td>
<td>41 21</td>
<td>905.6</td>
<td>72 20</td>
<td>942.2</td>
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<tr>
<td></td>
<td>CUPOLA</td>
<td>Essex, steamboat dock cupola</td>
<td>41 21</td>
<td>149.5</td>
<td>72 23</td>
<td>145.0</td>
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<tr>
<td></td>
<td>CUPOLA</td>
<td>CH. Tower, Essex, Baptist Church tower</td>
<td>41 21</td>
<td>547.6</td>
<td>72 23</td>
<td>734.4</td>
<td></td>
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<tr>
<td></td>
<td>TOWER</td>
<td>St. John's School tower</td>
<td>41 23</td>
<td>551.1</td>
<td>72 25</td>
<td>1340.1</td>
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<tr>
<td></td>
<td>CUPOLA</td>
<td>Ye Castle Inn, tower</td>
<td>41 15</td>
<td>1309.7</td>
<td>72 23</td>
<td>360.0</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and nonfloating aids to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.
I recommend that the following objects, which have been inspected from seaward to determine their value as landmarks be charted on the charts indicated.

The positions given have been checked after listing by

Charles W. Clark
Chief of Party.

<table>
<thead>
<tr>
<th>STATE</th>
<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
<th>SIGNAL NAME</th>
<th>LATITUDE</th>
<th>LONGITUDE</th>
<th>DATUM</th>
<th>METHOD OF LOCATION AND SURVEY NO.</th>
<th>DATE OF LOCATION</th>
<th>CHARTS AFFECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connecticut</td>
<td>TANK</td>
<td>Guardhouse Point, tank</td>
<td>41 16 200.5</td>
<td>72 22 546.7</td>
<td>N.A. 1927</td>
<td>Triangulation</td>
<td>1934</td>
<td>X 215</td>
<td></td>
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<td></td>
<td>SPHERE</td>
<td>St. Joseph's-in-Chester, cross</td>
<td>41 24 120.5</td>
<td>72 26 713.2</td>
<td>&quot;</td>
<td>&quot;</td>
<td>1934</td>
<td>X 266</td>
<td></td>
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<tr>
<td></td>
<td>M. TURRET</td>
<td>Goodspeed's turret</td>
<td>41 27 161.7</td>
<td>72 27 1090.7</td>
<td>&quot;</td>
<td>&quot;</td>
<td>1934</td>
<td>X 266</td>
<td></td>
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<tr>
<td></td>
<td>TOWER</td>
<td>East Haddam, transmission tower, east side</td>
<td>41 27 1226.3</td>
<td>72 27 1170.9</td>
<td>&quot;</td>
<td>&quot;</td>
<td>1934</td>
<td>X 266</td>
<td></td>
</tr>
<tr>
<td></td>
<td>TOWER</td>
<td>Haddam View, Haddam, transmission tower, west side</td>
<td>41 27 1207.3</td>
<td>72 23 454.4</td>
<td>&quot;</td>
<td>&quot;</td>
<td>1934</td>
<td>X 266</td>
<td></td>
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<tr>
<td></td>
<td>SPHERE</td>
<td>Haddam Neck Cong. Church spire</td>
<td>41 29 1840.0</td>
<td>72 30 1021.7</td>
<td>&quot;</td>
<td>&quot;</td>
<td>1934</td>
<td>X 266</td>
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<tr>
<td></td>
<td>SPHERE</td>
<td>Higgens Methodist Church spire</td>
<td>41 29 1670.5</td>
<td>72 33 1152.8</td>
<td>&quot;</td>
<td>&quot;</td>
<td>1862</td>
<td>X 266</td>
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</tr>
<tr>
<td></td>
<td>GIBB</td>
<td>Blackburn Golf Links, clubhouse</td>
<td>41 30 791.7</td>
<td>72 32 1183.7</td>
<td>&quot;</td>
<td>&quot;</td>
<td>1934</td>
<td>X 266</td>
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<td>GIBB</td>
<td>CUPOLA</td>
<td>41 25 597.3</td>
<td>72 25 1041.0</td>
<td>&quot;</td>
<td>&quot;</td>
<td>1934</td>
<td>X 266</td>
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</tbody>
</table>

NOTE: See attached rough copies of Forms 567 for recommendations made by the field unit for these landmarks. On these sheets which have been compiled and typed at the photogrammetric office the triangulation station names have been shown as listed in the Geographic Positions Form 263.

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and nonfloating aids to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.
I recommend that the following objects which have been inspected from seaward to determine their value as landmarks be the charts indicated.

The positions given have been checked after listing by.

Charles W. Clark
Chief of Party.

<table>
<thead>
<tr>
<th>State</th>
<th>Charting Name</th>
<th>Description</th>
<th>Signal Name</th>
<th>Location</th>
<th>Datum</th>
<th>Method</th>
<th>Location Date</th>
<th>Harbor Chart</th>
<th>Shoe Rock Chart</th>
<th>Chart Affected</th>
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</thead>
<tbody>
<tr>
<td>Connecticut</td>
<td>CUPOLA</td>
<td>Suda’s Shop Cupola</td>
<td></td>
<td>41 22</td>
<td>806.9</td>
<td>72 23</td>
<td>444 2</td>
<td>N.A.</td>
<td>Triangulation</td>
<td>1927</td>
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<td>CUPOLA</td>
<td>Old State House Cupola</td>
<td></td>
<td></td>
<td>41 46</td>
<td>72 40.4</td>
<td></td>
<td></td>
<td>n</td>
<td>1875 X</td>
<td>267</td>
</tr>
<tr>
<td>SPIRE</td>
<td>South Cong. Ch. Spire</td>
<td></td>
<td></td>
<td>41 46.6</td>
<td>72 40.6</td>
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<td></td>
<td>n</td>
<td>1875 X</td>
<td>267</td>
</tr>
<tr>
<td>SPIRE</td>
<td>Glastonbury First Cong. Ch. Spire</td>
<td></td>
<td></td>
<td>41 42.5</td>
<td>72 36.5</td>
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<td>n</td>
<td>1935 X</td>
<td>267</td>
</tr>
<tr>
<td>BARN</td>
<td>Rays Barn Cupola</td>
<td></td>
<td></td>
<td>41 27</td>
<td>110.3</td>
<td>72 27</td>
<td>325 8</td>
<td>n</td>
<td>1934 X</td>
<td>266</td>
</tr>
</tbody>
</table>

NOTE: Attached are the rough copies (5 pages) which were furnished the photogrammetric office by the field unit.

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and nonfloating aids to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.
I recommend that the following objects which have (have not) been inspected from seaward to determine their value as landmarks be charted on (deleted from) the charts indicated.
The positions given have been checked after listing by L. Martin Gazik

L. C. Lande
Chief of Party

<table>
<thead>
<tr>
<th>CHARTING NAME</th>
<th>DESCRIPTION</th>
<th>SIGNAL NAME</th>
<th>LATITUDE</th>
<th>D.M. METERS</th>
<th>D.P. METERS</th>
<th>DATUM</th>
<th>METHOD OF LOCATION AND SURVEY NO.</th>
<th>DATE OF LOCATION</th>
<th>CHARTS AFFECTED</th>
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<tr>
<td>Log Obstruction No. 1</td>
<td>41 46 745 72 39 1122</td>
<td>N.A. Radial Plot</td>
<td>9-17-46</td>
<td>x</td>
<td>267</td>
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<tr>
<td>Log Obstruction No. 2</td>
<td>41 46 784 72 39 1085</td>
<td>&quot; &quot; &quot; x</td>
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<tr>
<td>Log Obstruction No. 3</td>
<td>41 46 796 72 39 1069</td>
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<tr>
<td>Log Obstruction No. 4</td>
<td>41 46 684 72 39 1169</td>
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</tr>
<tr>
<td>Log Obstruction No. 5</td>
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<td>&quot; &quot; &quot; x</td>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Scaled by: L. Martin Gazik
Checked by: Howard Murray

NOTE: The positions listed hereon were verified during the running of the radial plot for this map manuscript.

Scaled: Carita C. Wiebe
Checked: Reh H. Barron

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and nonfloating aids to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by information under each column heading should be given.
To: The Director
U.S. Coast and Geodetic Survey
Washington 25, D.C.

Subject: Discrepancy in Triangulation Station Position

During the compilation of planimetric map T-9088, Project Ph-31(48)F, Connecticut River, it was noted that the map position of a church failed to agree with the geographic position of the same church.

The church in question is listed in list of geographic positions No. G 3536, Connecticut, page 202 as "East Hartford, Hockanum Methodist Epis, Church twr, 1935." This is a no-check position observed from Dirck and Pilgard.

The position of the church on the photographs is about 400 meters northwest of the geographic position. The geographic position plots in an open field not near any buildings.

The map position of this church indicates that the cut on it from Dirck was correctly identified and the cut from Pilgard was incorrectly identified.

Using published data on East Hartford, Hockanum Congregational Church, spire, 1891-1935 on page 300 with the cut from Pilgard, close agreement was obtained on the length of the line Wickham-East Hartford, Hockanum Congregational Church, spire, which indicated that the cut from Pilgard is on this church instead of the former one.

Charles W. Clark
Lt. Cmdr.,USCG Survey
Officer-in-Charge

CWG/gr
8 August 1950

To: Lieut. Comdr. Charles W. Clark
U.S. Coast and Geodetic Survey
Swan Island Postal Station
Portland 18, Oregon

Subject: Correction of Triangulation Station Position

In reply to your letter of 1 August 1950, the observations at triangulation station PILGRAD have been inspected and it is evident that the direction listed as East Hartford, Hockonum Methodist Episcopal Church, Tower refers to the East Hartford, Hockonum Congregational Church, Spire. By interchanging the directions at PILGRAD, the following position of East Hartford, Hockonum Methodist Episcopal Church, Tower has been computed:

\[41^\circ 44' 08.98''\]
\[72 37 42.47\]

Please check this position on your photographs and inform this Office whether or not this is the correct position of the church.

/S/ K. T. Adams
Acting Director
14 August 1950

To: The Director
U.S. Coast and Geodetic Survey
Washington 25, D.C.

Subject: Geographic Position of triangulation station "EAST HARTFORD, HOCKONUM METHODIST EPISCOPAL CHURCH TOWER"

Reference: Letter 63-wv dated 8 August 1950, Subject: "Correction of Triangulation Station Position"

The geographic position of triangulation station "East Hartford, Hockonum Methodist Episcopal Church Tower," which was furnished this office in the above reference plots on the location of the church building tower compiled on Map Manuscript T-9088, Project Ph-31(48)F.

J. Edward Deal, Jr.
For: Charles W. Clark
Lt. Comdr., USC&G Survey
Officer-in-Charge

JED/gr
To: The Director
U.S. Coast and Geodetic Survey
Washington 25, D.C.

Subject: Discrepancy in Triangulation Station Position

During the compilation of planimetric map T-9090, Project Ph-31 (48F), Connecticut River, it was noted that the map position of a tank failed to agree with the published geographic position of the same tank.

The tank in question is listed in list of geographic positions No. G-3536, page 192 as Pickering elevated tank, 1935. This is a no check position observed from Westfield and Hospital. (Station has been rejected and deleted from the list by Goodway, 2/25/51).

Pickering elevated tank was not identified for control and was not used in the radial plot. A tank clearly visible on the photographs was labeled Pickering elevated tank, 1935. The map position of this tank is about 60 meters in approximate azimuth 259° 45' from the geographic position.

No tank is visible on the photographs at the geographic position.

The map position of this tank indicates that the cut from WESTFIELD was correctly identified and the cut from HOSPITAL was incorrectly identified.

On examining the photographs another tank was found about 60 meters south of Chatham's elevated tank, 1933, which is approximately on the extended line from HOSPITAL to the published position of Pickering elevated tank. It appears that the cut from HOSPITAL was on this tank and was incorrectly identified as Pickering elevated tank.

Charles W. Clark
Lt. Comdr., USCG Survey
Officer-in-Charge

CWC/gr
48: GEOGRAPHIC NAMES:

Refer to Item 18 "GEOGRAPHIC NAMES" of the field inspection report for T-9087 and T-9088 which is included in this descriptive report.

The following geographic names have been obtained from the "North Hartford" and "Manchester" U.S.G.S. 15 min. quadrangles unless otherwise noted.

- Albany Avenue
- Bancroft Brook
- Barbour School
- Brickyard Pond
- Burnham
- Burnham Broock
- Burnham Street
- Burnside
- Burnside Reservoir
- Capen Street
- Center Cemetery (East Hartford)
- Chapel Road
- Connecticut River Bridge:
  - Field Inspection
  - Deckers Brook
- Deerfield Grammar School:
  - Field Inspection
- Dudley Town Road
- East Hartford:
  - Nautical Chart 267
- Ellington Road
- Farmington River:
- Goodwin Brook
- Goodwin Street
- Hartford:
  - Nautical Chart 267
  - Hartford Bypass
  - Hockanum River:
  - Nautical Chart 267
  - Jonathan Edwards Cemetery
- Kenney Park

Added Names:
- Filley Pond (S. of Park Ave)
- Willbour Cross Highway (spills to left of U.S. 6 shown here)

Names on manuscript not listed above:
- Meadow Brook
- Meadow Road
- Main Street (East side river)
- Loomis Institute
  - Main Street (West side river)
- Matlumuck Avenue
- Meadow School
- Middle Turnpike
- Newberry Brook
- Newberry Road
- New York, New Haven and Hartford R.R.
- North Main Street
- Northwood Cemetery
- Park Avenue
- Pleasant Valley Road
- Podunk River:
  - Nautical Chart 267
- Riverside Park
- Soldiers Field Cemetery
- South Windsor
- Stony Hill School
- Stoughton Brook
- Strong Road
- Tolland Turnpike
- Tower Avenue
- Union School
- Wilson
- Windsor
- Windsor Avenue
- Wolcott Avenue
- Wolcott School

St. Mary's Cemetery

Center Cemetery (Windsor)

U.S. No. 5

V.S. No. 54 (should be only on west side of river)

U.S. No. 6

V.S. No. 44

State No. 9

State No. 15

128
Street names:

Cherry Street (E. Hartford)
Switcheroo Street (Wilson)
East Barber
Rooney
Midian Avenue (N. of Wilson)
Highland Avenue
Lovell
Seymour
Colton
Portman
Henry Street
Woodland Street
Sinclair Avenue

Names underlined in red are approved. 8-9-51

- Heck
62. **Comparison with Registered Topographic Surveys:**

   T-2046  1:10,000  1891-4 (with contours)

   This survey extends to 41° 48'. No older survey covers the area of T-9087 north of that parallel.

   Except for contours T-9087 supersedes the older survey for charting purposes.

63. **Comparison with Maps of Other Agencies:**

   USGS Hartford North  1:31,680  ed. 1945
   USGS Manchester    "    "    "    1944
   USE "    "    "    1:25,000    "    1950

   The shoreline and near-shore features are superseded for charting purposes.

64. **Comparison with Contemporary Hydrographic Surveys:**

   None.

65. **Comparison with Nautical Charts:**

   267  1:20,000  ed. March 1948  rev. May 1951

   **Discrepancy:**

   A charted low-water marsh island north of the Connecticut River Bridge is not drawn on the manuscript. It was not noted by the field inspector and its presence is not evident on the photographs (at less than half-tide).

66. **Accuracy:**

   That portion of the map manuscript between 41° 46' and 41° 48' is well controlled and meets the National Standard of map accuracy. (This area is included in chart 267.) North of 41° 48' 34" no control was used (see Radial Plot Report, heading 23). Because no previous maps exist and the quadrangle has too small a scale to afford a basis of comparison, a search for some control points was made. The Division of Geodesy supplied a publication "The Geodetic Survey of the Metropolitan District, Commission of Regional Planning Report No. 1, Triangulation, 1935." This 1st and 2nd order survey was made by a private firm who used the C&GS 1927 Datum. Excellent sketches were supplied for each station, with various angle and distance records. Station MORRIS falls in the northwestern corner of the map manuscript, and station STACK (Pleasant Valley Brick Co.) falls in the northeastern corner.
These two stations were plotted on the map manuscript (a dashed triangle, in red). The angles and distances were then used to test detail delineation. The data for STACK fits the condition on the map manuscript precisely. At MORRIS, by using the same method it was found necessary to re-delineate a road moving it eastward a small amount. Any inaccuracy that occurs in planimetric location along the north margin of the map manuscript is distributed through four degrees of longitude. The shoreline area lies nearer the station STACK than MORRIS so that the shoreline and near-shore features from 41° 48' northward may be said to also meet the National Standards of Map Accuracy.

The area in the northwest corner (latitude 41° 50' to 51', longitude 72° 39¾' to 40¼') does not meet this accuracy nor could it be corrected because only one photograph covers the area, thus giving no radial intersections.

Reviewed by:

Lena T. Stevens

Approved by:

L. V. Griffith  
Chief, Review Section
Division of Photogrammetry

Frances  
Chief, Nautical Chart Branch
Division of Charts

Chief, Division of Photogrammetry  
Chief, Division of Coastal Surveys