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**EXHIBIT A**

**SANTA MARGARITA TEST INJECTION WELL (SMTIW)  
AQUIFER STORAGE AND RECOVERY (ASR)  
SYSTEM**

**OPERATION AND MAINTENANCE MANUAL**

**CALIFORNIA AMERICAN WATER**

**November 2005**

SANTA MARGARITA TEST INJECTION WELL (SMTIW)  
AQUIFER STORAGE AND RECOVERY (ASR) SYSTEM

OPERATING AND MAINTENANCE MANUAL

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CONTENTS

1.0 INTRODUCTION

I. Scope and Purpose.....1

2.0 SMTIW-ASR SYSTEM DESCRIPTION

I. Operation and Control Strategy .....2

A. Injection

B. Extraction

C. Proposed Extraction Method

II. Primary Components .....3

III. Piping Schematic

Extraction pumping to Ord Grove Treatment Plant.....4

IV. Valve Locations.....4

V. Proposed Extraction System Piping Schematic

Extraction pumping to Seaside distribution system connection at Hilby Ave. and  
Luzern St. ....4

VI. Proposed Plan for General Jim Moore Blvd. temporary intertie pipeline to  
connection at Hilby Ave and Luzern St., Seaside.....4

3.0 OPERATION

I. Injection Procedures .....5

A. Startup/Shutdown

B. Monitoring

C. Alarm Conditions

D. Emergency Procedures

II. Extraction Procedures-Existing Piping System to Ord Grove Plant.....7

A. Startup/Shutdown

B. Monitoring

- C. Alarm Conditions
- D. Emergency Procedures

III. ***Proposed*** Extraction Procedures –Future pipeline along General Jim Moore Blvd. to connection at Hilby Ave and Luzern St., Seaside .....8

- A. Startup/Shutdown
- B. Monitoring
- C. Alarm Conditions
- D. Emergency Procedures

**4.0 MAINTENANCE.**

I. Daily/ Weekly.....10

- A. Injection System
- B. Extraction System

II. Periodic..... 10

- A. Injection System
- B. Extraction System

**5.0 WELL AND AQUIFER PERFORMANCE MONITORING AND MAINTENANCE**

I. ASR System Performance Evaluation.....11

- A. Assessment of DBP occurrence and fate in aquifer.
- B. Evaluation/adjustment of long term injection rates and backflushing frequency.

II. Well Screen Maintenance.....11

III. Well Backflushing and Redevelopment..... 11

**FIGURES- (FOLLOWING PAGE 4)**

Figure-1 Piping Schematic for Existing SMTIW-ASR System

Figure-2 Valve Locations for Existing SMTIW-ASR System (Ord Grove Ave.)

Figure-3 Valve Locations for Existing SMTIW-ASR System (General Jim Moore Blvd.)

Figure-4 Piping Schematic for Proposed Connection to Seaside Distribution System (Temporary Intertie Pipeline Along General Jim Moore Blvd.)

**TABLES**

Table-1 Primary Components for the SMTIW-ASR System..... 6

Table-2 Valve Identification and Sequencing for ASR Operations.....6

**APPENDIX A**

**Contact Phone Numbers**

**APPENDIX B**

**Project Description for Proposed Temporary Intertie Pipeline on General Jim Moore Blvd. with Connection to the Seaside Distribution System at Hilby Ave. and Luzern St.**

**SANTA MARGARITA TEST INJECTION WELL (SMTIW)  
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**November 2005**

**1.0 INTRODUCTION**

The Santa Margarita Test Injection Well (SMTIW) was designed and constructed to serve as part of an Aquifer Storage and Recovery (ASR) system. During the rainy season when treated water is available from Carmel River sources, potable water from the California American Water (CAW) distribution system will be injected into the well. During the summer and fall when the Monterey area is typically relying entirely on groundwater withdrawals, the well will be available as a source of potable water that can be pumped directly to the distribution system under certain monitoring protocols. Operation of the ASR system is a joint effort between the Monterey Peninsula Water Management District (MPWMD) and CAW, under permitting authority of the California Department of Health Services (DHS).

**Scope, and Purpose**

On November 30, 2004, CAW submitted an Operations Plan for the Santa Margarita Well to DHS along with other requested information. Following that submittal, a consensus was reached between MPWMD and CAW staff that a more procedural document was needed. As a result, the following document was prepared to be a guide and reference for CAW operators in their daily operation of the SMTIW injection and extraction systems. It contains only information and protocols specific to the SMTIW-ASR system, and its focus is only on the information that may be needed by CAW operators in the field. Though MPWMD plays a critical role in the operation of the system, this document only delineates those areas of responsibility and does not provide additional detail.

This manual is intended to be a working document that will be continually updated as the system is expanded or modified, or to reflect changes in operational procedures or areas of responsibility.

## 2.0 SMTIW-ASR SYSTEM DESCRIPTION

### **I. Operation and Control Strategy**

During the rainy season, typically December through May, the SMTIW will be operated in Injection mode to store surplus Carmel River Aquifer water for future use. During the dry season, typically June through October, the SMTIW will be operated in Extraction mode and be used as a water supply source for the Monterey system.

Piping currently connects the SMTIW to the CAW distribution system at the Luzern Well site and the Paralta Well site. Control wiring currently exists between the SMTIW panel and the panel at the Paralta well site. (When constructed, a proposed piping connection will also connect the SMTIW to the CAW distribution system near the intersection of Hilby Avenue and Luzern St.

#### **A. Injection**

Once distribution system valves are set properly, potable water is injected into the SMTIW from the CAW distribution system via the ASR Booster pump located at the Luzern Well. The pump is operated manually from a switch at the Luzern Well Control Panel.

#### **B. Extraction**

When the SMTIW is used as a supply source, the SMTIW pump is under automatic control by the PLC settings on the Paralta Well panel. The SMTIW is only used when the Paralta Well is shut down, and vice versa, so the SMTIW is under exactly the same ON/OFF control logic as the Paralta Well.

Water from the SMTIW is pumped to the Ord Grove Ozone Treatment plant for removal of any hydrogen sulfide and final chlorination prior to distribution. A variable frequency drive (VFD) on the SMTIW well ensures that the pumped flow from the well does not exceed the Ord Grove Treatment Plant capacity. The VFD is controlled manually at the SMTIW control panel.

*C. Proposed Extraction Method- Direct connection to Seaside distribution system via temporary inertie pipeline along General Jim Moore Blvd.*

*Chlorinated, potable water from the SMTIW will be pumped directly to the Seaside distribution system via a temporary above-ground pipeline along General Jim Moore Blvd to a connection on Hilby Ave. The SMTIW pump will be configured to run automatically on a timer, since the hydraulic conditions of the Seaside distribution system preclude using automatic control to call the pump based on system pressure or Hilby Tank level. To minimize cycling, the VFD on the pump will also be adjusted manually to match anticipated system demand at the time of*

operation. The SMTIW pump will be shut down automatically if an overflow condition is reached at the Hilby Tank, or if pump discharge and pressure conditions indicate a sudden failure of the 16" pipeline along General Jim Moore Blvd.

## II. Primary Components

Table-1 Primary Components for the SMTIW-ASR System.

<b>A. ASR Booster Pump</b>	
Location	Luzern Well Site
Type	Standard close-coupled Centrifugal
Motor Size	100 HP
Motor Drive	Single Speed
Power Supply	480 V, 3 PH
Backup Power	Portable Generator
Rated Capacity	2,000 GPM @ approx. 150 ft TDH
Controls	Manual, Switch at Luzern Panel
Discharge Piping Diameter, Luzern Well to SMTIW	12 inch
Approximate Injection Test Flow (2004 season)	Approximately 600-1,450 gpm
Design Injection Flow (best long-term performance)	1,000 gpm
Backflushing Frequency	weekly
<b>B. SMTIW Pump</b>	
Location	SMTIW site
Type	Vertical Turbine
Motor Size	400 HP
Motor Drive	Variable Frequency Drive (VFD) Adjusted to match pump output to Ord Grove Treatment Plant Output
Power Supply	480 V, 3 PH
Backup Power	Off-site portable generator. No backup power facilities on-site.
Rated Capacity	2,600 gpm @ approx. 425 ft TDH
Average Extraction Flow (2004 season)	Approximately 1,570 gpm
ON/OFF Control	Automatic (PLC)- switch at Paralta Panel
VFD	Manual rheostat at SMTIW control panel.
Discharge Piping Diameter	12 inch
Typical Backflush Flow (2004 season)	1,700- 2,600 gpm

**III. Existing Piping Schematic**

**Extraction pumping to Ord Grove Treatment Plant**

(Please refer to Figure-1.)

**IV. Existing Valve Locations**

(Please refer to Figure-2 and Figure-3.)

**V. Proposed Extraction System Piping Schematic**

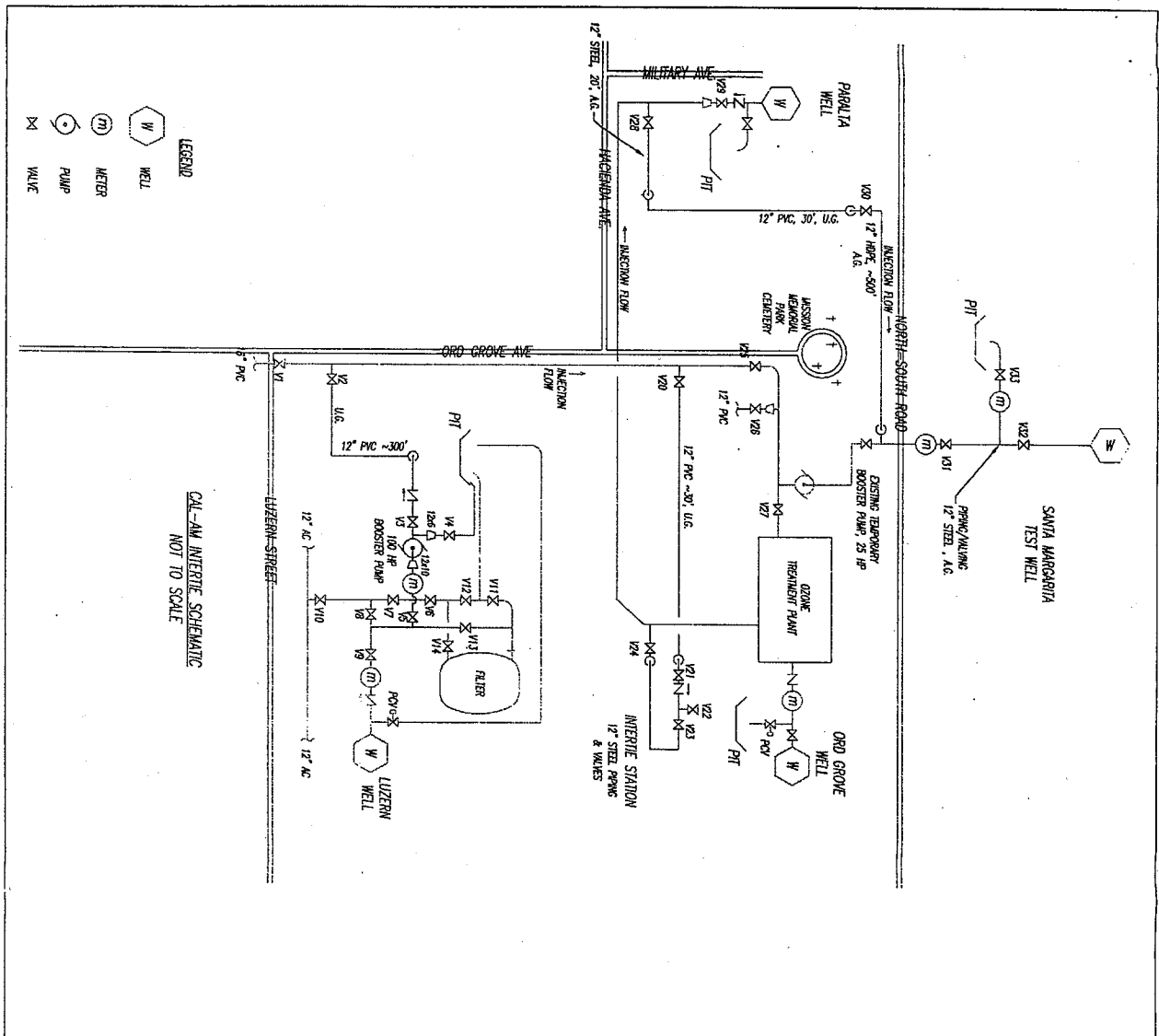
**Extraction pumping to Seaside distribution system connection at Hilby Ave. and Luzern St.**

(Please refer to Figure-4.)

**VI. Proposed Plan for temporary inertie pipeline along General Jim Moore Blvd. to connection to Seaside distribution system at Hilby Ave and Luzern St., Seaside**

(Please refer to Appendix B for description of proposed project.)





VALVE IDENTIFICATION & SEQUENCING FOR ASR OPERATIONS

VALVE NO.	TYPE	CONDITION	INSTALLATION	LOCATION/FACILITY	ASR POSITION (SUMMER)	ASR POSITION (WINTER)	ASR SEQUENCE	ASR SHUTDOWN SEQUENCE
V1	BF	E	U	Ord Grove/Luzern	0	X	5	19
V2	G	N	U	Ord Grove/Luzern	X	0	21	12
V3	OST	N	A	Luzern	X	0	23	13
V4	OST	N	A	Luzern	X	0/X	29*	14
V5	G	N	U	Luzern	X	0	22	14
V6	G	E	A	Luzern	0	X	10	15
V7	G	E	A	Luzern	0	0	-	-
V8	G	E	A	Luzern	X	X	-	-
V9	G	E	U	Luzern	0	X	6	16
V10	G	E	U	Luzern	0	0	-	-
V11	G	E	A	Luzern	X/0	X	8	-
V12	G	E	A	Luzern	X/0	X	9	-
V13	G	E	A	Luzern	0	X	7	17
V14	G	E	A	Luzern	0	0	11	18
V15	G	N	U	Ord Grove/Hosendo	X	0	15	7
V16	OST	N	A	Hosendo Interie	X	0	17	8
V17	OST	N	A	Hosendo Interie	X	0	18	11
V18	OST	N	A	Hosendo Interie	X	0	19	10
V19	OST	N	A	Hosendo Interie	X	0	20	9
V20	OST	N	U	Ord Grove/Denver	0	X	1	20
V21	G	E	U	Ord Grove/Denver	0	X	2	21
V22	G	E	U	Ord Grove/Denver	0	X	3	22
V23	G	E	U	Ord Grove/Denver	0	X	4	22
V24	G	E	U	Ord Grove/Denver	0	X	5	22
V25	G	E	U	Ord Grove/Denver	0	X	6	22
V26	G	E	U	Ord Grove/Denver	0	X	7	22
V27	G	E	U	Ord Grove/Denver	0	X	8	22
V28	G	E	U	Ord Grove/Denver	0	X	9	22
V29	BF	E	A	Parola	0	X	15	6
V30	BF	E	A	Parola	0	X	4	-
V31	G	N	U	Parola	0	0	14	5
V32	G	N	U	Parola	0	0	13	4
V33	G	N	U	Parola	0	0	12	3
V34	G	N	U	Parola	0	0	11	2
V35	G	N	U	Parola	0	0	10	1
V36	G	N	U	Parola	0	0	9	1
V37	G	N	U	Parola	0	0	8	1
V38	G	N	U	Parola	0	0	7	1
V39	G	N	U	Parola	0	0	6	1
V40	G	N	U	Parola	0	0	5	1
V41	G	N	U	Parola	0	0	4	1
V42	G	N	U	Parola	0	0	3	1
V43	G	N	U	Parola	0	0	2	1
V44	G	N	U	Parola	0	0	1	1

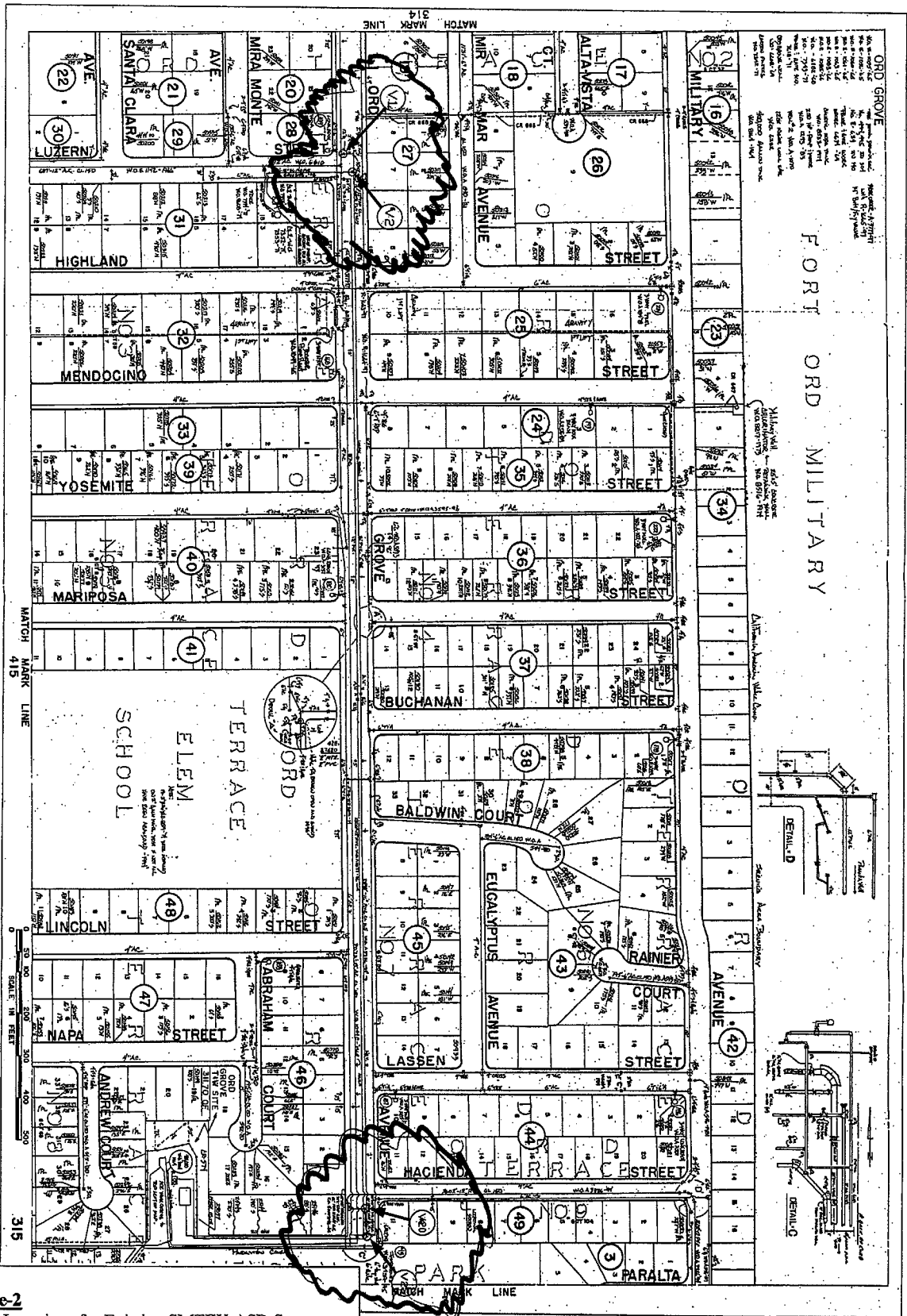
TYPE: BF=BITTERLY, G=ONE, OST=OUTSIDE STEEL & WAKE  
 CONDITION: E=EXISTING, N=NEW  
 INSTALLATION: A=ABOVEGROUND, U=UNDERGROUND  
 VALVE POSITION: 0=OPEN, X=CLOSED

PROJECT NO. 12345  
 SHEET NO. 1  
 DATE: 10/15/2023

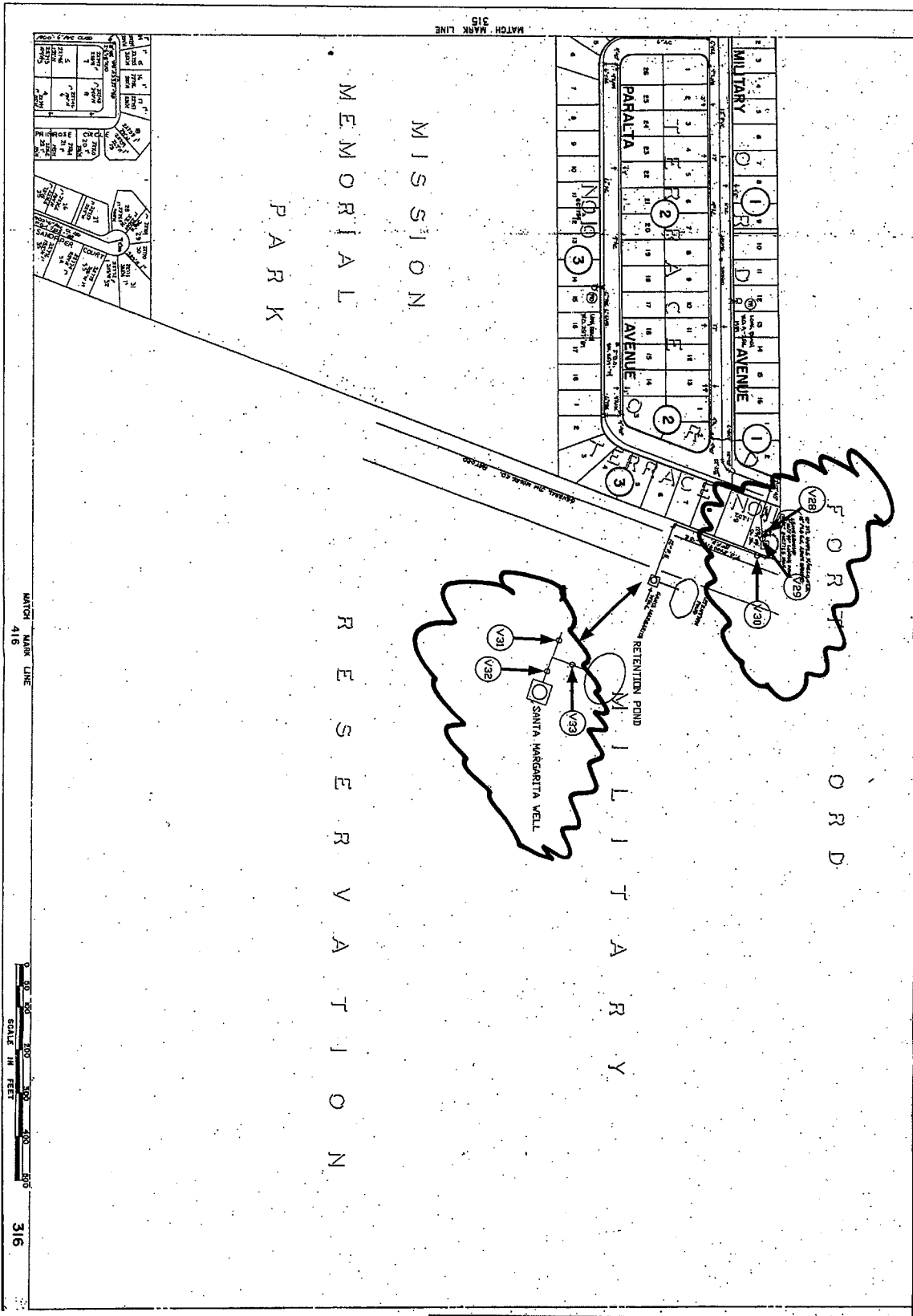
**padre**  
 PROFESSIONAL ENGINEER  
 LICENSE NO. 12345  
 STATE OF CALIFORNIA

PROJECT TITLE: PIPING SCHEMATIC FOR EXISTING SMTW-ASR SYSTEM

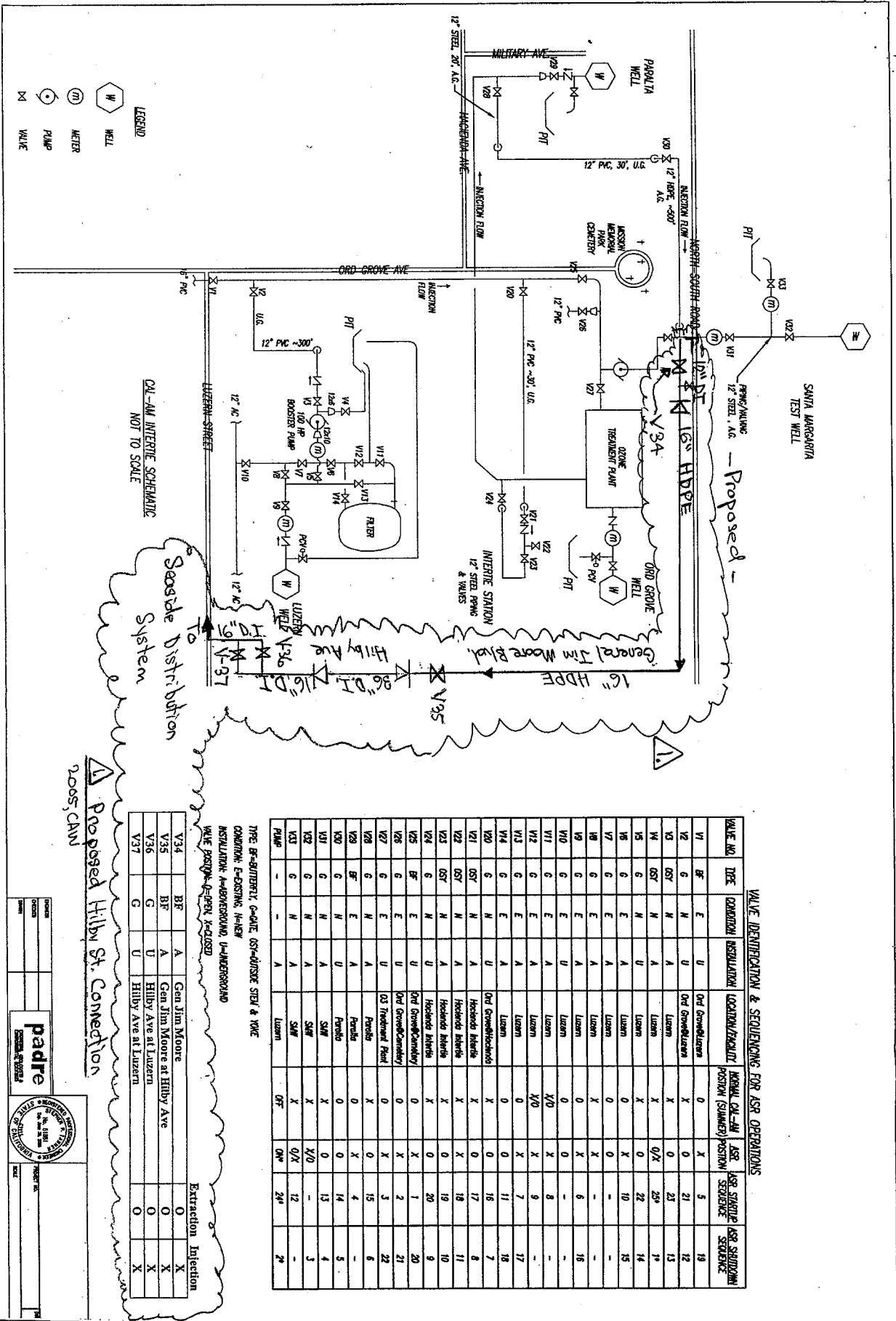
**Figure-1**  
 Piping Schematic for Existing SMTW-ASR System



**Figure-2**  
Valve Locations for Existing SMTIW-ASR System



**Figure-3**  
Valve Locations for Existing SMTIW-ASR System



VALVE IDENTIFICATION & SEQUENCING FOR ASP OPERATIONS

VALVE NO.	TYPE	CONDITION	INSULATION	LOCATION/TERRIT	NORMAL ON-AM POSITION (SUMMER)	ASP POSITION	ASP SEQUENCE	ASP SEQUENCE
V1	BF	E	U	Ord Greenhills	0	X	5	19
V2	G	N	U	Ord Greenhills	X	0	21	12
V3	OST	N	A	Luzern	X	0	23	13
V4	OST	N	A	Luzern	X	0/X	25	14
V5	G	E	U	Luzern	0	X	22	14
V6	G	E	A	Luzern	0	0	-	-
V7	G	E	A	Luzern	X	X	10	15
V8	G	E	A	Luzern	0	X	-	-
V9	G	E	A	Luzern	0	X	6	16
V10	G	E	U	Luzern	0	0	-	-
V11	G	E	A	Luzern	X/D	X	8	-
V12	G	E	A	Luzern	X/D	X	9	-
V13	G	E	A	Luzern	0	X	7	17
V14	G	E	A	Luzern	0	0	11	18
V15	G	E	A	Ord Greenhills	X	0	16	7
V16	OST	N	A	Hosford bluffs	X	X	17	8
V17	OST	N	A	Hosford bluffs	X	X	18	11
V18	OST	N	A	Hosford bluffs	X	X	19	10
V19	OST	N	U	Hosford bluffs	X	0	20	9
V20	G	E	U	Ord Greenhills	0	X	1	20
V21	G	E	U	Ord Greenhills	0	X	2	21
V22	G	E	U	Ord Greenhills	0	X	3	22
V23	G	E	U	Ord Greenhills	0	X	15	6
V24	G	E	U	Ord Greenhills	0	X	4	-
V25	G	E	U	Ord Greenhills	0	X	14	5
V26	G	E	U	Ord Greenhills	0	X	13	4
V27	G	E	U	Ord Greenhills	0	X	12	3
V28	G	E	U	Ord Greenhills	0	X	11	2
V29	G	E	U	Ord Greenhills	0	X	10	1
V30	G	E	U	Ord Greenhills	0	X	9	-
V31	G	E	U	Ord Greenhills	0	X	8	-
V32	G	E	U	Ord Greenhills	0	X	7	-
V33	G	E	U	Ord Greenhills	0	X	6	-
V34	BF	A	A	Gen Jim Moore	0	0	0	X
V35	BF	A	A	Gen Jim Moore at Hilby Ave	0	0	0	X
V36	G	U	U	Hilby Ave at Luzern	0	0	0	X
V37	G	U	U	Hilby Ave at Luzern	0	0	0	X

TYPE: BF-BATTERY, G-GATE, OST-DIVISE STOP & VALVE  
 CONDITION: E-CLOSING, N-NEW  
 INSULATION: A-ADDERBOARD, U-UNDERBOARD  
 WAVE POSITION: B-OPEN, X-CLOSED

VALVE NO.	TYPE	CONDITION	INSULATION	LOCATION/TERRIT	Normal Position	ASP Position	ASP Sequence	ASP Sequence
V34	BF	A	A	Gen Jim Moore	0	0	0	X
V35	BF	A	A	Gen Jim Moore at Hilby Ave	0	0	0	X
V36	G	U	U	Hilby Ave at Luzern	0	0	0	X
V37	G	U	U	Hilby Ave at Luzern	0	0	0	X

Extraction Injection

Proposed Hilby St. Connection  
 2005, CAWI

padre  
 CONSULTING ENGINEERS  
 1000 16th Street, Suite 100, San Francisco, CA 94103  
 (415) 774-1100  
 www.padre.com

Figure-4 Piping Schematic for Proposed Connection to Seaside Distribution System (Temporary Intertie Pipeline Along General Jim Moore Blvd.)

## **3.0 OPERATION**

### **I. INJECTION PROCEDURES**

Injection operation is when potable water from the CAW distribution system is pumped back into the SMTIW. This typically happens during the period from December through May.

#### **A. Startup/Shutdown**

All startup and shutdown shall be coordinated with MPWMD. After initial startup, temporary shutdown and restart will be required periodically (approximately weekly) as needed for backflushing of the well. This will be also be directed by MPWMD.

MPWMD contact - Joe Oliver , phone 831-658-5640, cell 915-9031.

The specific startup sequence is as follows:

##### **a.) Startup:**

1. MPWMD notifies CAW that it is ready to proceed with injection operations.
2. CAW operators check valves V-1 through V-30 as shown in Table-1 (below) and verify that they are in the "ASR Position". A piping schematic and a map showing the location of each valve are provided in the previous section (Chapter 2).
3. MPWMD adjusts V31, V32, and V33 as required. Operation of these valves will not be the responsibility of CAW operators.
4. Once all valves are set correctly, a CAW operator starts the ASR Booster pump from the control panel located at the Luzern Well site.

##### **b.) Shutdown (reverse of startup sequence):**

1. MPWMD notifies CAW that it intends to stop injection operations.
2. A CAW operator shuts down the ASR Booster pump from the control panel located at the Luzern Well site.
3. CAW operators re-position valves V-1 through V-30 as shown in Table-1 (below) and verify that they are in the "Normal CAW Position (Summer)". A piping schematic and a map showing the location of each valve are provided in the previous section (Chapter 2).
4. MPWMD will adjust V31, V32, and V33 as required.

#### **B. Monitoring**

There are no additional monitoring responsibilities for CAW operators for the Injection operation. MPWMD may continue to evaluate water quality of injected water as part of the ongoing testing program.

#### **C. Alarm Conditions**

There are no additional alarm conditions. Notify MPWMD of booster pump failure. Repair or replace pump as necessary.

#### **D. Emergency Procedures**

General CAW emergency protocols apply. **Call 911 for Medical, Fire, or Law Enforcement Emergency.** Follow CAW standard procedures for main breaks or other system emergencies. Notify MPWMD of any emergency that would affect injection operations.

**TABLE-1 VALVE IDENTIFICATION & SEQUENCING FOR ASR OPERATIONS**

VALVE NO.	TYPE	CONDITION	INSTALLATION	LOCATION/FACILITY	EXTRACTION	INJECTION		
					NORMAL CAV POSTION (SUMMER)	ASR POSTION	ASR STARTUP SEQUENCE	ASR SHUTDOWN SEQUENCE
V1	BF	E	U	Ord Grove@Luzern	0	X	5	19
V2	G	N	U	Ord Grove@Luzern	X	0	21	12
V3	OSY	N	A	Luzern	X	0	23	13
V4	OSY	N	A	Luzern	X	0/X	25*	1*
V5	G	N	U	Luzern	X	0	22	14
V6	G	E	A	Luzern	0	X	10	15
V7	G	E	A	Luzern	0	0	-	-
V8	G	E	A	Luzern	X	X	-	-
V9	G	E	A	Luzern	0	X	6	16
V10	G	E	U	Luzern	0	0	-	-
V11	G	E	A	Luzern	X/0	X	8	-
V12	G	E	A	Luzern	X/0	X	9	-
V13	G	E	A	Luzern	0	X	7	17
V14	G	E	A	Luzern	0	0	11	18
V20	G	N	U	Ord Grove@Hacienda	X	0	16	7
V21	OSY	N	A	Hacienda Intertie	X	0	17	8
V22	OSY	N	A	Hacienda Intertie	X	X	18	11
V23	OSY	N	A	Hacienda Intertie	X	0	19	10
V24	G	N	U	Hacienda Intertie	X	0	20	9
V25	BF	E	U	Ord Grove@Cemetery	0	X	1	20
V26	G	E	U	Ord Grove@Cemetery	0	X	2	21
V27	G	E	U	03 Treatment Plant	0	X	3	22
V28	G	N	A	Paralta	X	0	15	6
V29	BF	E	A	Paralta	0	X	4	-
V30	G	N	U	Paralta	0	0	14	5
V31	G	N	A	SMW	X	0	13	4
V32	G	N	A	SMW	X	X/0	-	3
V33	G	N	A	SMW	X	0/X	12	-
PUMP	-	-	A	Luzern	OFF	ON*	24*	2*

MPWMD ONLY

MPWMD ONLY

TYPE: BF=BUTTERFLY, G=GATE, OSY=OUTSIDE STEM & YOKE

CONDITION: E=EXISTING, N=NEW

INSTALLATION: A=ABOVEGROUND, U=UNDERGROUND

VALVE POSTION: 0=OPEN, X=CLOSED

\*\*PLEASE REFER TO PREVIOUS SECTION FOR PIPING SCHEMATIC AND MAP SHOWING VALVE LOCATIONS

**II. EXTRACTION PROCEDURES** -Existing system using Ord Grove Treatment Plant  
Extraction is when the SMTIW is used as a water source for the Monterey system. This occurs during the dry season, typically June through October.

**A. Startup/Shutdown**

All startup and shutdown shall be coordinated with MPWMD.

MPWMD contact - Joe Oliver , phone 831-658-5640, cell 915-9031.

The specific startup and shutdown sequences are as follows:

**a.) Startup:**

1. MPWMD notifies CAW that it may begin pumping from the SMTIW.
2. CAW operators check valves V-1 through V-30 as shown in Table-1 (below) and verify that they are in the "Normal CAW Position". A piping schematic and a map showing the location of each valve are provided in the previous section (Chapter 2).
3. MPWMD will adjust V31, V32, and V33 as required. Operation of these valves will not be the responsibility of CAW operators.
4. At the Paralta Well site, a CAW operator closes the discharge valve on the Paralta Well and opens the valve on the SMTIW pipe connecting to the CAW distribution system.
5. CAW operators will rewire contacts in Paralta Well Panel so that the SMTIW can be operated remotely in AUTO mode from the Paralta Well Panel using the same control logic as the Paralta Well.
6. Coordinate with MPWMD to set the VFD on the SMTIW pump to match current Ord Grove Treatment Plant output.
7. After the VFD on the SMTIW pump has been adjusted satisfactorily, a CAW operator places the SMTIW starter switch in the AUTO position at the Paralta Well Panel

**b.) Shutdown (reverse of startup sequence):**

1. MPWMD notifies CAW that it must stop pumping from the SMTIW, or alternatively, CAW decides to discontinue pumping based on system demand conditions.
2. A CAW operator shuts down the SMTIW pump at the Paralta Well control panel.
3. At the Paralta Well site, a CAW operator opens the valve on the Paralta Well discharge and closes the valve on the SMTIW piping connection to the distribution system
4. A CAW operator re-configures the connections in the Paralta Well control panel so that the Paralta Well pump will be under control of the PLC.
5. A CAW operator places the Paralta Well starter switch in the AUTO position at the Paralta Well Panel.

## **B. Monitoring**

Since the SMTIW will be operated as a supply well in place of the Paralta Well, all routine water quality monitoring of the finished water prior to distribution will be in accordance with the existing Ord Grove Treatment Plant operating permit with the Department of Health Services (DHS). There are no additional routine monitoring responsibilities for CAW operators for the SMTIW Extraction operation.

Additional monitoring for Disinfection Byproducts (DBPs) is required as part of the DHS operating permit for the SMTIW. Sample collection, analysis, and submittal will continue to be under the direction of Leslie Jordan, CAW Water Quality Supervisor (phone 646-3258). CAW operators will not be routinely involved in sample collection for DBPs, unless directed by Leslie Jordan otherwise.

In addition, MPWMD may continue to take samples to evaluate water quality of the extracted water as part of its ongoing testing program.

## **C. Alarm Conditions**

Alarm conditions for disinfectant residual or pump failure are the same as for the Ord Grove Treatment Plant.

There are no other alarm conditions.

Notify MPWMD of well pump failure.

## **D. Emergency Procedures**

General CAW emergency protocols apply.

**Call 911 for Medical, Fire, or Law Enforcement Emergency.**

Follow CAW standard procedures for leaks, equipment failure, or loss of power.

## **III. PROPOSED EXTRACTION PROCEDURES** -Future connection to Seaside distribution system at Hilby and Luzern via temporary intertie pipeline along General Jim Moore Blvd. (To be finalized in accordance with as-built configuration)

### **A. Startup/Shutdown**

*The proposed procedures will be the same as the current procedures, EXCEPT for the following:*

- 1. Instead of operating the valve at the intertie to the Paralta Well, operators will operate a valve on the intertie pipeline on General Jim Moore Blvd.*
- 2. The PLC On/Off controls will be configured to run the SMTIW pump on a pre-set timer. CAW operators will adjust the timer based on specific system demand conditions when the intertie pipeline is put into service.*
- 3. The VFD on SMTIW pump will be adjusted manually to match anticipated demand conditions at the time the intertie pipeline is put into service.*



4. *As a precaution to detect abnormal pump operation in the event of pipeline failure, flow and pressure sensors near the pump discharge will shut down the pump on sudden drop in discharge pressure or sudden increase in flow. To prevent operation without chlorination, the hypochlorite feed pump will be interlocked with the SMTIW pump. A dialer will be installed to signal alarm conditions and pump failure.*
5. *To prevent Hilby Tank overflow in the event the altitude valve fails to close on the inlet, the SMTIW pump will shut down if the normal high level setpoint is exceeded.*

#### **B. Monitoring**

*The proposed procedures will be the same as the current procedures, EXCEPT for the following:*

1. *When the extraction system is operating, the above ground pipeline along General Jim Moore Blvd. will be visually checked twice (daily) for leaks or other signs of damage or immediate failure. At other times of the year it will be checked on a weekly basis for signs of vandalism or other exterior damage.*
2. *Distribution system monitoring for DBPs will be conducted as required from the Seaside distribution system.*

#### **C. Alarm Conditions**

*The proposed configuration will have the following Alarm conditions that will shut down the SMTIW pump:*

1. *Hilby Tank, High Level*
2. *Sudden Drop in SMTIW Pump Discharge Pressure*
3. *Sudden Increase in SMTIW Pump Flow*
4. *SMTIW Hypochlorite Feed Pump Fail*

#### **D. Emergency Procedures**

*The proposed procedures will be the same as the current procedures, EXCEPT for the following:*

##### 1. Leak or Pipeline Failure

*If a leak in the pipeline is discovered or reported, the following response protocol will be followed:*

- A. Shut down SMTIW well pump manually.
- B. Close isolation valves as required along pipeline to isolate leak or damaged area.
- C. *If repair cannot be made quickly (within 2-4 hours), re-configure system to pump to the Ord Grove Treatment plant to meet demand while the leak is being repaired.*
- D. Notify affected customers as necessary, depending on severity of damage and duration of repairs, in accordance with CAW standard procedures.

E. *If vandalism or unreported vehicle accident is suspected, notify the City of Seaside Police Department.*

2. DBP Event

*If distribution system monitoring in the Seaside distribution system detects DBPs in excess of the MCLs, the SMTIW pump will be shut down and the system will be reconfigured for extraction through the Ord Grove Treatment Plant, as described in Part II.*

## 4.0 MAINTENANCE

The majority of the maintenance procedures for the SMTIW-ASR System are covered under routine maintenance practices for the Paralta Well, or in the Operation and Maintenance Manual for the Ord Grove Treatment Plant. Listed here are only the additional responsibilities that arise from the SMTIW-ASR system.

### **I. Daily**

#### **A. Injection System**

1. Visually inspect all above-ground piping and valves for leaks or damage and repair if necessary.
2. Inspect ASR Booster Pump seals, adapters, and connections for leaks.
3. Watch and listen to ASR Booster Pump and note any overheating, excess vibration, or unusual noises indicating bearing wear. Schedule repairs as required.

#### **B. Extraction System**

1. Visually inspect all above-ground piping and valves for leaks or damage, and schedule repairs as necessary. Notify MPWMD of any abnormal conditions observed at the SMTIW wellhead.
2. Watch and listen to SMTIW Pump Motor and note any overheating, excess vibration, or unusual noises indicating bearing wear. Notify MPWMD of any abnormal conditions.
3. Inspect control panel for any signs of damage. Notify MPWMD of any abnormal conditions.

#### *Proposed Configuration Only:*

4. *Verify operation of hypochlorite feed system.*
5. *Verify chemical metering pump discharge rate.*
6. *Verify that the chlorine residual is within range.*
7. *Check supply of hypochlorite solution in storage tank. Order more as needed.*
8. *Check entire feed system for leaks or spills and clean-up as necessary.*

### **II. Periodic**

#### **A. Injection System**

1. Thoroughly clean and inspect ASR Booster Pump and Motor at end of season and replace parts according to manufacturers maintenance schedule.

#### **B. Extraction System**

1. Periodic / annual maintenance of the SMTIW Pump and motor will be coordinated by MPWMD. CAW operators will not routinely be involved.

#### *Proposed Configuration Only:*

2. *On a monthly basis, CAW operator shall visually inspect above-ground Hilby Pipeline for any signs of leaks, damage, or vandalism.*

## **5.0 WELL AND AQUIFER PERFORMANCE MONITORING AND MAINTENANCE**

**CAW Operators will have no additional routine tasks in this area.**

### **I. ASR System Performance Evaluation**

Ongoing evaluation of the ASR system performance will be conducted by the MPWMD with input from the CAW Engineering staff and outside consultants. CAW operators will have no direct involvement in this process.

#### **A. Assessment of DBP occurrence and fate in aquifer.**

MPWMD and its consultants will coordinate and direct as necessary. CAW will collect and submit DBP samples from the distribution system in accordance with DHS requirements.

#### **B. Evaluation/adjustment of long term injection rates and backflushing frequency.**

MPWMD and its consultants will coordinate and direct as necessary.

### **II. Well Screen Maintenance**

MPWMD and its consultants will coordinate and direct as necessary.

### **III. Well Backflushing and Redevelopment**

MPWMD and its consultants will coordinate and direct as necessary.

**APPENDIX A.**

**SANTA MARGARITA TEST INJECTION WELL  
OPERATION AND MAINTENANCE**

**CONTACT PHONE NUMBERS**

**FOR MEDICAL OR LAW ENFORCEMENT EMERGENCY, DIAL 911**

<b>Agency/Person</b>	<b>Title</b>	<b>Phone</b>
<b>Monterey Peninsula Water Management District (MPWMD)</b>		
Joe Oliver	Water Resources Manager	658-5640; cell 915- 9031
Tom Lindberg	Associate Hydrologist	958-5642; cell 915- 5978
<b>California American Water Operators</b>		
Craig Evans	Production Foreman	646-3250; cell 236-7497
Mike Magretto	Operations Supervisor	646-3220; cell 236-7530
<b>Other Involved Personnel</b>		
Aman Gonzalez	CAW Operations Engineer	646-3261; cell 236-6828
Leslie Jordan	CAW Water Quality Supervisor	646-3258; cell 236-7533
David Norris	CAW Operations Engineering Consultant	659-9230
Jan Sweigert	Engineer, Department of Health Services	655-6939
Steve Tanner	Engineering Consultant, Padre Associates	805-683-1233
<b>Other Agencies</b>		
Fire, Ambulance, Law Enforcement	Emergency	911
Seaside Police Department	(Non-emergency, suspected vandalism to facilities.)	394-6811

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**APPENDIX B.**

**PROJECT DESCRIPTION FOR PROPOSED TEMPORARY INTERTIE PIPELINE ON  
GENERAL JIM MOORE BLVD. WITH CONNECTION TO THE SEASIDE  
DISTRIBUTION SYSTEM AT HILBY AVE. AND LUZERN ST.**

**Santa Margarita Pipeline Project (Sheets 1 through 4), prepared by CAW  
dated November 2005.**