Chart 17405 NM 50/99

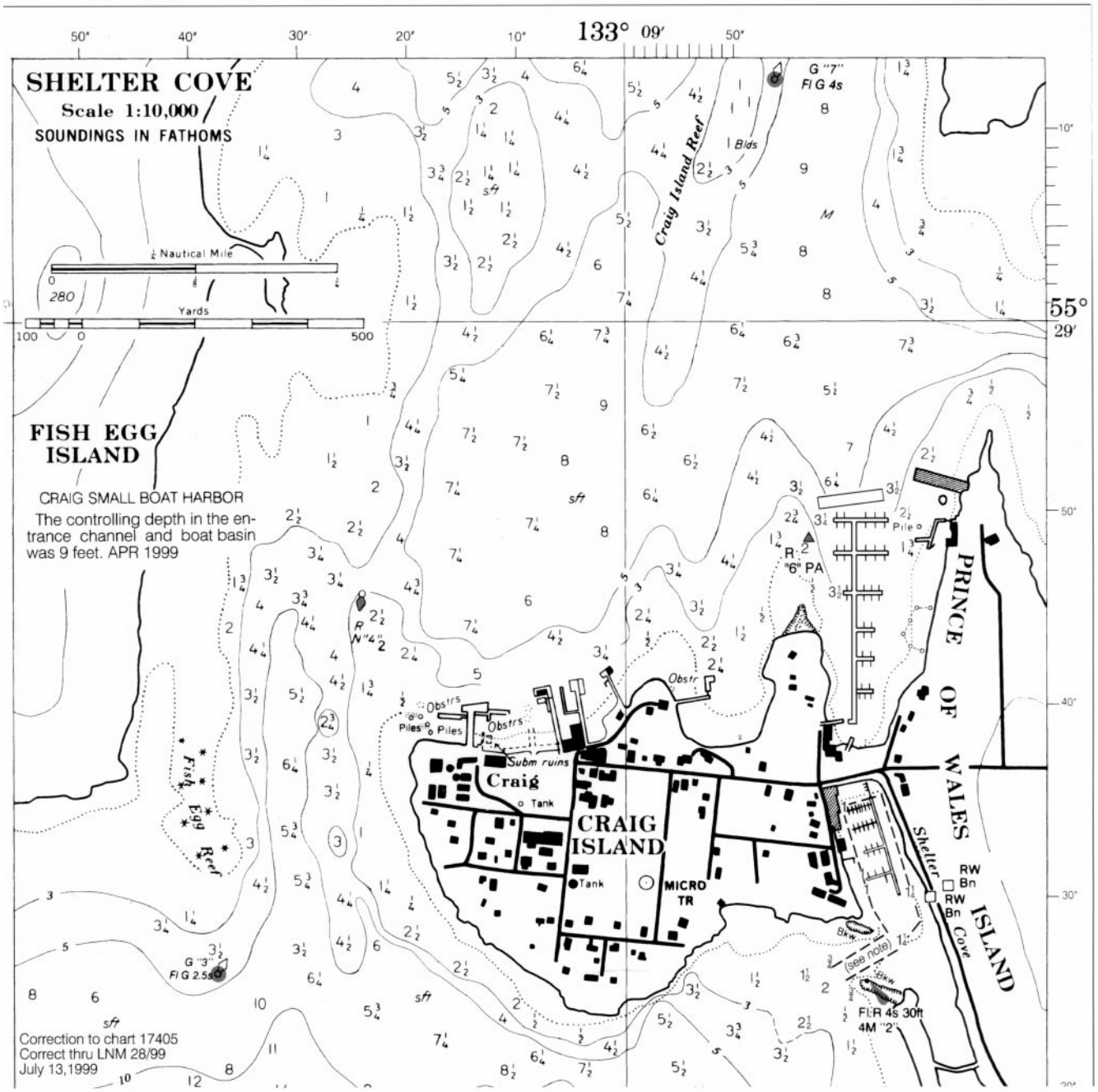
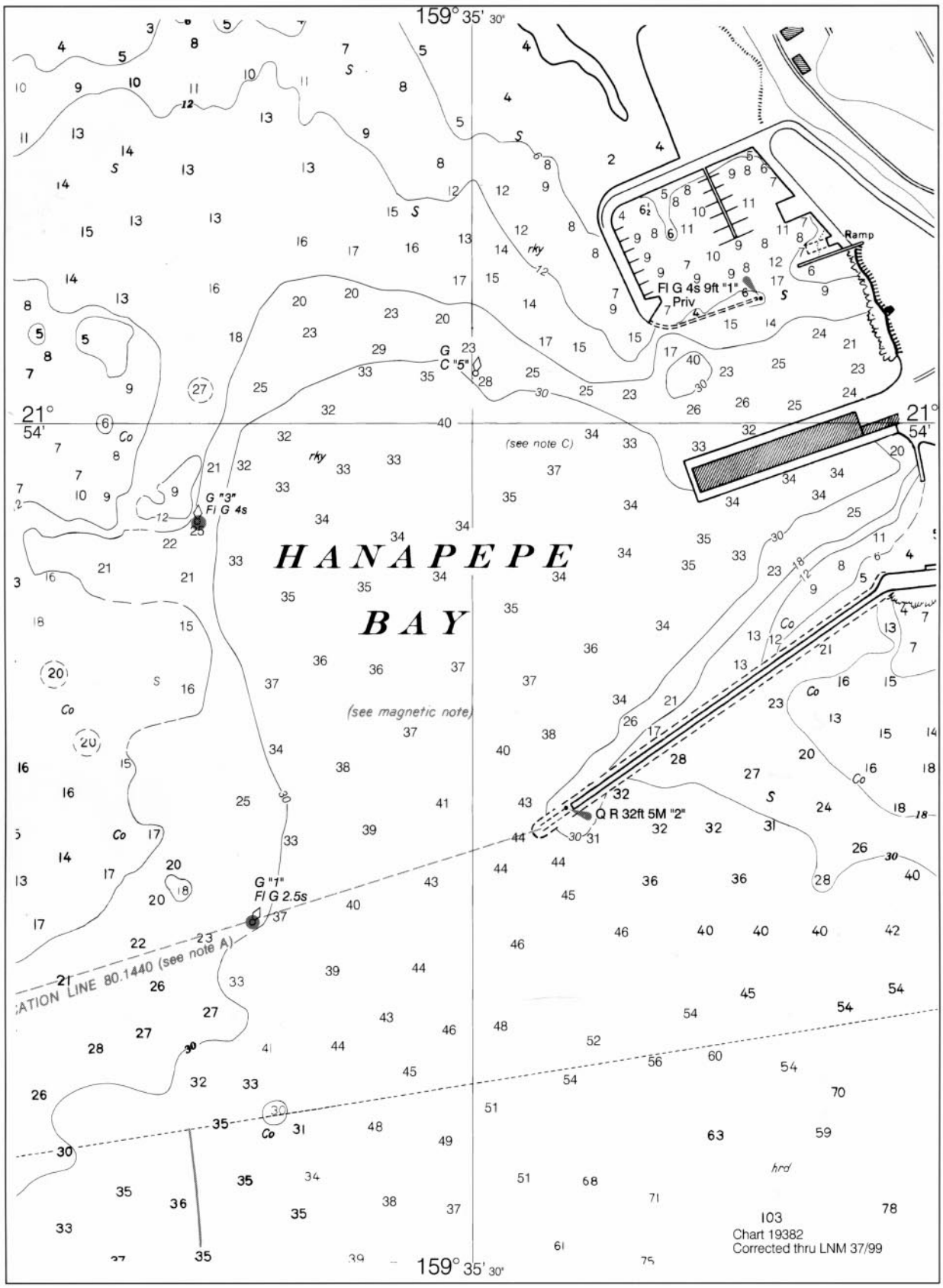


Chart 19382 NM 50/99



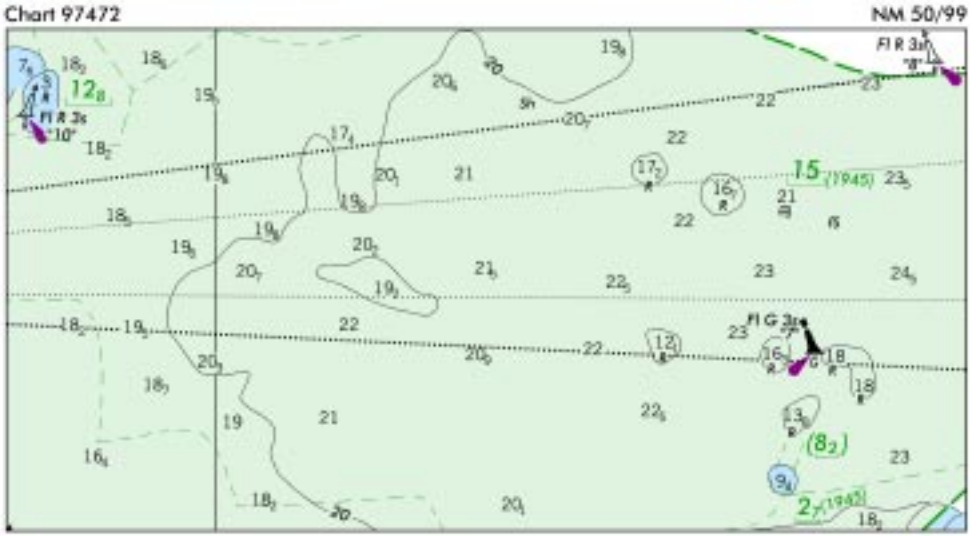


Chart 97472
NM 50/99

CHART 18521 NM 50/99

COLUMBIA RIVER CHANNEL DEPTHS
ENTRANCE TO MILLER SANDS RANGE

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO SEPT 1999

* SEE FOOTNOTE						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH * (MILES)	DEPTH * (FEET)
ENTRANCE RANGE	60	58	55	42	9-99	2640	3.3	48
SAND ISLAND RANGE (CLATSOP SPIT)	54	53	52	45	9-99	2640	2.2	48
LOWER DESDEMONA SHOAL	46	47	47	42	5, 7, 8-99	600	3.4	40
UPPER DESDEMONA SHOAL	38	46	47	47	8-99	600	3.7	40
TANSY POINT TURN AND RANGE	41	41	40	39	8, 9-99	600	4.7	40
ASTORIA RANGE	41	42	40	36	8-99	600	2.7	40
TONGUE POINT CHANNEL	39	41	42	42	9-99	600	2.2	40
HARRINGTON POINT RANGE	39	39	41	39	9-99	600	2.6	40
MILLER SANDS RANGE	37	43	42	42	9-99	600	2.2	40

* CONTROLLING DEPTHS IN CHANNELS ENTERING FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER FROM THE ENTRANCE TO HARRINGTON POINT AND COLUMBIA RIVER DATUM ABOVE THAT POINT. PROJECT LENGTHS ARE IN STATUTE MILES.
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

CHART 18523 NM 50/99

COLUMBIA RIVER CHANNEL DEPTHS
MILLER SANDS RANGE TO GULL ISLAND TURN AND CHANNEL

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO SEPT 1999

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT COLUMBIA RIVER DATUM (CRD)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (STAT. MILES)	DEPTH CRD (FEET)
MILLER SANDS RANGE	37	43	42	42	9-99	600	2.2	40
PILLAR ROCK LOWER RANGE	37	38	39	36	8,9-99	600	3.0	40
PILLAR ROCK UPPER RANGE	37	42	41	37	8-99	600	1.9	40
WELCH ISLAND REACH	41	44	46	21	8-99	600	3.2	40
SKAMOKAWA CHANNEL	42	42	39	29	8-99	600	3.3	40
STEAMBOAT REACH	50	46	46	45	8,9-99	600	1.4	40
PUGET ISLAND RANGE AND TURN	40	43	43	40	9-99	600	3.5	40
WAUNA RANGE	39	42	43	43	9-99	600	2.2	40
DRISCOLL RANGE	40	43	43	42	9-99	600	1.7	40
WESTPORT TURN AND RANGE	40	41	41	41	8-99	600	2.0	40
WESTPORT CHANNEL	39	39	40	39	8-99	600	2.4	40
EUREKA LOWER CHANNEL	43	47	45	43	8-99	600	2.1	40
EUREKA UPPER CHANNEL	43	43	43	41	8-99	600	0.8	40
OAK POINT CHANNEL	46	46	46	42	8-99	600	2.4	40
GULL I TURN AND CHANNEL	40	42	43	35	8,9-99	600	2.2	40

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

CHART 18524 (SIDE A) NM 50/99

COLUMBIA RIVER CHANNEL DEPTHS
GULL ISLAND TURN AND CHANNEL TO SAINT HELENS TURN
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO SEPT 1999

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT COLUMBIA RIVER DATUM (CRD)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (STAT. MILES)	DEPTH CRD (FEET)
GULL I TURN AND CHANNEL	40	42	43	35	8,9-99	600	2.2	40
STELLA RANGE	41	41	40	40	9-99	600	2.8	40
FISHER I CHANNEL	40	43	43	36	8,9-99	600	0.9	40
WALKER I CHANNEL	39	43	42	39	8-99	600	1.5	40
BARLOW PT. CHANNEL	44	42	41	40	8-99	600	1.3	40
SLAUGHTERS CHANNEL	39	38	37	36	8-99	600	2.5	40
SLAUGHTERS TURN AND CHANNEL OPPOSITE THE TURNING BASIN	40	39	39	37	8-99	600	1.7	40
COTTONWOOD ISLAND LOWER RANGE	35	41	41	40	8-99	600	1.7	40
COTTONWOOD ISLAND TURN	41	38	37	36	8-99	600	2.7	40
COTTONWOOD ISLAND UPPER RANGE AND TURN	40	40	40	42	8-99	600	1.6	40
KALAMA LOWER RANGE	41	42	41	34	8-99	600	1.8	40
KALAMA UPPER RANGE	37	38	38	37	8-99	600	2.2	40
BYBEE LEDGE CHANNEL	39	42	41	40	8-99	600	2.1	40
MARTIN ISLAND CHANNEL	39	42	40	35	8,9-99	600	2.1	40
MARTIN ISLAND RANGE	40	41	39	40	9-99	600	1.4	40
COLUMBIA CITY CHANNEL	42	41	40	38	9-99	600	1.2	40
ST. HELENS RANGE	39	39	39	34	8-99	600	2.0	40
ST. HELENS TURN	46	44	41	36	8,9-99	600	1.7	40

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

CHART 11524 (SIDE B) NM 50/99

COLUMBIA RIVER CHANNEL DEPTHS
SAINT HELENS TURN TO TOMAHAWK BAR
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO SEPT 1999

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT COLUMBIA RIVER DATUM (CRD)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (STAT. MILES)	DEPTH CRD (FEET)
ST. HELENS TURN	46	44	41	36	8,9-99	600	1.7	40
WARRIOR ROCK RANGE	39	42	41	38	9-99	600	1.3	40
DUCK CLUB TURN	37	39	41	42	9-99	600	1.4	40
HENRICI RANGE	37	39	40	39	9-99	600	2.6	40
FALES CHANNEL	42	42	40	38	9-99	600	1.1	40
KNAPP POINT CHANNEL	41	40	40	38	9-99	600	1.8	40
WILLOW LOWER RANGE	39	41	40	36	9-99	600	2.1	40
WILLOW UPPER RANGE	40	43	43	44	9-99	600	1.1	40
MORGAN TURN	41	44	45	48	9-99	600	1.0	40
MORGAN CHANNEL	43	45	41	43	9-99	600	1.5	40
VANCOUVER LOWER CHANNEL	48	48	54	46	9-99	500	1.0	40
VANCOUVER RANGE	41	41	39	39	9-99	500	1.3	40
VANCOUVER UPPER CHANNEL	42	41	40	37	9-99	500	0.9	40
VANCOUVER LOWER TURNING BASIN	32	34	36	39	9-99	800	1.0	40
VANCOUVER UPPER TURNING BASIN	26	24	23	24	9-99	800	0.9	35
TOMAHAWK BAR	14	15	15	16	4-98, 2-99	300	3.7	27

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

CHART 18526 NM 50/99

COLUMBIA RIVER CHANNEL DEPTHS
MORGAN CHANNEL TO TOMAHAWK BAR
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO SEPT 1999

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT COLUMBIA RIVER DATUM (CRD)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (STAT. MILES)	DEPTH CRD (FEET)
MORGAN CHANNEL	43	45	41	43	9-99	600	1.5	40
VANCOUVER LOWER CHANNEL	48	48	54	46	9-99	500	1.0	40
VANCOUVER RANGE	41	41	39	39	9-99	500	1.3	40
VANCOUVER UPPER CHANNEL	42	41	40	37	9-99	500	0.9	40
VANCOUVER LOWER TURNING BASIN	32	34	36	39	9-99	800	1.0	40
VANCOUVER UPPER TURNING BASIN	26	24	23	24	9-99	800	0.9	35
TOMAHAWK BAR	14	15	15	16	4-98, 2-99	300	3.7	27

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

CHART 18584 NM 50/99

UMPQUA RIVER CHANNEL DEPTHS
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF SEP 1999 AND SURVEYS TO SEP 1999

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)					PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
ENTRANCE CHANNEL TO LT. 21	18	18	18	5,6,9-99	200	7.0	26-22
LT 21 TO REEDSPORT	17	18	17	9-99	200	2.7	22
REEDSPORT TURNING BASIN	22	24	23	9-99	600	0.2	22
LT. 21 TO GARDINER	15	14	11	9-99	200	1.15	22
TURNING BASIN	3	2	2	9-98,5, 9-99	500	0.2	22

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

CHART 18649 NM 50/99

SAN FRANCISCO BAY
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO JULY 1999

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
MAIN SHIP CHANNEL:								
ENTRANCE	52.5	53.8	54.2	52.8	7-99	2000	3.5	55

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

CHART 18649 NM 50/99

RICHMOND HARBOR AND SOUTHAMPTON SHOAL CHANNEL DEPTHS
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO JUNE 1999

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
SOUTHAMPTON SHOAL CHANNEL	44.4	44.5	44.4	44.1	6-99	600	1.1	45
RICHMOND HARBOR								
ENTRANCE CHANNEL	37.5	37.9	38.1	37.7	1-99	600-550	1.0	35
POINT POTRERO REACH	37.4	38.0	37.7	37.1	1-99	500-600	1.4	35
POINT POTRERO TURN	37.7	37.3	37.1	36.6	1-99	600-1250	0.6	35
HARBOR CHANNEL	37.9	37.6	37.8	37.4	1-99	850-200	0.5	35
SANTA FE CHANNEL	28.2	30.0	30.0	29.4	1-99	200	0.5	35-30
TURNING BASIN	28.6	30.1	29.1	24.1	1-99	200-500	0.16	30

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

CHART 18653 NM 50/99

RICHMOND HARBOR AND SOUTHAMPTON SHOAL CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO JUN 1999

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)						PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
SOUTHAMPTON SHOAL CHANNEL	44.4	44.5	44.4	44.1	6-99	600	1.1	45
RICHMOND HARBOR								
ENTRANCE CHANNEL	37.5	37.9	38.1	37.7	1-99	600-550	1.0	35
POINT POTRERO REACH	37.4	38.0	37.7	37.1	1-99	500-600	1.4	35
POINT POTRERO TURN	37.7	37.3	37.1	36.6	1-99	600-1250	0.6	35
HARBOR CHANNEL	37.9	37.6	37.8	37.4	1-99	850-200	0.5	35
SANTA FE CHANNEL	28.2	30.0	30.0	29.4	1-99	200	0.5	35-30
TURNING BASIN	28.6	30.1	29.1	24.1	1-99	200-500	0.16	30

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

CHART 18654 NM 50/99

PINOLE SHOAL CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO AUG 1999

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)					PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
CHANNEL ENTRANCE (38°01'33"N, 122°22'47"W) TO LT. 11	33.6	34.8	34.3	7,8-99	600	2.8	35
THENCE TO 38°03'31"N, 122°17'08"W	33.6	34.7	33.3	7,8-99	600	2.2	35

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION