Chart 12222 NM 32/16

NORFOLK HARBOR AND APPROACHES

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO NOV 2015

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)
THIMBLE SHOAL CHANNEL (A)	47.8	50.2	49.9	47.8	8,9-12	1000	13.0	55
NORTH AUXILIARY CHANNEL (B)						450		32
SOUTH AUXILIARY CHANNEL (B)						450		32
NORFOLK HARBOR								
ENTRANCE REACH	50.0	52.4	52.6	51.8	7-10	1000-1440	1.4	50
NORFOLK HARBOR REACH	49.4	50.6	49.4	46.7	11-14	1250	4.1	50
CRANEY ISLAND REACH	48.6	49.6	50.2	48.3	11-14	800	2.6	50
LAMBERT BEND	43.0	43.0	43.0	41.6	1-10	750	0.3	45
LAMBERT BEND TO PINNER POINT	42.6	43.0	43.0	40.4	1-10	750	1.0	45
PINNER POINT TO TOWN PT REACH	37.2	40.0	40.0	39.2	1-10	750	1.0	45
NEWPORT NEWS CHANNEL	48.9	C50.0	50.3	49.7	11-15	800	5.8	55E
CAPE HENRY CHANNEL	45.6	50.0	47.9	43.5	10-11	1000	4.0	50
YORK SPIT CHANNEL	39.5	49.4	49.7	45.1	8-15	1000D	19.0	50
YORK RIVER ENTRANCE CHANNEL	36.2	37.9	37.5	36.8	11-11;2-12	750	13.8	37

A. CHANNEL IS RESTRICTED TO EXCLUDE VESSELS AND TOWS DRAWING LESS THAN 25 FEET. CHANNEL MAINTAINED TO 50 FEET.
B. PROJECT MAINTENANCE DISCONTINUED
C. 51 FOOT OBSTRUCTION LOCATED AT 36°57'12.4"N, 76°24'45.1"W.
D. CHANNEL WIDTH MAINTAINED TO 800 FEET
E. CHANNEL MAINTAINED TO 50 FEET
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 12245 NM 32/16

NORFOLK HARBOR AND NEWPORT NEWS CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO NOV 2015

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)
NORFOLK HARBOR ENTRANCE REACH	50.0	52.4	52.6	51.8	7-10	1000-1440	1.4	50
NORFOLK HARBOR REACH	49.4	50.6	49.4	46.7	11-14	1250	4.1	50
CRANEY ISLAND REACH	48.6	49.6	50.2	48.3	11-14	800	2.6	50
NEWPORT NEWS CHANNEL	48.9	A50.0	50.3	49.7	11-15	800	5.8	55B

A. 51 FOOT OBSTRUCTION LOCATED AT 36°57'12.4"N, 76°24'45.1"W.
B. CHANNEL MAINTAINED TO 50 FEET.
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 12273 NM 32/16

BALTIMORE HARBOR CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO OCT 2015

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 (MILES)	DEPTH MLLW (FEET)
CRAIGHILL ENTRANCE	45.0	49.0	51.0	46.0	5-15	700	3.79	50
CRAIGHILL CHANNEL	45.0	50.0	51.0	45.0	5-15	700	3.24	50
CRAIGHILL ANGLE	43.0	45.0	46.0	43.0	4-14	700-1870	1.88	50
CRAIGHILL CHANNEL UPPER RANGE	47.0	51.0	51.0	49.0	9-15	700	2.00	50
CUTOFF ANGLE	51.0	51.0	51.0	50.0	4-15	700-1740	1.14	50
BREWERTON CHANNEL	49.0	51.0	51.0	49.0	9-15	700	3.50	50
EASTERN EXTENSION	31.0	30.0	34.0	31.0	6-15	600	6.33	35
SWAN POINT CHANNEL	33.0	34.0	35.0	35.0	9-15	600	3.13	35
TOLCHESTER CHANNEL	31.0	33.0	34.0	33.0	10-15	450-600	10.87 **	35

* ALL DEPTHS REPORTED TO NEAREST FOOT
** THE LAST 1.88 NM OVERLAPS WITH THE CHESAPEAKE AND DELAWARE CANAL CHANNEL
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

Chart 12278 NM 32/16

BALTIMORE HARBOR CHANNEL DEPTHS

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO OCT 2015

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 (MILES)	DEPTH MLLW (FEET)
CRAIGHILL ENTRANCE	45.0	49.0	51.0	46.0	5-15	700	3.79	50
CRAIGHILL CHANNEL	45.0	50.0	51.0	45.0	5-15	700	3.24	50
CRAIGHILL ANGLE	43.0	45.0	46.0	43.0	4-14	700-1870	1.88	50
CRAIGHILL CHANNEL UPPER RANGE	47.0	51.0	51.0	49.0	9-15	700	2.00	50
CUTOFF ANGLE	51.0	51.0	51.0	50.0	4-15	700-1740	1.14	50
BREWERTON CHANNEL	49.0	51.0	51.0	49.0	9-15	700	3.50	50
BREWERTON ANGLE	47.0	48.0	49.0	48.0	3-15	700-1460	1.10	50
FORT MCHENRY CHANNEL	45.0	49.0	49.0	47.0	2-15	700	4.22	50
CURTIS BAY CHANNEL	47.0	47.0	47.0	45.0	3-15	400-1275	2.25	50
BREWERTON CHANNEL EASTERN EXTENSION	31.0	30.0	34.0	31.0	6-15	600	6.33	35
SWAN POINT CHANNEL	33.0	34.0	35.0	35.0	9-15	600	3.13	35
TOLCHESTER CHANNEL	31.0	33.0	34.0	33.0	10-15	450-600	10.87 **	35

* ALL DEPTHS REPORTED TO NEAREST FOOT

** THE LAST 1.88 NM OVERLAPS WITH THE CHESAPEAKE AND DELAWARE CANAL CHANNEL

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

Chart 18521 NM 32/16

COLUMBIA RIVER CHANNEL DEPTHS

ENTRANCE TO MILLER SANDS RANGE

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF 20-May-16

Controlling Depths in Feet at MEAN LOWER LOW WATER (MLLW) * 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 STAT (Miles)	Depth (Feet)
Entrance Range **	59	59	53	**	3-May-16	2000	3.3	55
	**	**	**	45	3-May-16	640	3.3	48
Sand Island Range **	53	55	52	**	3-May-16	2000	2.2	55
	**	**	**	44	3-May-16	640	2.2	48
Lower Desdemona Sands	47	48	50	51	25-Apr-16	600	3.4	43
Upper Desdemona Sands	43	44	43	41	12-May-16	600	3.6	43
Tansy Point Turn & Range	40	43	44	36	11-May-16	600	4.8	43
Astoria Range	41	44	44	39	30-Mar-16	600	2.7	43
Tongue Point Channel	40	43	44	43	10-May-16	600	2.2	43
Harrington Point Range	41	43	43	38	10-May-16	600	2.6	43
Miller Sands Range * (CRD)	40	46	44	33	5-May-16	600	2.2	43

* Controlling Depths in Channels Entering from Seaward in feet at Mean Lower Low Water from the Entrance to Harrington Point and Columbia River Datum (CRD) above that point.

For Controlling Depth Information, consult the Local Notice to Mariners and/or the following Portland District US Army Corps of Engineers website: http://www.nwp.usace.army.mil/Missions/Navigation.aspx Channel status reports

** Channel width is 2640 feet with two controlling depths, northern width is 2000 feet and southern width is 640 feet

Chart 18523 NM 32/16

COLUMBIA RIVER CHANNEL DEPTHS
PILLAR ROCK LOWER RANGE TO GULL ISLAND TURN AND CHANNEL
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF 20-May-16

CONTROLLING DEPTHS IN FEET AT COLUMBIA RIVER DATUM (CRD) * 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 STAT (Miles)	Depth (Feet)
Miller Sands Range	40	46	44	33	5-May-16	600	2.2	43
Pillar Rock Lower Range	41	44	44	39	9-May-16	600	3	43
Pillar Rock Upper Range	40	44	46	44	29-Mar-16	600	1.9	43
Welch Island Reach	47	47	44	32	29-Mar-16	600	3.2	43
Skamokawa Channel	38	43	43	39	28-Apr-16	600	3.3	43
Steamboat Reach	44	46	45	43	28-Apr-16	600	1.4	43
Puget Island Range & Turn	43	44	43	41	21-Apr-16	600	3.5	43
Wauna Range	41	43	42	40	26-Apr-16	600	2	43
Driscoll Range	42	44	45	43	26-Apr-16	600	1.7	43
Westport Turn & Range	41	43	43	44	21-Apr-16	600	2	43
Westport Channel	39	45	44	40	21-Apr-16	600	2.4	43
Eureka Lower Channel	46	46	48	46	21-Apr-16	600	2.1	43
Eureka Upper Channel	42	45	43	41	21-Apr-16	600	0.8	43
Oak Point Channel	44	45	45	43	21-Apr-16	600	3	43
Gull Island Turn and Channel	48	42	45	41	18-May-16	600	2.2	43

* For Controlling Depth Information, consult the Local Notice to Mariners and/or the following Portland District US Army Corps of Engineers website: http://www.nwp.usace.army.mil/Missions/Navigation.aspx *Channel status reports*

Chart 18524 (Left Panel) NM 32/16

COLUMBIA RIVER CHANNEL DEPTHS
GULL ISLAND TURN AND CHANNEL TO ST HELENS TURN
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF 20-May-16

CONTROLLING DEPTHS IN FEET AT COLUMBIA RIVER DATUM (CRD) * 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 STAT (Miles)	Depth (Feet)
Gull Island Turn and Channel	48	42	45	41	18-May-16	600	2.2	43
Stella Range	40	40	42	40	18-May-16	600	3.0	43
Fisher Island Channel	34	44	44	41	18-May-16	600	0.8	43
Walker Island Channel	42	41	42	40	18-May-16	600	1.4	43
Barlow Pt Channel	48	47	45	42	18-May-16	600	1.6	43
Slaughters Channel	42	43	43	40	19-May-16	600	2.2	43
Slaughters Turn and Channel	43	41	42	40	19-May-16	600	1.7	43
Cottonwood Island Lower Rge	39	41	42	40	19-May-16	600	1.7	43
Cottonwood Island Turn	46	45	44	40	19-May-16	600	2.7	43
Cottonwood Island Upper Rge	43	44	43	41	13-Apr-16	600	1.6	43
Kalama Lower Range	43	44	44	36	13-Apr-16	600	1.8	43
Kalama Upper Range	40	44	44	41	20-Apr-16	600	2.2	43
Bybee Ledge Channel	42	46	45	43	20-Apr-16	600	2.1	43
Martin Island Channel	45	45	43	40	25-Apr-16	600	2	43
Martin Island Range	40	45	44	43	25-Apr-16	600	1.4	43
Columbia City Channel	40	43	43	42	25-Apr-16	600	1.2	43
St. Helens Range	42	44	44	42	26-Apr-16	600	2.0	43
St. Helens Turn	44	45	47	41	26-Apr-16	600	1.7	43

* For Controlling Depth Information, consult the Local Notice to Mariners and/or the following Portland District US Army Corps of Engineers website: http://www.nwp.usace.army.mil/Missions/Navigation.aspx *Channel status reports*

Chart 18525 NM 32/16

COLUMBIA RIVER CHANNEL DEPTHS - SAINT HELENS TURN TO TOMAHAWK BAR

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO MAY 2016

CONTROLLING DEPTHS IN FEET AT AT COLUMBIA RIVER DATUM (CRD) * 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 (NAUT. MILES)	DEPTH MLLW (FEET)
SAINT HELENS TURN	44	45	47	41	4-16	600	1.7	43
WARRIOR ROCK RANGE	43	43	44	42	4-16	600	1.3	43
DUCK CLUB TURN	41	44	46	45	4-16	600	1.4	43
HENRICI RANGE	40	42	41	43	4-16	600	2.6	43
FALES CHANNEL	46	43	44	42	4-16	600	1.1	43
KNAPP POINT CHANNEL	42	43	43	41	5-16	600	1.8	43
WILLOW LOWER RANGE	40	43	44	41	5-16	600	2.1	43
WILLOW UPPER RANGE	42	44	44	47	5-16	600	1.1	43
MORGAN BAR	42	45	50	49	5-16	600	1.0	43
MORGAN CHANNEL	45	46	47	44	5-16	600	1.5	43
VANCOUVER LOWER CHANNEL	47	45	47	46	5-16	500	1.0	43
VANCOUVER RANGE	44	44	43	41	5-16	500	1.3	43
VANCOUVER UPPER CHANNEL	45	45	43	42	5-16	500	0.9	43
VANCOUVER LOWER TURNING BASIN	31	38	38	43	3-16	800	1.0	43
VANCOUVER UPPER TURNING BASIN	37	30	26	23	3-16	800	0.9	35
	LEFT OUTSIDE QUARTER	MID CHANNEL		RIGHT OUTSIDE QUARTER				
TOMAHAWK BAR	16	17		17	9-15	300	3.7	27

* For Controlling Depth Information, consult the Local Notice to Mariners and/or the following Portland District US Army Corps of Engineers website: http://www.nwp.usace.army.mil/Missions/Navigation.aspx
Channel status reports

Chart 18526 NM 32/16

COLUMBIA RIVER CHANNEL DEPTHS
MORGAN CHANNEL TO TOMAHAWK BAR
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF 20-May-16

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 (Feet)
Morgan Channel	45	46	47	44	9-May-16	600	1.5	43
Vancouver Lower Channel	47	45	47	46	5-May-16	500	1.0	43
Vancouver Range	44	44	43	41	5-May-16	500	1.3	43
Vancouver Upper Channel	45	45	43	42	5-May-16	500	0.9	43
Vancouver Lower Turning Basin	31	38	38	43	31-Mar-16	800	1.0	43
Vancouver Upper Turning Basin	37	30	26	23	31-Mar-16	800	0.9	35
	Mid Channel for Half Project Width							
		L Outside	Mid Channel	R Outside				
Tomahawk Bar		16	17	17	10-Sep-15	300	3.7	27

* For Controlling Depth Information, consult the Local Notice to Mariners and/or the following Portland District US Army Corps of Engineers website: http://www.nwp.usace.army.mil/Missions/Navigation.aspx
Channel status reports

Chart 18531 (Lower Panel) **NM 32/16**

COLUMBIA RIVER CHANNEL DEPTHS
TOMAHAWK BAR TO BONNEVILLE LOCKS
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF 20-May-16

CONTROLLING DEPTHS IN FEET AT COLUMBIA RIVER DATUM (CRD) * SEE FOOTNOTE					Project Dimensions		
Name of Channel	Left Outside Quarter	Middle Half of Channel	Right Outside Quarter	Date of Survey	Width (feet)	Length STAT (Miles)	Depth (feet)
Tomahawk Bar	16	17	17	10-Sep-15	300	3.7	27
Airport Bar	16	17	18	14-Sep-15	300	2.8	27
Government Island Lower Range	15	16	16	14-Sep-15	300	1.0	27
Government Island Middle Range	15	17	16	15-Sep-15	300	1.7	27
Fisher Quarry Channel Range	29	29	27	15-Sep-15	300	1.0	27
Government Island Range	14	20	25	15-Sep-15	300	1.1	27
Government Island Upper Range	14	16	18	16-Sep-15	300	0.8	27
Lady Island Range	16	18	21	16-Sep-15	300	2.1	27
Lady Island Channel and Upper Rge	28	28	19	16-Sep-15	300	0.9	27
Washougal Lower Range	21	27	24	17-Sep-15	300	1.5	27
Washougal Upper Range	17	21	22	17-Sep-15	300	1.1	27
Gary Island Range	16	15	15	17-Sep-15	300	0.6	27
Reed Island Range	1	16	13	17-Sep-15	300	2.2	27
Tunnel Point Channel	24	24	24	13-Aug-15	300	0.8	27
Rooster Rock Channel	26	24	26	13-Aug-15	600	1.5	27
Cape Horn Channel	34	33	31	10-Mar-15	300	2.1	27
Candiana Channel	23	38	32	10-Mar-15	300	1.0	27
Fashion Reef Lower Range	17	17	17	15-Sep-15	300	2.4	27
Multnomah Falls Bar Range	14	19	17	15-Sep-15	300	1.1	27
Multnomah Falls Turn	14	17	19	15-Sep-15	600	0.8	27
Multnomah Falls Upper Range	22	26	27	14-Sep-15	300	3.2	27
McGowans Channel	37	29	24	18-Mar-15	300	1.1	27
Warrendale Lower Range	21	21	21	18-Mar-15	300	0.9	27
Warrendale Upper Range	20	28	21	18-Mar-15	300	0.7	27
Hamilton Island Reach	24	29	28	18-Mar-15	300	1.0	27
Entrance to Bonneville Locks	18	19	18	6-Apr-15	300	1.2	27

* For Controlling Depth Information, consult the Local Notice to Mariners and/or the following Portland District US Army Corps of Engineers website: http://www.nwp.usace.army.mil/Missions/Navigation.aspx *Channel status reports*