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Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

U. S. COAST & GEODETIC SURVEY
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MAR 6 1931

State: Florida

Acc. No.

DESCRIPTIVE REPORT

PHOTO

Topographic

~~Hydrographic~~

Sheet No. 4552

LOCALITY

Florida East Coast

Halifax Beach to Holly Hill

Halifax Creek to Ormond

1923

CHIEF OF PARTY

O. S. Reading

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4552

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. _____

REGISTER NO. 4552

State Florida

General locality East Coast

Locality ~~Halifax Beach to Holly Hill~~ Halifax Creek to Ormond

Scale 1:20,000 Date of survey April 30, 1928

Vessel Army Air Corps Loening Amphibian Airplane

Chief of Party O. S. Reading

Surveyed by R. C. Bolstad

Inked by R. C. Bolstad

Heights in feet above _____ to ground to tops of trees

Contour, Approximate contour, Form line interval _____ feet

Instructions dated (Control and compilation) June 6, 1929

Remarks: Compilation of four-lens air photographs Nos. 738-755.

Reduced to 1:20,000 and printed by photolithographic process

in Printing Section.

G P O

APPROVED

K. T. Adams
FIELD RECORDS (C)

L. O. Bolstad
Chief, Division of Charts

J. S. Borden
Chief, Section Field Work

G. H. de
Chief, Div. of Hyd'y and Top'y

Descriptive Report to Accompany
Air Photo Topographic Sheet.

No. 4552 - Halifax Beach to Holly Hill.

This sheet is a compilation of a single strip of four lens air photographs taken by the Army Air Corps camera No. 26-1 in 1928. Photograph No. 738, which defines the northern boundary of this sheet, was taken at 9:25 A.M., April 30, and the southern limit of this sheet was reached with photo No. 755 about 9:30 A.M., of the same day, which is approximately an hour and a half before a minus low tide in the vicinity of Daytona Beach as obtained from the predicted tide tables.

A Loening Amphibian plane was piloted by Lieutenant J. A. Dexter at an approximate height of 9,300 feet, giving an average scale of about 1:18,600 (scale factor = 1.075) to the photographs.

LIMITS. The area of this sheet is covered by a single strip about three and one-half miles inland from the sea coast. Halifax Beach defines the northern extremity along the coast and National Gardens the inshore limit. The sheet extends to the southward including the city of Ormond and terminating at Holly Hill.

The south end of this sheet joins with air photo topographic sheet No. 4553, photograph No. 754 and the north boundary with photos Nos. 738 to 742.

The irregular northern boundary was made necessary because of the poor control in this vicinity and inasmuch as the photographs begin at this locality and extend southward along the Florida east coast, it was thought advisable to hold the northern limits of this sheet down to the area having control (see paragraph on CONTROL) and future photographic surveys could overlap so as to give sufficient sheet junction.

CONTROL. The coast line of this sheet was controlled by topographic sheets Nos. 4066 and 4067 (1924) and supplemented by topographic sheets Nos. 1343 (1874), and 1298 (1873), for the inshore area. In addition, two roads extending in an approximate east and west direction were traversed with a steel tape. A theodolite was set up at the intersection of the road and railroad and solar azimuths determined. All turning points, azimuth stations, plusses to crossroads, trails, etc., are shown by small red circles.

At the northern end of this sheet the control was made in the inshore area and it was necessary to use the railroad traverse in order to properly tie in the traversed road at National Gardens. The solar

azimuth of the railroad as determined in the field failed to agree with the azimuth as given by the railroad data. At Ormond this difference amounts to twenty-three minutes, and at National Gardens, twelve minutes; in both cases the solar azimuth (from the south) was less than the azimuth as given by the railroad data. The solar azimuths were used at the two tangents on which they occur and an adjustment of the azimuths of the other two tangents between these was made. The railroad traverse was then plotted on the sheet and with the plus to the traversed road at National Gardens the road traverse was then properly oriented and plotted.

On the old topographic sheet of 1873 (No. 1298), in the vicinity of Esperanza and Tomoka, two points (shown by small blue circles) were used as supplementary control. The point near Tomoka which was the intersection of two streams on topographic sheet 1298, was identified on the photographs as the intersection of now a ditch and the stream. The point did not agree very closely with the radial plot and it is thought that positive identification of this point on the photographs was uncertain. Near Esperanza the mouth of a stream was used as the supplementary point together with the old shoreline near the station and the radial plot agrees with this and required no adjustment in order to tie into Oso at the north end of this sheet.

COMPILATION. A projection was laid on the celluloid sheet to the average scale of the photographs (1:18,600) as determined by a preliminary radial plot, and the triangulation and control traverses were then plotted. Photostats of topographic sheets Nos. 1298, 1343, 4066 and 4067 were then made to this scale. Sheets Nos. 1298 and 1343 were traced on the celluloid in blue and topographic sheets Nos. 4066 and 4067 traced on in light green. A radial line graphic traverse was then plotted holding to the control station, traverses and general trend of the old topography where not in conflict with the radial plot.

The Sanborn map of the town of Ormond was used in conjunction with the photographs for the street system. Only such streets as were verified by the photographs were shown on this sheet.

This sheet was prepared from two photographic negatives and no attempt was made to make a junction between the two negative plates.

DIFFERENCES FROM FORMER TOPOGRAPHY. No differences in the coast line of the air photo topographic sheet from the 1924 topographic sheets (Nos. 4066 and 4067) were noted. There are several differences in the portion of the roads running back from the beach and in some cases no road was visible in the photographs where shown by topographic sheet No. 4067. The positions of some of the houses on this sheet were displaced somewhat from topographic sheet 4067; where the houses could not be readily noted on the photographs they were not shown.

There is a difference in the position of Tomoka Creek as shown on the topographic sheets of 1873 and 1874 (sheets Nos. 1298 and 1343). It is believed that this error in the old sheets was brought about in running a plane table traverse from the old triangulation station Oswald around the point to the north and up Tomoka Creek as the general design of the creek agrees very well with the photographs. There is a dense growth of pine, oak and brush between this triangulation station and the creek so that a direct rod reading was evidently not obtainable and in running the traverse an error in the orientation was made at the point to the north of the station. This change in the shoreline on the west side of Halifax River is in evidence as far north as the old triangulation station Esperanza (not recovered).

A channel has been dredged through the marsh on the east side of the Halifax River near latitude 29°-22'.

At the north end of this sheet there is a difference in the position of the Halifax River from the 1873 sheet (No. 1298), probably due to an erroneous rod reading.

The marsh limits as shown on the old sheets agree very well with the photographs but the roads fail to do so and in most cases no trace of these old roads or trails were found in the photographs.

NAMES. The names appearing on this sheet are those appearing on charts Nos. 3258 and 1244 and the State Highway map of this vicinity.

SYMBOLS. The standard topographic symbols were used together with the following special symbols in order to bring out the topographic character of the locality:-

A single full line was used for a ditch; a double full line for all improved, graded and paved highways, and streets; a double dashed line for all unimproved but graded roads, and a single dashed line for trails.

The culture was noted on the photographs from the principal highways and the roads traversed during a limited field inspection. At inaccessible places the culture was interpreted in the office from the similarity noted to that obtained from the field inspection.

The buildings along the sea coast were shown where they could be identified by the aid of the stereoscope, but only the principal buildings were shown (such as post offices, railway stations, etc), in the inshore area.

Respectfully submitted,

Approved:

O. S. Reading
O. S. Reading,

Chief of Party, C. & G. Survey.

Roswell C. Bolstad
Roswell C. Bolstad,
Jr. H. & G. Engr.,
Coast & Geodetic Survey.