

**Harbor Safety Committee
Of the San Francisco Bay Region**

**Report of the
U.S. Army Corps of Engineers, San Francisco District
November 10, 2021**

1. CORPS O&M DREDGING PROGRAM

The following report covers the FY 2021 dredging program for San Francisco Bay. The FY21 Work Plan was released to the public on January 19 and the Corps team has completed the planning phase and fully transitioned to the execution phase for all dredging projects that received funding. **The attached 2021 O&M Dredging Plan contains the list of funded projects, estimated procurement milestones, and dredging timelines.**

Planning for the FY22 dredging program is currently underway based on FY22 President's Budget amounts. **The FY22 project schedules will be published beginning in December.**

FY 2021 DREDGING

- a. **Oakland Harbor** – A contract for maintenance dredging was awarded to the Dutra Group on April 29. **Dredging started on June 21 and is expected to finish by the end of November.**
- b. **Redwood City Harbor** – A contract for maintenance dredging was awarded to Curtin Maritime on May 10. Dredging started on June 23 and finished on September 15.
- c. **San Pablo Bay (Pinole Shoal)** – The Government Hopper Dredge Essayons arrived on station June 9 and dredged for approximately 8 days. Next dredging event will occur in summer 2023. (Hopper dredging in San Francisco Bay continues to be limited to one event per year in accordance with our Water Quality Certification. Pinole Shoal is being dredged this year while Richmond Outer Harbor will be deferred until FY22.)
- d. **San Joaquin River (Port of Stockton)** – A contract for maintenance dredging was awarded to Pacific Dredge on July 6. **Dredging started on September 9 and will continue through November.**
- e. **Sacramento River Deep Water Ship Channel** – A contract for maintenance dredging was awarded to Ross Island Sand & Gravel on June 23. **Dredging started on August 5 and completed on October 27.**
- f. **SF Main Ship Channel** – The West Coast Hopper Contract was awarded to the Dutra Group on April 16 by the Corps' Portland District. Dredging started on August 7 with initial placement at the near-shore site. Sand pump-ashore to Ocean Beach began on August 11 and the last load was delivered the evening of September 18.
- g. **Suisun Bay Channel (and New York Slough)** – A contract for maintenance dredging was awarded to Curtin Maritime on July 7. **Dredging started on September 17 and is now expected to be completed by the end of November following a temporary demobilization of the dredge plant to southern California to aid in oil spill related work.**

- h. **Richmond Inner Harbor** – Original Bid Opening was held on July 12. The solicitation was subsequently cancelled with no award following a bid protest. A new solicitation was issued on August 20 with bids due by September 20. **A contract was awarded to the Dutra Group on September 27 and dredging is expected to be complete by the end of November.**
- i. **Richmond Outer Harbor (and Richmond Long Wharf)** – We continue to be limited to only one hopper dredge project per year by the Water Quality Certification. Pinole Shoal is being dredged this year while Richmond Outer Harbor will be deferred until FY22.

2. EMERGENCY (URGENT & COMPELLING) DREDGING: None at this time.

3. DEBRIS REMOVAL – Debris removal for October 2021 was 9.5 tons. Dillard: 0 tons (out of service for repair); Raccoon: 10.5 tons; other boats: 5 tons, including 2 abandoned vessels. Average for October from 2011 to 2020 is 60 tons (Range: 12-108).

BASEYARD DEBRIS COLLECTION TOTALS:

MONTH	RACCOON	DILLARD	MISC	TOTAL
2021	TONS	TONS	TONS	TONS
JAN	37	48	14	99
FEB	29	30.5	65	124.5
MAR	10	52.5	28	90.5
APR	19	12.5	10	41.5
MAY	9	30.5	75	114.5
JUN	7	56.5	14	77.5
JUL	19	10	0	29
AUG	20	55	0	75
SEP	10.5	0	7	17.5
OCT	4.5	0	5	9.5
NOV				
DEC				

YR TOTAL

678.5

4. UNDERWAY OR UPCOMING HARBOR IMPROVEMENTS

Oakland Harbor Turning Basins Widening Study: This study will investigate and determine if there is a technically feasible, economically justifiable, and environmentally acceptable recommendation for federal participation in a navigation improvement project to the existing - 50-foot Oakland Harbor Federal Navigation Project. Currently, the scope of the tentatively selected alternative includes expansion of both inner and outer basins for a 1,310-foot design vessel. This expansion is expected to meet the needs of the future fleet. The 3x3x3 feasibility study is on track and on budget and the Project Delivery Team is targeting a Tentatively Selected Plan (TSP) milestone of September 28 and the release of a DRAFT Integrated Feasibility Report (IFR) by December of 2021 for public comment.

5. OTHER WORK

Regional Dredge Material Management Plan: Following public and stakeholders' outreach for the PMP, the project is now in phase 1 gap analysis to address the key issues as identified by the stakeholders from the virtual charrettes held in July 2020. SFEI has been contracted to perform this phase and is coordinating with the Interagency Working Group (IWG) to provide expert advice and review of work products associated with the RDMMP Gaps Analysis, including prioritizing the knowledge gaps identified by the project team and reviewing the scopes of work produced to address those knowledge gaps. Information on the RDMMP and draft final PMP can be found on our website:

<https://www.spn.usace.army.mil/Missions/Projects-and-Programs/Regional-Dredge-Material-Management-Plan/>

USACE Work Plan Web Address: <http://www.usace.army.mil/Missions/Civil-Works/Budget/>

Water Resources Development Act (WRDA) of 2020:

<https://transportation.house.gov/imo/media/doc/BILLS-116s1811-SUS.pdf>

As the U.S. Army Corps of Engineers, Civil Works (USACE CW) began work on implementation guidance for applicable WRDA provisions in March 2021. Five partner sessions were held March 16 through April 13. The partner sessions and the public comment period were used to gather input on WRDA provisions and implementation guidance. **Implementation guidance is being published on a rolling basis. To date, implementation guidance has been published for 14 sections of WRDA 2020. For more information on WRDA 2020 and to view implementation guidance visit:** https://www.usace.army.mil/Missions/Civil-Works/Project-Planning/Legislative-Links/wrda_2020/

6. HYDROGRAPHIC SURVEY UPDATE

Address of Corps' web site for completed hydrographic surveys:

<http://www.spn.usace.army.mil/Missions/Surveys,StudiesStrategy/HydroSurvey.aspx>

The following surveys are posted:

Alameda Naval Navigation Channel: Condition survey of October 14, 2021.
Berkeley Marina (Entrance Channel): Condition survey of April 22, 2021.
Islais Creek Channel: Condition survey of August 26, 2021.
Larkspur Ferry Channel: Condition survey of April 8, 2020.
Mare Island Strait: Condition survey of September 29, 2021.
Marinship Channel (Richardson Bay): Condition survey of June 23, 2020 and April 20, 2021.
Napa River: Condition survey of March 11-15, 2021.
Northship Channel: Condition survey of September 20, 21, & 28, 2021.
Oakland Inner Harbor: Post dredge surveys (6 total) of July - October, 2021.
Oakland Inner Harbor (Brooklyn Basin): Condition survey of 15-20 January 2021.
Oakland Outer Harbor: Post dredge survey of October 12, 2021.
Petaluma River (Across-the-Flats): Post-dredge condition survey of December 15, 2020.
Petaluma River (Main Channel): Post-dredge survey of October 10, 12, and 16 2020.
Petaluma River (Extended Channel): Post-dredge survey of October 10, 12, and 16 2020.
Pinole Shoal Channel: Condition survey of October 25, 2021.
Redwood City Harbor: Post dredge surveys of September 1, 6, 16, and 19, 2021.
Richmond Inner Harbor: Condition survey of July 31, 2021 and August 2, 2021.
Richmond Inner Harbor (Santa Fe Channel): Condition survey of December 20, 2016.
Richmond Outer Harbor (Longwharf): Condition survey of July 30, 2021.
Richmond Outer Harbor (Southampton Shoal): Condition survey of July 30, 2021.
Sacramento River Deep Water Ship Channel: Condition Survey of July 8-12, 2021.
San Bruno Shoal: Condition survey of February 26, 2021.
San Francisco Main Ship Channel: Condition survey of September 22-23, 2021.
San Leandro Marina (and Channel): Condition survey of March 30 and April 1, 2015.
San Rafael (Across-the-Flats): Condition survey of February 9, 2021.
San Rafael (Creek): Condition survey of February 9, 2021.
Stockton Ship Channel: Condition survey of July 8-12, 2021.
Suisun Bay Channel: Condition survey of September 27, 2021.
Suisun Bay Channel (Bullshead Reach): Condition survey of September 27, 2021.
Suisun Bay Channel (New York Slough): Condition survey of September 27, 2021.

Disposal Site Condition Surveys:

SF-08 (Main Ship Channel Disposal Site): Condition survey of Jul 27, 2021.
SF-09 (Carquinez): Condition survey of October 5, 2021.
SF-10 (San Pablo Bay): Condition survey of October 5, 2021.
SF-11 (Alcatraz Island): Condition survey of November 2, 2021.
SF-16 (Suisun Bay Disposal Site): Condition survey of October 20, 2021.
SF-17 (Ocean Beach Disposal Site): Condition survey of July 27, 2021.

Requested Surveys:

Pre/Post-dredge and condition surveys are scheduled to occur throughout the year for all of San Francisco District's in-bay projects which are planned to be dredged in FY21.

Channel Condition Report (CCR):

Attached is the Channel Condition Report (CCR) for all Corps maintained channels dated **5 NOV 2021**. The CCR is generated by the USACE eHydro database and is not a substitute for the controlling depths set by the SF Bar Pilots. Please see the respective bathymetric plots for locations (highlighted in red) of the shoaliest soundings reports in the CCR.

2021 O&M DREDGING PLAN*

Project	Bid Open	Award	FY2021												FY2022		Estimated CY	Dredge Type	Placement Site	
			FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB					
Oakland Harbor	15-Apr (A)	29-Apr (A)		■	◆	◆	■	■	■	■	■	■	■	■	■	■	■	1000kcy	Contract Clam Shell	SF-DODS
Redwood City Harbor	26-Apr (A)	10-May (A)		■	◆	◆	■	■	■	■	■	■	■	■	■	■	■	350kcy 125kcy	Contract Clam Shell	SF-11 Upland
Sacramento River (30 Foot Project)	11-Jun (A)	23-Jun (A)				■	◆	◆	■	■	■	■	■	■	■	■	■	150kcy	Contract Pipeline	Various Upland
San Joaquin River (Port of Stockton)	21-Jun (A)	6-Jul (A)				■	◆	◆	■	■	■	■	■	■	■	■	■	300kcy	Contract Pipeline	Various Upland
Suisun Bay Channel	29-Jun (A)	7-Jul (A)				■	◆	◆	■	■	■	■	■	■	■	■	■	175kcy	Contract Clam Shell	SF-16
Richmond Inner Harbor	20-Sep (A)	27-Sep (A)					■	◆	■	■	■	■	■	■	■	■	■	200kcy	Contract Clam Shell	SF-DODS
Humboldt Bar & Entrance Channels	N/A	N/A				■	◆	◆	■	ESS	■	■	■	■	■	■	■	1100kcy	Govt Hopper	HOODS
San Pablo Bay (Pinole Shoal)	N/A	N/A					■	◆	◆	■	ESS	■	■	■	■	■	■	250kcy	Govt Hopper	SF-9/ SF-10
SF Main Ship Channel	22-Mar (A)	16-Apr (A)	■	◆	◆		■	■	■	■	■	■	■	■	■	■	■	350kcy	WCHC (Portland)	Ocean Beach

	Solicitation	ESS Essayons	
	Bid Opening	WCH West Coast Hopper Contract	
	Contract Award		
	Hopper Dredging		

* Program execution is based on the FY21 Workplan plus FY20 Carryover. Date of Last Update: 11/5/2021

REPORT OF CHANNEL CONDITIONS
 400 FEET WIDE OR GREATER

To: Navigation Interests		From: US Army Corps of Engineers San Francisco District 450 Golden Gate Ave San Francisco, CA 94102						
RIVER/HARBOR NAME AND STATE OAKLAND HARBOR CALIFORNIA					MINIMUM DEPTHS IN EACH 1/4 WIDTH OF CHANNEL ENTERING FROM SEAWARD			
NAME OF CHANNEL	DATE OF SURVEY	AUTHORIZED PROJECT			LEFT OUTSIDE QUARTER (feet)	LEFT INSIDE QUARTER (feet)	RIGHT INSIDE QUARTER (feet)	RIGHT OUTSIDE QUARTER (feet)
		WIDTH (feet)	LENGTH (miles)	DEPTH (feet)				
Brooklyn Basin		147						
Brooklyn Basin	01-15-2021	1501	0.94	35	6.2	8.0	17.3	7.2
Brooklyn Basin		250					No Data	No Data
Brooklyn Basin	01-15-2021	1010	2.74	35	8.4	3.9	Data	Data
Oakland Harbor	07-10-2021	544						
Oakland Inner Harbor	10-12-2021	1997	4.62	50	48.9	50.0	50.0	48.2
Oakland Harbor		296						
Oakland Outer Channel	05-04-2021	1761	2.52	50	48.3	48.8	49.2	48.4

REPORT OF CHANNEL CONDITIONS
400 FEET WIDE OR GREATER

To: Navigation Interests		From: US Army Corps of Engineers San Francisco District 450 Golden Gate Ave San Francisco, CA 94102						
RIVER/HARBOR NAME AND STATE OTHER CALIFORNIA					MINIMUM DEPTHS IN EACH 1/4 WIDTH OF CHANNEL ENTERING FROM SEAWARD			
NAME OF CHANNEL	DATE OF SURVEY	AUTHORIZED PROJECT			LEFT OUTSIDE QUARTER (feet)	LEFT INSIDE QUARTER (feet)	RIGHT INSIDE QUARTER (feet)	RIGHT OUTSIDE QUARTER (feet)
		WIDTH (feet)	LENGTH (miles)	DEPTH (feet)				
Redwood City Harbor Redwood City Harbor	09-16-2021	300 943						
San Bruno Shoal San Bruno Shoal	02-26-2021	500	3.94	30	30.1	30.0	30.3	30.3
Richardson Bay/Marinship Richardson Bay/Marinship	06-23-2020	300 1069	2.11	20	4.6	6.0	6.4	6.4
Islais Creek Islais Creek	08-27-2021	500 1424	1.71	40	30.7	37.5	37.5	23.9
Alameda Naval Air Alameda Naval Air	10-14-2021	1000 4178	2.90	37	11.5	12.5	19.0	17.2
San Rafael ATF Across the Flats	02-09-2021	100	2.25	8	2.4	4.2	4.0	2.3
San Rafael River Inner Canal Channel	02-09-2021	60 160	1.55	6	0.7	1.6	0.9	1.4
Petaluma River Main Channel	10-16-2020	100 361	4.06	8	+1.5	0.5	1.0	+0.9
Petaluma River ATF Across the Flats	12-15-2020	200 206	5.68	8	6.3	8.8	8.3	8.2
Mare Island Strait Mare Island Strait	09-29-2021	400 606	3.37	30	27.3	29.1	31.8	32.1
Larkspur Channel Larkspur Channel	07-11-2019	231 542	2.37	13	6.5	10.0	9.7	8.0
Northship Channel Northship Channel	09-20-2021	3576 4769	5.97	45	23.1	38.2	37.8	35.2
Berkeley Marina Berkeley Marina	04-22-2021	100 142	1.36	6	3.5	3.8	4.3	4.3
Bodega Bay Bodega Bay	09-24-2021	100 400	3.46	12	3.4	10.0	10.5	7.9
Moss Landing Moss Landing	03-31-2021	120 405	0.98	6	13.2	12.3	11.1	10.9
Noyo River Entrance Channel	02-10-2021	97 150	0.67	10	6.1	9.6	10.6	7.6

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RIVER/HARBOR NAME AND STATE OTHER CALIFORNIA					MINIMUM DEPTHS IN EACH 1/4 WIDTH OF CHANNEL ENTERING FROM SEAWARD			
NAME OF CHANNEL	DATE OF SURVEY	AUTHORIZED PROJECT			LEFT OUTSIDE QUARTER (feet)	LEFT INSIDE QUARTER (feet)	RIGHT INSIDE QUARTER (feet)	RIGHT OUTSIDE QUARTER (feet)
		WIDTH (feet)	LENGTH (miles)	DEPTH (feet)				
Noyo River Channel	02-10-2021	97 150	0.67	10	8.3	9.9	10.5	3.6
Crescent City Entrance Channel	02-08-2021	200 320	0.42	20	18.1	19.4	19.0	17.2
Crescent City Inner Harbor Basin Channel	02-08-2021	200 300	0.39	15	14.8	14.8	15.0	13.8
Crescent City Marina Access Channel	02-08-2021	228 170	0.22	15	4.8	10.6	12.2	9.5
Pinole Shoal Channel Pinole Shoal Channel	10-25-2021	600 1644	10.36	35	30.8	35.5	35.7	34.4
Suisun Bay Channel Suisun Bay Channel	07-20-2021	300 350	13.86	35	33.7	34.2	34.0	30.0
Suisun Bay Channel Anchorage Suisun Bay Channel Anchorage	04-27-2021	400	0.90	35	33.8	No Data	No Data	No Data
New York Slough New York Slough	09-27-2021	400 411	4.42	35	35.2	35.6	35.2	35.1

**REPORT OF CHANNEL CONDITIONS
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To: Navigation Interests		From: US Army Corps of Engineers San Francisco District 450 Golden Gate Ave San Francisco, CA 94102						
RIVER/HARBOR NAME AND STATE HUMBOLDT BAY CALIFORNIA					MINIMUM DEPTHS IN EACH 1/4 WIDTH OF CHANNEL ENTERING FROM SEAWARD			
NAME OF CHANNEL	DATE OF SURVEY	AUTHORIZED PROJECT			LEFT OUTSIDE QUARTER (feet)	LEFT INSIDE QUARTER (feet)	RIGHT INSIDE QUARTER (feet)	RIGHT OUTSIDE QUARTER (feet)
		WIDTH (feet)	LENGTH (miles)	DEPTH (feet)				
Humboldt Bay Bar and Entrance Channel	08-25-2021	500 2113	2.60	48	34.0	45.2	39.9	32.3
Humboldt Bay Eureka Channel	04-22-2021	400 416	1.69	26	2.6	4.0	13.4	6.8
Humboldt Bay Fields Landing Channel	04-21-2021	300 770	2.35	26	15.6	26.6	25.4	20.0
Humboldt Bay North Bay Channel	04-23-2021	400 657	3.04	38	31.7	34.4	33.8	21.7
Humboldt Bay Samoa Channel	04-22-2021	400 1000	1.83	38	32.6	35.1	34.8	17.9

REPORT OF CHANNEL CONDITIONS
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To: Navigation Interests		From: US Army Corps of Engineers San Francisco District 450 Golden Gate Ave San Francisco, CA 94102						
RIVER/HARBOR NAME AND STATE NAPA RIVER CALIFORNIA					MINIMUM DEPTHS IN EACH 1/4 WIDTH OF CHANNEL ENTERING FROM SEAWARD			
NAME OF CHANNEL	DATE OF SURVEY	AUTHORIZED PROJECT			LEFT OUTSIDE QUARTER (feet)	LEFT INSIDE QUARTER (feet)	RIGHT INSIDE QUARTER (feet)	RIGHT OUTSIDE QUARTER (feet)
		WIDTH (feet)	LENGTH (miles)	DEPTH (feet)				
Mare Island Strait Causeway to Asylum Slough	03-12-2021	75 245	3.19	15	5.1	9.6	9.2	7.3
Napa River Asylum Slough to Napa City	03-12-2021	102 183	9.92	10	5.2	2.6	2.1	3.5

REPORT OF CHANNEL CONDITIONS
 400 FEET WIDE OR GREATER

To: Navigation Interests		From: US Army Corps of Engineers San Francisco District 450 Golden Gate Ave San Francisco, CA 94102						
RIVER/HARBOR NAME AND STATE OAKLAND HARBOR CALIFORNIA					MINIMUM DEPTHS IN EACH 1/4 WIDTH OF CHANNEL ENTERING FROM SEAWARD			
NAME OF CHANNEL	DATE OF SURVEY	AUTHORIZED PROJECT			LEFT OUTSIDE QUARTER (feet)	LEFT INSIDE QUARTER (feet)	RIGHT INSIDE QUARTER (feet)	RIGHT OUTSIDE QUARTER (feet)
		WIDTH (feet)	LENGTH (miles)	DEPTH (feet)				
Brooklyn Basin Brooklyn Basin	01-15-2021	147 1501	0.94	35	6.2	8.0	17.3	7.2
Brooklyn Basin Brooklyn Basin	01-15-2021	250 1010	2.74	35	8.4	3.9	3.0	3.0
Oakland Harbor Oakland Inner Harbor	07-10-2021	544 1997	4.62	50	48.9	50.0	50.0	48.2
Oakland Harbor Oakland Outer Channel	07-12-2021	296 1761	2.52	50	50.0	50.0	50.1	50.1

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To: Navigation Interests		From: US Army Corps of Engineers San Francisco District 450 Golden Gate Ave San Francisco, CA 94102						
RIVER/HARBOR NAME AND STATE RICHMOND HARBOR CALIFORNIA					MINIMUM DEPTHS IN EACH 1/4 WIDTH OF CHANNEL ENTERING FROM SEAWARD			
NAME OF CHANNEL	DATE OF SURVEY	AUTHORIZED PROJECT			LEFT OUTSIDE QUARTER (feet)	LEFT INSIDE QUARTER (feet)	RIGHT INSIDE QUARTER (feet)	RIGHT OUTSIDE QUARTER (feet)
		WIDTH (feet)	LENGTH (miles)	DEPTH (feet)				
Richmond Inner Harbor Entrance Channel	07-31-2021	809 1021	0.96	38	36.0	36.3	36.4	35.8
Richmond Inner Harbor Approach Channel	07-31-2021	809 1201	3.09	38	33.7	35.2	35.9	35.3
Richmond Inner Harbor Santa Fe Channel	02-26-2019	195 509	0.37	38	33.7	35.4	36.4	36.0
Richmond Outer Harbor Richmond Outer Harbor	07-30-2021	600 1291	3.25	45	40.5	45.3	44.6	42.6
Richmond Outer Harbor Longwharf Turning Basin	07-29-2021	2188 5598	0.88	45	34.3	No Data	No Data	No Data

REPORT OF CHANNEL CONDITIONS
400 FEET WIDE OR GREATER

To: Navigation Interests			From: US Army Corps of Engineers San Francisco District 450 Golden Gate Ave San Francisco, CA 94102					
RIVER/HARBOR NAME AND STATE SAN FRANCISCO CALIFORNIA					MINIMUM DEPTHS IN EACH 1/4 WIDTH OF CHANNEL ENTERING FROM SEAWARD			
NAME OF CHANNEL	DATE OF SURVEY	AUTHORIZED PROJECT			LEFT OUTSIDE QUARTER (feet)	LEFT INSIDE QUARTER (feet)	RIGHT INSIDE QUARTER (feet)	RIGHT OUTSIDE QUARTER (feet)
		WIDTH (feet)	LENGTH (miles)	DEPTH (feet)				
San Francisco Mainship San Francisco Mainship	09-22-2021	2000	4.96	55	52.0	54.2	54.4	53.8

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To: Navigation Interests		From: US Army Corps of Engineers San Francisco District 450 Golden Gate Ave San Francisco, CA 94102						
RIVER/HARBOR NAME AND STATE SAN LEANDRO CALIFORNIA					MINIMUM DEPTHS IN EACH 1/4 WIDTH OF CHANNEL ENTERING FROM SEAWARD			
NAME OF CHANNEL	DATE OF SURVEY	AUTHORIZED PROJECT			LEFT OUTSIDE QUARTER (feet)	LEFT INSIDE QUARTER (feet)	RIGHT INSIDE QUARTER (feet)	RIGHT OUTSIDE QUARTER (feet)
		WIDTH (feet)	LENGTH (miles)	DEPTH (feet)				
SAN LEANDRO MARINA Approach Channel	03-30-2015	200	3.50	7	2.8	3.6	3.4	3.2
SAN LEANDRO MARINA North Arm	03-15-2010	170	0.30	7	2.7	3.6	3.8	3.9
SAN LEANDRO MARINA South Arm	03-15-2010	150	0.30	7	3.3	4.7	4.6	4.8

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400 FEET WIDE OR GREATER**

To: Navigation Interests		From: US Army Corps of Engineers San Francisco District 450 Golden Gate Ave San Francisco, CA 94102						
RIVER/HARBOR NAME AND STATE SAN RAFAEL CALIFORNIA					MINIMUM DEPTHS IN EACH 1/4 WIDTH OF CHANNEL ENTERING FROM SEAWARD			
NAME OF CHANNEL	DATE OF SURVEY	AUTHORIZED PROJECT			LEFT OUTSIDE QUARTER (feet)	LEFT INSIDE QUARTER (feet)	RIGHT INSIDE QUARTER (feet)	RIGHT OUTSIDE QUARTER (feet)
		WIDTH (feet)	LENGTH (miles)	DEPTH (feet)				
San Rafael ATF Across the Flats	02-09-2021	100	2.25	8	2.4	4.2	4.0	2.3
San Rafael River Inner Canal Channel	02-09-2021	60 160	1.55	6	0.7	1.6	0.9	1.4