

5591

Diag. Cht. No. 6380.

Form 504

U. S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Topographic

Field No. Ph-26(47) Office No. T-5591 N&S.

LOCALITY

State Washington

General locality San Juan Island

Locality Friday Harbor

1949-54

CHIEF OF PARTY

C.W.Clark, Chief of Field Party
H.A.Paton, Baltimore Photo. Office

LIBRARY & ARCHIVES

DATE July 26, 1962

USCOMM-DC 5087

5591

DATA RECORD

T-5591

Project No. (II): Ph-26(47) Quadrangle Name (IV):

Field Office (II): Friday Harbor, Washington

Chief of Party: Lt. Comdr. Charles W. Clark

Photogrammetric Office (III): Baltimore, Md.

Officer-in-Charge: Hubert A. Paton

Instructions dated (II) (III): 31 August 1949
24 October 1949

Copy filed in Division of
Photogrammetry (IV)

Letter No. 73-rb, dated 17 March 1950

Office Files

Method of Compilation (III): Air Photographic - Multiplex

Manuscript Scale (III): 1:10,000

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

Scale Factor (III): 1.00

Date received in Washington Office (IV): FEB - 1 1952

Date reported to Nautical Chart Branch (IV): FEB 1952

Applied to Chart No.

Date:

Date registered (IV): 25 April 1957

Publication Scale (IV):

Publication date (IV):

Geographic Datum (III): N. A. 1927

Vertical Datum (III): MSL

Mean sea level except as follows:

Elevations shown as (25) refer to mean high water

Elevations shown as (5) refer to sounding datum

i.e., mean low water or mean lower low water

Reference Station (III): LIFE, 1940

Lat.: 48° 35' 32.597"

Long.: 123° 04' 26.354"

Adjusted
~~Quadrangle~~

Plane Coordinates (IV):

State: Wash.

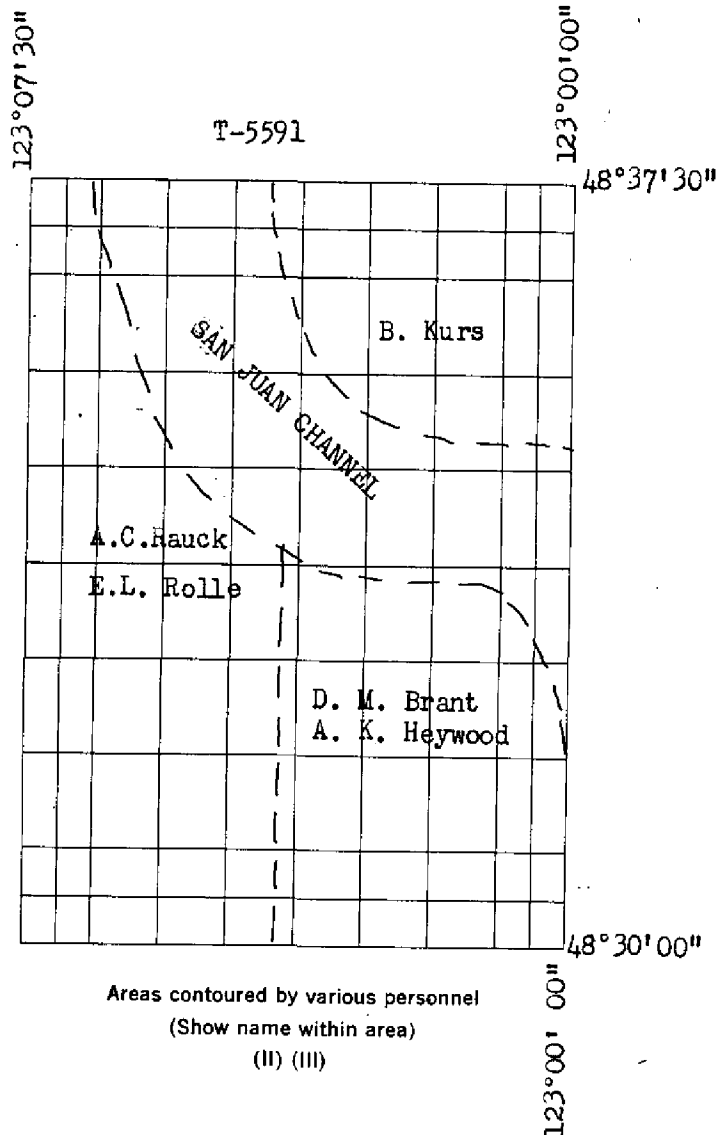
Zone: North

Y=

X=

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.



DATA RECORD

Field Inspection by (II): J.C. Lajoie & J.H. Winniford

Date: 20 September 1950

Planetable contouring by (II):

Date:

Completion Surveys by (II): *C.H. Bishop, Ray H. Skolton II*

Date: *Mar.-Sept. 1951*

Mean High Water Location (III) (State date and method of location): June 1949, Date of photography
Refer to Item 31, Compilation Report, T-5588

Projection and Grids ruled by (IV): T.L.J.

Date: 11-9-50

Projection and Grids checked by (IV): "

Date: 11-9-50

Control plotted by (III): A. K. Heywood

Date: Feb. 1951

Control checked by (III): B. Wilson

Date: Feb. 1951

Radial Plot or Stereoscopic A. K. Heywood
Control extension by (III): D. M. Brant

Date: March 1951

Stereoscopic Instrument compilation (III):
Planimetry B. Kurs, D.M. Brant
A.K. Heywood, E.L. Rolle
Contours and A.C. Rauck, Jr.

Date: April, May
and June 1951
Date:

Manuscript delineated by (III): B. A. Dew & B. Wilson

Date: Aug. 1951

Assembly and delineation of Public Land Lines by D. M. Brant -

Photogrammetric Office Review by (III): A. C. Rauck, Jr.

Date: Oct. 1951

Elevations on Manuscript A. C. Rauck, Jr.
checked by (II) (III):

Date: Oct. 1951

Camera (kind or source) (III): U. S. C. & G. S. Typer "O" Focal length 152.37 mm

PHOTOGRAPHS (III)

Number	Date	Time	Scale	Stage of Tide
49-0-1022 thru 1024	6/4/49	1120	1:24,000	4.4' above MLLW
49-0-1054 thru 1056	"	1040	"	4.7 " "
49-0-1083	"	1105	"	4.2 " "
49-0-1084 thru 1086	"	1110	"	5.1 " "
49-0-1098 thru 1105	"	1121	"	4.2 " "
49-0-1112 thru 1119	"	1131	"	4.1 " "
49-0-1066 thru 1069	"	1053	"	4.3 " "
49-0-1060 thru 1062	"	1044	"	4.4 " "
49-0-1025 thru 1032	"	1022	"	4.4 " "
49-0-1040	"	1030	"	No tide water
49-0-1057 thru 1059	"	1042	"	No tide water
49-0-1070 thru 1072	"	1058	"	No tide water
49-0-1010 thru 1013	"	1005	"	No tide water this map

Tide (III)

Diurnal

Tides from Predicted Tables, 1949

Reference Station: Port Townsend, Washington
Subordinate Station: Roche Harbor, San Juan Island
Subordinate Station: Alden Point, Patos Island
Friday Harbor, San Juan Island

Washington Office Review by (IV): *Everett H. Ramey*

Final Drafting by (IV):

Drafting verified for reproduction by (IV):

Proof Edit by (IV):

Ratio of Ranges	Mean Range	Spring Range
	5.1	8.3
1.0	5.2	8.8
1.1	5.7	9.0
0.9	4.5	7.7

Date: *16 Aug 1955*

Date:

Date:

Date:

Land Area (Sq. Statute Miles) (III): *34*
Shoreline (More than 200 meters to opposite shore) (III): *24 statute miles*
Shoreline (Less than 200 meters to opposite shore) (III): *none*
Control Leveling: Miles (II): *19.7*

* Number of Triangulation Stations searched for (II): *58* Recovered: *54* Identified: *21*
** Number of BMs searched for (II): *12*, Established: *32* Recovered: *44* Identified: *33* (See remarks)
*** Number of Recoverable Photo Stations established (III): *1*
Number of Temporary Photo Hydro Stations established (III): *None*

Remarks:

* Number of cards submitted indicates only 56 TRI. STAS. were searched for. 53 recovered (including descriptions of 4 intersection stations)
All in area of quad were searched for.

** In addition to the number of B.M.'s established, 5 more cards were found listed under quadrangles T-5590 and T-5592. These are within this survey, bringing the total to 12 searched for, 37 established; in all, 49 recovered and 38 identified.

*** Two additional Form 524 were submitted by the field party. These two stations are approximately 2 miles east of the east limits of this survey.

Baltimore Photogrammetric Office

BELLINGHAM, WASHINGTON AND VICINITY

BELLINGHAM, WASHINGTON AND VICINITY

Summary to Accompany Topographic Map T-5591

Topographic map T-5591 is one of thirteen similar maps of Project Ph-26. It covers portions of Orcas Island and San Juan Island within San Juan County, Washington, and other islands in San Juan Channel.

Project Ph-26 is a stereoscopic mapping project. Field work in advance of compilation included shoreline and interior inspection, the establishment of some additional control, and the investigation of civil boundaries, land lines and geographic names.

Map T-5591 was compiled in two parts at a scale of 1:10000, using 1949 single-lens photographs. It was completely field-edited. After the addition of hydrographic information, the map will be published as a standard 7½-minute topographic quadrangle.

Items to be registered under T-5591 will be a descriptive report, a cloth-backed copy of each part of the map manuscript at a scale of 1:10000, and a cloth-backed color print of the published map.

FIELD INSPECTION REPORT

The field inspection report covering Maps T-5588 to T-5592, inclusive, is filed as part of the Descriptive Report for T-5588.

MAP T. 5591

PROJECT NO. Ph-26(47)

SCALE OF MAP 1:10,000

SCALE FACTOR 1.000

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR ψ -COORDINATE LONGITUDE OR x -COORDINATE		DISTANCE FROM GRID IN FEET. OR PROJECTION LINE IN METERS		DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS		FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS	
FAIRVIEW, 1896	G-5649 Pg. 706	N.A. 1927	48	37	28.091	867.7	985.6				
			123	01	45.508	932.0	296.8				
FRIDAY, 1894	G-5649 P. 695	"	48	32	48.064	1484.6	368.7				
			123	00	24.702	506.6	724.0				
FRIDAY HARBOR MUNICIPAL STAND- PIPE, 1940	G-5649 Pg. 708	"	48	31	53.759	1660.6	192.8				
			123	01	33.188	680.9	550.1				
GOOSE 2, 1940	G-5649 Pg. 694	"	48	35	31.314	967.3	886.1				
			123	01	54.360	1113.9	115.6				
BERRY, 1894	G-5649 Pg. 707	"	48	32	27.370	845.4	1007.9				
			173	00	53.658	1100.6	130.1				
BAMBOO, 1894	G-5649 Pg. 694	"	48	33	43.984	1358.6	494.7				
			123	00	57.598	1181.0	49.3				
ARGYLE, 1897	G-5649 Pg. 708	"	48	30	21.964	678.4	1174.9				
			123	00	53.073	1089.4	142.2				
YELLOW 2, 1940	G-5649 Pg. 706	"	48	35	33.239	1026.7	826.6				
			123	01	43.861	898.8	330.7				
WEDGE, 1894	G-6818 P. 1131	"	48	36	51.369	1586.7	266.6				
			123	00	31.039	635.8	593.2				
WASP, 1894	G-6818 Pg. 1131	"	48	35	58.241	1799.0	54.3				
			123	01	18.543	379.9	849.4				
WARBASS, 1894	G-5649 Pg. 707	"	48	31	55.261	1707.0	146.4				
			123	00	08.413	172.6	1058.3				
VIEW, 1894	G-6818 Pg. 1131	"	48	36	44.306	1368.6	484.8				
			123	02	13.125	268.9	960.2				

Page 7

1 FT. = 3048006 METER
COMPUTED BY:

D.M. Brant

DATE 2/5/51

CHECKED BY:

E.L. Rolle

DATE

2/7/51

M-2388-12

MAP T-5591

PROJECT NO. Ph-26(47)

SCALE OF MAP 1:10,000

SCALE FACTOR 1:000

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y-COORDINATE LONGITUDE OR x-COORDINATE	DISTANCE FROM GRID IN FEET. OR PROJECTION LINE IN METERS		DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS		FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS
				FORWARD	(BACK)		FORWARD	(BACK)	
BROWN, 1940	G-5649 Pg. 695	N.A. 1927	48 32 20.561 123 00 00.606	635.1	1218.2				
BRUIN (SWIM) 1894	G-5649 Pg 707	"	48 32 04.540 123 00 00.007	140.2	1713.1				
CAUTION, 1940	G-5649 Pg. 695	"	48 33 31.127 123 00 37.875	961.5	891.9				
CRANE, 1894	G-6818 Pg. 1131	"	48 36 01.062 123 00 08.144	776.6	453.7				
DEER, 1894	G 6818 pg 1131	"	48 36 58.870 122 59 55.790	166.9	1062.4				
DICK 2, 1940	G-5649 Pg 693	"	48 37 07.118 123 03 10.484	1818.4	34.9		E. of map limits		
DINNER ISLAND, 1897	G-5649 Pg 708	"	48 30 27.043 123 00 25.025	219.9	1633.5				
DOWN 1894	G-5649 Pg 707	"	48 34 55.753 123 03 31.413	214.7	1014.1				
DOWN 2, 1940	G-5649 694	"	48 34 56.004 123 03 31.534	835.8	1018.0				
EGG 2, 1940	G-5649 Pg 694	"	48 34 43.020 122 59 52.292	513.7	717.9				
PICKLE, 1894	G-5649 Pg 707	"	48 32 15.722 123 00 24.513	1722.2	131.2				
PENIN, 1940	G-5649 Pg 693	"	48 36 46.819 123 05 47.168	643.8	585.9				
				1729.9	123.4				
				646.3	583.4				
				1328.8	524.5		E. of map limits		Page 8
				1071.8	158.0				
				485.6	1367.7				
				502.8	727.9				
				1446.2	407.2				
				966.1	262.8				

1 FT. = 3048006 METER

COMPUTED BY: D.M.Brant

DATE 2/5/51

CHECKED BY: E.L.Rolle

DATE 2/7/51

M-2388-12

MAP T. 5591

PROJECT NO. Ph-26(47)

SCALE OF MAP 1:10,000

SCALE FACTOR 1.000

STATION	SOURCE OF INFORMATION (INDEX)	DATUM	LATITUDE OR y -COORDINATE LONGITUDE OR x -COORDINATE		DISTANCE FROM GRID IN FEET. OR PROJECTION LINE IN METERS		DATUM CORRECTION	N.A. 1927 - DATUM DISTANCE FROM GRID OR PROJECTION LINE IN METERS		FACTOR DISTANCE FROM GRID OR PROJECTION LINE IN METERS	
O'NEAL, 1894	G-5649 Pg. 706	N.A. 1927	48 36	15.900	491.1	1362.2					
			123 05	27.452	562.4	666.8					
NECK, 1894	G-6818 Pg. 1132	"	48 35	13.829	427.2	1426.2					
			123 00	40.402	828.0	401.6					
LOOK, 1940	G-5649 Pg. 694	"	48 33	59.155	1827.2	26.1					
			123 02	25.893	520.6	709.5					
LITTLE ISLAND, 1897	G-5649 Pg. 708	"	48 31	06.259	193.3	1660.0					
			123 00	43.030	883.0	348.3					
LIFE, 1940	G-5649 Pg. 694	"	48 35	32.597	1006.9	846.5					
			123 04	26.354	540.0	689.4					
LEAD, 1894	G-5649 Pg. 694	"	48 34	49.632	1533.1	320.3					
			123 00	54.927	1125.8	104.0					
LAST, 1894	G-5649 Pg. 708	"	48 31	47.03	1452.7	400.6					
			122 59	43.00	882.2	348.8					
TWIST, 1894	G-5649 Pg. 706	"	48 37	10.629	328.3	1525.0					
			123 06	01.926	39.4	1189.4					
TABLE, 1894	G-6818 Pg. 1131	"	48 36	19.814	612.0	1241.3					
			122 59	25.706	526.6	702.5					
STONE, 1940	G-5649 Pg. 693	"	48 37	20.991	648.4	1205.0					
			123 06	24.924	510.4	718.4					
SPRING, 1940	Field Comp.	"	48 36	38.801	1198.5	654.8					
			123 02	14.676	300.6	928.5					
SOCKET, 1894	G-5649 Pg. 706	"	48 35	35.252	1088.9	764.4					
			123 04	39.274	804.8	424.7					

East of map limits

Page

East of map limits

9

1 FT. = 3048006 METER

COMPUTED BY: D.M.Brant

DATE 2/5/51

CHECKED BY: E. L. Rolle

DATE 2/7/51

M-2388-12

SCALE FACTOR
1.000

1 FT. - 3048006 METER	B. Wilson			M. 2388-12
COMPUTED BY:	D.M. Brant			
		July 1951	July 1951	
		DATE Feb. 5, 1951	DATE Feb. 7, 1951	
			CHECKED BY: E.L. Rolle	
			H.P. Eichert	

COMPILATION REPORT
T-5591

Field Inspection Report and Photogrammetric Plot Report

These will be found bound under descriptive report for Survey T-5588.

31. DELINEATION

Refer to item 31, of compilation report for Survey No. T-5588.

Generally the field inspection of drainage was poor. Stereoscopic examination of photographs revealed many instances of drainage shown on side hills as well as running up over the tops of hills. Most of the drainage shown on the map is from office interpretation and believed to be correct. See §12
Instances of poor field inspection may be found on photograph 49-0-1027.

Contrary to item 12 of the field inspection report, many buildings were not classified. Green crosses for deletions of buildings are believed to have been used indiscriminately without regard to shoreline dwellings or permanence, as found on photos 49-0-1028, 1029, and 1068. Many buildings although deleted, were shown in the vicinity of Friday Harbor, and it is believed that this area should be further classified during field edit.

32. CONTROL

Refer to photogrammetric plot report and items 3 and 4 of the field inspection report. *(Both reports filed as part of Descriptive Report for T-5588)*

33. SUPPLEMENTAL DATA

7 Photostat copies of land plats, Township 36 N, Range No. 3, West, Willamette Meridian, Washington. These include

- 1 supplemental plat, sections 13, 23, and 24, dated May 7, 1920
- 1 plat of Jones Island, sections 10, 11 and 14, dated June 22, 1934
- 1 plat of Wasp and Coon Is., section 24, dated April 18, 1927
- 1 plat of Cliff Island, section 24, dated Dec. 30, 1929
- 1 supplemental plat of Yellow I., sections 23 and 24, dated August 26, 1920
- 1 supplemental plat of Reef I., section 13, dated August 26, 1920
- 1 plat of T. 36 N, R 3 W, dated April 15, 1915.

1 Map of Friday Harbor, Washington, dated September 24, 1940

1 Enlarged land plat, T 35N R 3W, Willamette Meridian, Wash.

For a description of how these data were used, refer to item 41, Boundaries, of descriptive report for Survey No. T-5584.

34. CONTOURS AND DRAINAGE

The quality of part of the photography was such that the definition of the diapositives was fuzzy. This caused difficulty in contouring heavily timbered areas. Nevertheless, contours are believed to be satisfactory.

35. SHORELINE AND ALONGSHORE DETAILS

Shoreline inspection was adequate with few exceptions. The selection of Photograph 49-0-1026 for inspection of the MHWL was a poor choice. Relief displacement and overhanging trees make this photo undesirable for shoreline inspection. The shoreline was transferred to photograph 49-0-1101 where the configuration of the shoreline could be more easily seen stereoscopically.

Only those approximate low water lines indicated by the field party are shown.

The field inspection party indicated by legend many small fringes of alongshore detail such as sand, sand and gravel, gravel, boulders, and rocks. A limiting line is required for the proper delineation of these details, and as none were indicated by the field inspection party and no low water photographs were available for adequate delineation, they are not shown.

36. OFFSHORE DETAILS

Offshore details of doubtful or incomplete data are referred to the hydrographic party by notations on the manuscript.

37. LANDMARKS AND AIDS

Refer to item 3, field inspection report.

One landmark, Flagpole (Flag, 1950) is plotted by multiplex. All other landmarks and aids are triangulation stations.

Two aids to navigation, Pole Pass Light and Wasp Passage Light, both triangulation stations, are not shown on the manuscript. Both are well off the neat limits.

(Forms 567 attached to this report)

38. CONTROL FOR FUTURE SURVEYS

Refer to item 11 of field inspection report.

Forms 524 are submitted with this report for three recoverable topographic stations. Only one of these FLAG (ARGYLE TIDAL B.M. 4, 1944), 1950 is within this survey. Its position was plotted by multiplex.

38. CONTROL FOR FUTURE SURVEYS (continued)

The other two stations are:

FLUB (1/4 section, section ²⁰29,) 1950
WASH (G.L.O. T 35N, R 2W 5¹4), 1950

These two are approximately two miles east of the limit of this survey. Their geographic positions are not known.

39. JUNCTIONS

Junctions are complete with the following surveys:

To the north with Survey No. T-5589
To the south with Survey No. T-5592
To the west with Survey No. T-5590

No junction is made to the east. It is the limit of the project and there is no contemporary survey.

40. HORIZONTAL AND VERTICAL ACCURACY

Refer to Photogrammetric Plot Report

See §66

41. PUBLIC LAND LINES AND BOUNDARIES

Refer to item 10 of field inspection report and item 41 Boundaries, of descriptive report for Survey No. T-5584, concerning public land line data.

~~Refer to "Notes for the Reviewer" T-5589, concerning discrepancy in public land lines.~~

As stated in item 10 of field inspection report the town boundary of Friday Harbor is shown as indicated on Photo 49-0-1028. However, this does not agree with the boundary on the map of FRIDAY HARBOR, WASH. dated September 24, 1940. See §56

The field inspection party also furnished the compilation office a photostat of San Juan County, Wash. These data included boundary lines of San Juan No. 1 Township, San Juan No. 2 Township, San Juan No. 3 Township, Dear Harbor Township and Shaw Township. Although these data were very approximate they were used visually to the best advantage in delineating the township lines.

42. LANDING FIELD AND AERONAUTICAL AIDS

There is an unpaved private landing strip on this survey, southwest of Beaverton Valley. There are no aeronautical aids within this survey. *(Aeronautical fan marker at lat. 48° 36.6' - long. 123° 07.1')²¹¹²*

46. COMPARISON WITH EXISTING MAPS

There is no quadrangle available to the Baltimore Photogrammetric Office for comparison.

See §62 & §67

47. COMPARISON WITH NAUTICAL CHARTS

Chart No. 6380, scale 1:80,000, published March 1947 (8th edition)
(8-21-50).

Items to be applied to nautical charts immediately:

None.

See 515

Items to be carried forward:

None

Respectfully submitted

Albert C. Rauck, Jr.
Albert C. Rauck, Jr.
Cartographer

Approved and forwarded

Hubert A. Paton
Hubert A. Paton
Comdr., C&GS
Officer in Charge

48. GEOGRAPHIC NAMES, T-5591

- Argyle
 - * Argyle Ave.
 - Back Road
 - Beaverton Valley
 - Beaverton Valley Road
 - Brown Island
 - * CADY M.I.
 - Cattle Point Road
 - Cliff Island
 - Coon Cook Island
 - Crane Island
 - Deer Harbor
 - Deer Harbor (Town)
 - ** Deer Harbor Township *
 - Dinner Island
 - Egg Lake
 - Egg Lake Road
 - False Bay Road
 - Fawn Island
 - Friday Harbor
 - Friday Harbor (Town)
 - Jones Island (National Wildlife Refuge)
 - Limestone Point
 - Little Mountain
 - Lonesome Cove
 - Low Island
 - McConnell Island
 - Merrifield Cove
 - Mountain Road
 - Neal Island
 - Neck Point
 - Nob Island
 - North Bay
 - North Pass
 - Orcas Island
 - Point Caution
 - Reef Island
 - Roche Harbor Road
 - Rocky Bay
- Bird Rock (E. of McConnell I.)

48. Geographic Names (continued)

St. Francis Xavier Mission

- ° San Juan Channel
- ° ** San Juan County
- ° San Juan Island
- ** San Juan No. 1 Township
- ** San Juan No. 2 Township
- ** San Juan No. 3 Township
- ° San Juan Valley
- ° Shaw Island
- ** Shaw Township
- ° Spieden Channel
- ° Sportsman Lake
- ° Spring Passage
- * Spring St
- ° Steep Point
- ° Three Corner Lake
- ° Trout Lake
- ° University of Washington Oceanographic Laboratories
- ° Valley Church
- ° Valley Road
- ° * Wargass Way ***
- ° Wasp Islands
- ° Wasp Passage
- ° West Side Rd
- ° Yellow Island

* These names from field inspection photographs

** These names from Photostat of San Juan County, Wash.

* These township names agree with Census Bureau map of 1941. (Townships not to be shown on final map) ^{STB}

*** Edited on discrepancy print.

* From original names sheet.

Names underlined in red are approved on basis of Project Names Report.

4-4-52
L. HECK

Checked + approved
8-5-55
A. J. W.

49. NOTES FOR the HYDROGRAPHER, T-5591

All offshore details from incomplete or doubtful field data are called to your attention by notations on the manuscript. These are to be proved, disproved, or located in position. *

One recoverable topographic station, FLAG, 1950, is within this survey.

* Some of these details were investigated by the field editor. ^{SHR}

-50- PHOTOGRAMMETRIC OFFICE REVIEW

T. 5591

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

CONTROL STATIONS

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

ALONGSHORE AREAS

(Nautical Chart Data)

12. Shoreline A.C.R. 13. Low-water line A.C.R. 14. Rocks, shoals, etc. A.C.R. 15. Bridges A.C.R. 16. Aids to navigation A.C.R. 17. Landmarks A.C.R. 18. Other alongshore physical features A.C.R. 19. Other along-shore cultural features A.C.R.

PHYSICAL FEATURES

20. Water features A.C.R. 21. Natural ground cover A.C.R. 22. Planetable contours — 23. Stereoscopic instrument contours A.C.R. 24. Contours in general A.C.R. 25. Spot elevations A.C.R. 26. Other physical features A.C.R.

CULTURAL FEATURES

27. Roads A.C.R. 28. Buildings A.C.R. 29. Railroads A.C.R. 30. Other cultural features A.C.R.

BOUNDARIES

31. Boundary lines A.C.R. 32. Public land lines A.C.R.

MISCELLANEOUS

33. Geographic names A.C.R. 34. Junctions A.C.R. 35. Legibility of the manuscript A.C.R. 36. Discrepancy overlay A.C.R. 37. Descriptive Report A.C.R. 38. Field inspection photographs A.C.R. 39. Forms A.C.R.
40. Albert C. Bauck Jr. Henry P. Eichel
Reviewer Supervisor, Review Section or Unit

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.

Bernice Wilson
Compiler

Henry P. Eichel
Supervisor

43. Remarks:

**TO BE CHARTED
DO NOT REMOVE**

STRIKE OUT ONE

NON-MOTIVATING OR LANDMARKS FOR CHARTS

Baltimore, Maryland

January 1952

I recommend that the following objects which have ~~(been)~~ been inspected from seaward to determine their value as landmarks, be charted on ~~(newest chart)~~ the charts indicated.

The positions given have been checked after listing by

Albert C. Rauk, Jr.

Hubert A. Paton
Chief of Party.

[illegible]

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.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

TO BE CHARTED

STRIKE OUT ONE

NONFLOATING AIDS OR WATERMARKS FOR CHARTS

Baltimore, Maryland

27 April 1955

I recommend that the following objects which ~~have~~ *(have not)* been inspected from seaward to determine their value as landmarks be charted on ~~(attached sheets)~~ the charts indicated.

The positions given have been checked after listing by

E. W. Kirsch
Chief of Party.

[illegible]

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.

FIELD EDIT REPORT

Map Manuscript T-5591

Project Ph-26(47)

51. Methods:

No new or unusual methods were employed in the field edit of this sheet. Planimetry was inspected visually from the truck or while walking over the ground. Extensive plane table checks were initiated after it became evident that the hypsography was not up to required standards.

The work was done by Mr. Charles H. Bishop and Mr. Ray H. Skelton II during the spring and summer of 1954. There was considerable boat work on this sheet, and after about 1 June work was continued in the smaller islands on most days and on San Juan Island on the rough days. The boat used is a 16-foot dinghy, a small ship's boat of Navy design and heavy construction. The use of stock models of light sporting craft would have reduced the number of suitable working days about a third because they do not take a sea nearly as well as a heavier craft.

Breaking work between field editors, between the larger island and the smaller ones, and assigning the unit to Project Ph-147 may have introduced some discontinuities into the work, but I have checked carefully, and I think there are few omissions. There is some difference in the manner of presentation by the two field editors, but I do not think this will lead to any large discrepancies.

Profile along the west edge of the sheet and in the northwest quarter of the sheet was run first. Summaries of this profile indicated the need for a detailed inspection of hypsography. About a hundred miles of profile was run. Portions of this profile were summarized as the work was in progress. Such summaries invariably showed the need of continued work. The job has been long and costly, and I have been somewhat apprehensive about the time required, but the profile summaries accompanying this report show the need of such work.

A legend showing the colored inks and symbols used is shown on Field Edit Sheet No. 2.

Field Edit data is shown on seven field edit sheets numbered 1 to 7 inclusive, and on twenty-six photographs numbered 1022, 1024 - 1030 inc., 1038, 1039, 1055, 1057 - 1060 inc., 1068, 1069, 1084, 1099 - 1105 inc., and 1113. Reference is made on the Field Edit Sheets to all corrections shown on the photos.

52. Adequacy of Compilation:

The compilation of planimetric detail seemed quite adequate.

Portions of the original field inspection were done by a Schedule A employee who was with the Bureau only a few months. The questionable drainage in the northwest corner of the sheet and incomplete and erroneous building classification in Friday Harbor may be traced to this source. This is the result of inexperience.

Except for obviously erroneous drainage the field inspection data have been faithfully transcribed with few omissions.

The application of public land line data was generally satisfactory. A section line was omitted on James Island, and a tie to a "U.S. C. and G.S. station", apparently GOOSE 1894, on Yellow Island seems not to have been considered.

The compiler should note the difference between TBM's, temporary bench marks and TBM's, tidal bench marks. the topographic manual requires different treatments of the two bench mark types. Perhaps this division should follow the practice of the Division of Geodesy in abbreviating tidal bench mark designations as Tidal.1, Tidal 2 etc., instead of TBM 1, TBM 2, etc. as abbreviated by Division of Tides and Currents. This has been a frequent source of confusion, and the change is earnestly recommended for consideration.

In the matter of showing bench mark elevations, in this project a rather paradoxical situation arises. The primary leveling in this project was third-order leveling - indeed almost second-order. Precise equipment was used but the line is only single-run. It is of course permanently marked. However, paragraph 5466 of the Topographic Manual says we shall show elevations on the manuscript of "Bench marks . . . connected to the vertical control net (1929 datum)". Elevations of tidal bench marks will not be shown unless connected to the Sea Level Datum of 1929. The primary leveling on San Juan Island is on an independent datum, the half-tide level of the Friday Harbor tide station. No water crossings have been made to the mainland and there is no connection to the 1929 datum. All tidal bench marks on San Juan Island were tied together by this leveling and can be reduced to a single datum. It would seem not inconsistent to show the elevations of all marked points in the area. The topographic manual contemplates the omission of all elevations not referred to the 1929 datum, but this is not practical in this case. *(Bench marks are shown on map, datum being half-tide level.)* ~~etc~~

There seems to be small feeling by the field inspectors for "area access". In an area such as this I attempt to show access into every square mile, and where alternate well-defined accesses fall in the Road 7 and trail categories I show the optimum access by a Road 7 if this is feasible. With this thought I have added an extensive Road 7 in the

northwest portion of the sheet. The road added is now in use by trucks.

53. Map Accuracy:

Except for a few checks in the immediate vicinity of triangulation stations no horizontal accuracy tests were run and no perceptible horizontal errors were observed.

Extensive vertical accuracy tests were run over the quad and topography resketched where necessary. The accompanying plat shows the routes of profiles and the areas resketched. 99.3 miles of profile were run on the quadrangle of which 79% of all shots were within $\frac{1}{2}$ interval of their true elevation and 8% of all shots were in error over a full interval. The distribution of error is not at all uniform however. On Orcas Island and the Wasp Group only 69% of all shots appeared within $\frac{1}{2}$ interval of their true elevation and 17 % of all shots were in error over a full interval. On that portion of San Juan Island lying in the north half of the quad we find 79% of all shots within $\frac{1}{2}$ interval of their true elevation and 6% of all shots in error over a full interval, and progressing to the south half of the quadrangle we find 86% of all shots within $\frac{1}{2}$ interval of their true elevation and 4% of shots in error in excess of a full interval. The most serious deficiencies are in the very detailed wooded areas such as Jones Island. The south half of the sheet is for the most part open with only thin woods and the contouring improved considerably in this area. The consistent nature of the error along the east side of the San Juan valley gives rise to the suspicion of a model warp.

Extensive resketching was undertaken over about a 6 square mile area. This area is a difficult value to determine since contouring was adjusted to fit all shots, even though the error was not really excessive.

When contour corrections have been applied the sheet will comply with National Standards of Map Accuracy.

Several miles of profile in the north end of the southwest quarter of the sheet were not summarized. Over 2000 shots were summarized, and further effort will not appreciably affect the result.

Some sketching may appear supported by few shots but every effort has been made to maintain multiplex shape and grades wherever possible.

54. Recommendations:

No recommendations are submitted at this time.

55. Examination of Proof Copy:

Mr. Hays Rehm, County Engineer, County of San Juan, Friday Harbor, Washington has agreed to examine proof copy of the map for possible errors or omissions.

Few new geographic names were obtained. The names VALLEY CHURCH and SAINT FRANCIS XAVIER MISSION should be applied as shown on the discrepancy print. VALLEY CHURCH is the Presbyterian Church, and the name is in common local usage. SAINT FRANCIS XAVIER MISSION is the Catholic Church. It is not a parish but a mission. It is usually referred to as the "Catholic Church" but the proper name is shown above.

The name THREE CORNER LAKE is also applied to the small pond near the southwest corner of the north half of the sheet. The name is in common local usage but it could not be determined whether the form should be THREE CORNER or THREE CORNERED.

56. Boundaries:

The only boundary to be shown on this sheet is the corporate limit of the Town of Friday Harbor.

The township boundaries furnished by the field inspection party are actually election precinct boundaries and are not to be mapped according to par. 6, Chapl 5A7 of the Geological Survey Topographic instructions.

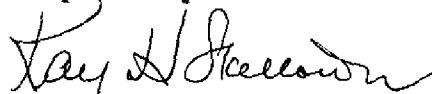
The description of the boundary of the original Friday Harbor corporation and the descriptions of four additions to the town are included as an appendix to this report. Most of these lines have not been run out (surveyed) on the ground. The lines run for the most part with subdivisions of the public land lines and are property lines in many cases. Some lines are fenced and some are not. The strangest part of the boundary I think is the small triangle formed southwest of the Valley Road just west of the town water tank. There is no evidence of the line on the ground here, but I am assured by the County Engineer that as far as he knows it does cross the road in this manner. The old military reserve line at the north end of town is questionable to one, but the line as mapped is the accepted line. Apparently it should be farther west, but there is no supporting evidence.

Approved and forwarded:



Fred Natella
Comdr., USC&GS
Chief of Party

Respectfully submitted:



Ray H. Skelton II
Photogrammetric Engineer
USC&GS

INCORPORATION OF TOWN OF FRIDAY HARBOR, WASHINGTON

The order and description following are recorded on page 322, Volume 4 of the Proceedings of the Commissioners of San Juan County, Washington, on file in the Office of the Auditor, County of San Juan, Washington.

* * * * *

ORDER INCORPORATING

In the matter of the Incorporation of the Town of Friday Harbor, Washington

"***** the said boundaries were defined and established as follows, to-wit:

Beginning at a point where the Sec. line between Secs. 11 and 12, Twp. 35 N rge 3 W.W.M. intersects the meander line; thence north 48 15' west 92.4 feet; thence north 80 30' west 105.6 feet; thence north 79 15' west 250.8 feet; thence north 52 west 224.4 feet; thence north 17 30' west 140.689 feet; thence west 658.5 feet to 1/16 Sec. line; thence north 720 feet on said 1/16 Sec. line; thence west 660 feet; thence south 1640 feet; thence east 660 feet to the 1/16 Sec. line; thence south on the 1/16 sec. line 2310 feet to the $\frac{1}{4}$ sec. line; thence east 2790 feet to a point 150 feet east of the 1/16 sec. line between the S.W. $\frac{1}{4}$ of the N.W. $\frac{1}{4}$ and lot 3, sec. 13, Twp 35 N. rge. 3 W.W.M.; thence north on true line to a point where said true line intersects the meander line; thence following the meander line to the place of beginning, being in San Juan County, Washington.

***** Done in open and public session of the Board of County Commissioners of San Juan County, Washington, this 8th day of February, 1909."

FIRST ANNEXATION TO THE TOWN OF FRIDAY HARBOR, WASHINGTON

The following description is taken from the minutes of the meeting of the Town Council, Town of Friday Harbor, for March 26, 1926:

"* * * * * a petition * * * * * seeking to have annexed to said town the following described territory, to-wit:

Commencing at a point where the West Boundary of line of the U. S. Military Reserve intersects the Government Meander line on the west side of Friday Harbor Bay; thence North 6 degrees West along the West boundary of said reserve to a point 100 ft N of the NE corner of Lot 7, Sec 11, Twp 35 N. R 3 W WM, thence West parallel with the 1/16 section line to county road, thence S 100 ft to the 1/16 section line, thence west on the 1/16 th Section line to the 1/16th section corner at the NE corner of the SW $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Sec. 11, Twp 35 N. R 3 W WM, thence South to the center of the county road; thence follow the county road in a south and easterly direction to a point 37 rods east of the $\frac{1}{4}$ section corner between section 11 and 14, Twp 35 N. R 3 W WM, thence S. to S. line of county road; thence South westerly along said south line of said county road to a point where it intersects the $\frac{1}{4}$ section line running east and west ("east and west" should probably read "north and south" in order to make the next four calls fit the ground.) thro the center of Section 14, Twp 35 N. Rge 3 W WM, thence South to a point 150 feet S of the SW Section corner above referred to; thence east 1980 feet; thence S 510 feet; thence east 660 feet to center of county road; thence east 1770 feet; thence North 990 feet; thence in a NE. direction to the SW corner of the U. of W. Biological Station in Lot 3 of Sec. 13, Twp 35 N. Rge 3 W WM, thence northerly along the West boundary of said U. of W. Biological Station to the meander line; thence North and West along said meander line to the place of beginning, excepting therefrom the present area of the Town of Friday Harbor, Wash."

A special election was held on the 1st day of May 1926 at which the voters approved the annexation. The records do not show that any enabling ordinance was passed, but record that the council "approved" the results of the election. Since the approval has been in practice for 28 years the annexation should be valid, although no ordinance was ever passed.

** This line does not seem to fit line positioned by the field editor but there is no way to follow references to above county road.*

ANNEXATION TO THE MUNICIPAL CORPORATION OF FRIDAY HARBOR,
WASHINGTON

The following Ordinance is recorded on page 167, Volume R of "Records" in the files of the Town Clerk of the Town of Friday Harbor, Washington.

ORDINANCE NO. 215

AN ORDINANCE ANNEXING CERTAIN TERRITORY UNTO THE TOWN OF FRIDAY HARBOR, WASHINGTON.

BE IT ORDAINED BY THE COUNCIL OF THE TOWN OF FRIDAY HARBOR, WN:**

Section 1. That effective as of the date of the passage of this Ordinance there shall be annexed unto the Town of Friday Harbor the following contiguous territory, to-wit:-

All that portion of Government Lot 6 of Section 11, Township 35 North Range 3 West WM not now within the corporate limits.

All that part of the SW $\frac{1}{4}$ of NW $\frac{1}{4}$ of Section 13, Township 35 North Range 3 West WM. not now within the corporate limits. (The pencilled note "NE-SW" appears on the margin of the record at this point. From usage it appears that the intent was to include the SE $\frac{1}{4}$ of NW $\frac{1}{4}$ of said section.)

All of the East half of the NW $\frac{1}{4}$ of SE $\frac{1}{4}$ of Sec. 11, and that part of the South (There is an erasure in the record at this point, and "South" has been typed in in place of "East".) half of the SW $\frac{1}{4}$ of NE $\frac{1}{4}$ of Sec. 11 lying South of the County Road, both being in Township 35 North Range 3 West WM., the West half of the NW $\frac{1}{4}$ of the NE $\frac{1}{4}$, the East half of the NE $\frac{1}{4}$ of NW $\frac{1}{4}$, and the North 600 feet of the East half of the SE $\frac{1}{4}$ of NW $\frac{1}{4}$ and the West half of the SW $\frac{1}{4}$ of NE $\frac{1}{4}$, all being in Section 11, Township 35 North Range 3 West WM.

Section 2. That the council does determine that it is desirable to grant the petition for annexation, and does thereby determine to make such annexation.

Section 3. To the end that such property may be placed upon the tax rolls for the year 1947 for corporate purposes an emergency is hereby declared and this ordinance shall be effective from the date of its passage.

Approved: s/ Hubert Cahail Mayor

Introduced by Ways and Means Committee September 18th, 1947 and given First Reading. Given Second and Third Reading October 2nd and passed.

Attest: s/ Virgil W. Frits
Town Clerk

ANNEXATION TO THE MUNICIPAL CORPORATION OF FRIDAY HARBOR,
WASHINGTON

The following Ordinance is recorded on page 173, Volume R of "Records" in the files of the Town Clerk of the Town of Friday Harbor, Washington.

ORDINANCE NO. 219

AN ORDINANCE ANNEXING CERTAIN TERRITORY TO THE TOWN OF FRIDAY HARBOR, WASHINGTON.

BE IT ORDAINED BY THE COUNCIL OF THE TOWN OF FRIDAY HARBOR:

Section 1: That the following described territory be, and the same is hereby annexed to the Town of Friday Harbor, Washington, to-wit:

Commencing at a point 1320 feet North and 946 feet East of the Southwest corner of Government Lot Three (3) of Section Thirteen (13) in Township Thirty five (35) North Range Three (3) West WM, and run thence East 374 feet to the 1/16th Section line between lots 3 and 4 of said Section,
Thence N 45° East 200 feet to margin of Co Road,
Thence N 30° West 73.3 feet along Margin Co Road,
thence N 63° West 101.5 feet along margin Co Road,
thence N 70° 05' W 103.8 ft along margin Co Road,
thence N 72° 30' W 160 feet along margin Co Road,
thence S 20° 30' W 350 feet, more or less, to the point of commencement.

Approved: s/ L. D. Phifer
Lyman Phifer, Mayor

Attest: Virgil W. Frits, Clerk

Introduced by Ways and Means Committee Feb 5th, 1948, and given first reading.

Given 2nd and 3rd readings, and passed, March 5th 1948.

ANNEXATION TO THE MUNICIPAL CORPORATION OF FRIDAY HARBOR,
WASHINGTON

The following Ordinance is recorded on page 196, Volume R of "Records" in the files of the Town Clerk of the Town of Friday Harbor, Washington.

ORDINANCE NO. 237

AN ORDINANCE ANNEXING CERTAIN TERRITORY UNTO THE TOWN OF FRIDAY HARBOR.

BE IT ORDAINED BY THE COUNCIL OF THE TOWN OF FRIDAY HARBOR:

Section 1.- That the following described lands be, and the same hereby are annexed unto the Town of Friday Harbor, Washington, to-wit:

All of Tract 60 of Gould's 2nd Acre Addition to the Town of Friday Harbor, according to the plat thereof.

Those portions of Tracts 61 and 62 of Gould's 2nd Acre Addition to the Town of Friday Harbor, Washington, lying West of the County Road traversing the same, according to the duly recorded plat thereof.

ORRIN W. DAVIS
Mayor

Attest: Virgil W. Frits, Town Clerk

First pub. Feb. 8, 1951

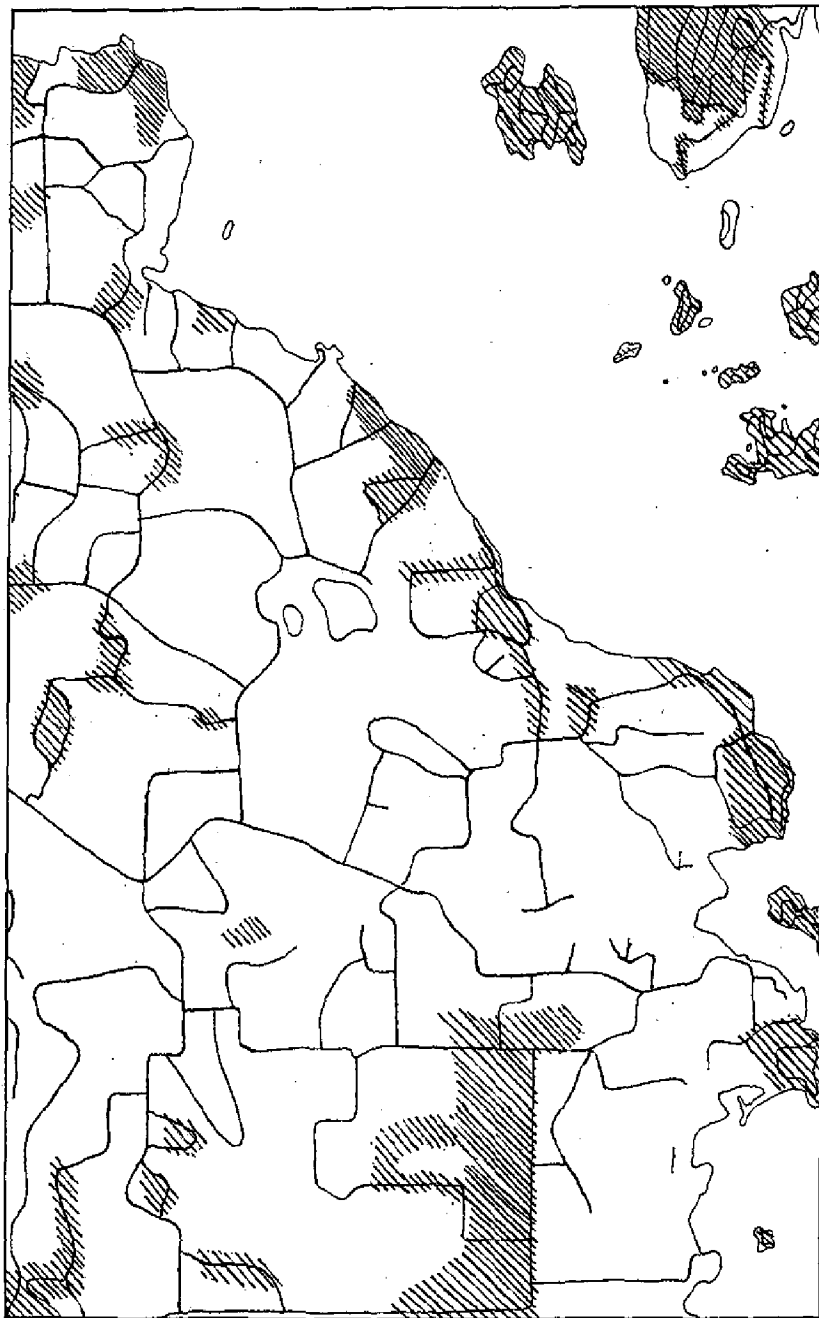
Note: Inspection of the reference plat shows that the intent of this annexation was to include within the city limits all that portion of the SE $\frac{1}{4}$ of the SW $\frac{1}{4}$ of Sect. 11, T 35 N, R 3 WWM lying west of the county road. In examining the plat it should be borne in mind that the county road as on the ground is not in agreement with the county road as platted.

RIPARIAN BOUNDARIES OF MUNICIPAL CORPORATIONS
STATE OF WASHINGTON

The riparian boundaries of municipal corporations in the State of Washington are defined by an Act of the Legislature, "Jurisdiction over adjacent waters", RCW 35.21.160 (RRS 8892). The act is interpreted in detail by the State of Washington Supreme Court in *Pacific American Fisheries vs. Whatcom County*, 69 Wash 291. The act and pertinent portions of the opinion are quoted below:

"8892. Boundaries- Jurisdiction over contiguous waters. The powers and jurisdiction of all incorporated cities of the State of Washington having their boundaries or any part of their boundaries adjacent to or fronting on any bay or bays, lake or lakes, sound or sounds, river or rivers, or other navigable waters, be and the same are hereby extended into and over said waters and over any tide lands intervening between any such boundary and any such waters to the middle of such bays, sounds, lakes, rivers, or other waters, in every manner and for every purpose that such powers and jurisdiction could be exercised when such cities' limits include such waters or any part of such waters: Provided that in towns of the fourth class the territory added by this section shall (not) be over and above the one square mile now established by law as the maximum territory within the limits of said town. (L. '09, p. 392, Par. 1) * * * * * Boundaries, designation and change: * * * * * The boundaries of cities are extended by this section, which authorizes the levy of city taxes upon property situated within the extended limits: *Pacific American Fisheries vs. Whatcom County*, 69 Wash 291, 124 Pac 905. * * * * * This section is not violative of the constitutional provisions inhibiting the incorporation or alteration of cities by special laws, or the enactment of any private or special laws granting corporate powers or privileges: *Id.* Boundary of municipality on navigable and tidal waters. 23 L.R.A. 520; 45 L.R.A. 243; 47 L.R.A.(N.S.) 1161."

"*Pac. Am. Fisheries vs. Whatcom Co.* 69 Wash 291" The court felt that municipal services furnished the appellant did not affect the case, the main question being "whether the plaintiff's property is located within the limits of the city, and is therefore subject to taxation for municipal purposes." The appellant argues that "the act above (1) does not purport to extend the boundaries of such cities, but fixes the limit of extraterritorial powers of such cities, such as police powers; (2) that, if the act be held to extend the boundaries of such cities, it is void because the subject of the act is not included in the title; and (3) that the act is a special act, and therefore void under the provisions of par. 28 of Art. 2, and par. 10 of Art. 11 of the constitution." * * * * * "A reading of par. 1 of the act is convincing that the legislature intended to extend the boundaries of such cities to the middle of such bays, for it says, 'The powers and jurisdiction of such cities be and the same are hereby extended to the middle of such bays in every manner and for every purpose that such powers and jurisdiction could be exercised when such cities' limits include such waters.'" "The mere fact that the powers and jurisdiction in every manner and for every purpose, are extended, necessarily extended the boundaries. It seems plain that this was the purpose and object of the act. Appellant very plausibly argues that the police power only was extended beyond the boundaries of the city, and that the boundaries were not affected. * * * * * The act plainly was intended to, and does extend the boundaries to the middle of such bays. * * * * * We are satisfied that the act is valid, and that the appellant's property was within the boundaries and the jurisdiction of the city for taxation and all other municipal purposes. * * * * *"



T-5591

— Lines of plane table profiles, approximately 100 miles.

 Areas of resketched topography, approximately 6 square miles.

Test Elev.	Map Elev.	Error after shift	Remarks	Test Elev.	Map Elev.	Error after shift	Remarks
	McConnell Island						
18	22	4 4		30	58	4 15	
22	22	0		39	92	4 53	
4	4	0		18	43	4 7	
24	24	0		9	12	4 3	0
11	21	4 10		30	39	4 9	0
14	25	4 11		9	7	- 2	0
20	26	4 6		2	2	0	0
20	24	4 4		NOB Island			
28	34	4 6		39	30	- 9	- 9
29	33	4 4		Cliff Island			
24	29	4 5		33	30	- 3	0
24	30	4 6		26	24	- 2	0
26	5	- 21	Missed Top	62	45	- 17	- 5
30	34	4 4		72	30	- 42	- 31
39	25	- 14	Missed Top	72	10	- 62	- 50
20	22	4 2		29	45	4 16	4 5
37	51	4 14		58	61	4 3	0
34	48	4 14		36	58	4 22	4 15
47	67	4 20		52	30	- 22	- 10
50	6 8	4 18		33	41	4 8	0
81	81	0	Top	27	15	- 12	- 2
71	76	4 5		32	30	- 2	0
67	88	4 21		60	39	- 21	- 12
72	96	4 24		58	20	- 38	- 28
70	101	4 31		48	48	0	0
59	103	4 14		Crane Island			
77	99	4 22		21	15	- 6	0
85	85	0	Top	19	51	4 2	4 1
63	63	0		48	44	- 4	- 3
25	25	0		43	41	- 2	- 1
21	31	4 10		47	43	- 4	- 3
21	11-	4 7		37	44	4 7	4 6
29	50	4 21		12	38	4 8	4 2
34	41	4 7		42	40	- 2	0

Test Elev.	Map Elev.	Error after shift	Remarks	Test Elev.	Map Elev.	Error after shift	Remarks
30	38	18		42	30	-12	
26	30	44		66	50	-16	
50	57	17		86	76	-10	
52	56	14		98	86	-12	-3
39	46	17		110	103	-7	
42	37	-5		116	110	-6	
40	33	-7		81	112	-31	
89	87	-2		75	50	-25	
115	40	-75		88	75	-7	
130	45	-85	Missed Top	30	38	18	
41	20	-21		72	58	-14	
21	10	-11		61	45	-16	
62	70	18		61	31	-30	Missed Top
90	88	-2		47	36	-11	
76	110	134		SHAW ISLAND			
96	123	127		Point in vicinity of triangulation station LEAD 1894			
102	123	121		5	5	0	
104	122	-18		14	23	19	
116	102	-14		26	37	11	
111	93	-18		20	38	18	
114	78	-36		32	29	-3	
100	121	121		31	26	-5	
99	101	12		36	25	-11	Missed Top
103	124	121		24	40	16	
103	122	119		55	45	-10	Top
101	121	120		34	40	16	
123	121	-2		31	28	-3	
104	114	110		32	24	-8	
82	106	124		40	35	-5	
58	61	13		30	40	10	Saddle
20	20	0		31	24	-7	
33	33	0		41	41	0	
21	22	11		51	51	0	
17	18	17		24	21	-3	
38	38	0					

Test Elev.	Map Elev.	Error after shift	Remarks	Test Elev.	Map Elev.	Error after shift	Remarks	Test Elev.	Map Elev.	Error after shift	Remarks
32	22	-10			48	48	0		48	48	0
Vicinity	NECK POINT				41	45	+4		41	45	0
31	22	-9			18	18	0		18	18	0
38	30	-8	TOP		15	35	+20		15	35	+20
27	20	-7			Neck north of triangulation station						
34	15	-19			EGG 2 1940.						
27	38	+11			21	45	+24		21	45	0
35	50	+15			26	64	+38		26	64	+33
14	17	+3			27	80	+53		27	80	+49
62	65	+3			29	81	+52		29	81	+52
77	87	+10			34	82	+48		34	82	+48
87	87	0	Top		28	81	+53		28	81	+53
46	78	+32			28	75	+47		28	75	+46
50	69	+19			24	72	+48		24	72	+48
43	67	+24			21	65	+44		21	65	+44
18	18	0			23	65	+42		23	65	+37
15	30	+15			19	42	+23		19	42	+16
11	39	+28			9	18	+9		9	18	0
12	35	+23			28	30	+2		28	30	0
7	6	-1			13	13	0		13	13	0
55	17	-38			26	36	+10		26	36	0
48	12	-36			56	61	+5		56	61	0
63	78	+15			84	76	-8		84	76	0
63	83	+20			92	81	-11		92	81	-10
40	81	+41			94	82	-12		94	82	-12
22	32	+10			89	82	-7		89	82	-7
16	33	+17			82	82	0		82	82	0
25	56	+31			40	70	+30		40	70	+20
15	38	+23			67	84	+17		67	84	+17
14	35	+21			82	82	0		82	82	0
12	37	+25			69	81	+12		69	81	+11
9	20	+11			64	74	+10		64	74	+6
8	8	0			74	76	+2		74	76	0
20	48	+28			67	68	+1		67	68	0
38	60	+22			34	70	+36		34	70	+35

Test Elev.	Map Elev.	Error after shift	Remarks	Test Elev.	Map Elev.	Error after shift	Remarks
96	98	2	0	48	59	11	4
116	105	11	0	71	62	9	8
63	70	7	0	75	66	9	8
32	35	3	0	21	29	8	0
24	18	6	5	87	84	3	2
37	37	0	0	95	65	30	29
41	41	0	0	86	62	24	23
46	56	10	6	31	18	13	0
50	61	11	9	69	64	5	4
58	68	10	9	72	65	7	6
58	70	12	12	80	74	6	5
52	70	18	18	68	59	9	6
50	74	24	23	48	48	0	0
52	77	25	24	35	35	0	0
66	78	12	11	9	12	3	0
69	104	35	30	18	67	49	42
79	124	45	41	25	76	51	47
46	71	25	24	24	76	52	49
39	70	31	30	23	70	47	47
35	70	35	34	33	66	33	33
31	67	36	35	32	77	45	44
31	65	31	29	106	102	4	0
25	63	38	37	125	117	8	3
32	42	10	0	135	129	6	2
22	10	12	4	131	143	12	8
26	19	7	0	114	104	10	2
39	48	9	0	187	185	2	2
51	68	17	8	146	147	1	0
36	16	20	15	148	120	28	7
46	32	14	7	165	160	5	0
44	40	4	1	166	180	14	4
61	54	7	4	171	161	10	0
68	50	18	13	154	150	4	0
55	60	5	4	120	155	35	22
46	60	14	6	52	46	6	4

Test Elev.	Map Elev.	Error after shift	Remarks	Test Elev.	Map Elev.	Error after shift	Remarks
64	50	-14		25	10	-15	
31	35	+4		26	21	-5	
57	58	+1		51	51	0	
106	100	-6		66	66	0	
114	102	-12		64	81	+17	
106	104	-2		42	82	+40	
81	79	-2		56	87	+31	
58	70	+12		87	93	+6	
50	61	+11		90	95	+5	
24	24	0		126	33	-93	
20	18	-2		128	108	-20	
27	38	+11		108	124	+16	
49	75	+24		95	147	+52	
66	92	+26		125	127	+2	
99	111	+12		165	159	-6	
88	88	0		155	176	+21	
126	132	-6		162	162	0	
125	148	-23		170	170	0	
170	170	0		192	175	-17	
129	131	+2		197	186	-11	
76	122	+46		198	185	-13	
61	107	+46		194	186	-8	
66	112	+46		184	190	+6	
76	107	+31		85	90	+5	
86	103	+17		120	150	-30	
110	102	-8		135	152	-17	
105	101	-4		143	158	-15	
79	114	+35		145	148	+3	
70	105	+35		142	158	+16	
50	88	+38		94	100	+6	
68	61	-7		122	150	+28	
77	140	+63		44	38	-6	
73	123	+50		109	104	+5	
64	100	+36		156	154	+2	
52	80	+28		128	139	+11	

Test Elev.	Map Elev.	Error after shift	Remarks	Test Elev.	Map Elev.	Error after shift	Remarks
104	102	- 2		336	334	- 2	
78	75	- 3		Along unmapped logging road.		- 1	
29	21	- 8		350	355	+ 5	
71	71	0		343	358	+15	
46	46	0		330	355	+25	
82	74	- 8		331	343	+12	
				322	337	+15	
	Orcas Island			329	331	+ 2	
From vicinity of triangulation station FAIRVIEW south along road, thence east and north.				319	328	+ 9	
58	64	+ 6		296	330	+34	
53	62	+ 9		294	322	+26	
57	68	+11		290	311	+21	
49	49	0		290	301	+11	
33	50	+17		318	322	+ 4	
54	59	+ 5		326	342	+16	
64	81	+17		329	350	+21	
150	185	+35		334	354	+20	
191	218	+27		322	328	+ 6	
226	258	+32		321	323	+ 2	
291	288	- 3		325	342	+17	
314	309	- 5		321	350	+29	
328	341	+13		364	361	- 3	
332	354	+22		312	334	+22	
322	341	+19		298	318	+20	
306	328	+22		278	284	+ 6	End of line.
300	310	+10		From Deer Harbor Cannery to Steep Point.			
307	314	+ 7		25	25	0	
307	317	+10		36	41	+ 5	
308	325	+17		41	43	+ 2	
279	281	+ 2		66	66	0	
262	274	+12		100	110	+10	
252	265	+13		114	124	+10	
330	334	+ 4		135	135	0	
				164	164	- 0	
				218	215	- 3	

Test Elev.	Map Elev.	Error after shift	Remarks	Test Elev.	Map Elev.	Error after shift	Remarks
245	246	+1		108	102	-6	
265	261	-4		112	95	-17	
272	276	+4		57	76	+19	
276	285	+9		70	64	-6	
303	310	+7		Spur line over 345 point			
316	321	+5		355	355	0	
324	336	+12		373	345	-28	
336	362	+26		365	349	-16	
354	364	+10		348	346	-2	
351	364	+13		348	341	-7	
335	354	+19		318	318	0	
348	350	+2		306	310	+4	
330	345	+15		313	318	+5	
310	312	+2		306	324	+18	
302	306	+4		From access road south to triangulation station WEDGE 1894			
275	270	-5		279	282	+3	
251	251	0		297	287	-10	
259	264	+5		289	289	0	
232	236	+4		294	283	-11	
249	249	0		304	283	-21	
228	236	+8		277	281	+4	
222	222	0		262	262	0	
230	232	+2		252	257	+5	
231	238	+7		278	243	-35	
239	250	+11		229	244	+15	
247	254	+7		196	215	+20	
254	256	+2		169	190	+21	
269	240	-29		144	181	+37	
242	244	+2		114	130	+16	
233	221	-12		66	61	+5	
218	212	-6		33	21	+12	
149	151	+2		Over 405 top			
116	125	+9		383	381	-2	
70	86	+16		409	401	-8	
67	84	+17				-6	

Test Elev.	Map Elev.	Error after shift	Remarks	Test Elev.	Map Elev.	Error after shift	Remarks
377	363	-14		384	384	0	
337	345	+8		396	418	+22	
Over westerly 425 top.				408	421	+13	
413	404	-9		419	428	+9	
413	421	+8		414	421	+7	
431	422	-9		412	421	+9	
438	422	-16		386	379	-7	
429	422	-7		392	419	+27	
432	422	-10		404	415	+11	
420	423	+3		427	419	-8	
431	424	-7		395	421	+26	
426	424	-2		370	410	+40	
433	424	-9		366	386	+20	
401	418	-18		334	355	+21	
Draw between 425 tops.				Over 425 top and draw to east.			
342	366	+24		335	350	+15	
370	420	+50		356	359	+3	
371	421	+50		369	376	+7	
371	375	+4		350	371	+21	
362	372	+10		374	376	+2	
366	392	+26		382	401	+19	
370	392	+22		410	403	-7	
371	394	+23		403	404	+1	
360	378	+18		404	402	-2	
356	372	+16		396	390	-6	
351	376	+25		398	401	+3	
332	370	+38		379	401	+22	
308	344	+36		367	378	+11	
321	339	+18		349	354	+5	
334	329	-5		309	321	+12	
301	309	+8		291	308	+17	
304	307	+3		277	295	+18	
Easterly 425 top.				253	267	+14	
355	340	-15		248	258	+10	
360	360	0					

Test Elev.	Map Elev.	Error after shift	Remarks	Test Elev.	Map Elev.	Error after shift	Remarks
251	257	+6		141	150	+9	
267	272	+5		140	142	+2	
Roche Harbor Road, northward				137	144	+7	
along Rouleau's Road				129	140	+11	
137	140	+3		121	133	+12	
165	170	+5		115	125	+10	
164	168	+4		106	116	+10	
101	101	0		95	102	+7	
125	132	+7		64	71	+7	
152	155	+3		69	69	0	
161	158	-3		52	60	+8	
174	178	+4		38	43	+5	
199	203	+4		14	5	-9	Near M.H.W.
190	193	+3		71	81	+10	
126	119	-7		Elev. 199; 3, to sta. Pen in 1940.			
103	105	+2		197	201	+4	
82	89	+7		199	202	+3	
73	81	+8		198	203	+5	
55	64	+9		202	205	+3	
64	80	+16		202	207	+5	
59	61	+2		208	214	+6	
43	40	-3		204	212	+8	
18	2	-16	Near M.H.W.	211	216	+5	
17	38	+21		208	215	+7	
Eastward along Lonesome Cove				195	206	+11	
Road to Limestone Point.				167	181	+14	
99	100	+1		207	219	+12	
111	109	-2		188	202	+14	
124	122	-2		189	204	+15	
130	130	0		230	240	+10	
134	144	+10		253	270	+17	
155	150	-5		261	282	+21	
108	120	+12		196	200	+4	
76	80	+4					
142	150	+8					

Test Elev.	Map Elev.	Error after shift	Remarks	Test Elev.	Map Elev.	Error after shift	Remarks
124	120	- 4		262	269	+ 7	
122	118	- 4		265	281	+ 16	
115	115	0		263	281	+ 18	
120	118	- 2		298	302	+ 4	
120	118	- 2		269	279	+ 10	
116	116	0		271	281	+ 10	
117	125	+ 8		278	278	0	
118	118	0		274	278	+ 4	
120	130	+ 10		258	262	+ 4	
124	124	0		251	260	+ 9	
106	112	+ 6		240	253	+ 13	
79	91	+ 12		232	240	+ 8	
60	68	+ 8		229	239	+ 10	
67	90	+ 23		236	250	+ 14	
77	98	+ 21		254	262	+ 8	
51	56	+ 5		280	280	0	
42	47	+ 5		272	282	+ 10	
28	35	+ 7		280	291	+ 11	
23	30	+ 7		284	299	+ 15	
10	10	0		292	313	+ 21	
33	40	+ 7		329	320	- 9	
63	75	+ 12		300	315	+ 15	
82	90	+ 8		302	309	+ 7	
102	104	+ 2		305	318	+ 13	
108	110	+ 2		316	327	+ 11	
115	117	+ 2		322	343	+ 21	
120	120	0		329	331	+ 2	
127	130	+ 3		351	348	- 3	
Elev. 271 to B.M. -238. Elev. 271 is about 1200 ft. End of Run. Herber Pond.							
278	292	+ 14		374	364	- 10	
277	298	+ 21		353	340	- 13	
297	307	+ 10		329	350	+ 21	
275	302	+ 27		350	360	+ 10	
268	281	+ 13		369	380	+ 11	
222	238	+ 16		371	388	+ 17	
				397	394	- 3	

Test Elev.	Map Elev.	Error	Error after shift	Remarks	Test Elev.	Map Elev.	Error	Error after shift	Remarks
397	398	+1	0		464	468	+4	+2	
397	392	-5	0		453	460	+7	+7	
368	383	+15	+13		460	458	-2	-2	
372	382	+10	+8		456	457	+1	0	
377	380	+3	0		445	457	+12	+12	
400	420	+20	+10		448	455	+7	+7	Section cor.
404	415	+11	0		445	453	+8	+8	30, 29, 31, 32.
434	439	+5	0		456	458	+2	0	
371	380	+9	+8		446	448	+2	0	
422	427	+5	0		441	431	-10	-3	
435	439	+4	0		449	433	-16	-10	
445	450	+5	0		434	430	-4	0	
476	462	-14	-13		438	432	-6	+2	
491	485	-6	-6		442	445	+3	+3	
454	464	+10	+7		431	441	+10	+9	
457	464	+7	+4		426	428	+2	0	
457	464	+7	+4		440	423	-17	-16	
449	450	+1	0		430	430	0	0	Spur west
450	450	0	0		432	431	-1	0	
438	442	+4	+2		432	433	+1	0	
455	459	+4	+3		437	439	+2	+2	
466	481	+15	+13		446	442	-4	+3	
503	495	-8	-8		440	449	+9	+8	
478	472	-6	-3		447	449	+2	0	
474	473	-1	0		437	449	+12	+11	
483	474	-9	-7		438	453	+15	+13	
475	479	+4	+3	447	443	450	+7	+6	
464	478	+14	+13		448	454	+6	+4	
525	520	-5	-4		427	455	+28	+27	
501	500	-1	0		456	459	+3	+2	End of spur
490	498	+8	+7		435	425	-10	-8	
480	482	+2	0		428	420	-8	-8	
464	478	+14	+12		421	418	-3	-1	
470	489	+9	+8		397	405	+8	+3	
500	499	-1	0		404	390	-14	-9	

Test Elev.	Map Elev.	Error after shift	Remarks	Test Elev.	Map Elev.	Error after shift	Remarks
424	400	-24		236	240	+4	
360	379	+19		234	238	+4	
378	379	+1		Elev. 254. in above line, south along west edge of sheet.			
369	381	+12		253	259	+6	
348	351	+3		245	263	+18	
365	361	-4		242	263	+21	
352	341	-11		237	257	+20	
333	331	-2		238	261	+23	
318	312	-6		248	278	+30	
319	310	-9		260	288	+28	
312	301	-11		275	301	+26	
304	292	-12		307	314	+7	
283	288	+5		319	320	+1	
292	290	-2		326	338	+12	
311	309	-2	Spur north	337	361	+24	
322	318	-4		352	373	+21	
313	310	-3		360	379	+19	
305	310	+5		375	390	+15	
310	305	-5		391	402	+11	
323	317	-6		402	412	+10	
312	319	+7	End of spur	415	429	+14	
292	297	+5		430	453	+23	
283	283	0		459	473	+14	
284	284	0	Spur south	443	445	+2	
276	280	+4		462	468	+6	
255	265	+10		475	482	+7	
245	245	0		490	495	+5	
218	218	0	End of spur	492	485	-7	
270	273	+3		479	492	+13	
268	275	+7		488	490	+2	
262	269	+7		482	478	-4	
258	269	+11		497	500	+3	
267	269	+2		485	501	+16	
268	270	+2		500	518	+18	
256	260	+4					

Test Elev.	Map Elev.	Error	Error after shift	Remarks	Test Elev.	Map Elev.	Error	Error after shift	Remarks
Loop, begin	near old shack on W. edge of sheet, NW 1/4, around Hill 550.				502	510	+8	+6	
352	375	+23	+18		503	503	0	0	
363	388	+25	+22		494	494	0	0	
396	409	+13	+4		485	487	+2	0	
444	426	-18	-12		486	495	+9	+4	
452	461	+9	+5		474	479	+5	+5	
465	460	-5	-2		460	479	+19	+18	
469	478	+9	0		483	490	+7	+0	
492	482	-10	-9		491	500	+9	+9	
500	481	-19	-18		485	501	+16	+15	
478	481	+3	+1		486	498	+12	+12	
471	480	+9	+8		497	500	+3	+2	
468	476	+8	+8		497	500	+3	+2	
453	470	+17	+17		503	503	0	0	
475	477	+2	0		496	504	+8	+6	
488	498	+10	+3		499	499	0	0	
495	510	+15	+13		From trail near pond close to Sec. Cor. 31, 32, 6.5, N. to point 1360 ft. SSE. of Sec. Cor. 30, 29, 31, 32.				
501	510	+9	+6		448	460	+12	+11	
456	482	+26	+24		439	452	+13	+11	
497	500	+3	+2		437	450	+13	+11	
496	501	+5	+4		447	460	+13	+10	
493	505	+12	+11		443	460	+17	+3	
504	504	0	0		438	445	+7	+1	
Begin 2700 ft. NW. Sec. 32. thence South.					435	451	+16	+6	
463	463	0	0		451	451	0	0	
469	462	-7	-4		441	452	+11	+9	
472	464	-8	-4		448	449	+1	0	
467	463	-4	0		449	452	+3	+2	
480	472	-8	-1		450	456	+6	+4	
482	481	-1	0		449	452	+3	+1	
457	466	+9	+5		449	455	+6	+5	
478	479	+1	0		440	455	+15	+14	
497	501	+4	+2		456	459	+3	+2	

Test Elev.	Map Elev.	Error	Error after shift	Remarks	Test Elev.	Map Elev.	Error	Error after shift	Remarks
448	453	+5	+3		451	445	-6	-6	
443	449	+6	+4		428	433	+5	+5	
447	447	0	0		439	440	+1	0	
440	447	+7	+6		430	435	+5	+4	
437	448	+11	+10		425	421	-4	-3	
438	449	+11	+10		433	419	-14	-13	
446	442	-4	-3		418	418	0	0	
437	439	+2	+1		454	441	-13	-12	
432	432	0	0		436	437	+1	0	
Point 500 ft. N. Sec. Cor. 31, 32, 6, 5,					441	435	-6	-5	
to same point, 1200 ft. SE. of Sec.					435	428	-7	-6	
Cor. 30, 29, 31, 32,					BM E-25 8, W. and N. to M.H.W.				
383	395	+12	+12		223	823	0	0	
409	400	-9	-1		218	219	+1	0	
401	402	+1	0		222	225	+3	0	
404	410	+6	+4		188	195	+7	+6	
408	412	+4	+3		184	188	+4	+3	
422	418	-4	-3		188	188	0	0	
449	433	-16	-11		178	185	+7	+2	
419	424	+5	+2		175	187	+12	+7	
429	432	+3	+2		161	179	+18	+10	
484	482	-2	0		154	157	+3	0	
478	478	0	0		146	148	+2	0	
449	442	-7	0		140	140	0	0	
445	441	-4	0		139	135	-4	-1	Spur to left
469	461	-8	-8		137	131	-6	0	
436	438	-2	0		135	130	-5	0	
461	458	-3	-3		111	114	+3	0	
451	449	-2	0		88	98	+10	+7	
435	445	+10	+8		59	80	+21	+16	
452	443	-9	-2		32	39	+7	0	End of spur
449	441	-8	0		123	143	+20	+18	
502	499	-3	0		117	149	+22	+19	
475	481	+6	+4		113	150	+37	+34	
418	423	+5	+2						

Test Elev.	Map Elev.	Error	Error after shift	Remarks	Test Elev.	Map Elev.	Error	Error after shift	Remarks
108	143	✓35	✓33		197	208	✓11	✓5	
94	131	✓37	✓31		213	220	✓7	✓5	
66	96	✓30	✓19		218	218	0	0	
40	55	✓15	✓15		214	222	✓8	✓6	
44	50	✓6	0		202	207	✓5	0	
35	42	✓7	0		216	239	✓23	✓10	
BM D-238 to M.H.W. via Sec. Cor. 19, 20									
30, 29					227	239	✓12	✓8	
137	138	✓1	0		226	239	✓13	✓9	
152	156	✓4	0		239	255	✓16	✓11	
160	159	✓1	0		257	261	✓4	0 0	
156	160	✓4	✓2	Section Cor.	280	285	✓5	0	
159	165	✓6	✓3		272	282	✓10	✓8	
147	140	✓7	0		279	290	✓11	0	
94	102	✓8	✓6		269	272	✓3	0	
88	98	✓10	✓10		264	275	✓11	✓7	
83	99	✓16	✓15		260	270	✓10	✓8	
74	98	✓24	✓16		265	279	✓14	✓12	
62	62	0	0		268	280	✓12	✓10	Begin spur west
40	40	0	0		282	294	✓12	✓1	
20	20	0	0		303	320	✓17	✓9	
BM E-238 N. to M.H.W. at cabin									
181	182	✓1	0	D road & drive	311	343	✓32	✓21	
182	177	✓5	0		319	345	✓26	✓15	
149	155	✓6	0		348	352	✓4	0	
127	130	✓3	0		364	370	✓6	0	
116	116	0	0		391	387	✓4	0	
88	82	✓6	0		355	400	✓45	✓25	
95	110	✓15	0		376	405	✓29	✓22	
60	61	✓1	0		391	420	✓29	✓26	
52	52	0	0		433	441	✓8	0	
41	38	✓3	0		426	441	✓15	✓6	End of spur
33	38	✓5	0		266	283	✓17	✓12	
25	30	✓5	0		265	281	✓16	✓3	
192	198	✓6	✓5		299	299	0	0	
					258	262	✓4	0	
					233	275	✓42	✓27	

Test Elev.	Map Elev.	Error after shift	Remarks	Test Elev.	Map Elev.	Error after shift	Remarks
245	268	+23		209	215	+6	
266	280	+14		216	219	+3	
274	280	+6		217	223	+6	
290	295	+5		210	218	+8	
292	296	+4		204	217	+13	
325	325	0		221	225	+4	
299	312	+13		215	219	+4	
314	341	+27		224	245	+21	
321	335	+14		248	251	+3	
334	350	+16		218	228	+10	
340	357	+17		284	284	0	
359	381	+21		235	240	+5	Near BM.F-238
360	361	+1		223	220	-3	Eastward to
369	372	+3		216	222	+6	M.H.W.
390	393	+3		214	214	0	
396	401	+5		260	261	+1	
400	408	+8		220	229	+9	
431	440	+9		241	243	+2	
408	410	+2		254	254	0	
439	430	-9		299	305	+6	
423	420	-3		314	315	+1	
421	420	-1		311	319	+8	
442	439	-3		358	361	+3	
BM.F-238, eastward							
171	171	0		363	360	-3	
196	200	+4		308	318	+10	
200	210	+10		304	315	+11	
199	210	+11		310	321	+11	
218	221	+3		320	331	+11	
199	200	+1		296	311	+15	
190	200	+10		287	297	+10	
195	202	+7		248	281	+33	
230	230	0		259	281	+22	
240	240	0		253	250	-3	
205	218	+13		252	238	-14	
				248	240	-8	

Test Elev.	Map Elev.	Error	Error after shift	Remarks	Test Elev.	Map Elev.	Error	Error after shift	Remarks
242	242	0	0		BM. P-238 to BM. P-238	200	201	-1	
252	242	-10	-9			226	224	-2	
207	227	20	16			201	199	-2	
201	228	27	24			272	262	-10	-9
224	238	14	8			246	234	-12	-2
189	223	34	25			234	234	0	0
158	178	20	4			214	227	13	8
107	137	30	15			208	230	22	21
134	163	29	7			237	233	-4	0
77	102	25	3			236	235	-1	0
100	120	20	0			T.B.M. 57 to Tri. Sta. Down 1894			
137	170	33	5			174	168	-6	0
58	128	70	60			172	169	-3	0
51	102	51	32			170	176	6	5
68	90	22	2	600ft. WNW. of rock bare 300ft. Socket		210	200	-10	0
Elev.	248 to Tri. Sta. Socket					262	259	-3	-1
239	258	19	18			288	290	2	0
237	251	14	13			277	281	4	0
236	249	13	11			291	300	9	7
229	232	3	1			288	320	32	30
225	220	-5	-4			298	320	22	20
199	211	12	10			307	330	23	20
182	178	-4	-2			315	338	23	20
183	178	-5	-2			318	338	20	16
168	179	11	9			360	360	0	00
137	149	12	6			314	323	9	6
120	130	10	5			344	344	0	0
106	120	14	6			308	331	23	15
66	80	14	7			302	332	30	18
36	68	32	27			297	349	52	43
8	18	10	0			345	389	44	37
16	16	0	0			312	362	50	26
18	10	-8	0			325	338	13	0
						286	320	34	23

Test Elev.	Map Elev.	Error	Error after shift	Remarks	Test Elev.	Map Elev.	Error	Error after shift	Remarks
308	302	- 6	0		469	481	+12	+11	
222	239	+17	0		477	481	+ 4	+ 1	
223	245	+22	+ 7		483	499	+16	0	
191	219	+28	+ 9		471	482	+11	+ 9	
166	190	+24	0		459	470	+11	+11	
111	115	+ 4	0		483	481	- 2	- 1	
16	23	+ 7	0	close to Down 1894.	504	509	+ 5	+ 1	
Loop by Sec. cor. 28, 27, 33, 34.									
294	318	+24	+16		513	517	+ 4	0	
298	312	+14	+10		505	510	+ 5	+ 1	
283	290	+ 7	0		480	500	+20	+17	
270	287	+17	+ 9		457	489	+32	+25	
278	301	+23	+17		467	487	+20	+15	
273	299	+26	+19		443	471	+28	+17	
261	271	+10	+ 5		452	500	+48	+43	
251	258	+ 7	+ 5		462	513	+51	+48	
241	246	+ 5	0		479	507	+28	+24	
238	242	+ 6	+ 3		480	501	+21	+18	
217	228	+11	+ 8		515	502	-13	-12	
246	258	+12	+ 6		472	501	+29	+26	
269	280	+11	+ 4		481	498	+17	+10	
261	260	- 1	0		477	480	+ 3	0	
277	295	+18	+13		435	468	+33	+26	
270	289	+19	+10		402	442	+40	+30	
286	301	+15	+13		402	407	+ 5	0	
293	304	+11	+ 7	End of loop	392	400	+ 8	0	
Loop N. & E. across Hill 520									
N.W. of Sec. cor. 28, 27, 33, 34.									
292	297	+ 5	0		388	398	+10	0	
387	365	- 2	0		345	358	+13	0	
393	403	+10	0		Point 1500ft E. BM. F-238 to point				
416	412	- 4	0		900 ft. W. of Down. 1894				
462	462	0	0		308	318	+10	+ 9	
446	450	+ 4	0	shoulder high	330	351	+21	+19	
405	410	+ 5	0	Bench, Hill 486	349	363	+14	+12	
					371	381	+10	+ 9	
					333	358	+25	+20	
					349	358	+ 9	+8	

Test Elev.	Map Elev.	Error	Error after shift	Remarks	Test Elev.	Map Elev.	Error	Error after shift	Remarks
340	350	+10	+4		214	210	-4	0	
377	390	+13	+10		200	198	-2	0	
381	401	+20	0		187	197	+10	+9	
370	361	-9	-1		187	190	+3	+1	
364	381	+17	+8		160	156	-4	-1	
342	380	+38	+28		153	162	+9	-5	
321	319	-2	0		109	151	+42	+37	
297	317	+20	+3		170	190	+20	+19	
285	295	+10	+4		117	168	+51	+45	
271	267	-4	0		38	38	0	0	
231	268	+37	+16		32	35	+3	0	
202	260	+58	+40		32	30	-2	0	
218	252	+34	+23		30	22	-8	0	
285	300	+15	+2		32	42	+10	0	
320	329	+9	0	End of line	65	92	+27	+15	
2 setups at Lonesome Cove.					42	35	-7	0	
13	5	-8	0		47	32	-15	0	
34	40	+6	+3		58	20	-38	500	
96	90	-6	00		75	55	-20	-13	
54	60	+6	+5		75	60	-15	-7	
58	76	+18	+16		62	60	-2	0	
2 setups at station Twist.					64	50	-14	-3	
21	22	+1	0		70	60	-10	-4	
45	49	+4	0		72	55	-17	-10	
60	87	+27	+22		53	40	-13	-5	
90	121	+31	+29		38	22	-16	-8	
From BM. H=238, E&N. to Susanna Point.					19	10	-9	0	
174	174	0	0		From T-road N, Elev. 200, N&W. to				
159	155	-4	-4		RM. H=238				
175	162	-13	-9		199	186	-13	-11	
169	159	-10	-7		183	174	-9	-8	
170	160	-10	-5		167	164	-3	-2	
170	164	-6	0		154	154	0	0	
209	199	-10	-8		125	125	0	0	
220	218	-2	0		87	82	-5	0	

Test Elev.	Map Elev.	Error	Error after shift	Remarks	Test Elev.	Map Elev.	Error	Error after shift	Remarks
104	90	-14	-9		From old Salisbury			houses S. to	
128	119	-9	-4		Roche Harbor Road				
133	124	-9	-4		148	140	-8	-3	
143	138	-5	-2		184	160	-24	-16	
150	138	-12	-11		242	236	-6	0	
153	142	-11	-10		264	260	-4	0	
162	154	-8	-6		275	276	+1	0	
167	167	0	0		242	239	-3	0	
177	177	0	0		189	178	-11	-10	
184	184	0	0		168	149	-19	-18	
196	191	-5	0		180	175	-5	-1	
246	232	-14	-13		From BM. J-238, S. to BM. A-237				
274	262	-12	-10		147	144	-3	-1	
Loop from elev. 214 on Susanna Point					130	128	-2	-1	
line S. around 440 Hill					127	123	-4	-2	
214	210	-4	0		136	141	+5	+4	
244	239	-5	0		128	133	+5	+3	
274	260	-14	-6		119	125	+6	+1	
287	270	-17	-7		140	135	-5	-5	
300	287	-13	0		143	143	0	0	
316	310	-6	0		143	143	0	0	
350	350	0	0		119	130	+11	+9	
352	352	0	0		95	105	+10	+5	
376	374	-2	0		94	105	+11	+6	
412	400	-12	-7		96	105	+9	+4	
434	421	-13	-12		85	95	+10	+10	
436	416	-20	-15		82	85	+3	+3	
445	440	-5	0		78	85	+7	+7	
384	370	-14	-5		94	102	+8	+8	
379	368	-11	-7		163	170	+7	+7	
353	346	-7	0		99	111	+12	+12	
353	340	-13	-3		113	122	+9	+9	
277	264	-13	-7		137	143	+6	+6	
262	248	-14	-12		140	145	+5	+5	
					133	135	+2	+2	

Test Elev.	Map Elev.	Error	Remarks	Test Elev.	Map Elev.	Error after shift	Remarks
From	Univ. of Wash.						
N.W. around	Point	Caution					
43	22	-21		123	157	+34	+28
25	18	-7		123	150	+27	+22
45	35	-10		116	140	+24	+19
51	52	+1		125	150	+25	+19
62	59	-3		137	164	+27	+22
75	72	-3		148	178	+30	+24
82	80	-2		183	204	+21	+15
94	110	+14		194	208	+14	+5
114	159	+45		204	210	+6	-0
137	162	+25		227	208	+19	-19
134	168	+34		221	209	-12	-2
144	170	+26		226	206	-20	-8
147	175	+28		238	240	+2	-0
169	182	+13		250	252	+2	-0
165	182	+17		245	245	-0	-0
160	170	+10		230	227	-3	-0
150	156	+6		224	221	-3	-0
136	134	-2		223	200	-23	-14
129	125	-4		232	204	-28	-14
120	123	+3		227	219	-8	-0
104	135	+31		220	207	-13	-2
98	135	+37		222	212	-10	-0
94	126	+32		222	222	-0	-0
93	105	+12		206	206	-0	-0
79	94	+15		200	202	+2	-0
90	120	+30		193	200	+7	+5
94	120	+26		Spur line N. of B.M. K-238			
97	120	+23		214	188	-26	-22
99	115	+16		188	170	-18	-14
107	119	+12		177	163	-14	-10
106	121	+15		162	156	-6	-4
109	134	+25		163	157	-6	-4
116	141	+25		150	155	+5	+4
				164	155	-9	-8
				167	150	-17	-16

Test Elev.	Map Elev.	Error after shift	Remarks	Test Elev.	Map Elev.	Error after shift	Remarks
156	147	- 9		209	215	+ 6	
Line along 445 ridge, E. from city dump.				211	213	+ 2	
236	238	+ 2		218	216	- 2	
264	266	+ 2		202	200	- 2	
285	286	+ 1		202	200	- 2	
278	283	+ 5		224	218	- 6	
300	290	- 10		226	216	- 10	
363	345	- 18		313	303	- 10	
326	323	- 3		276	281	+ 5	
436	424	- 12		299	295	- 4	
404	399	- 5		264	264	0	
416	402	- 14		205	205	0	
432	432	0		169	169	0	
444	445	+ 1		Tie across 225 top, 1880 ft. NW of Oceanographic Lab.			
422	420	- 2		223	219	- 4	
447	442	- 5		223	225	+ 2	
453	443	- 10		218	218	0	
407	407	0		204	196	- 8	
412	402	- 10		186	192	+ 6	
381	345	- 26		173	189	+ 16	
364	339	- 25		171	190	+ 19	
355	358	+ 3		164	184	+ 20	
371	362	- 9		Along shore from Tri. Sta. Friday 1894 to Sta. Caution 1940.			
342	330	- 12		29	8	- 21	
340	325	- 15		73	48	- 25	
327	312	- 15		78	62	- 16	
From Univ. of Wash. Oceanographic Lab. North and West.				78	68	- 10	
284	76	- 8		93	81	- 12	
111	118	+ 7		88	81	- 7	
161	154	- 7		72	64	- 8	
186	183	- 3		64	40	- 24	
200	205	+ 5		60	30	- 30	
216	204	- 12		33	11	- 22	

Test Elev.	Map Elev.	Error after shift	Remarks	Test Elev.	Map Elev.	Error after shift	Remarks
12	3	-9		164	164	0	
32	19	-13		182	175	-7	
40	21	-19		159	157	-2	
9	3	-6		159	153	-6	
20	10	-10		155	148	-7	
115	115	0		145	141	-4	
93	50	-43		156	108	-48	
104	84	-20		94	99	+5	
113	90	-23		110	108	-2	
98	70	-28		110	106	-4	
167	140	-27		106	101	-5	
167	159	-9		Loop west of preceding loop			
175	132	-43		217	215	-2	
149	121	-28		232	212	0	
148	132	-16		236	232	-4	
156	168	+12		272	272	0	
From T-road 800 ft. E. of BM. J-238 S. to Beaverton Valley Road.							
147	145	-2		305	305	0	
150	128	-22		318	314	-4	
104	102	-2		256	241	-15	
182	182	0		248	248	0	
208	208	0		247	243	-4	
205	201	-4		246	235	-11	
136	138	+2		199	200	+1	
151	162	+11		200	201	+1	
152	166	+14		178	181	+3	
146	160	+14		149	151	+2	
81	88	+7		154	164	+10	
84	90	+6		231	222	-9	
BM. J-238 to BM. N-238.							
122	122	0		241	221	-20	
146	146	0		246	246	0	
178	181	+3		224	222	-2	
194	194	0		228	220	-8	
				239	221	-18	
				251	251	0	
				209	218	+9	

Test Elev.	Map Elev.	Error	Error after shift	Remarks	Test Elev.	Map Elev.	Error	Error after shift	Remarks
210	215	4 5	4 5		180	181	4 1	0	
223	223	0	0		226	230	4 4	0	
215	223	4 8	4 6		251	244	- 7	- 7	
217	230	4 13	4 5		181	180	- 1	- 1	
226	226	0	00		150	145	- 5	- 4	
248	241	- 7	- 5		150	148	- 2	- 1	
202	202	0	00		160	161	4 1	4 1	
197	197	0	0		144	138	- 6	- 4	
201	200	- 1	0		141	133	- 8	- 6	
219	226	4 7	4 2		136	126	- 10	- 8	
238	242	4 4	4 2		170	145	- 25	- 25	Missed top
246	243	- 3	0		152	145	- 7	- 6	
220	221	4 1	0		152	154	4 2	4 1	
From TBM. 6 in Friday Harbor, west									
via Valley Rd. to BM. M-238									
92	102	4 10	4 8		185	180	- 5	- 5	
110	110	0	0		184	180	- 4	- 4	
121	122	4 1	0		185	181	- 4	- 4	
141	141	0	0		176	176	0	0	
158	158	0	00		178	176	- 2	0	
182	174	- 8	- 6 6		177	162	- 15	- 13	
196	190	- 6	- 5		172	163	- 9	- 9	
190	190	0	0		175	178	4 3	0	
169	162	- 7	- 5		187	182	- 5	- 5	
147	142	- 5	- 3		159	164	4 5	4 1	
153	153	0	0		154	159	4 5	4 2	
173	164	- 9	- 9		149	149	0	0	
133	133	0	0		133	133	0	0	
121	118	- 3	- 2		115	121	4 6	4 3	
109	110	4 1	0		107	107	0	0	
113	109	- 4	- 2		96	98	4 2	4 2	
126	121	- 5	- 3		111	106	- 5	- 5	
141	136	- 5	- 3		Vicinity of BM L-238				
178	174	- 4	0		138	140	4 2	0	
179	181	4 2	4 1		122	120	- 2	0	

Test Elev.	Map Elev.	Error after shift	Remarks	Test Elev.	Map Elev.	Error after shift	Remarks
97	109	+12		155	165	+10	
92	92	0		Vicinity TBM. 7.			
106	102	-4		115	115	0	
From water tank to TBM. 63				135	132	-3	
156	158	+2		142	142	0	
157	157	0		146	142	-4	
146	145	-1		BM. D-238 N.E. to Warbass Way.			
194	184	-10		71	75	+4	
193	185	-8		97	98	+1	
258	265	-7		103	103	0	
191	191	0		97	102	+5	
203	200	-3		112	112	0	
207	199	-8		106	119	+13	
172	162	-10		123	117	-6	
142	141	-1		114	124	+10	
107	107	0		92	105	+13	
Tie north from T-road 1 mile SSW.				65	70	+5	
from water tank.				55	59	+4	
96	90	-6		165	195	+30	
87	77	-10		215	225	+10	
104	100	-4		32	30	-2	
131	124	-7		North along sheet edge and west			
153	143	-10		along 335 top/			
From TBM. 6, 3000 ft. southeast.				21	11	-10	
54	56	+2		42	38	-4	
87	93	+6		122	118	-4	
88	88	0		192	182	-10	
98	104	+6		236	218	-18	
115	110	-5		240	218	-22	
114	114	0		239	218	-21	
156	150	-6		300	270	-30	
161	158	-3		181	142	-39	
154	156	+2		115	118	+3	
160	161	+1		182	116	-64	
166	166	0		267	197	-70	

Test Elev.	Map Elev.	Error	Error after shift	Remarks	Test Elev.	Map Elev.	Error	Error after shift	Remarks
308	302	-6	0		19	28	-9	0	
330	325	-5	0		28	42	-14	-7	
328	300	-28	-7		34	66	-32	-30	
303	303	0	0		30	63	-33	-31	
300	298	-2	0		34	70	-36	-31	
298	295	-3	0		63	70	-7	-3	
293	289	-4	0		73	73	0	0	
220	206	-14	-10		64	86	-22	-14	
142	105	-37	-25		74	81	-7	-4	
46	30	-16	-8		83	87	-4	-2	
Brown Island N.W. to S. E.					13	18	-5	-3	
66	100	-34	-26		11	11	0	0	
86	100	-14	-14		17	7	-10	-10	
84	100	-16	-16		From water tank SSW. to BM G-237				
65	100	-35	-35		164	154	-10	-9	
62	100	-38	-38		180	176	-4	-1	
108	100	-8	-8		144	138	-6	-6	
107	100	-7	-7		140	139	-1	0	
102	100	-2	-2		140	135	-5	-5	
94	100	-6	-6		119	117	-2	-1	
87	100	-13	-13		101	92	-9	-6	
104	100	-4	-4		122	122	0	0	
36	55	-19	-19		143	130	-13	-6	
20	20	0	0		171	164	-7	0	
76	90	-14	-14		184	184	0	0	
66	78	-22	-22		186	186	0	0	
45	50	-5	-5		186	186	0	0	
38	40	-2	-2		157	151	-6	-3	
36	42	-6	-6		163	149	-14	-11	
37	61	-24	-15		160	152	-8	-8	
20	23	-3	-3		156	150	-6	-6	
34	61	-27	-22		152	146	-6	-6	
28	70	-42	-42		144	141	-3	-3	
18	56	-38	-35		148	147	-1	0	
13	44	-31	-27		180	168	-12	-10	

Test Elev.	Map Elev.	Error after shift	Remarks	Test Elev.	Map Elev.	Error after shift	Remarks
191	181	-10		83	86	+3	
204	195	-9		70	70	0	
196	190	-6		63	63	0	
202	198	-4		43	44	+1	
193	185	-8		47	50	+3	
204	195	-9		46	54	+8	
From TBM. 8 NW. to Phifers Pond				42	42	0	
94	101	+7		42	45	+3	
118	117	-1		50	55	+5	
147	147	0		87	82	-5	
174	170	-4		64	62	-2	
181	181	0		50	50	0	
186	182	-4		35	30	-5	
185	181	-4		26	36	+10	
122	122	0		18	18	0	
135	136	+1		27	37	+10	
155	158	+3		Dinner Island			
195	185	-10		21	12	-9	
192	188	-4		28	19	-9	
183	190	+7		23	19	-4	
202	202	0		35	25	-10	
195	195	0		40	30	-10	
187	182	-5		40	30	-10	
196	194	-2		27	25	-2	
218	205	-13		From Phifers Pond W. to S.			
198	200	+2		end of airstrip.			
196	191	-5		106	106	0	
184	178	-6		94	85	-9	
166	166	0		107	105	-2	
156	158	+2		96	90	-6	
From cross road Elev. 144 E. to M.H.V.				88	78	-10	
162	162	0		92	73	-19	
135	136	+1		98	82	-16	
124	121	-3		124	120	-4	
94	98	+4		130	124	-6	

Test Elev.	Map Elev.	Error	Error after shift	Remarks	Test Elev.	Map Elev.	Error	Error after shift	Remarks
131	129	-2	-2		64	68	+4	+3	
From T-road	S. Elev. 107.5 & W. to				33	42	+9	+8	
BM. N-237					From T-road Elev. 137 NW.				
102	98	-4	-4		towards airstrip				
106	108	+2	+2		130	130	0	0	
143	139	-4	-3		114	106	-8	-4	
137	137	0	0	T-road west	107	88	-19	-18	
141	141	0	0		91	82	-9	-8	
146	138	-8	-6		78	64	-14	-13	
131	126	-5	-2		72	60	-8	-8	
176	170	-6	-5		101	90	-11	-11	
143	136	-7	-6		96	81	-15	-14	
106	94	-12	-9		90	78	-12	-10	
124	118	-6	-5		111	101	-10	-6	
113	105	-8	-5		50	43	-7	-5	
123	119	-4	-2		45	46	+1	0	
74	67	-7	-5		36	36	0	0	
160	155	-5	0		32	30	-2	-1	
151	143	-8	-7		30	30	0	0	
265	250	-15	-13		32	24	-8	-7	
241	240	-1	0		From T-road Elev. 157, W & N. to T-road				
228	227	-1	0		S. 2000 ft. W. of airstrip				
157	145	-12	-11	T-road west	165	141	-24	-23	
145	142	-3	-2		150	138	-12	-9	
149	149	0	0		138	130	-8	-5	
166	166	0	0		122	110	-12	-9	
163	163	0	0		63	61	-2	0	
152	152	0	0		59	62	+3	+2	
138	133	-5	-3		31	34	+3	+2	
135	135	0	0		27	25	-2	-1	
100	102	+2	0		26	24	-2	-1	
84	82	-2	0		31	26	-5	-4	
104	104	0	0		34	36	+2	+1	
97	102	+5	+5		28	27	-1	-1	
72	79	+7	+6		24	19	-5	-5	

Test Elev.	Map Elev.	Error	Error after shift	Remarks	Test Elev.	Map Elev.	Error	Error after shift	Remarks
22	24	+2	+2		44	42	-2	-2	From preceding line
22	21	-1	-1		164	163	-1	0	
22	19	-2	-2		161	159	-2	0	
26	20	-6	-6		168	166	-2	-1	
27	28	+1	+1		170	166	-4	-2	
40	41	+1	+1		156	146	-10	-8	
38	38	0	0		From T-road S. 2500 ft. W. of airstrip				
29	29	0	0		W. then S. to BM. 2-237				
65	65	0	0		167	142	-25	-25	Missed top
71	71	0	0		113	115	+2	+2	
92	92	0	0		121	119	-2	-2	
88	88	0	0		131	131	0	0	
74	74	0	0		120	121	+1	+1	
76	64	-12	-11		129	123	-6	-6	
104	104	0	0		141	139	-2	-2	
118	118	0	0		148	142	-6	-6	
129	121	-8	-7		136	132	-4	-3	
138	132	-6	-4		130	122	-8	-7	
Spur to line above					101	95	-5	-5	
22	24	+2	+2		68	64	-4	-3	
33	32	-1	-1		68	68	0	0	
45	43	-2	-2		72	72	0	0	
44	39	-5	-5		66	56	-10	-10	
60	58	-2	-2		86	88	+2	0	
67	67	0	0		100	102	+2	0	
From BM. M-238 south					102	102	0	0	
142	140	-2	0		100	101	+1	0	
176	161	-15	-6		98	88	-10	-6	
196	194	-2	0		99	90	-9	-5	
214	214	0	0		140	132	-8	-4	
214	218	+4	+2		149	145	-4	-3	
214	217	+3	+1		219	222	+3	0	
204	207	+3	+1		260	262	+2	+2	
151	153	+2	0		233	243	+10	+9	
143	138	-5	-2		241	243	+2	+2	

Test Elev.	Map Elev.	Error	Error after shift	Remarks	Test Elev.	Map Elev.	Error	Error after shift	Remarks
228	238	10	8		From BM. P. 237 NW corner				
243	246	3	1		Little Mountain				
255	262	7	5		236	210	-26	-24	
245	247	2	0		240	220	-20	-17	
245	248	3	0		262	256	-6	0	
244	248	4	0		286	286	0	0	
233	248	15	7		267	257	-10	-5	
256	261	5	4		413	388	-25	-14	
252	261	9	8		466	445	-21	-21	
241	248	7	5		454	438	-16	-10	
217	225	8	6		454	440	-14	-13	
189	194	5	3		431	417	-14	-9	
164	170	6	5		438	428	-10	-8	
180	181	1	1		419	410	-9	-1	
191	191	0	0		416	399	-17	-11	
188	188	0	0		398	378	-20	-15	
172	174	2	0		375	370	-5	-3	
170	168	-2	-1		381	362	-19	-17	
152	165	13	11		383	352	-31	-23	
143	143	0	0		364	358	-6	-2	
148	148	0	0		402	387	-15	-12	
BM. N-237 to BM. Q-237					400	392	-8	-2	
18	13	-5	0		410	399	-11	-10	
16	14	-2	-2		412	399	-13	-12	
39	37 ^m	-2	-1		274	260	-14	-10	
54	48	-6	-4		332	304	-28	-20	
75	74	-1	0		286	278	-8	-4	
117	110	-7	-2		263	259	-4	0	
141	132	-9	-5		254	253	-1	0	
165	161	-4	-2		238	238	0	0	
223	220	-3	-3		224	214	-10	-5	
224	222	-2	-2		204	200	-4	0	
170	181	11	2						
141	145	4	0						
139	139	0	0						

Test Elev.	Map Elev.	Error	Error after shift	Remarks	Test Elev.	Map Elev.	Error	Error after shift	Remarks
Over 385 top in W. half Sec. 20.					138	124	-14	-13	
370	368	-2	0		129	119	-10	-8	
367	367	0	0		78	77	-1	0	
382	380	-2	0		65	66	+3	0	
359	362	+3	+3		57	57	0	0	
376	380	+4	+1		53	42	-11	-11	
377	384	+7	+3		66	68	+2	0	
361	361	0	0		83	90	+7	0	
368	361	-7	-6		98	98	0	0	
357	357	0	0		66	64	-2	-1	
369	361	-8	-8		48	38	-10	-10	
353	365	+12	+7		44	36	-8	-8	
343	346	+3	0		42	38	-4	-4	
337	337	0	0		40	39	-1	-1	
Over 300 top, in W. half of Sec. 20					72	81	+9	+7	
272	270	-2	-2		64	74	+10	0	
268	282	+14	-12		36	36	0	0	
272	282	+10	+8		54	58	+4	+2	
245	258	+13	+11		53	53	00	0	
270	268	-2	-2		81	96	+15	+13	
381	390	+9	+1		65	69	+3	+1	
284	300	+16	+16		50	56	+6	+5	
282	288	+6	0		69	73	+4	+3	
246	261	+15	+12		90	86	-4	-2	
237	241	+4	0		83	77	-6	-2	
192	208	+16	+10		103	104	+1	0	
194	194	0	0		From Sec. Cor. 17, 18, 19, 20, to S.W.				
188	176	-12	-5		corner of sheet				
138	158	+20	+16		181	181	0	0	
207	210	+3	+1		178	178	0	0	
216	233	+17	+15		158	162	+4	+2	
237	255	+18	+17		174	174	0	0	
260	260	0	0		200	200	0	0	
240	256	+16	+15		224	221	-3	-2	
Loop along section line 17 & 20					242	245	+3	+3	

Test Elev.	Map Elev.	Error	Error after shift	Remarks	Test Elev.	Map Elev.	Error	Error after shift	Remarks
212	207	-5	-4		321	325	+4	+4	
192	198	+6	+6		316	321	+5	+5	
202	199	-3	-3		287	290	+3	0	
198	190	-8	-8		239	250	+11	+4	
194	184	-10	0		217	220	+3	0	
222	228	+6	0		192	194	+2	0	
251	247	-4	0		179	179	0	0	
303	300	-3	-2		171	171	0	0	
319	319	-9	-8		179	182	+3	+2	
300	310	+10	+9		From T-road E. Elev. 101 W&S to S.W. corner of sheet				
319	316	-3	-2		111	98	-13	-11	
338	328	-10	-7		131	126	-5	-4	
330	337	+7	+4		135	123	-12	-10	
352	359	+7	+4		102	95	-7	-7	
376	370	-6	0		75	74	-1	-1	
377	370	-7	0		108	102	-6	-6	
346	346	0	0		130	110	-20	-20	Missed top
355	361	+6	+3		171	165	-6	-1	
354	345	-9	-9		189	185	-4	-3	
322	330	+8	+8		242	242	0	0	
377	350	-27	-27		231	224	-7	-4	
301	290	-11	-7		229	230	+1	0	
313	323	+10	+10		237	225	-12	-10	Missed top
288	288	0	0		237	233	-4	-2	
310	299	-11	-10		239	238	-1	0	
294	296	+2	0		242	250	+8	0	
296	284	-12	-4		285	283	-2	0	
267	270	+3	+1		301	300	-1	0	
264	264	0	0		312	310	-2	-2	
225	285	0	0		308	310	+2	0	
287	287	0	0		306	310	+4	0	
285	285	0	0		309	316	+7	+1	
286	282	-4	-3		299	300	+1	+1	
294	290	-4	-3		282	288	+6	+3	
285	283	-2	-1						

Test Elev.	Map Elev.	Error	Error after shift	Remarks	Test Elev.	Map Elev.	Error	Error after shift	Remarks
264	278	+14	+12		434	441	+7	+3	
253	250	-3	-2		445	456	+11	+7	
255	260	+5	+1		448	442	-6	-2	
239	242	+3	0		457	474	+17	+13	
227	228	+1	0		439	444	+5	+1	
246	254	+8	+5		464	450	-14	-10	
269	271	+2	+2		362	362	0	0	
262	265	+3	0		335	338	+3	0 0	
277	280	+3	0		360	358	-2	0	
287	282	-5	0		407	390	-17	-17	Missed top
320	324	+4	0		415	390	-25	-25	" "
332	342	+8	+2		384	385	+1	+1	
335	340	+5	+5		401	394	-7	-4	
323	328	+5	+2		394	388	-6	-4	
293	317	+24	+22		394	382	-12	-10	
294	295	+1	0		From T-road E. Elev 101, N.W. to				
254	258	+4	0		BM. Q-238 and sheet edge				
275	268	-7	-4		131	125	-6	-4	
249	256	+7	+5		154	150	-4	-4	
245	246	+1	0		158	148	-10	-10	
226	221	-5	-3		138	130	-8	0	
305	295	-10	-5		106	96	-10	-9	
182	178	-4	-4		106	95	-11	-10	
194	194	0	0		89	89	0	0	
283	281	-2	0		110	106	-4	-2	
340	328	-12	-6		120	115	-5	-3	
341	350	+9	+6		177	171	-6	-4	
394	384	-10	-4		210	204	-6	-5	
396	396	0	0		240	234	-6	-2	
389	396	+7	+1		293	283	-10	-9	
402	390	-12	-7		295	295	0	0	
429	419	-10	-7		276	276	0	0	
432	423	-9	-6		310	310	0	0	
426	427	+1	0		314	313	-1	0	
426	422	-4	-2		304	295	-9	-5	

(37)

Project No. Ph. -26 Quad. No. T-5501 Quad. Name _____
Method of Testing Plane table profile
Tested by R.H.S., C.H.B. Date Mar.-Sept. 1954 Evaluated by R.H.S.
Contour interval 20 ft. 1.22 M.M. allowable shift at 1 7 10,000
map or manuscript scale.

79% of points within $\frac{1}{2}$ contour interval or better
 1872 Test points correct within $\frac{1}{2}$ contour interval
 304 Test points in error between $\frac{1}{2}$ and full contour interval
 185 Test points in error over full contour interval

[illegible]

Review Report
Topographic Map T-5591

62. Comparison with Registered Topographic Surveys:

T-2229 thru T-2231, 1:10000, 1895
T-2301 1:10000, 1897

These surveys show rocks at the following positions which were not mapped by T-5591:

Lat. $48^{\circ} 35.5'$ - Long. $123^{\circ} 02.2'$
Lat. $48^{\circ} 35.0'$ - Long. $123^{\circ} 00.8'$
Lat. $48^{\circ} 30.2'$ - Long. $123^{\circ} 01.1'$

The photographs do not show these rocks clearly enough to position but they should be retained for charting. These surveys show much bluff symbol which is not indicated on T-5591 except by contours. For the area encompassed, T-5591 should supersede these prior surveys except as noted.

63. Comparison with Maps of Other Agencies: None.

64. Comparison with Contemporary Hydrographic Surveys:

H-8084, 1:10000, 1953
H-8087, 1:5000, 1953

These surveys show some features in the awash zone which were not mapped by T-5591. Piling in Friday Harbor is slightly different on the two surveys. T-5591 shows piling as positioned by the field editor. Depth curves on H-8084 at lat. $48^{\circ} 30.2'$ - long. $123^{\circ} 00.9'$ should be reshaped around a rock awash on T-5591. Other differences were reconciled.

65. Comparison with Nautical Charts:

6379 1:20000 March 1953
6380 1:80000 1947, corrected to 52-7/14

Apparently an advance print of T-5591 was used in the compilation of chart 6379. Corrections in shoreline features made on the map manuscript since the map was field edited are shown in red. Numerous changes were also made in contours. Elevations of rocks at lat. $48^{\circ} 36.1'$ - long. $123^{\circ} 00.4'$ and lat. $48^{\circ} 36.8'$ - long. $123^{\circ} 02.2'$ were changed during the field edit. Both charts have retained much of the bluff symbol as shown on the prior surveys referred to under Item 62. Bluffs seem typical of practically all shoreline in this area and only very prominent ones have been indicated on this project. Map T-5591 shows "Neal Island" for "O'Neal Island" on the charts.

66. Adequacy of Results and Future Surveys:

This map complies with National Map Accuracy Standards and Bureau requirements.

67. Boundaries:

The reliability of portions of the boundary for Friday Harbor is very doubtful as mentioned under Item 56. It is shown as positioned by the field editor even though this does not appear to agree with the supporting descriptions of annexations.

Reviewed by:

Everett H. Ramey
Everett H. Ramey

APPROVED:

L. C. Lande
Chief, Review Section
Photogrammetry Division

Marvin T. Paulson
Chief, Nautical Chart Branch
Charts Division

J. E. Waugh 7/23/62
Chief, Photogrammetry Division

W. A. Redlett
Chief, Coastal Surveys Division
Operations

History of Hydrographic Information for T-5591

Hydrography was added to the map manuscript in accordance with the Photogrammetry Division General Specifications of 18 May 1949.

Depth curves and soundings are in feet at Mean Lower Low Water datum and originate with the following Coast and Geodetic Survey hydrographic surveys:

<u>Number</u>	<u>Scale</u>	<u>Date of Survey</u>
H-2213	1:10,000	1894
8084	1:10,000	1953
8087	1:5,000	1953
Chart 6379	1:20,000	(corrected to 23 May 1955)

Hydrography was compiled by G. A. Walker, Jr. on 26 October 1955 and verified by O. Svendsen on 4 November 1955.


George A. Walker, Jr.

NAUTICAL CHARTS BRANCH

SURVEY NO. T-5591 N & S.

Record of Application to Charts

[illegible]

M-2168-1

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