

5463

369-4

Form 504 Ed. June, 1928	
DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY R. S. Patton, <i>Director</i>	
State: <u>New York</u>	
DESCRIPTIVE REPORT	
Topographic <del>Hydrographic</del>	Sheet No. T 5463
LOCALITY	
BROOKLYN	
CONEY ISLAND	
Photographs in 1935 Field Inspection in 1935 Compiled in 1937	
19.....	
CHIEF OF PARTY	
J. C. Partington Jr. H. & G. E.	

5463

Applied to drawing of Chart 542 - 11/28 38 - J.F.V.  
" to new chart 540 10/30/45 W.A.B.

DEPARTMENT OF COMMERCE  
U.S. COAST AND GEODETIC SURVEY

REG. NO.

TOPOGRAPHIC TITLE SHEET

The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. ....95.....

**T5463**

REGISTER NO. t-5463

State.....New York.....

General locality.....~~Brooklyn~~ *Brooklyn*.....

Locality.....Coney Island.....

Scale.....1:5000..... Date of survey.....  
photographs May 11 , 1935  
May 15 , 1935  
June 25 , 1935

Vessel.....Photo Compilation Party # 25.....

Chief of party.....J.C. Partington.....

Surveyed by.....Field Inspection by J. Rippstein  
Photo Compilation by R.S. Poor & J.C. Partington

Inked by.....R.S. Poor & E.L. Jones.....

Heights in feet above.....to ground to tops of trees

Contour, Approximate contour, Form line interval.....feet

Instructions dated.....March 14....., 1934

Remarks:.....

## STATISTICS

on

AIR PHOTO COMPILATION SHEET, FIELD NO. 95; REGISTER NO. T-5463

PHOTOGRAPH NO.	DATE	TIME	TIDE			
			High		Low	
			Time	Ht.	Time	Ht.
494-504 (876 B-8)	May 11, 1935	2:30 PM	1:45 AM	4.0	8:18 AM	0.6
			2:29 PM	3.9	8:42 PM	1.0
505-512 (876 B-8)	May 15, 1935	9:15 AM	5:08 AM	4.1	11:19 AM	0.3
			5:35 PM	4.9	11:59 PM	0.3
541-544 (876 B-8)	June 25, 1935	9:04 AM	2:27 AM	4.4	8:47 AM	-0.1
			3:08 PM	5.1	9:34 PM	0.3

	By	Date	
		From	To
SCALE FACTOR (1.000)	R.C. Bolstad	(Previously determined)	
PROJECTION	Projection machine	11-21-36	
PROJECTION CHECKED	J.C. Partington <i>J.C.P.</i>	11-24-36	
CONTROL PLOTTED	J.C. Partington <i>J.C.P.</i>	11-27-36	
CONTROL CHECKED	R.S. Poor	11-27-36	
SMOOTH RADIAL LINE PLOT	J.C. Partington <i>J.C.P.</i>	12- 1-36	12- 4-36
RADIAL LINE PLOT CHECKED	R.S. Poor	12- 6-36	12- 7-36
DETAIL INKED	R.S. Poor	12- 9-36	12-14-36
	E.L. Jones	1- 4-37	2-13-37
PRELIMINARY REVIEW OF SHEET	J.C. Partington <i>J.C.P.</i>	2-15-37	2-16-37
AREA OF DETAIL INKED (land area)	4.8	Square Statute Miles	
AREA OF DETAIL INKED (shoals)	0.2	Square Statute Miles	
LENGTH OF SHORELINE (more than 200 M. from opposite shore)	7.3	Statute Mi.	
LENGTH OF SHORELINE (rivers & sloughs less than 200 M. wide)	3.2	Statute Mi.	
LENGTH OF STREETS, ROADS, RAILROADS, TRAILS	97.2	Statute Mi.	

GENERAL LOCATION ~~New York City~~ *Brooklyn*

LOCATION Coney Island

DATUM North American 1927

STATION: Lincoln, 1931, (N.Y.)

Latitude 40° 34' 54.560" = 1683.0 M.

Longitude 73 58 08.506 = 200.1 M.

(Adjusted computations) *J.C.P.*

## COMPILER'S REPORT

for

AIR PHOTO TOPOGRAPHIC SHEET, FIELD NO. 95; REGISTER NO. T-5463.

GENERAL INFORMATION

The Air-photo Field Inspection Report for Metropolitan New York attached to the descriptive report of AIR PHOTO TOPOGRAPHIC SHEET, Field No. 90, Register No. T-5458, furnished the necessary information for the compilation of this sheet.

This sheet has been compiled from single lens photographs listed on page 2 of this report. Photographs numbers 494-504 (876 B-8) were taken on May 11, 1935 at the time of high water. Photographs numbers 505-512 (876 B-8) were taken on May 15, 1935 at approximately 2 hours before low water. Photographs numbers 541-544 (876 B-8) were taken on June 25, 1935 at the time of low water.

The photographs were taken by the U.S. Army Air Corps at Mitchell Field, L.I., N.Y. with a special camera recently developed by the Fairchild Camera Corporation, 62-10 Woodside Ave., Woodside, New York City. Due to the fact that these photographs were among the first to be taken by this camera, mechanical difficulties were encountered which caused considerable trouble at first. This probably accounts for the irregular time interval between exposures which in turn effects the overlap. This is also probably the cause of excessive tilt in some pictures. The camera is known as the "K-7C" by the Army and as the "K-7A" by the Fairchild Corporation.

The Army plane was piloted by Lieut. Cullen at an altitude very close to 15,000 feet; the photographer was Sergeant Cates. A 2 1/4 inch cone (focal length 2 1/4") was used with this camera, producing the negatives on a scale of 1:7,500. Contact prints were furnished the field party for use in field inspection. The original negatives were used by the Washington office of the U.S. Coast and Geodetic Survey for enlarging a set of office prints on a scale of 1:5,000. The 1:5,000 prints were furnished the field party and were used in compiling this sheet.

CONTROL.(a) Sources.

Control for the compilation of this sheet was obtained from the following sources:

1. Triangulation, 1930-33 by R.W. Woodworth (Adjusted).
2. Triangulation, 1932 by C.D. Meaney (Adjusted).
3. Triangulation, 1934 by M.O. Witherbee (Field computations).
4. Triangulation, 1885
5. Triangulation, 1913
6. Triangulation, 1903-08, Greater New York.

The triangulation by Woodworth, Meaney, and Witherbee is given on the N.A. 1927 datum. The other triangulation is given on the N.A. datum and a correction of -12.1 meters was applied to latitude and +3.5 meters to longitude in order to place the positions on N.A. 1927 datum.

(b) Lost Stations

Triangulation station "Steeplechase "A" (U.S.E.D.) 1934 is lost. The field inspection party reports the station lost when this section of the pier was replanked in 1935. (Fld. Photo #512)

*Reported to Geodesy T.M.P. '37*

The H. & T. station "Black Stack, Brickworks, 1934 (d)" located by the party of M.O. Witherbee on topographic sheet No. T6382 was torn down in March, 1935 according to notes by the field inspection party. *Noted in green on T6382 and on the Form 524 card.*

*The concrete base and bolts remain (Fld. Photo #504. back side)*

Neither of the two above stations have been shown on the compilation. *On field print #512 (876 B-8) a dim note says*

(c) Errors. *Δ Bell Tower, Steeple Chase Pier 1934 moved not over 3 ft. The station was left on compilation and a Geodesy advised.*

No errors was found in the position of the triangulation stations.

COMPILATION(a) Method

The usual radial line method of plotting was used in the compilation of this sheet.

(b) Adjustment of Plot.

No great difficulty was encountered in running the radial line plot and no unusual adjustment of the plot was necessary. Photos 505 to 512 were tilted and the radials were drawn from the isocenter on some of these pictures. There is sufficient overlap between successive pictures and between adjacent flights to locate the radial points by three or more intersecting cuts.

Photographs 541 to 544 are very close to scale and show no signs of excessive tilt.

Photographs 505 to 512 were 3 or 4% to small and some pictures showed evidence of excessive tilt.

Photographs 494 to 504 were also 3 to 4% to small but showed no signs of excessive tilt.

(c) Interpretation.

No attempt has been made to show surface street car tracks except on Coney Island at the western edge of this sheet and at the car barns at the head of Coney Island Creek. The tracks at the car barns have been generalized on the compilation. All of the elevated tracks have been shown and are designated on the overlay sheet.

The double full line has been used to show first class roads and streets ( curb to curb); the double dashed line to show second class roads; and the single dashed line to show trails.

An attempt has been made to show all the buildings of any importance along the waterfront, and some of the more prominent inland. The stereoscope has been used freely in determining the shapes of buildings.

The usual graphic symbols were used and no difficulty was experienced in interpreting the photographic detail.

*Wrecks were outlined with solid line if above H.W. and with a dashed outline if above L.W.*

*The dashed line bounding marsh and mud areas is an approximate L.W.L.*

(d) Information from other Sources.

The bridge clearances were taken from the descriptive report of topographic sheet T 6382, combined with data given in U.S.E. bridge book, 1935

Names were taken from charts and maps of this area.

Recoverable H. and T. stations taken from T 6382 and T 6201a

Except as mentioned above all information shown on the compilation was taken from the photographs.

(e) Names.

A list of geographic names shown on this sheet is given on Form M 234 included with this report.

Street names may be obtained from the Map of the City of New York, Board of Estimate and Apportionment. Filed in Air Photo Section

(f) Junctions.

The west end of this compilation joins the east end of compilation T-5462 along the meridian 74° 00' 00" on Coney Island; and along the meridian 73° 59' 30" in Gravesend and the junction is satisfactory.

On the north and east the sheet joins with compilation T-5335. A detailed comparison has not been made since a copy of compilation T-5335 is not available at this field office.

Junction with T-5335 made in office.

Recoverable Objects

There are no additional recoverable H. & T. stations from those submitted with the topographic sheets by the party of M. O. Witherbee in 1934.

Forms 524 for described stations on this sheet filed under T 6382 and T 6201a

The H. & T. station "Black Stack, Brickworks, 1934 (d)" has been destroyed as stated on page 4.

(a) Errors.

The following comparison between the positions of Recoverable H. & T. Stations (described) is made between the topographic location and the radial plot location.

## ✓ Tall Flag Pole, 1934 (d)

Radial Plot position	Card Form 524 position	T 6382
40° 34' 762.2 M	40° 34' 764.7 M	
73° 58' 388.2 M	73° 58' 392 M	

## ✓ Gray Metal Pent. Ho. on S.E. Cor. Apt., 1934 (d)

Radial Plot position	Card Form 524 position	T 6382
40° 34' 975.8 M	40° 34' 968 M	
73° 58' 255.3 M	73° 58' 254 M	

check  
radial  
plot

(a) Errors. (continued)✓ Fire House Tower, 1934 (d) *difference*

Radial Plot position			Card Form 524 position T6382		
40° 34'	1218.2 M	3	40° 34'	1215 M	
73° 59'	858.2 M	2.2	73° 59'	861.4 M	

## ✓ Black Stack ( C.I. Laundry) 1934, (d)

Radial Plot position			Card Form 524 position T6382		
40° 34'	1276.9 M	4	40° 34'	1281 M	
73° 59'	504.8 M	2.4	73° 59'	502.4 M	

## ✓ Square Chimney, 1934 (d)

Radial Plot position			Card Form 524 position T6382		
40° 34'	1289.1 M	1	40° 34'	1288 M	
73° 59'	400.1 M	3	73° 59'	397 M	

The back distance in longitude is listed on card form 524 100 meters in error and should be corrected in the Washington Office. *Corrected, T.M.P.*

## ✓ Yellow Chy. (Dye Works ) 1934, (d)

40° 34'	1363.1 M	1	40° 34'	1364 M	
73° 59'	626.7 M	2	73° 59'	625 M	

T6382

## ✓ Yellow Chimney, 1934 (d)

Radial Plot position			Card Form 524 position T6382		
40° 34'	624.0 M	1	40° 34'	623 M	
73° 59'	599.5 M	3.5	73° 59'	603 M	

## Tin Smokestack, 1934 (d) → A L (d)

Radial Plot position			<u>Back 524. T. 6. 201. 2</u>		
40° 34'	1024.0 M	3.0 2.2	40 - 34 -	1024.8	
73° 56'	790.8 M	2.7 3.2	No planetable position available at field office.		
			73 - 56 -	793.5	

It is recommended that the radial plot position of the above Recoverable H.&T. Stations be used for the following reasons:

1. Planetable positions of H. & T. stations were located by traverse methods (see descriptive report of sheet T6382). This tends to show that the topographer could not make use of the strong control back from the shore line, which formed rigid control for the radial plot.



(a) Errors (continued)

2. The radial plot position was determined by three "cuts" and in most cases four "cuts" giving a strong angle of intersection.

*The positions of the rec. Hat stations shown on the compilation are according to the radial plot positions.*  
COMPARISON WITH OTHER SURVEYS *Radial Plot position noted on Form 524 cards T.M.P. filed under plane table survey numbers and reference made in green on plane table sheets.*

This sheet has been compared with topographic survey No. T 6382, surveyed on a scale of 1/10000 by the party of M.O. Witherbee in 1934, and affords a comparison of the western two-thirds of the air-photo compilation. A bromide enlargement on a scale of 1/5000 was used in making the comparison.

*G.C. 51 T 6 201a, (1934) 1:10,000 compared in office review. (covers eastern portion)*

No comparison has been made with previous topographic surveys east of longitude 73° 57.4' (vicinity of Sheepshead Bay).

Numerous differences in the location of the high water was noted. These differences are probably due to differences in interpreting the high water line between the topographic and field inspection party. The field inspection interpretation has been used in drawing the shoreline on the compilation. The largest difference (27 meters) was noted in the comparison of the high water lines on the flat sand beach to the north of the mouth of Coney Island Creek. *Compilation correct.*

A difference of 10 meters was noted in the comparison of the two wrecks shown on topographic sheet No. T 6382 that falls on this compilation. *Compilation correct.*

COMPARISON WITH CHARTS

No direct comparison was made between the compilation and chart 369 since this chart is on 1/40000 scale. However a visual comparison shows marked differences in the shoreline to the north of the mouth of Coney Island Creek.

LANDMARKS

The landmarks within the area of this compilation are shown on chart 369. They are all in existence and should be charted.

No additional landmarks are recommended.

RECOMMENDATIONS FOR FURTHER SURVEYS

This sheet is believed to be complete in all detail, of importance for charting and no further surveys are required. The probable error of the high water line to the north of the mouth of Coney Island Creek between the latitudes 40° 34.8' to 40° 35.1' is believed to be within 5 meters. The shoreline here is a flat sand beach with an indefinite high water line, also, the enlargement of the photo upon which the field inspection was made is badly out of scale. The photograph of this area (No. 502) was taken at high water.

Except as stated above the probable error on this sheet is not greater than 2 meters in position of well defined objects along the waterfront and not greater than 5 meters for other detail.

Respectfully submitted,

*Edmund L. Jones*

Edmund L. Jones  
Aid, U.S.C. & G.S.

Approved:

*J.C. Partington*  
J.C. Partington  
Chief of Party

## Remarks

## Decisions

1		see T- 6382
2		see T- 6382
3		USGB decision
4		see T- 6382
5	The settlement north side of Bay takes its name from the Bay	
6		
7		
8		Settlement & Beach
9	on local NYC Maps	
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		

# GEOGRAPHIC NAMES

Survey No. T-5463

GEOGRAPHIC NAMES											
Survey No. T-5463											
Name on Survey	On Chart No. 369										
	A	B	C	D	E	F	G	H	K		
		On previous survey No. T-6382									
		On U. S. quadrangle Brooklyn Maps Q 4441									
		From local inspection of Board of Estimate & Information on local Maps									
		P. O. Guide or Map									
		Rand McNally Atlas									
		U. S. Light List									
		U. S. C. & G. S. Chart									
✓ <u>Gravesend</u>	x		x							1	
✓ <u>Gravesend Bay</u>	x	x			x					2	
✓ <u>Coney Island</u>	x	x	x							3	
✓ <u>Coney Island Creek</u>	x	x	x							4	
✓ <u>Sheepshead Bay</u>	x		x		x			x		5	
✓ <u>Seaside Park</u>				x	x					6	
✓ <u>Rockaway Inlet</u>	x		x		x					7	
✓ <u>Manhattan Beach</u>	542		x						x R281	8	
✓ <u>Brighton Beach</u>			x				x			9	
										10	
										11	
										12	
										13	
										14	
										15	
										16	
										17	
										18	
										19	
										20	
										21	
										22	
										23	
										24	
Names underlined in red approved											25
by <u>GHE</u> on <u>7/1/37</u>											26
										27	
										28	

M 234

## PLANE COORDINATE GRID SYSTEM

Positions of grid intersections used for fitting the grid to this compilation were computed by Division of Geodesy and the computation forms are included in this report.

Positions plotted by R. E. Ask

Positions checked by R. E. Ask

Grid inked on machine by R. E. Ask

Intersections inked by \_\_\_\_\_

Points used for plotting grid:

x 2,018,000 ft.  
y 126,000

x 2,002,000 } computation for  
y 126,000 } this point is in  
Des. Report 5462

x 2,018,000  
y 138,000

x  
y

x 2,002,000  
y 138,000

x  
y

x 2,010,000  
y 132,000

x  
y

Triangulation stations used for checking grid:

$x = 2,008,602.99$   $y = 129,810.80$

- |   |  |
|---|--|
| 1. <u>Ref. Sta. Lincoln 1931</u>        | 5. <u>74° Meridian also used</u>           |
| <u>Sheepshead Bay, St. Marks Church</u> | <u>as check <math>x = 2,000,000</math></u> |
| 2. <u>Tall Tower 1930</u>               | 6. _____                                   |
| <u>Half Moon Hotel, _____</u>           | 7. _____                                   |
| 3. <u>Tall Tower 1930</u>               | 8. _____                                   |
| <u>Section Stone 3</u>                  |  |
| 4. <u>Ocean Parkway Base 1904</u>       |  |

7-5463

## Plane coordinates on Lambert projection

State L. Island Station \_\_\_\_\_ $\phi = 40^{\circ} 34' 16.8529''$   $\lambda = 73^{\circ} 56' 06.7582''$  (31.8° mm)Tabular difference of R for 1" of  $\phi = 101.19967$ 

R (for min. of $\phi$ )		<u>24,338,257.47</u>	$y'$ (for min. of $\phi$ )		<u>124,287.83</u>
Cor. for sec. of $\phi$		- <u>1705.51</u>	Cor. for sec. of $\phi$		+ <u>1705.51</u>
R		<u>24,336,551.96</u>	$y'$		<u>125,993.34</u>
			$y'' (= 2R \sin^2 \frac{\theta}{2})$		+ <u>6.66</u>
$\theta$ (for min. of $\lambda$ )		+ <u>2' 36.97970</u>	$y$		<u>126,000</u>
Cor. for sec. of $\lambda$		- <u>4.42042</u>			
$\theta$		+ <u>2 32.55928</u>	$\frac{\theta}{2}$		
$\theta''$	For machine computation	+ <u>152".55928</u>		For machine computation	
			$\log \theta''$		<u>2.18344</u>
$\log \theta''$		<u>2.18343863</u>	$\log 2$		<u>9.69897000</u>
S for $\theta$		<u>4.68557483</u>	S for $\frac{\theta}{2}$		<u>4.68557</u>
$\log \sin \theta$	$\sin \theta$		$\log \sin \frac{\theta}{2}$	$\sin \frac{\theta}{2}$	<u>6.56798</u>
$\log R$		<u>7.38625905</u>	$R \sin \frac{\theta}{2}$		
$\log x'$		<u>4.25527251</u>	$\log \sin^2 \frac{\theta}{2}$	$R \sin^2 \frac{\theta}{2}$	<u>3.13596</u>
$x'$	$R \sin \theta$	+ <u>18,000.00</u>	$\log R$		<u>7.38626</u>
		<u>2,000,000.00</u>	$\log 2$		<u>0.30103000</u>
$x$		<u>2,018,000.00</u>	$\log y''$		<u>0.82325</u>

$$x = 2,000,000.00 + R \sin \theta$$

$$y = y' + 2R \sin^2 \frac{\theta}{2}$$

$y'$  = the value of  $y$  on the central meridian for the latitude of the station

S = log of ratio for reducing arc expressed in seconds to sine

(see log tables)

R,  $y'$ , and  $\theta$  are given in special tables

## Plane coordinates on Lambert projection

State L. Island Station \_\_\_\_\_

$\phi = 40^{\circ} 36' 15.4303$   $\lambda = 73^{\circ} 56' 06.6431$

Tabular difference of R for 1" of  $\phi = 101.19983$

$\phi = 95.19$  mm  $\lambda = 31.24$  mm

R (for min. of $\phi$ )	24,326,113.50	y' (for min. of $\phi$ )	136,431.80
Cor. for sec. of $\phi$	- 1 561.54	Cor. for sec. of $\phi$	+ 1 561.54
R	24,324,551.96	y'	137,993.34
		y'' (= $2R \sin^2 \frac{\theta}{2}$ )	+ 6.66
$\theta$ (for min. of $\lambda$ )	+ $2^{\circ} 36' 97.970$	y	138,000.00
Cor. for sec. of $\lambda$	- 4.34513		
$\theta$	+ $2^{\circ} 32' 63.457$	$\frac{\theta}{2}$	
$\theta''$	For machine computation 152.63457	$\frac{\theta}{2}$	For machine computation
		log $\theta''$	2.18365
log $\theta''$	2.18365291	colog 2	9.69897000
S for $\theta$	4.68557483	S for $\frac{\theta}{2}$	4.68557
log sin $\theta$	sin $\theta$	log sin $\frac{\theta}{2}$	sin $\frac{\theta}{2}$ 6.56819
log R	7.38604485	R sin $\frac{\theta}{2}$	
log x'	4.25527259	log sin <sup>2</sup> $\frac{\theta}{2}$	R sin <sup>2</sup> $\frac{\theta}{2}$ 3.13638
x'	R sin $\theta$ 18,000.08	log R	7.38604
	2,000,000.00	log 2	0.30103000
x	2,018,000	log y''	0.82345

$$x = 2,000,000.00 + R \sin \theta$$

$$y = y' + 2R \sin^2 \frac{\theta}{2}$$

y' = the value of y on the central meridian for the latitude of the station

S = log of ratio for reducing arc expressed in seconds to sine

(see log tables)

R, y', and  $\theta$  are given in special tables

## Plane coordinates on Lambert projection

State Ireland Station \_\_\_\_\_ $\phi = 40^{\circ} 36' 15.4953$   $\lambda = 73^{\circ} 59' 34.0715$ Tabular difference of R for 1" of  $\phi = 101.19983$  $\phi = 95.59$  mm.  $\lambda = 19.14$  mm.

R (for min. of $\phi$ )	24,326,113.50	y' (for min. of $\phi$ )	136,431.80
Cor. for sec. of $\phi$	- 1 568.12	Cor. for sec. of $\phi$	+ 1 568.12
R	24,324,545.38	y'	137,999.92
		y'' (= $2R \sin^2 \frac{\theta}{2}$ )	+ .08
$\theta$ (for min. of $\lambda$ )	+ 0 39.24493	y	138,000
Cor. for sec. of $\lambda$	- 22.28556		" " "
$\theta$	+ 16.95937	$\frac{\theta}{2}$	
$\theta''$	For machine computation	$\frac{\theta}{2}$	For machine computation
		log $\theta''$	1.2294
log $\theta''$	1.22940971	colog 2	9.69897000
S for $\theta$	4.68557487	S for $\frac{\theta}{2}$	4.6856
log sin $\theta$	sin $\theta$	log sin $\frac{\theta}{2}$	5.6140
log R	7.38604473	R sin $\frac{\theta}{2}$	
log x'	3.30102931	log sin <sup>2</sup> $\frac{\theta}{2}$	1.2280
x'	R sin $\theta$	log R	7.3860
	+ 2,000.00	log 2	0.30103000
	2,000,000.00	log y''	8.9150
x	2,002,000		

$$x = 2,000,000.00 + R \sin \theta$$

$$y = y' + 2R \sin^2 \frac{\theta}{2}$$

y' = the value of y on the central meridian for the latitude of the station

S = log of ratio for reducing angles expressed in seconds to sine  
(see log tables)

R, y', and  $\theta$  are given in special tables



## Plane coordinates on Lambert projection

State L. Island Station \_\_\_\_\_ $\phi = 40^{\circ} 35' 16.1872''$   $\lambda = 73^{\circ} 57' 50.3892''$ Tabular difference of R for 1" of  $\phi = 101.19983$  $\phi = 99.86$  mm.  $\lambda = 95.90$  mm

R (for min. of $\phi$ )		24,332,185.49	$y'$ (for min. of $\phi$ )		130,359.81
Cor. for sec. of $\phi$		- 1,638.14	Cor. for sec. of $\phi$		+ 1,638.14
R		24,330,547.35	$y'$		131,997.95
			$y'' (= 2R \sin^2 \frac{\theta}{2})$		+ 2.05
$\theta$ (for min. of $\lambda$ )		+ $^{\circ} 1' 57.73478''$	$y$		132,000.00
Cor. for sec. of $\lambda$		- 32.95867			
$\theta$		+ 1 24.77611	$\frac{\theta}{2}$		
$\theta''$	For machine computation	84'		For machine computation	
			log $\theta''$		1.9283
log $\theta''$		1.92827348	colog 2		9.69897000
S for $\theta$		4.68557485	S for $\frac{\theta}{2}$		4.6856
log sin $\theta$	sin $\theta$		log sin $\frac{\theta}{2}$	sin $\frac{\theta}{2}$	6.3128
log R		7.38615188		R sin $\frac{\theta}{2}$	
log $x'$		4.00000021	log sin <sup>2</sup> $\frac{\theta}{2}$	R sin <sup>2</sup> $\frac{\theta}{2}$	2.6256
$x'$	R sin $\theta$	10,000.00	log R		7.3862
		2,000,000.00	log 2		0.30103000
x		2,010,000	log $y''$		0.3128

$$x = 2,000,000.00 + R \sin \theta$$

$$y = y' + 2R \sin^2 \frac{\theta}{2}$$

$y'$  = the value of  $y$  on the central meridian for the latitude of the station

S = log of ratio for reducing arc expressed in seconds to sine

(see log tables)

R,  $y'$ , and  $\theta$  are given in special tables

PLANE COORDINATES ON LAMBERT PROJECTION

State L. Island Station Lincoln 1931  
 $\phi = 40^{\circ} 34' 54.560''$   $\lambda = 73^{\circ} 58' 08.506''$   
 Tabular difference of  $R$  for  $1''$  of  $\phi = 101.19967$

$R$ (for min. of $\phi$ )		<u>24,338,257.47</u>	$y'$ (for min. of $\phi$ )		<u>124,287.83</u>
Cor. for sec. of $\phi$		<u>- 5,521.45</u>	Cor. for sec. of $\phi$		<u>+ 5,521.45</u>
$R$		<u>24,332,736.02</u>	$y'$		<u>129,809.28</u>
			$y'' (= 2R \sin^2 \frac{\phi}{2})$		<u>+ 1.52</u>
$\theta$ (for min. of $\lambda$ )		<u>+ 0^{\circ} 01' 18.48985''</u>	$y$		<u>129,810.80</u>
Cor. for sec. of $\lambda$		<u>- 5.56362</u>			
$\theta$		<u>+ 1' 12.92623''</u>	$\frac{\theta}{2}$		<u>0' 36.463115''</u>
$\theta''$	For machine computation			For machine computation	
			log $\theta''$		
log $\theta''$			colog 2		<u>9.69897000</u>
$S$ for $\theta$			$S$ for $\frac{\theta}{2}$		
log sin $\theta$	sin $\theta$	<u>0.0003535563</u>	log sin $\frac{\theta}{2}$	sin $\frac{\theta}{2}$	<u>0.0001767782</u>
log $R$				$R \sin \frac{\theta}{2}$	<u>4,301.497</u>
log $x'$			log sin <sup>2</sup> $\frac{\theta}{2}$	$R \sin^2 \frac{\theta}{2}$	<u>0.760</u>
$x'$	$-R \sin \theta$	<u>+ 8,602.99</u>	log $R$	$2 R \sin^2 \frac{\theta}{2}$	
		<u>2,000,000.00</u>	log 2		<u>0.30103000</u>
$x$		<u>2,008,602.99</u>	log $y''$		

$$x = 2,000,000.00 + R \sin \theta.$$

$$y = y' + 2R \sin^2 \frac{\theta}{2}.$$

$y'$  = the value of  $y$  on the central meridian for the latitude of the station.

$S$  = log of ratio for reducing arc expressed in seconds to sine.

(See log tables.)

$R$ ,  $y'$ , and  $\theta$  are given in special tables.

## REVIEW OF AIR PHOTO COMPILATION T-5463

### Data Record

Triangulation to 1934  
Recoverable Stations of less than 3rd order accuracy to 1934  
Photographs to May and June 1935  
Planetable topographic surveys to August and September 1934  
Field inspection to spring of 1935

The field inspection was for the interpretation of the photographs. Except for recoverable hydrographic and topographic stations taken from 1934 planetable surveys, the detail of this compilation is of the date of the photographs.

### Comparison with Recent Graphic Control Surveys.

~~and~~ <sup>b.t</sup> The following recent surveys are filed as topographic surveys and have been treated as graphic control surveys in this review:

T-6382 (1934), 1:10,000  
T-6201a (1934), 1:10,000

#### T-6382.

(1) Lat. 40°35' long. 73°59.7'. The wooden breakwaters extend 125m. further offshore on the compilation. The dashed line on T-6382 which represents the low water line of the marsh and sand flats does not agree with the low water line seen on the low water photos. The approximate low water is limited by sanding on the compilation. The compilation should be accepted as correct.

(2) Lat. 40°34.5' long. 73°57.3'. Two rock groins extend 40 to 100 meters further inshore on the G. C. sheet than on the compilation. These are fences and should not be shown as groins. The compilation is correct.

(3) The Descriptive Report of T-5463 (this compilation) on pages 6 and 7 discusses additional differences between the compilation on the graphic control survey, including discrepancies in the location of topographic stations.

The compilation was checked for these differences and found to be correct.

#### T-6201a.

(1) Lat. 40°34.5' long. 73°56.8', a floating diving platform shown by the G. C. survey is not shown on compilation because of its temporary nature.

(2) Various differences in position of shoreline and piers of 6 to 14 meters, have been checked and the compilation found correct.

General 6201a and 6382.

(1) These planetable sheets have been carefully compared with the compilation, the photographs, and recent hydrographic sheets. In general the field inspection is adequate and the photographs show the detail clearly. The compilation has been corrected against the above sources of information and in case of any differences between the planetable sheets and the compilation, the latter should now be taken as correct.

(2) This compilation is on a scale of 1:5,000 where as the planetable surveys are on a scale of 1:10,000.

(3) All detail on T-6201a and 6382 within the area of the compilation is now shown on the compilation except:

(a) Detail proved in error or no longer existing as discussed above.

(b) Buoys.

(c) Temporary topographic stations.

Comparison with Previous Topographic Surveys.

Except for those surveys treated above as graphic control surveys, the following list gives the previous topographic surveys in the area covered by the compilation:

T-4 (1835)	1:20,000	T-2601 (1902)	1:10,000
T-5 (1835)	1:10,000	T-2871 (1908)	1:10,000
T-586 (1885-6)	1:10,000	T-3477 (1914)	1:10,000
T-1456 (1878)	1:5,000	H-4086 (1919)	1:10,000
T-1592 (1885)	1:5,000	T-4407 (1928)	1:10,000
H-1834 (1888)	1:10,000		

Because of the many changes to be expected in an area of this character since the above surveys were made, only a general comparison was made between the above surveys and the compilation, except for T-4407 with which a detailed comparison was made.

This compilation is adequate to supersede the portions of the former topographic surveys which it covers.

Comparison with Recent Hydrographic Surveys.

H-5734 (1934) 1:10,000  
H-5736 (1934) 1:10,000

The shoreline of the above hydrographic control surveys was taken from the recent graphic control surveys and therefore differs with this compilation in the same particulars as discussed under the graphic control survey comparison. The differences are of minor importance and have not been corrected on the hydrographic surveys which have been completed and applied to the charts.

#### H-5736.

(1) It is noted that the "sunken wreck" symbol was used to designate wrecks ~~here~~ <sup>bare</sup> 3' to 4' at M. L. W.

(2) Lat.  $40^{\circ}34.8'$  long.  $73^{\circ}59.5'$ . A wreck shown ~~here~~ <sup>bare</sup> 4' M. L. W. does not show on photos taken at low water. Nearby there are wrecks which appear on the photos not indicated on the hydrographic sheet. Because the wreck on this hydrographic sheet was not located by fixed positions it is recommended that the compilation representation for wrecks at this place be taken as correct.

#### Comparison with Charts.

Because the current large scale charts of this area were prepared largely from the 1934 topographic and hydrographic surveys, the differences discussed in connection with those surveys apply also to the charts. Other differences are as follows:

#### Chart 369 (Edition 4/17/37).

(1) The railway track running between Lat.  $40^{\circ}35.1'$  long.  $73^{\circ}58.8'$  and lat.  $40^{\circ}34.5'$  long.  $73^{\circ}58.8'$  is gone.

(2) The "I" in the legend "Coney I. Cr." is so placed that it appears as a pier of obstruction in the creek.

#### Chart 542 (Edition 10/29/34).

(1) Sheepshead Bay Beacon is plotted 15 m. too far south.

(2) Other differences summarized in chart section which accompanies this review.

#### Remarks.

(1) Landmarks and aids to navigation.

(a) Sheepshead Bay Beacon (lighted), located in 1933 by triangulation, was rebuilt in 1934. It was rebuilt in its former position.

(b) Manhattan<sup>a</sup> Beach Light and Triangulation Station Inlet 1931 are too close to each other to indicate separately on the scale of this compilation.

(2) Accuracy.

~~This~~<sup>The</sup> statement of accuracy given in the report appears correct.

(3) General.

(a) There have been a number of minor changes made on this sheet upon review. The most important are:

Wings added to each side of Steeple Chase pier at out end.

Several piles and dolphins added in Sheepshead Bay and Coney Island Creek.

Line of piles of Breakwater north of Coney Island Creek extended 50 m. Sanding added between line of piles to indicate approximate low water line.

Wreck at lat. 40°35' long. 73°55.9' changed from above High Water to above Low Water. No exact heights are available for this wreck. Its present representation is due to its appearance on photos taken two hours before low water.

(b) The extreme N. E. portion of this sheet was transferred in the Washington office from an adjoining compilation. The latter compilation has been discarded.

The eastern portion of T-5463 (this compilation) is also included on compilation T-5335, scale 1:10,000.

(4) Bridges.

The bridge data as given in the descriptive report of T-6382 has been revised in its application to this compilation to agree with the U. S. E. 1935 bridge book where the photographs support the latter source.

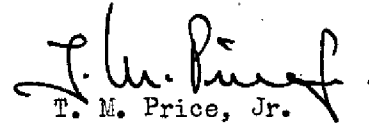
Additional Work.

This survey is complete and adequate for chart compilation except for the location of submerged pipe lines and cable crossings.

It is suggested that when the next survey is made in this vicinity, the following minor items, not definitely established by this survey, receive attention:

- (1) Lat. 40°35' long. 73°55.9'. Determine height of wreck.
- (2) Lat. 40°35' long. 73°59.7'. Determine the exact offshore limit of the piles of the breakwater.

(3) Triangulation Station Bell Tower, Steeple Chase Pier,  
1934. Check on uncertain report that station has been moved  
a few feet by rebuilding in 1934 or 1935.

  
T. M. Price, Jr.

August 2, 1937.

REVIEW OF AIR PHOTO COMPILATION NO. T-5463

Chief of Party: J.C.Partington

Compiled by: R.S.Poor, E.L. Jones, J.C.Partington.

Project: HT-175

Instructions dated: March 14, 1934

1. The charts of this area have been examined and topographic information necessary to bring the charts up to date is shown on this compilation. (Par. 16a, b,c,d,e,g and i; 26; and 64)

*Yes.*

2. Change in position, or non-existence of wharfs, lights, and other topographic detail of particular importance to navigation which affect the chart, is discussed in the descriptive report. (Par. 26; and 66 g,n)

*Yes.*

3. Ground surveys by plane table, sextant, or theodolite have been used to supplement the photographic plot where necessary to obtain complete information, and all such surveys are discussed in the descriptive report. (Par. 65; and 66 d,e)

*No ground surveys used to supplement plot.*

4. Blue-prints and maps from other sources which were transmitted by the field party contain sufficient control for their application to the charts. (Par. 28)

*No blue-prints or maps transmitted.*

*Map showing street names is filed in Air Photo Section.*

5. Differences between this compilation and contemporary plane table and hydrographic surveys have been examined and rectified in the field before forwarding the compilations to the office and are discussed in the descriptive report. — and in review.

*Compilation compared with T-6382.*

6. The control and adjustment of the photo plot are discussed in the descriptive report. Unusual or large adjustments are discussed in detail and limits of the area affected are stated. (Par. 12b; 44; and 66 c,h,i)

*Yes.*

7. High water line on marshy and mangrove coast is clear and adequate for chart compilation. (Par. 16a, 43, and 44)

*Yes.*

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Refer also to the pamphlet "Notes on the Compilation of Planimetric Line Maps from Five Lens Air Photographs."



8. The representation of low water lines, reefs, coral reefs and ~~reefs, and legends~~ pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41)

*Yes. No l.w.l. shown. The dashed line bounding mud and marsh is approximately the l.w.l.*

9. Recoverable objects have been located and described on Form 524 in accordance with circular 30, 1933, circular letter of March 3, 1933, and circular 31, 1934. (Par. 29, 30, and 57)

*No recoverable objects in addition to those on T 6382 submitted. - 1 from T 6201a also*

10. A list of landmarks was furnished on Form 567 and instructions in the Director's letter of July 16, 1934, Landmarks for Charts, complied with. (Par. 16d, e; and 60)

*No additional landmarks submitted.*

11. All bridges shown on the compilation are accompanied by a note stating whether fixed or draw, clearance, and width of draw if a draw bridge. Additional information of importance to navigation is given in the descriptive report. (Par. 16c)

*Yes.*

12. Geographic names are shown on the overlay tracing. The accepted local usage of new names has been determined and they are listed in the report, together with a general statement as to source of information and a specific statement when advisable. Complete discussion of place names differing from the charts and from the U. S. G. S. Quadrangles is given in the descriptive report, together with reasons for recommendations made. (Par. 64, and 66k)

*Yes.*

13. The geographic datum of the compilation is *N.A. 1927* and the reference station is correctly noted.

*Yes.*

14. Junctions with adjoining compilations have been examined and are in agreement. (Par. 66j)

*Junction with T-5462. only. Junction with T-5335 made in office.*

15. The drafting is satisfactory and particular attention has been given the following:

1. Standard symbols authorized by the Board of Surveys and Maps have been used throughout except as noted in the report. ✓
2. The degrees and minutes of Latitude and Longitude are correctly marked. ✓

3. All station points are exactly marked by fine black dots. ✓
4. Closely spaced lines are drawn sharp and clear for printing. ✓
5. Topographic symbols for similar features are of uniform weight. ✓
6. All drawing has been retouched where partially rubbed off. ✓
7. Buildings are drawn with clear straight lines and square corners where such is the case on the ground. ✓

(Par. 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48) ✓

16. No additional surveying is recommended at this time. ✓

17. Remarks:

18. Examined and approved;

*J. C. Partington*  
Chief of Party

19. Remarks after review in office:

*Lines are gray. Will not reproduce well unless extensively redrafted to strengthen T.M.P.*

Reviewed in office by:

*T.M. Price*  
*July 31, 1937* *pggones*

Examined and approved:

*John A. Bond*  
acting Chief, Section of Field Records  
*L. O. Solbert*  
Chief, Division of Charts

*Fred. L. Peacock*  
Chief, Section of Field Work  
*W. H. Hilde*  
Chief, Division of Hydrography and Topography.

