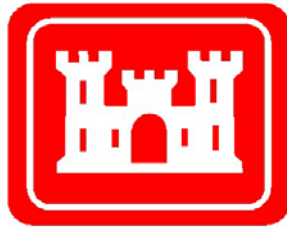


Utility Investigation Report

Sacramento River Deep Water Ship Channel

U.S. Army Corps of Engineers
San Francisco District



INITIAL SUBMITTAL

May 21, 2010

HDR

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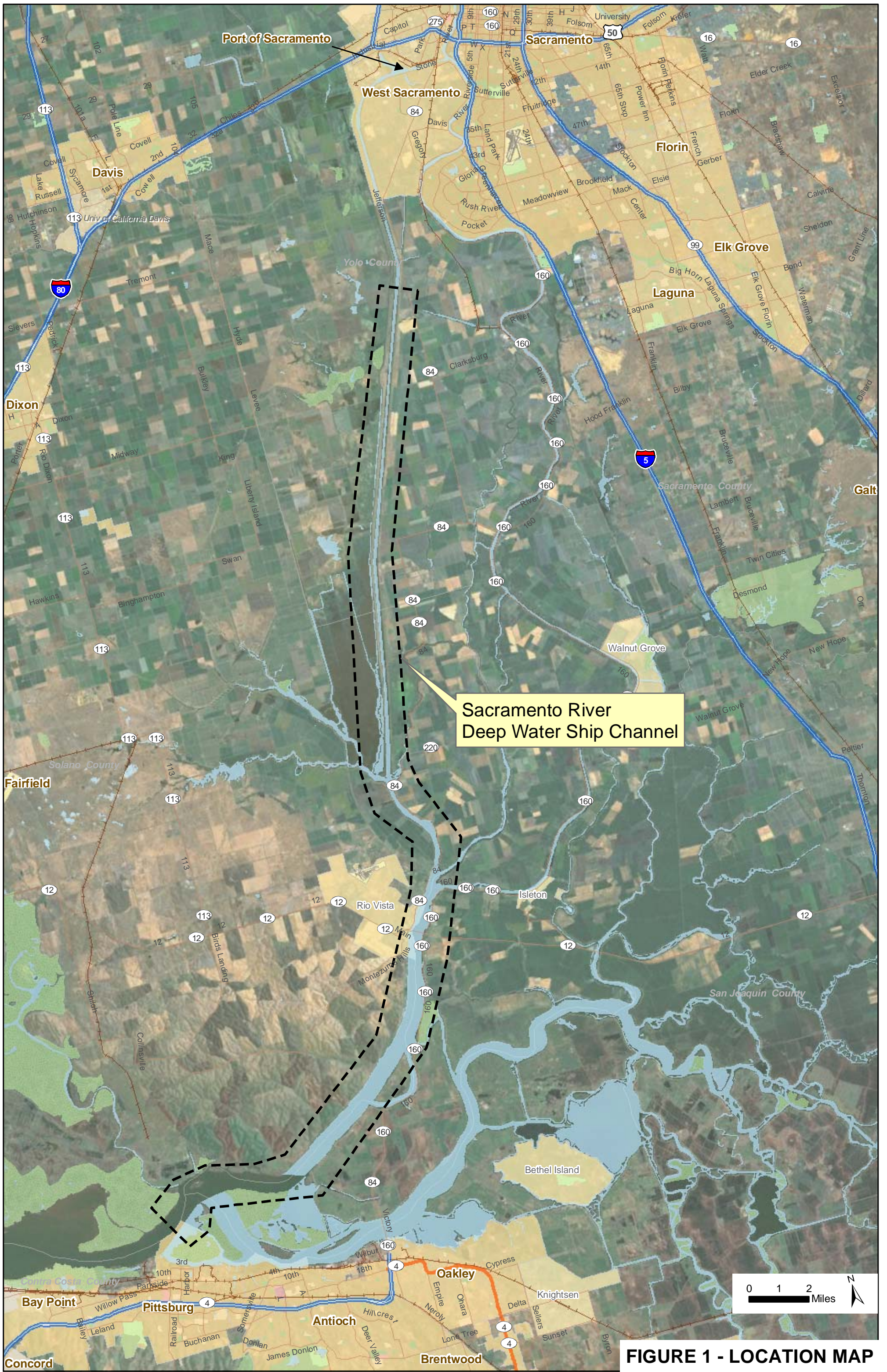
1.0 Introduction

This report documents the utility investigation effort conducted in support of the Sacramento Deep Water Ship Channel (SRDWSC) Project. The SRDWSC Project is a congressionally authorized project being implemented by the United States Army Corps of Engineers (USACE) and the Port of Sacramento. Currently, the USACE and Port of Sacramento are conducting a Limited Reevaluation Study to recommend navigation improvements for Federal funding and preparing a joint Supplemental Environmental Impact Statement and Subsequent Environmental Impact Report (SEIS/SEIR) to evaluate the action of construction of navigational improvements to the SRDWSC. The SRDWSC project was previously partially completed. In 1986, a General Design Memorandum (GDM) and Environmental Impact Statement and Environmental Impact Report (EIS/EIR) were prepared for this effort. The current effort is to complete the project beginning in summer of 2011.

HDR was hired by USACE to investigate and map the location of utilities crossing the SRDWSC from RM 0.0 to RM 35.0. HDR has communicated with public and private utility agencies by mailing letter of request and following up via email and telephone conversation. HDR prepared a set of drawings titled, "Utility Drawings" that document the approximate locations and summarize the record information received from utility agencies.

Proposed navigation improvements include dredging to an elevation of -35 ft NAVD 88 from River Mile (RM) 0.0 to 35.0 and widening the channel by 50 ft from RM 0.0 to 15.0 and RM 18.6 to RM 35.0. In the previously completed project, the SRDWSC was dredged to an elevation of -35 ft NAVD from RM 35.0 to the Port of Sacramento (RM 43.0). This location on the SRDWSC is not part of this utility investigation.

The SRDWSC is located in the Sacramento-San Joaquin Delta region of northern California. The channel lies within Contra Costa, Solano, Sacramento, and Yolo Counties and serves the marine terminal facilities at the Port of Sacramento. The SRDWSC joins the 35 ft deep San Francisco Bay to Stockton (John F. Baldwin) Ship Channel at New York Slough, thereby affording access from the Port of Sacramento to the Bay area harbors and the Pacific Ocean. Figure 1 shows the utility survey area and project limits as defined by the USACE.



Port of Sacramento

West Sacramento

Sacramento

Davis

Florin

Elk Grove

Laguna

Dixon

Galt

Fairfield

Sacramento River
Deep Water Ship Channel

Rio Vista

Isleton

Bethel Island

Bay Point

Pittsburg

Antioch

Oakley

Knightsen

Concord

Brentwood

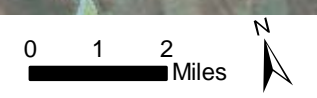


FIGURE 1 - LOCATION MAP

2.0 Utility Investigation

The utility investigation effort included researching utility record information from the USACE and various other utility and public works agencies to identify utilities which exist within the project limits. Information was extracted from the record information and presented in drawings to aid in identification of construction conflicts.

2.1 Sources

HDR contacted government agencies and private utility companies known to operate within the project limits. Sources were identified from the 1986 GDM, encroachment permit documents, USACE regulatory branch permits, and responses from utility agencies. Each source identified was sent a formal request in writing for information regarding SRDWSC crossings.

2.1.1 USACE

The USACE is the owner and responsible entity for the SRDWSC. Any encroachments to the channel or the levees require a permit from the USACE and the Central Valley Flood Protection Board (CVFPB). These permits were received from the USACE regulatory division and used to identify crossings. USACE permits typically included a verbal description of the crossing along with an approximate horizontal and vertical location of crossing. The 1986 GDM contained a summary of utility crossings which was mostly based on the USACE permits. An important piece of information provided by the USACE were permits issued between 1986 and 2010, as these were not documented in the GDM.

2.1.2 Central Valley Flood Protection Board

The CVFPB is responsible for maintaining the integrity of the existing flood control structures by issuing encroachment permits and maintaining existing permits. The CVFPB permits were a useful source, often matching the information provided in USACE permits and serving to verify the information.

2.1.3 Contra Costa, Solano, Sacramento, and Solano Counties

Storm drainage and water distribution facilities are typically owned and operated by county agencies. No counties responded with knowledge of utilities within the project limits.

2.1.4 City of Rio Vista

The City of Rio Vista is the only major metropolitan area along the SRDWSC south of the City of West Sacramento. The City of Rio Vista did not respond with any knowledge of facilities which cross beneath the SRDWSC.

2.1.5 Sacramento Municipal Utilities District

The Sacramento Municipal Utilities District (SMUD) is a public utility service which provides electricity to the Sacramento area. SMUD owns and operates transmission and distribution

electrical service lines and many ancillary electrical utilities (e.g. transformers, power poles, etc.). SMUD was contacted regarding a USACE permit indicating a 20-inch gas line crossing under the SRDWSC and to inquire of any other crossings. SMUD confirmed the horizontal position of the gas line and stated there were no other utility crossings of the SRDWSC.

2.1.6 Pacific Gas and Electric Company

Pacific Gas and Electric Company (PG&E) provides natural gas and electric utilities throughout California. PG&E's utilities consist of transmission and distribution lines for both natural gas and electrical services. The 1986 GDM indicates several PG&E gas and electrical crossings, some of which were recommended to be relocated or removed. The gas and power departments at PG&E provided responses regarding the information in the GDM and USACE and CVFPB permits.

2.1.7 Calpine Corporation

Calpine is a power company which provides natural gas and electric service to 16 states and Canada. Calpine became a project stakeholder after the 1986 GDM analysis, assuming authority of an existing crossing of the SRDWSC and constructing a new crossing in 2003. Calpine provided confirmation of the USACE permit data and additional information on their crossings.

2.1.8 California Energy Exchange

California Energy Exchange (CEE) is the successor of interest for Sacramento Valley Pipeline Company. Permit information for the Sacramento Valley Pipeline Company crossing was provided by the USACE.

2.1.9 Key Production Company

Key Production Company operates in crude oil and natural gas production. Permit information was provided by the USACE regarding a Key Production Company gas line. Key Production Company was not contacted regarding the facility.

2.1.10 Chevron

Chevron is an energy company involved in oil, gas, and geothermal energy production. The 1986 GDM identified two Chevron crossings, one of which was within the project limits. Chevron was contacted multiple times regarding further information of the crossing, no response has been received. The approximate location of the pipeline crossing shown in the drawings is based on the 1986 GDM.

2.1.11 AT&T

AT&T is a telephone, broadband internet, and television provider. AT&T was contacted regarding active crossings of the SRDWSC and existing crossings identified in the GDM (as Delta T&T or General Telephone crossings). Three offices for AT&T were contacted, in

Sacramento, Fairfield, and Pittsburg. The Sacramento and Fairfield offices responded with letters of no conflict regarding active lines. AT&T legacy engineering groups were also contacted for information regarding the Delta T&T and General Telephone lines identified in the GDM. No response was received from the legacy engineering groups.

2.1.12 Comcast

Comcast is a cable service provider, specializing in television, broadband internet and communications services. Comcast provides these services throughout the project area. Comcast was contacted regarding active lines in the project area. Comcast responded that there were no conflicts within the project area.

2.1.1 Reclamation Districts

Reclamation Districts (RD) bordering the SRDWSC were contacted to provide any permit information regarding the utility crossing within their jurisdiction. No permit information was received from the RDs.

2.2 Utility Crossings

The information gathered from various sources was compared to identify information which overlapped and ensure the most current and accurate information was used. The summary of known crossings is shown in Table 1. Following Table 1 is a summary of information received for each crossing.

Table 1. SRDWSC Utility Crossings Summary Table

River Mile	Description	Owner	Source of Information	Permit Number	Utility Agency Contact Information
0.00	<i>Beginning of Project (near Collinsville, begin widening and dredging)</i>				
1.70	8" Submarine Pipeline	Calpine (Formerly Dow Chemical)	Calpine (1972)	Not received	Chris Delaney, 707-374-1516
1.70	Submarine Telephone Cable	General Telephone	GDM (1986)	Not received	None
6.00	26" Pipeline	PG&E	CVFPB (1961)	190103256	Bruce Hardy, 925-974-4356
6.18	42" Gas Line	PG&E	RD 341 (1991)	2103020308 (RD 341)	Bruce Hardy, 925-974-4356
6.50	2 - 12 3/4" high pressure gas line	PG&E	PG&E (1985), CVFPB (1942)	190102107	Bruce Hardy, 925-974-4356
8.80	5kv submarine cable	U.S. Army	GDM (1986)	Not received	USACE
10.00	Pipeline	Standard Oil (Chevron)	GDM (1986)	Not received	Cristina Ricci, 925-842-4353
11.00	12" Gas Line	Calpine	USACE (2003)	200200201	Chris Delaney, 707-374-1516
12.50	2 - 10 3/4" high pressure gas line	PG&E	PG&E (1985), CVFPB (1944)	190102148	Bruce Hardy, 925-974-4356
12.70	Armored submarine cable	Great West Power (PG&E)	USACE (1929)	190101727	David Black, 916-386-5470
12.70	Submarine telephone cable	Delta T&T (General Telephone)	GDM (1986)	190101784 (missing)	None
12.70	3 submarine cables	Division of Highways	USACE (1963)	190103621	Heidi Carle, 501-622-0799
12.70	Submarine Telephone Cable	PG&E	CVFPB (1963)	190103646	David Black, 916-386-5470
12.70	22kv power cable	PG&E	USACE (1966)	190104053	David Black, 916-386-5470
12.93	22kv submarine power cable	PG&E	USACE (1967)	190104164	David Black, 916-386-5470
13.00	Outfall structure	Blackwelders	GDM (1986)	Not Received	None
15.00	<i>Junction Point (No widening here to RM 18.6)</i>				
18.60	<i>Entrance to manmade channel (Widening here to RM 35.0)</i>				
23.40	4" gas line	PG&E	CVFPB (1960)	190103428	Bruce Hardy, 925-974-4356
27.80	Key Production Company	Key Production Company	USACE (1998)	199800293	Key Production Company, 303-295-3995
35.00	<i>End of project (previously dredged from RM 35.0 to Port of Sacramento)</i>				
35.80	6" Natural Gas line	CEE (Sacramento Valley Pipeline)	CVFPB (1985)	14247	Brian Habersack, 916-859-4700
35.90	20" Gas	SMUD	CVFPB (1994)	16311	Roya Borman, 916-732-7132

2.2.1 RM 1.70 8-inch Submarine Pipeline

This crossing was originally identified in the 1986 GDM as a Dow Chemical facility. Since 1986, Calpine has assumed control of the facility. Calpine provided a pipeline profile, dated 1972, for the crossing indicating the pipeline was approximately 47 feet below the existing SRDWSC bottom.

2.2.2 RM 1.70 Submarine Telephone Cable

This crossing was originally identified in the 1986 GDM as a General Telephone facility. No permit information has been received from the CVFPB or USACE for this crossing. AT&T has submitted letters of no conflict to HDR regarding active communications lines. AT&T legacy engineering groups have been contacted regarding this General Telephone facility but have not responded with confirmation of its location.

2.2.3 RM 5.00 26-inch Gas Pipeline

This is PG&E gas line 400. The 1991 RD 341 permit data has been obtained from PG&E. PG&E has stated they are currently conducting field verification of the depth of this line.

2.2.4 RM 6.18 42-inch Gas Pipeline

This is PG&E gas line 401. This facility was identified by permit information provided by PG&E. The crossing was directionally drilled in 1991. The permit information states a minimum 30 feet beneath the channel bottom would be maintained.

2.2.5 RM 6.50 2 – 12 ¾-inch Gas Pipelines

This is PG&E gas line 114. The crossing was identified in the 1986 GDM to be lowered. Original permit information has been received for the crossing as well as a 1985 pipeline profile provided by PG&E.

2.2.6 RM 8.80 5 kv Submarine Cable

This crossing was identified in the 1986 GDM without an associated permit number. No permit data has been received for this crossing.

2.2.7 RM 10.00 Pipeline

This crossing was identified in the 1986 GDM as a “pipeline” owned by Chevron and without an associated permit number. Chevron has been contacted multiple times regarding information for the crossing. Chevron has not responded with confirmation of the location or further information regarding depth.

2.2.8 RM 11.00 12-inch Gas Line

This crossing was identified from permit data provided by USACE. The line was directionally drilled in 2003 and maintains adequate cover per the record drawings.

2.2.9 RM 12.50 2 – 10 ¾-inch High Pressure Gas Lines

These pipes are PG&E line 130 and a Rosetta Resources facility. These were identified in the 1986 GDM and recommended to be lowered. Permit information has been received for the crossings from the CVFPB. PG&E provided a pipeline profile dated 1985 providing depth information more recent and detailed than the original permit.

2.2.10 RM 12.70 Armored Submarine Cable

This crossing was originally identified in the 1986 GDM. The CVFPB permit indicates the line is located 65 feet downstream from the Rio Vista Bridge but is not specific about depth. One page suggests the cable be trenched when it is installed but it is suggested by hand writing on the page this was not done. If trenching was not done, the cable may have been laid on the channel bottom.

2.2.11 RM 12.70 Submarine Telephone Cable

This crossing was originally identified in the 1986 GDM as a Delta T&T facility, formerly General Telephone. A permit was not provided by the CVFPB and the USACE stated the permit had been lost. No regional communications companies (AT&T and Frontier Communications) claimed to have a submarine crossing beneath the Rio Vista Bridge.

2.2.12 RM 12.70 3 Submarine Cables

These cables are owned by Caltrans and provide power to the Rio Vista lift bridge. The associated permit indicates the lines were installed 10 ft below existing grade.

2.2.13 RM 12.70 Submarine Cable

This cable was originally identified in the 1986 GDM. The associated permit indicates the cable was installed 10 ft below existing grade, it appears in the same location as the 3 Caltrans cables. There is another permit indicating a 22kv PG&E power line (see Section 2.2.14) under the Rio Vista Bridge. However, PG&E states it only has a single active power line under the bridge.

2.2.14 RM 12.70 22kv Power Cable

This cable was originally identified in the 1986 GDM. The associated permit has been obtained and indicated the top of pipe elevation of the crossing. There is another permit indicating a PG&E submarine cable (see Section 2.2.13) under the Rio Vista Bridge. However, PG&E states it only has a single active power line under the bridge.

2.2.15 RM 12.93 22kv Power Cable

This crossing was originally identified in the 1986 GDM. The associated permit has been obtained stating the location and depth of the crossing. The permit states that the 22kv line described in Section 2.2.14 was relocated from the Rio Vista Bridge to this location. However,

PG&E states it does not have any facilities in this area. While the relocation was permitted, it is not clear the relocation was ever constructed.

2.2.16 RM 13.00 Outfall Structure

This structure was identified in the 1986 GDM. No regional agency or company by the name of Blackwelders has been identified. No permit data was received for this structure.

2.2.17 RM 23.40 4-inch Gas Line

This is PG&E gas line 145. The line was identified in the 1986 GDM as an abandoned facility to be removed. Permit data has been received as well as a pipeline profile dated 1964.

2.2.18 RM 27.80 6-inch Gas Line

This crossing was identified from permit information provided by the USACE. The facility belongs to Key Production Company. The permit application indicates the crossing would be directionally drilled a minimum of 35 feet below the channel bottom. Key Production Company has not been contacted to confirm the depth of this facility.

2.2.19 RM 35.80 6-inch Natural Gas Line

This crossing was identified from CVFPB permits. The crossing was originally constructed by Sacramento Valley Pipeline. CEE has since assumed ownership of the line. The crossing is approximately 0.80 miles outside the limits of the SRDWSC Project.

2.2.20 RM 35.90 20-inch Gas Line

This crossing was identified from CVFPB permits. The crossing was directionally drilled by the SMUD in 1994. SMUD maintains ownership of the facility. The crossing is approximately 0.90 miles outside the limits of the SRDWSC Project.

2.2.21 Additional Underground Crossings

The 1986 GDM as well as permit data identify various crossings outside of the project limits. Several of these are located in the vicinity of the City of West Sacramento and the Port of Sacramento. Detailed information was not pursued for these crossings. The crossings are not documented in this report.

2.2.1 Overhead Crossings

There are multiple overhead utility crossings of the SRDWSC. During construction it will be necessary to maintain cover between the dredging rig and the overhead lines.

2.3 Field Verification

Field verification of the record information collected is an optional task for the SRDWSC project. No field verification or survey has been performed to date. After further review, field verification may be conducted to confirm the necessity of utility relocation. Field verification

may be performed by utility locators to mark and survey the location and determine approximate depth and elevation on land and under the SRDWSC.

3.0 Bibliography

USACE (1986) General Design Memorandum, Sacramento River Deep Water Ship Channel Project, Sacramento District, March.